

Final Report

Contract No. 200-2000-08018
Task Order No. 5

A Feasibility Evaluation of Tools and Methods for Surveillance of Health and Safety Hazards in Hospitals

to

**Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health**

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June 27, 2006

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ACKNOWLEDGEMENTS

We gratefully acknowledge the following NIOSH project staff for their guidance and support on this project and for their review and comments on earlier drafts of this report: Mr. James Boiano, Mr. Greg Piacitelli, and Dr. Karl Sieber.

The stakeholder meetings, focus groups and cognitive interviews were successful in large part due to the many healthcare industry professionals who gave us their time and provided valuable insights into the concerns of this industry. These many individuals were instrumental in the development of the survey instruments—from informing the content to providing valuable input into the structure and comprehensibility of the Manager and Employee Questionnaires.

The pilot tests would not have been possible without the managers and employees at the two Veterans Health Administration hospitals that participated in this effort. We especially acknowledge the support and assistance of Dr. Gordon Starkebaum, Mr. Joe Cain, Ms. Lisa Woodings, and Mr. Ron Kaplan at the VA Puget Sound for their support and assistance in fielding the survey at their facility. We also thank Ms. Floss Mambourg and Mr. William Stewart at the Portland VA Medical Center. These individuals assisted by coordinating their facility's participation in our feasibility study. In addition, Dr. Michael Hodgson, Director of Health and Safety at the Veterans Health Administration, provided comments during the stakeholder meetings, reviewed the study protocol and draft reports, and facilitated the participation of VHA facilities for the site visits and pilot surveys.

We also acknowledge and express our sincere appreciation to the many employees at both pilot test facilities who took time from their busy schedules to participate in the survey. More than 750 employees completed the survey and many of these took extra time to provide valuable feedback by participating in follow-up interviews. We sincerely thank all of them.

Additionally, thanks to the many Battelle Research staff who worked tirelessly on this feasibility study. In particular, thanks are due to the Battelle IT team, Mr. David Sommers, Mr. Jerry Kramer, Ms. Shellie Jacobsma, Ms. Anjie Nelson-Walley and Mr. Hui Bin Liu. Thanks also to Mr. Andy Bacot and the Battelle Telephone Service Center staff. Finally, we want to acknowledge three Battelle staff members: Mr. Charles Knott, Dr. Joan Cwi, and Ms. Mary Kay Dugan for their thoughtful review and comments on this report.

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Executive Summary

This report summarizes the Battelle Centers for Public Health Research and Evaluation (Battelle) activities performed and results achieved under Task Order No. 5 titled “A Feasibility Evaluation of Tools and Methods for Surveillance of Health and Safety Hazards in Hospitals” conducted under the National Institute for Occupational Safety and Health’s (NIOSH) Technical Support for Epidemiologic and Exposure Assessment research Contract (200-2000-08018).

The purpose of this project was to evaluate options for the collection of occupational health and safety surveillance data in the healthcare industry used for planning the National Exposures at Work Survey (NEWS). NEWS will collect descriptive data on health and safety activities in the workplace and will assess workers’ potential exposures to chemical and physical agents and biologic, ergonomic, and safety hazards.

This feasibility assessment involved five major project activities which are summarized in this report. Working in close cooperation with NIOSH technical managers on this contract, Battelle has:

- Conducted a comprehensive review of the literature pertaining to the occupational safety and health concerns and exposures of healthcare workers;
- Solicited and synthesized information from healthcare stakeholders in order to identify health and safety priorities and the potential uses of national hazard surveillance data;
- Developed two questionnaires – one targeted to facility health and safety managers and the other to employees, both designed to elicit the types of data deemed critical by NIOSH and stakeholders;
- Extensively refined the questionnaires through a series of focus groups and cognitive interviews with healthcare managers and employees, obtaining input on clarity, instructions, and content; and
- Conducted pilot tests to evaluate different survey modes (i.e., paper and pencil versus web-based) and methods (i.e., targeting, recruitment, and distribution) for conducting the surveys in participating hospitals.

In order to design effective survey instruments, it was important to gain an understanding of how national surveillance data would be used. While many different potential uses for survey data were provided by stakeholders, the three most frequently cited uses for the NEWS data were to: 1) provide national norms for healthcare facilities to compare themselves against (e.g., benchmarking); 2) describe and assess the use and effectiveness of various engineering or administrative controls (e.g., best practices); and 3) assess the health and safety culture of the organization.

Based on NIOSH surveillance goals and objectives and on input received from industry stakeholders, we designed and extensively refined Management and Employee Questionnaires through a series of focus groups, cognitive interviews, and post-survey validation interviews with employees and managers. Both questionnaires are designed to take a broad approach to surveillance by eliciting descriptive information related to workplace and employee characteristics, health and safety policies and practices, and information on a diverse range of specific hazards, rather than an in-depth study of any particular hazard. The Employee Questionnaire is modular in format, consisting of a core module and ten hazard-specific modules. The Core Module is envisioned to be completed by all employees and is focused on perceptions of health and safety culture, as well as broad-based issues including ergonomics, workplace violence and blood-borne pathogen exposure; while the Hazard Modules focus on selected chemical agents to gather information that would permit a qualitative assessment of workers’ potential exposure to the respective hazards. Each module is designed to elicit information related to the location, frequency and duration of use, work practices, and exposure controls. The Management Questionnaire elicits facility-wide information regarding health and safety resources, programs, policies, and practices.

We pilot tested the survey tools and methods in two federal hospitals to evaluate the quality of the information obtained by the Employee and Management Questionnaires as well as to assess the survey process itself. We evaluated two modes of administration and different methods of recruiting employees and distributing the Employee Questionnaire. We established sampling and distribution procedures designed to attain the highest possible response rates, especially among employees potentially exposed

to those hazards addressed by the Hazard Modules. Specific consideration was given to issues (such as limited resources and overall survey burden) which will apply to a future national survey.

The lessons learned from the pilot tests indicate that:

- **The burden of conducting an establishment-based survey was greater and more complicated than expected.** Obtaining the cooperation and approval to conduct an employee survey in healthcare facilities was complicated and time-consuming, especially due to different requirements of facility Institutional Review Boards (IRBs).
- **Survey participation should be endorsed by top management or other “key informants.”** Participation rates in pilot tests were significantly affected by perceived and explicit support for the survey provided from “key informants” (including the management, supervisors, and peers at an establishment) who help to establish the legitimacy and value of the survey.
- **Targeting of employees with specific exposures to receive customized questionnaires is not feasible.** Targeting employees to receive “customized” hazard-specific questionnaires based on *a priori* assumptions of exposure (using job titles and/or management guidance) was frequently inaccurate and inefficient and imposed additional burden on the institutions involved.
- **Passive recruitment did not increase participation by non-sampled employees.** While not explicitly evaluated in these pilot tests, the limited use of informational posters in one pilot test was ineffective for increasing participation among employees not included in the survey sample.
- **Highest response rates were obtained when the paper version was provided at time of invitation.** Employees who initially received a recruitment letter and paper questionnaire responded at higher rates than those who initially received only a recruitment letter with instructions on how to obtain a paper questionnaire or how to access the web version of the survey.
- **Response rates were lower, but acceptable, even when the paper questionnaire was not initially provided.** Employees who received only instructions for obtaining a paper questionnaire or for completing a web-based questionnaire strongly preferred the web version.
- **Employees generally responded at similar rates across job categories.**
- **Requiring participants to request any additional Hazard Modules decreased completeness of responses.** Participants who completed a web version completed all applicable modules since these were presented seamlessly. The burden for obtaining and completing all applicable questionnaires should be minimized to increase both participation and the completeness of responses.
- **An employee survey effectively describes the variability of health and safety conditions at an establishment.** Cumulatively, responses to the Employee Questionnaire provided a more comprehensive description of the scope and extent of occupational exposure issues than provided by the Management Questionnaire.
- **Self-reported data collected from employees was accurate.** Validation of survey data suggested that employees were generally able to provide accurate responses to specific issues concerning health and safety exposures, including the identification of health hazards, presence of engineering controls, and their use of PPE/C.

Based on the results from this limited feasibility evaluation, we offer the following recommendations for planning and implementing the NEWS in the healthcare sector:

- **A national-scale population-based Employee Survey of the healthcare sector should be conducted through professional associations and union organizations to help maximize the efficient collection of information from a large and diverse pool of respondents.**
- **A strong commitment of support of the survey should be obtained from management and communicated through key informants within participating organizations.**
- **Incentives to prospective participants of the NEWS should be considered to help maximize participation rates.**

- **The method(s) for distributing survey correspondence should be selected based on accessibility by NIOSH to information required to contact employees (such as name and address).**
- **Survey correspondence to employees should be distributed via email, whenever possible, to minimize costs and maximize efficiency.**
- **The current Employee Questionnaire that was developed during this feasibility evaluation should be modified for use in a population-based survey.**
- **A web-based questionnaire should be the primary mode for the Employee Survey to simplify logistics, to minimize implementation and data management costs, and to maximize data quality (including completeness of responses).**
- **A paper questionnaire should also be available, upon request, for the Employee Survey since some employees will not have access to computers and/or prefer the paper mode.**
- **Management Survey should be conducted of those establishments identified from the Employee Survey.**
- **Site visits should be conducted at a sample of establishments in the Management Survey to validate data collected from both the Employee and Management Surveys.**
- **Results from both the Employee and Management Surveys should be posted on a NEWS website.**

1.0 Introduction and Background

Battelle is pleased to present this final report for the project “A Feasibility Evaluation of the Tools and Methods for Surveillance of Health and Safety Hazards in Hospitals.” This project, begun in the fall of 2001, represents a significant effort on the part of NIOSH and Battelle project staff. The primary purpose was to evaluate the feasibility of options for the collection of national occupational health and safety surveillance data in the healthcare industry in preparation for the National Exposures at Work Survey (NEWS). Over the period of performance of this contract, Battelle research staff working in close cooperation with NIOSH Technical staff:

- Conducted a comprehensive review of the literature pertaining to the occupational safety and health concerns and exposures of healthcare workers;
- Conducted regional meetings with healthcare stakeholders to identify health and safety hazards/issues of concern and the potential uses of national hazard surveillance data;
- Conducted site visits at seven federal hospitals to gain familiarity with the facilities and to gather information regarding facility demographics, chemical usage and hazard exposure potential in different work areas and among different occupational groups;
- Developed two questionnaires – one targeted to a facility’s health and safety management and the other to that facility’s employees, both designed to elicit the types of health and safety data deemed critical by NIOSH and stakeholders;
- Extensively refined the questionnaires through a series of focus groups and cognitive interviews with healthcare managers and employees, obtaining input on clarity, instructions, and content; and,
- Implemented pilot tests to evaluate different survey modes (i.e., paper and pencil versus web-based) and methods (i.e., targeting, recruitment, and distribution) for conducting the surveys in participating hospitals.

This report is organized into eight sections. In the **INFORMATION AND BACKGROUND** section, we provide brief information on previous NIOSH surveillance efforts and about the general purpose of the future NEWS. The **DEVELOPMENT OF SURVEY TOOLS** section details preliminary information gathering efforts for the purpose of informing the content of the survey tools, and describes the process of developing and testing the survey questionnaires in a series of focus groups, cognitive interviews, and meetings with hospital management representatives. The **EXPERIMENTAL DESIGN** section details survey parameters evaluated in the pilot tests. In this section we describe how the pilot tests were designed and implemented at two participating hospitals. We present elements of survey practice designed to ensure the highest response rates and we also summarize the protocol for validation of the employee survey. The **PILOT TESTING OF SURVEY TOOLS AND METHODS** section briefly summarizes issues related to the implementation of the pilot tests, including facility recruitment, Human Subjects’ Research Board approval, sample selection, and distribution of the employee questionnaires in each of the pilot test facilities. This section also presents the results of the pilot test surveys, describing response rates, accuracy and effectiveness of targeting, mode and distribution effects on Hazard Module completion, response bias, and survey validation results. The **VALIDATION OF THE MANAGEMENT QUESTIONNAIRE** section summarizes a separate project task, in which we recruited four separate hospitals to complete the

Management Questionnaire and permit a site visit for the purpose of validating the responses. The **DISCUSSION** section pertains to the findings of the two pilot tests, emphasizing the implications for conducting a national survey of the health services sector. This section addresses issues including facility and employee participation, implementation of the surveys in pilot test hospitals, survey validation, and pilot test study limitations. The **LESSONS LEARNED** section focuses on the ramifications of each of the discussion points with respect to a national survey, and form the basis of our recommendations for a national survey. Finally, we offer **RECOMMENDATIONS** for a national survey.

1.1 Background

NIOSH has conducted two general industry national hazard surveys in the past several decades: the National Occupational Health Survey (1972-74)¹ and the National Occupational Exposure Survey (1981-83).² These nationally representative surveys identified health and safety hazards, provided national estimates of the number of workers potentially exposed to chemical, biological, and physical agents, and illuminated management health and safety practices across industry sectors. While much useful information was obtained, data limitations included the lack of quantitative exposure estimates, limited industry coverage, lack of safety hazard assessment, and the progressing age of the data. These surveys also required substantial personnel and fiscal resources to obtain the necessary observation and interview-based information.

NIOSH recognizes the importance of collecting relevant surveillance data regarding occupational hazards and hazard controls for the purpose of disease and injury prevention. In accordance with the NIOSH Strategic Plan, planning has begun on a new national hazard surveillance effort – the National Exposures at Work Survey (NEWS). Although not necessarily intended as an update of previous efforts, NIOSH envisions collecting descriptive data regarding the potential for exposure to select or targeted workplace hazards, exposure controls, health and safety practices, and working conditions across the U.S. Rather than surveying several industry sectors simultaneously, as was done in the two previous national general industry surveys, NIOSH plans to conduct national hazard surveillance on a sector-by-sector basis—as dictated by current National Occupational Research Agenda (NORA) information needs and availability of resources. The initial surveillance survey will likely be conducted in the health services sector (NAICS 62).

In 2001, NIOSH contracted with the Battelle Centers for Public Health Research and Evaluation (Battelle) to perform a feasibility study of the tools and methods required for conducting national occupational health and safety surveillance of the healthcare industry. The objective of the study was to evaluate the feasibility of collecting self-reported information on health and safety hazards from employees and management using web and/or paper surveys and selected recruitment and survey distribution protocols. Feasibility was evaluated in terms of data quality (including response rates, completeness, and accuracy), survey burden (including time and costs required by management, employees, and Battelle/NIOSH), logistical considerations, and implementation costs.

2.0 Development of Survey Tools

In this section, we detail the process of development of the survey tools that were evaluated during this project. We first describe our efforts to gather information regarding health and safety issues of concern and then discuss the process of development and testing of survey instruments (management and employee questionnaires).

2.1 Preliminary Work

Prior to developing the survey tools and methods we would evaluate on this project, we gathered information regarding the health and safety issues of concern, the types of data to collect, and how interested parties envisioned using those data. This preliminary work included: 1) conducting a comprehensive review of the occupational safety and health literature over the past decade; 2) convening two regional stakeholder meetings; and, 3) conducting site visits to seven federal hospitals. In this section, these activities and results are briefly described. Battelle has prepared three interim reports^{3,4,5} covering the literature review, stakeholder meetings, questionnaire development, focus groups and cognitive interviews. These three reports have been submitted previously to NIOSH for those interested in greater detail. Our purpose here is to simply summarize the process.

2.1.1 Literature Review

We conducted a literature search to identify the occupational safety and health issues of concern and to establish an outline of healthcare industry workers' occupational exposures to hazardous chemical, biological and physical agents. Our search included online literature reviews to assess the biomedical and occupational health literature using MEDLINE from the National Library of Medicine and Occupational Safety and Health/NIOSHTIC. In addition, relevant research reports funded by the US Government were searched in the NTIS database as well as the conference literature represented by Inside Conferences and the Conference Papers Index.

A preponderance of the occupational safety and health literature (pertaining to healthcare work and published over the past decade) focused on the following issues: occupational stress, violence, work organization, ergonomics, in particular, patient transfer issues, and needlesticks. Additional concerns addressed in the literature included exposure to certain biological (e.g. TB, molds, etc.), chemical (e.g. glutaraldehyde, anesthetic gases, antineoplastic drugs, agents used in respiratory therapy including ribavirin and pentamidine) and physical agents (e.g. radiation).

2.1.2 Stakeholder Meetings

Battelle next conducted two one-day regional meetings with healthcare industry stakeholders to expand upon and confirm the relevance of the safety and health issues identified through the literature review, and to gain input on the scope, priorities, and methods for the proposed NEWS survey of the

healthcare industry. Stakeholders were recruited through professional relationships with NIOSH, from referrals, and by public notice in the Federal Register. Over 100 individuals attended one or both of the meetings held in Seattle, Washington and Baltimore, Maryland in February and March of 2002, respectively. The attendees represented a diverse mix of individuals including nurses, physicians, researchers, academicians, healthcare managers, representatives of healthcare professional organizations, union representatives and officials, regulators, consultants and policy makers. Specific discussion topics included 1) health and safety issues of interest, 2) types of data the NEWS should collect, 3) ultimate uses of the NEWS data, and 4) challenges associated with data collection.

Particular interest was expressed regarding issues related to the health and safety culture of healthcare organizations (i.e., the extent to which health and safety is “ingrained” in the practices and policies of the organization and its employees) and work organizational factors (e.g., staffing and labor practices) that are typical in this industry. Specifically, participants reported that health and safety culture and the workplace organization could serve either as barriers or facilitators to health and safety within a given facility and may have an impact on all other health and safety concerns (e.g., occupational exposure to ergonomic, chemical, biological and/or psychosocial stressors).

Participants discussed logistical challenges associated with survey implementation, including: 1) low literacy rates among certain occupational groups, 2) the difficulty of talking with or administering a survey instrument to physicians and nurses while they are at work, 3) costs (e.g., collection of quantitative exposure data may require a trained industrial hygienist), 4) confidentiality (i.e., concerns among staff about providing confidential information at work), 5) Human Subject Committees (HSC) or Institutional Review Boards (IRB) issues (many healthcare facilities, particularly larger medical centers with research activities, have their own HSC/IRB and may require review and approval of the survey protocol prior to allowing the survey to proceed at their institution), 6) data validity/quality issues (e.g., underreporting of illness/injuries), and 7) data access (e.g., the costs associated with injuries or the costs of installation, operation and maintenance of engineering controls, will be difficult to obtain consistently across institutions). Table 2.1 summarizes stakeholders' issues, including specific concerns and examples of data for each of the major issues discussed.

In terms of the design of our feasibility study for conducting the NEWS, stakeholders recommended that data collection specifically include input from “front-line workers” rather than relying solely on management input. In addition, some suggested that separate survey instruments be designed for different occupational groups and for management in order to obtain more relevant and specific information. Finally, some stakeholders were concerned whether data collected from Federal hospitals during this feasibility evaluation could be generalized to the entire healthcare sector.

Table 2.1: Stakeholder H&S Concerns and Examples of Data by Issue

Issues	Concerns	Examples of Data/Measures
Biological Agents	<ul style="list-style-type: none"> Exposures to biological agents especially TB, blood-borne pathogens, and bioterrorism Underreporting of injuries (e.g., needlesticks) Emerging issue of concern: (e.g., exposure to prions believed to be associated with Creutzfeldt-Jakob Disease) 	<ul style="list-style-type: none"> Incidence rates (e.g., needlesticks) and underreporting of incidents Conversion rates (e.g., HBV, TB, etc.) Effectiveness and costs associated with the use of different controls/barriers to the use of controls
Chemical Agents	<ul style="list-style-type: none"> Exposure to sterilizing agents, antineoplastic drugs, latex antigens, cleaning/disinfecting agents, aerosolized drugs, developers and fixers in radiology, and diesel exhaust from ambulances and helicopters Concerns about chemical agents brought into facilities by contract workers (e.g., cleaning agents) 	<ul style="list-style-type: none"> Qualitative exposure assessments to identify particular chemical exposures for various occupational groups Effectiveness of controls/barriers to the use of controls Descriptive information related to substitution of less hazardous materials for more hazardous materials Cost of controls (e.g., ventilation)
Ergonomics	<ul style="list-style-type: none"> Musculoskeletal injuries associated with patient management (lifting and adjusting) and repetitive motion tasks Facilities not ergonomically designed and poorly trained workers. Some occupational groups (e.g. sonographers, physical therapists, and dental hygienists) are at higher risk for musculoskeletal disorders (MSDs) 	<ul style="list-style-type: none"> Qualitative and limited quantitative data regarding the magnitude of the exposures for various occupational groups Effectiveness of and barriers to the use of engineering and administrative controls Costs associated with training and implementation of controls Incidence rates of MSDs Descriptions of the types and numbers of specific controls; e.g. lifting devices
Health & Safety Culture	<ul style="list-style-type: none"> Health and safety of patients is often paramount and the health and safety of practitioners and other employees is secondary. Health and safety programs must be able to demonstrate a cost-effective way that they increase patient safety or the bottom line. Training of health safety personnel The relationship between health and safety personnel and frontline workers and the effectiveness of training Barriers to safer practices Underreporting of illnesses and injuries 	<ul style="list-style-type: none"> Location of health and safety program in the organizational structure. Programs and policies related to occupational health and safety. Employee knowledge, attitudes, and behaviors related to health and safety practices Management knowledge, attitudes and behaviors related to health and safety practices (e.g., representation on health and safety committees, attitudes towards health and safety).
Physical Agents	<ul style="list-style-type: none"> Lasers and exposures to surgical smoke, ionizing and non-ionizing radiation, including UV, IR, and magnetic fields Audible and ultrasonic noise was also mentioned as a potentially hazardous exposure among some occupational groups in the industry 	<ul style="list-style-type: none"> Qualitative exposure assessments of physical hazards for various occupational groups (e.g., lasers, ionizing and non-ionizing radiation, noise) Effectiveness of various controls/barriers to the use of controls
Safety Hazards	<ul style="list-style-type: none"> Construction hazards, inadequate lighting, substance abuse by co-workers, the effectiveness of emergency plans and procedures, and the availability of backup power sources Emerging concern: the use of robotics 	<ul style="list-style-type: none"> Identify types and prevalence of safety hazards for various occupational groups Audit and evaluate the effectiveness of accident prevention programs Identify and document emerging safety hazards (e.g., robotics)

Table 2.1: Stakeholder H&S Concerns and Examples of Data by Issue

Issues	Concerns	Examples of Data/Measures
Stress	<ul style="list-style-type: none"> Excessive amounts of stress in the workplace may lead to increased illness and injuries and may impact the quality of care Sources of stress could be related to organizational characteristics (e.g., multi-tasking, overtime), balancing the demands of family and work, childcare issues, and burnout (particularly among nurses) Stress may be higher among occupations working with critically ill patients such as health care workers in ICU and emergency rooms 	<ul style="list-style-type: none"> Level and sources of stress among various occupational groups Relationship of stress to workplace organizational factors (e.g., mandatory overtime, schedule control) Availability and effectiveness of stress reduction training and employee health programs in reducing stress in the workplace Cost effectiveness of employee wellness programs
Violence	<ul style="list-style-type: none"> Violence among health care workers is underreported Violence may stem from patient, patient's families, or may be violence between staff (e.g., nurse and doctors) Violence is perceived to be more prevalent in areas such as emergency rooms and psychiatric units and among certain occupational groups (e.g. home healthcare workers). 	<ul style="list-style-type: none"> Incidence rates for various types of violence in the workplace Injuries associated with violence Costs associated with implementing violence prevention programs Identification of areas where likelihood of violence is high (e.g., emergency rooms, psychiatric ward, home healthcare) Identification of particular patient characteristics associated with violence Effectiveness of various controls and barriers to their use
Work Organization	<ul style="list-style-type: none"> Organizational characteristics that may serve as either barriers or facilitators to health and safety (payer mix, size, location, severity of illness of patients, downsizing). Staffing and labor practices (e.g., mandatory overtime, shift work, use of contract employees, etc.) Contracting service agreements (e.g., purchasing agreements that limit the choice for safer equipment, limited control of contract employees) Organizational hierarchy (e.g., limited decision-making/power for some employees) 	<ul style="list-style-type: none"> Staffing practices (e.g., mandatory overtime, shift work, floaters, use of temporary and part-time labor, absenteeism, turnover, workloads, and teamwork) Facility characteristics (e.g., large v. small institutions, outpatient v. inpatient, high risk v. low risk patients, urban v. rural, downsizing) Organizational hierarchy/decision-making (institutional v. departmental decision making, medical doctors as independent decisions makers) Contracting services (e.g., purchasing agreements, use of contract workers)

2.1.3 Site Visits

In preparation for conducting the feasibility study, NIOSH obtained preliminary letters of agreement from upper management representatives of the VHA and the Department of Defense (DoD) to conduct pilot studies at VHA and military hospitals. Four VHA Medical Centers (located in Dayton, OH, Cincinnati, OH, Seattle, WA and Tampa, FL) and three military facilities (National Naval Medical Center, Bethesda, MD, Brook Army Medical Center and Wilford Hall Air Force Hospital, both located in San Antonio, TX) were suggested as possible sites for this feasibility study, pending approval by local management at each facility.

After the regional stakeholder meetings, we visited each of the seven hospitals to meet with administrators and occupational safety and health managers. These visits were used to introduce NIOSH and Battelle project staff to facility management and labor representatives and to learn about the types of personnel and hazard-related information that would be available from each of the selected facilities. We obtained information regarding facility demographics, chemical usage, and policies related to conducting survey research within each hospital, including requirements for obtaining the approval of Institutional Review Boards (IRB) for research involving human subjects. Information obtained during these site visits was used to further define the issues of concern for a national survey, to conceptualize the survey process, and to develop management and employee questionnaires.

2.2 Questionnaire Development and Testing

Based on input from the stakeholders, Battelle and NIOSH project staff began the process of questionnaire development. This iterative process included four primary steps:

1. Developing employee and management survey instruments;
2. Meeting with hospital managers on methods and policies for administering questionnaires to hospital employees;
3. Obtaining feedback on questionnaires through focus groups and cognitive interviews with healthcare employees; and
4. Revising the questionnaires based upon feedback obtained from healthcare managers and employees.

Information obtained from the stakeholders along with NIOSH strategic priorities and existing intramural and extramural research projects were all considered and served as the basis for the focus and content of the Management and Employee Questionnaires proposed for the NEWS. For example, to address frequent concerns of stakeholders related to work organization and job demands, we incorporated several scales from the Job Content Questionnaire⁶ designed to assess respondents' perceptions in the domains of job content, job control, job demands and job security. Both questionnaires were designed to take a broad approach to hazard surveillance by focusing on the collection of descriptive information related to workplace and employee characteristics, health and safety policies and practices, and information on a diverse range of specific hazards, rather than an in-depth study of any

particular hazard. The questionnaires are focused on occupational safety and health conditions in hospitals, but are designed to be relevant for most other types of healthcare facilities and healthcare occupations as well.

One significant challenge in the development of the questionnaires was to incorporate many of the health and safety issues important to the stakeholders and NIOSH without creating too lengthy an instrument. The diversity of jobs and the wide variety of associated safety and health hazards in the healthcare industry added to this challenge. The Battelle/NIOSH team decided early in the development process to create a modular survey instrument. “Gateway” questions and skip patterns would guide the user around the non-applicable portions of the questionnaire to minimize the burden on any individual respondent.

We decided to include separate instruments for management and employees. The Management Questionnaire would focus on safety and health resources, programs and policies, while the Employee Questionnaire emphasized perceived risks, training, best practices, and use of protective equipment and clothing (PPE/C). Questions were designed to collect information about each of the targeted hazards in terms of the location of use, frequency and duration of use, work practices, engineering or administrative controls, and the use of PPE/C.

The layout of the Employee Questionnaire is as follows:

- **Core Module:** Intended for all employees with questions pertaining to health and safety hazard concerns, job and facility description, job demands and work-related stress, job content and work organization, safe needle devices and universal precautions, violence in the workplace, physical demands and ergonomic issues, personal protective equipment and clothing, medical surveillance, and demographics.
- **Module A:** Aerosolized Medications—Intended for respiratory therapists and other employees who administer aerosolized ribavirin, pentamidine, and/or tobramycin.
- **Module B:** Preparing Antineoplastic Agents—Intended for pharmacists and pharmacy technicians responsible for preparing antineoplastic agents for delivery to the oncology ward.
- **Module C:** Administering Antineoplastic Agents—Intended for oncology nurses or others who administer these drugs to patients
- **Module D:** Chemical Sterilants—Intended for medical supply technicians and others who are responsible for sterilizing medical instruments.
- **Module E:** High Level Disinfectants—Intended for medical supply technicians and others who are responsible for using disinfectants such as glutaraldehyde for the disinfection of medical devices or equipment.
- **Module F:** Surgical Smoke—Intended for operating room personnel, who are potentially exposed to the smoke generated by lasers or electrosurgical devices.
- **Module G:** Waste Anesthetic Gases—Intended for anesthesiologists or others who administer anesthetic gases.
- **Module H:** Waste Anesthetic Gases, bystander—Intended for those who work in areas in which anesthetic gases are administered by others.
- **Module I:** Waste Anesthetic Gases, Post-Anesthesia Care Unit (PACU)—Intended for those individuals who work in surgical recovery areas.

- **Module J:** Housekeeping—Intended for housekeeping personnel responsible for cleaning floors, surfaces, etc. or those responding to spills of hazardous chemicals within the facility.

The Employee Questionnaire was designed so that all respondents complete the Core Module, regardless of their occupation or the type of facility in which they work. Following the core module, ten screening or “gateway” questions selectively direct respondents to appropriate hazard-specific modules if applicable.

The Management Questionnaire was similarly divided into sections comparable to the Hazard Modules in the Employee Questionnaire. The management core section contains items related to facility characteristics and demographics, health and safety manpower resources, health and safety program elements, occupational stress, ergonomic and workplace violence programs, emergency preparedness, spill response, the use of latex products within the facility, and the requirements for PPE/C. The seven hazard-specific sections are designed to elicit information concerning the number of employees potentially exposed to each selected hazard, as well as those policies and procedures in place to minimize these specific exposures.

The development and testing of the Employee Questionnaire has been described in detail in a Summary Report submitted to NIOSH in July 2002.⁷ Following is a brief synopsis of the process involved in testing the questionnaires in focus groups, cognitive interviews and meetings with hospital management.

2.2.1 Focus Groups

The primary goal of the employee focus groups was to gather information regarding questionnaire readability and understandability, including layout, gateway questions and skip patterns. We also solicited input on the content of the employee questionnaire. A total of 28 participants from nine occupational groups and six institutions (two large urban private-sector medical centers, two large urban public sector hospitals, one small rural hospital, and one hospice/clinic) participated. Table 2.2 shows the mix of occupational groups for each of the focus groups, and lists the topics and modules discussed in each.

Table 2.2: Composition of Focus Groups and Modules/Topics Reviewed

Group	Size	Participants	Modules/Topics Reviewed
A	6	1 Oncology Nurse 5 Pharmacy Technicians	Core Antineoplastics Employee Survey Distribution
B	5	2 Pediatric Nurses 3 AIDS Care Nurses	Core Aerosolized Medications Employee Survey Distribution
C	9	5 Central Processing Staff 2 Endoscopy Technicians 2 Medical Assistants	High Level Disinfectants and Chemical Sterilants
D	4	4 Housekeepers	Antineoplastics Glutaraldehyde HLDs
E	4	4 Respiratory Therapists	Aerosolized Medications

2.2.2 Cognitive Interviews

We conducted cognitive interviews to evaluate the clarity of the individual questions and overall instrument. In particular, we wanted to assure that the response categories were appropriate for each question. We recruited employees with specific knowledge or experience working with or around the targeted chemical hazards. The cognitive interviews are summarized in Table 2.3.

Table 2.3: Composition of Cognitive Interviews and Modules Discussed

Occupation	Module(s) Discussed (+Core)
Pharmacy Technician	Antineoplastic Agents
Oncology Nurse	Antineoplastic Agents
Oncology Nurse	Antineoplastic Agents
Pediatric Nurse	Aerosolized Medications
AIDS Care Nurse	Aerosolized Medications
Respiratory Therapist	Aerosolized Medications
Central Processing Technician	HLDs & Chemical Sterilants
Endoscopy Technician	HLDs & Chemical Sterilants
Central Processing Technician	HLDs & Chemical Sterilants
Housekeeper	Antineoplastics Agents, High Level Disinfectants & Chemical Sterilants
Anesthesiologist	Waste Anesthetic Gases & Surgical Smoke
Nurse Anesthetist	Waste Anesthetic Gases & Surgical Smoke
OR Nurse	Waste Anesthetic Gases & Surgical Smoke
Dentist	Waste Anesthetic Gases & Surgical Smoke
Nurse (Laser Surgery Assistant)	Waste Anesthetic Gases & Surgical Smoke
Dentist	Waste Anesthetic Gases & Surgical Smoke
Nurse	Entire questionnaire

2.2.3 Meetings with Hospital Managers

We also visited four healthcare facilities in western Washington to meet with hospital management in order to obtain qualitative feedback on both survey instruments (particularly the Management Questionnaire) as well as on the logistics of conducting surveys in healthcare facilities. These meetings were coordinated at each facility by the individual responsible for employee health and safety. While the mix of participants differed at each of the participating institutions, the meetings typically involved managers responsible for employee health and safety, infection control, human resources, pharmacy and facilities.

2.2.4 Summary of Questionnaire Development

Employee Questionnaire The information obtained through focus groups, cognitive interviews and meetings with hospital management representatives was fundamental in developing the design and content of the questionnaire as well as the survey process. We summarize here some of the major issues:

- While the bulky appearance of the entire paper questionnaire was perceived as an excessive burden which may reduce participation in the survey, the actual time (generally, 20-30 minutes) required to complete the questionnaire by focus group participants was felt to be reasonable.
- Participation in the survey would be partially dependent upon: the employee's familiarity and trust with the survey sponsor; their understanding the relevance of the questions and how results would be used; and their ability to see survey results.
- Barriers involving English as a second language, and perceived confidentiality of the data would likely effect study participation and therefore the representativeness of survey results for the healthcare workforce.
- Some type of monetary incentive (e.g. cash, gift cards, movie passes, etc) would greatly increase participation in the survey. This would be particularly true if the questionnaire could not be completed during work time. The educational value of the survey may be promoted by offering continuing education credits to participants where applicable.
- Suggested options for distribution of the survey included through employers, professional organizations and labor unions. There was no consensus on which of these methods would be best. However, privacy concerns were raised with respect to employer-distributed surveys. Each method had limitations with respect to reaching a representative sample of all healthcare workers.
- Options for the preferred mode(s) of survey administration were discussed in detail. A telephone survey was felt to be too long and incompatible with the detailed questions and pre-defined response choices. Paper- and web-modes were suggested as viable survey options, although each had limitations. The advantages and disadvantages both paper and web modes are listed in Table 2.4.

Table 2.4: Comparison of Web and Paper Modes

Mode	Advantages	Disadvantages
Web	<ul style="list-style-type: none"> • Low implementation cost • Compliance with module instructions • Preferred if paper version is not provided in advance • Seamless with respect to modules • Survey data available quickly and inexpensively • Increasingly gaining acceptance 	<ul style="list-style-type: none"> • Access to Internet required • Perceived lack of confidentiality • Minimal level of computer literacy or familiarity required • Browser and operating system differences could present problems for survey implementation • Lower response rates
Paper	<ul style="list-style-type: none"> • Can be conveniently included with recruitment materials • Preferred mode when paper version is provided in advance • Participants get a chance to review the contents • Higher response rates when paper version is provided in advance • Well accepted as self-report standard 	<ul style="list-style-type: none"> • High implementation cost • Difficult to distribute • Perception of time burden needed for completion may be high • Non-compliance with completing Hazard Modules • Data entry required prior to analysis • Higher QA/QC data preparation costs

While the Employee Questionnaire was initially developed as an all-in-one paper version for evaluation by focus group and cognitive interview participants, after focus group testing, we decided to:

- Revise the content by adding questions, reordering questions, and/or adding notes and instructions to better enable participants to determine pertinent questions or modules.
- Redesign the structure of the questionnaire by separating the hazard sections into individually bound modules.
- Develop a web-based version using mriInterview™ web survey software (Version 2.3, SPSS, Inc., Chicago, IL) which presents a seamless and unperceived flow through all appropriate questions/modules.
- Develop a survey web site (<http://www.cphre.battelle.org/news/>) which provides information that clearly explains the nature of the survey, the expectations of the participants, why the survey is being conducted, how the data will be used, and how confidentiality will be maintained. This website was also designed to serve as a prototype for providing survey data to participants and the general public once the NEWS is implemented on a nationwide basis.

Also, an employee feedback section was included at the end of the Employee Questionnaire in which respondents were asked about the time required to complete the questionnaire, where they completed the questionnaire, their reasons for choosing a particular mode of administration, and whether there were other health and safety issues they thought should be addressed in the survey.

Management Questionnaire Because the Management Questionnaire would be administered in only a few facilities for this feasibility evaluation, we decided to develop an all-in-one paper version only, which is divided into sections comparable to the Hazard Modules in the Employee Questionnaire. One Management Questionnaire (in both paper and electronic file) was provided to each participating facility. Although information was likely needed from multiple files/records and personnel (e.g., health and safety,

human resources, security, etc.) within a given facility, we requested that all information be compiled into a single copy of the questionnaire and returned.

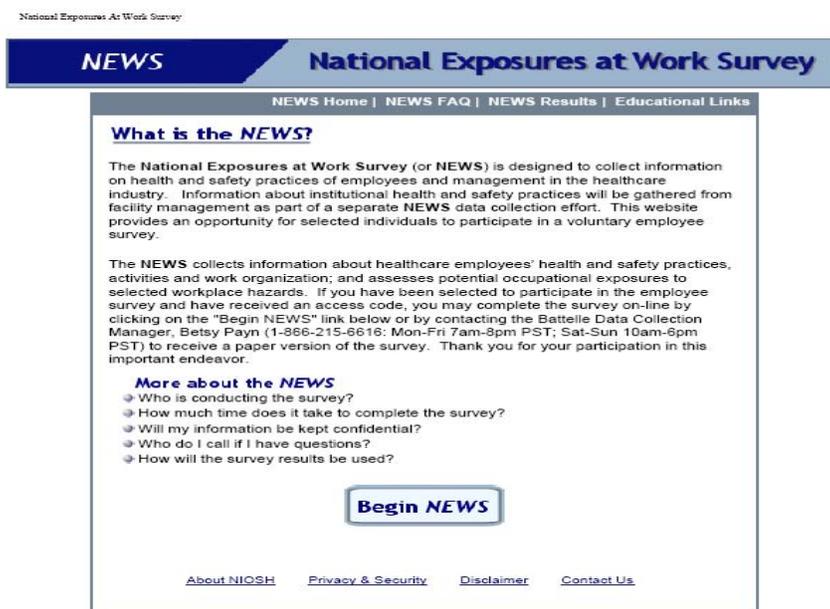
The final versions of the Management and Employee Questionnaires are included in the Appendices.

2.2.5 Survey Website

To facilitate administering the web version of the Employee Questionnaire, a multifunctional web site was developed. The web site, which may be considered a prototype for use in the NEWS, served several purposes, including:

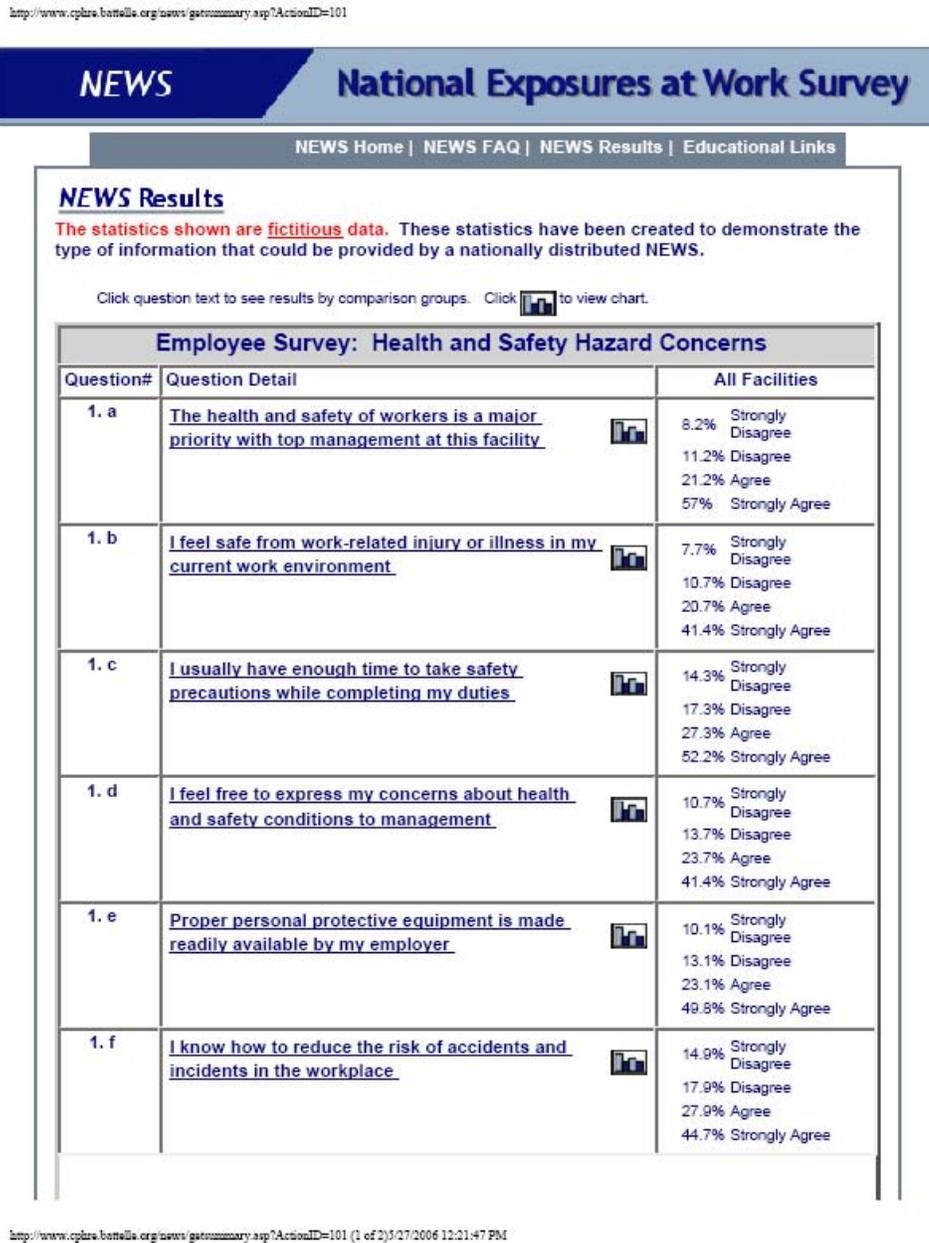
- Assisted in recruiting employers and employees to participate in the pilot test surveys;
- Contained background information about the feasibility study (e.g., frequently asked questions) and a hot link to the web version of the Employee Questionnaire that increased the likelihood of successful data collection;
- Provided website links to “best practices” and other educational information for healthcare workers and employers;
- Provided an example of unlimited access to survey results aggregated for all survey facilities;
- Provided an example of restricted access to survey results for a single facility (to only its respective study participants); this restricted access may also serve as an incentive for workers to provide and compare their own experiences and information on health and safety;
- Allowed NIOSH to evaluate various methods for displaying the survey results.

Figure 2.1 is a screen shot of the home page. In addition to providing the user access to the web version of the Employee Questionnaire, this page includes links to: frequently asked questions (FAQs) related to the NEWS; survey results; educational materials; information about NIOSH, privacy and security issues; and contact information.

Figure 2.1: Survey Web site Home Page

This web site was developed based upon comments from stakeholders who suggested that timely dissemination of survey results may be an incentive to some healthcare managers and employees to participate in the survey. We therefore designed a prototype survey results page with different levels of accessibility. For example, participating employees and managers would have access to survey results for their own facility in addition to aggregated results from other sampled facilities in the nationwide survey. This permits "benchmarking" which was a common stakeholder recommendation. Figure 2.2 provides an example of how survey results might be displayed (embedded charts are not presented).

Figure 2.2: Survey Results Page



A similar website which can be used for completing the web version of the questionnaires, for displaying survey results, and for providing educational materials is envisioned for the future NEWS.

3.0 Experimental Design

The overall goal of this study was to evaluate the feasibility of collecting data related to safety and health policies and practices at healthcare facilities by means of questionnaires completed by management and employees. The study was designed to be establishment-based, that is the identification/recruitment of survey participants and the distribution of survey materials would be conducted through participating establishments. Primary objectives of this feasibility evaluation included: to determine whether self-administered questionnaires elicit desired information; to evaluate different survey recruitment protocols; to evaluate two different modes of administration (i.e. paper- and web-based); and to compare the differences between information provided by management and employees. A specific aim was to evaluate survey methods that could be replicated in a national-level survey and incur minimal burden on healthcare management and employees, while collecting accurate and complete data from participants. This feasibility evaluation included two sequential pilot tests designed to evaluate proposed survey methods under actual conditions (with modifications to the protocol between pilot tests based on lessons learned). The experimental design for these pilot tests are described below.

3.1 Pilot Test 1

In Pilot Test 1, the sample of employees was divided into three experimental groups. Table 3.1 summarizes the recruitment protocol and the type of questionnaire materials sent to each of the experimental groups. A primary objective of Pilot Test 1 was to evaluate the accuracy and efficiency of a targeted approach for sending customized questionnaires with a recruitment letter. A customized questionnaire consisted of the Core Module and all Hazard Modules presumed to be applicable for a particular employee. The *a priori* determination of applicable modules was based on information available from personnel records (such as job title and work location) and information from the hospital's health and safety staff. Experimental Group 1 was therefore comprised of all employees who we could identify *a priori* as having a high potential for exposure to one or more of the targeted hazards. Based upon this information, we customized a questionnaire which included the Core and applicable Hazard Module(s) for each employee in experimental group 1. This questionnaire was then sent along with a personalized letter of invitation (which, as for all sampled employees, included instructions for accessing and completing the web-based questionnaire, if preferred).

Table 3.1: Experimental Design for Pilot Test 1

Experimental Group	Recruitment Protocol	Access to Paper Questionnaire	Access to Web Questionnaire
1: Targeted Employees most likely exposed to targeted hazards (n = 299)*	Personalized letter + Customized Paper Questionnaire	<u>Provided</u> Core Module and pre-determined Hazard Module(s) with instructions on how to request additional modules, if applicable	Letter included instructions on how to access web-based survey
2: One-half of Non-Targeted Employees (n = 252)*	Personalized letter + Partial Paper Questionnaire	<u>Provided</u> Core Module only with instructions on how to request Hazard Module(s), if applicable	Same as above.
3: One-half of Non-Targeted Employees (n = 249)*	Personalized letter only	Provided only instructions on how to request a paper questionnaire (Core Module and Hazard Modules)	Same as above.

* The sample selection process, including the numbers of participants in each experimental group is described in detail in Section 4.3.1.2.

While the intent was to include all those employees potentially exposed to the targeted hazard in Experimental Group 1, we recognized that additional “exposed” employees may not be identified using our *a priori* determinations and therefore may be excluded from Group 1. Therefore, to evaluate the “accuracy” of our methods for identifying potentially exposed workers, we were interested in increasing the likelihood that any missed “exposed” employees were included in the remaining pool of employees who were sampled.

Experimental Groups 2 and 3 were comprised of a nearly equal number of randomly assigned participants drawn from a random sample of all eligible employees less Group 1. Based on the assumption that employees with administrative job titles were much less likely to be exposed to targeted hazards than other employees, while employees with job titles or in service lines similar to targeted employees were more likely to be exposed to similar hazards, we stratified the remaining employees on these variables. Thus, administrative employees were recruited at a lower rate and employees in service lines similar to targeted employees were recruited at a higher rate than the overall average sampling rate for the pilot test. The only distinction between Experimental Groups 2 and 3 was how they were recruited. Employees in Experimental Group 2 were sent a letter of invitation and only the Core Module of the paper questionnaire with instructions for obtaining any Hazard Modules, if needed based on screening questions. Employees in Experimental Group 3 were sent only a letter of invitation (i.e. no paper questionnaire) with instructions on how to obtain a paper questionnaire and for completing the web-based questionnaire. Respondents in Group 3 who called to obtain a paper questionnaire were administered the gateway questions by a survey operator and sent a Core Module plus all applicable Hazard Modules.

In order to customize the survey mailings in this pilot test, Experimental Group 1 was sub-divided into ten discrete mail groups based upon the *a priori* assumptions regarding each employee’s potential

exposure to the hazards addressed by the individual Hazard Modules. Employees in Experimental Groups 2 and 3 were not sent any Hazard Modules and were assigned to Mail Groups 11 and 12, respectively. Table 3.2 describes these mail groups, the employees covered and the specific Hazard Module(s) sent to them along with the Core Module.

Table 3.2: Mail Groups for Pilot Test 1

Mail Group	Rationale for Employees Covered	Module(s)*
1	Respiratory therapists potentially exposed to aerosolized medications while administering them.	A
2	Pharmacists and pharmacy technicians in the pharmacy potentially exposed to antineoplastic agents during preparation.	B
3	Nurses and physician assistants working in oncology units potentially exposed to antineoplastic agents during administration to patients.	C
4	Employees in the sterile processing unit potentially exposed to both chemical sterilants and high-level disinfectants while sterilizing or disinfecting medical equipment and supplies.	D & E
5	Employees such as medical technicians working in various surgical endoscopy units (e.g. GI, ENT etc.) potentially exposed to high level disinfectants while disinfecting endoscopes and other medical equipment.	E
6	Sterile Processing employees assigned to operating rooms.	E, F & H
7	Anesthesiologists and nurse anesthetists potentially exposed to anesthetic gases during administration to patients.	F & G
8	All other operating room employees potentially exposed to waste anesthetic gases during surgical procedures.	F & H
9	All post anesthesia care unit (PACU) personnel potentially exposed to exhaled anesthetic gases while caring for post-operative patients.	I
10	Housekeepers	J
11	Experimental Group 2—one half of non-targeted employees	Core
12	Experimental Group 3—one half of non-targeted employees	None

*All Mail Groups received a personalized recruitment letter.

3.2 Pilot Test 2

Based on results from the first pilot test (as detailed later in Section 4.3.3.2), we made the following modifications to the experimental design for the second pilot test:

- Eliminated the specific identification of employees with known or highly probable exposure to targeted hazards.
- Increased the sampling rate for employees with high likelihood of exposure to targeted hazards from 50% to 100%.
- Increased the overall sample size to 1000 employees (compared to 800 in Pilot Test 1) to maximize the likelihood that “exposed” employees were included in the survey sample and to increase the number of potential respondents.

The experimental design for Pilot Test 2 is shown in Table 3.3.

Table 3.3: Experimental Design for Pilot Test 2

Experimental Group	Recruitment Protocol	Access to Paper Questionnaire	Access to Web Questionnaire
1: One-half of Sampled Employees (n = 501)*	Personalized letter + Partial Paper Questionnaire	<u>Provided</u> Core Module only with instructions on how to request Hazard Module(s), if applicable	Letter included instructions on how to access web-based survey
2: One-half of Sampled Employees (n = 499)*	Personalized letter only	Provided only instructions on how to request a paper questionnaire (Core Module and Hazard Modules)	Same as above.

*The sample selection process, including the numbers of participants in each experimental group is described in detail in Section 4.3.1.2.

Similar to experimental Groups 2 and 3 in Pilot Test 1, Groups 1 and 2 were comprised of nearly equal number of randomly assigned participants drawn from a stratified probability-based random sample of all eligible hospital employees.

All questionnaires used in Pilot Test 2 were the same as for Test 1 except for slight modifications pertaining to Module J (Housekeeping) which was modified to reduce its scope to ensure that it pertained more specifically to only housekeepers, as originally intended. Also, based upon poor compliance with requesting applicable modules by Pilot 1 respondents, we modified the wording and placement of the instructions associated with the gateway questions.

3.3 Survey Practices

To achieve high survey response rates, research⁸ dictates that the following elements of a “tailored-design” survey should be followed:

- Pre-announcing the survey by means of communication directly to the prospective participants;
- Clearly explaining the nature of the survey, the expectations of the participants, why the survey is being conducted, how the data will be used, and how confidentiality will be maintained;
- Sending out periodic reminder letters to non-respondents;
- Providing at least two different options for completing the survey, e.g., pen and paper or web based modes of administration of the instrument;
- Utilizing survey instruments that are interesting to the prospective participants;
- Minimizing the burden on participants; and
- Offering some type of incentive for participation.

The experimental designs for both pilot tests incorporated each of these elements, with the exception of an incentive (see Section 4.1.2.2). However, there were minor differences in how these elements were implemented in each of the respective pilot tests (as described in Section 4.3.1). For example, in Pilot Test 1, the pre-announcement letter was sent on hospital letterhead and signed by the

hospital Chief-of-Staff, while in Pilot Test 2 this announcement letter was on Battelle letterhead and signed by the Battelle Project manager. Also, recruitment at the second test site was modified by including a promotional “refrigerator-type” magnet containing survey information with each letter of invitation, and by placing survey recruitment posters throughout the facility. In general, however, the actual survey procedures and timeline followed for both pilot tests were similar.

A survey timeline used for both pilot tests is shown in Table 3.4.

Table 3.4: Generalized Time Line for Pilot Tests

Activity	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Obtain employee roster	■															
Select sample frame		■	■													
Produce and send introductory mailing				■	■											
Send e-mail notice from Hospital Administrator					■											
Send notice to department supervisors					■											
Mail Survey						■										
Survey Period						■	■	■	■	■	■	■				
Send Reminder to Non-respondents							■									
Send Thank-you to respondents							■	■	■	■	■	■				
Send reminder with survey to non-respondents								■								
Final Reminder from Hospital Administrator											■					
Non responder survey sent													■			
Survey Validation														■	■	■

3.4 Employee Questionnaire Validation

Validation of the Employee Questionnaire consisted of comparing the information provided by employee responses with actual conditions. This comparison involved a limited number of interviews with respondents and on-site observational walkthroughs conducted by Battelle industrial hygienists. The validation focused on specific work practices, engineering controls and PPE/C used while performing tasks involving the targeted hazard(s) which could be objectively verified through secondary sources (such as supervisors), and independent observation of work areas. A primary objective of the validation was to identify and understand any discrepancies between employee responses and information obtained by the industrial hygiene team so that the Employee Questionnaire could be appropriately revised, as necessary.

A validation protocol that included the procedures for recruitment, protection of confidentiality, and structured interview forms used to conduct the questionnaire validation at each pilot test facility was approved by the Battelle IRB and each respective facility.

4.0 Pilot Testing of Survey Tools and Methods

This section describes the methods and results of pilot tests conducted at two Federal medical centers. Battelle developed protocols (See Appendices in Companion Volumes 2 and 3) for each of the two pilot tests which detail the methods summarized in this section.

4.1 Administrative Issues

The administrative issues associated with the pilot tests as conducted in this project represent an important aspect of the feasibility of the NEWS, particularly when considering an establishment-based survey. In this section, we discuss our experience with recruiting facilities for participation and with obtaining approval to conduct the pilot test surveys (which were considered by the facilities to be research involving human subjects).

4.1.1 Facility Recruitment

NIOSH obtained preliminary letters of agreement in early 2002 from Department level management representatives of the Veterans Health Administration (VHA) and the Department of Defense (DoD) to conduct pilot studies at VHA and military medical centers. While these agreements indicated the support of the project by these agencies, the final approval to conduct pilot studies at any of their facilities was contingent upon approval of local management at each respective facility.

Efforts to obtain approval for the first pilot test were initiated in October 2003 at the Seattle VA Medical Center (SVAMC) in Seattle, WA. Although the Director of SVAMC agreed, in principle, to participate in the feasibility study, final approval required approval of the survey protocol by both the SVAMC Research and Development Committee (R&D Committee) and the University of Washington Human Subjects Committee (HSC) which SVAMC uses to review and approve any research involving human subjects at their facility. Final approval to conduct the first pilot test was obtained in March 2004.

After completing the first pilot test and making modifications to the survey design and questionnaires, efforts to conduct the second pilot test were focused within the Pacific Northwest to minimize associated travel costs by Battelle staff located in Seattle. Attempts to obtain approval to conduct a pilot test at either of two DoD medical facilities in the Puget Sound area were unsuccessful largely due to concerns about resultant burden on hospital personnel. Ultimately, the Portland VA Medical Center (PVAMC) in Portland, OR was chosen because their initial willingness to participate (largely due to the familiarity between management of the two VHA facilities within the same region).

NIOSH and Battelle initially contacted facility management at the PVAMC in December 2004. Following review and approval of the study protocol by the PVAMC Institutional Review Board (IRB) and Management Committee, final approval to conduct the second pilot test was obtained in May 2005.

Each pilot test imposed a substantial burden on hospital management and participating employees. Specifically, participation at each facility required:

- A listing of hospital employees;
- Distribution of survey materials through their internal mail system;
- Employees to complete the survey questionnaire(s) while at work (generally, 30-45 minutes);
- Assistance from hospital health and safety, or other designated staff to conduct the survey (e.g. recruitment; data collection, and validation)

In summary, both pilot tests required significant effort on the part of Battelle and NIOSH survey staff, as well as substantial burden on hospital management and labor representatives to recruit and secure final approval for the surveys at the respective facilities. Despite NIOSH having secured general agreement at the national level permitting local hospitals to participate in these pilot tests, final approval at both sites required a minimum of six months from the time of initial contact until we were able to implement the surveys at the respective facilities.

4.1.2 IRB Approval

Given the nature of the data collection effort (self-administered employee questionnaires), the pilot test protocol was submitted to the NIOSH Human Subjects Review Board (HSRB) and the Battelle Institutional Review Board (IRB), for review and approval. The NIOSH HSRB determined the National Exposures at Work project and its supporting activities, including this feasibility study, to be surveillance and exempt from human research requirements as defined in 45 CFR Part 46. The Battelle IRB approved the protocol after a full Board review in December 2003.

4.1.2.1 Pilot Test 1 Human subjects' research activities (including surveys) at the SVAMC were required to be approved by the University of Washington Human Subjects Committee (HSC). Prior to submission to the HSC, it was necessary to obtain approval by the SVAMC Research and Development (R&D) Committee and to select a Principal Investigator (PI) affiliated with both the SVAMC and the University of Washington. The SVAMC Chief of Staff was selected as PI (with the SVAMC Employee Health Nurse Manager designated as a co-PI) and approval by the R&D Committee took six weeks. After numerous discussions with project staff and minor modifications, the study protocol was approved by the HSC two months later.

4.1.2.2 Pilot Test 2 Since the experimental design was revised following the first pilot test, the study protocol was resubmitted to the Battelle IRB in January 2005 simultaneous to submission to the PVAMC IRB (there were no "pre-approvals" required). In addition to changing the experimental design used in Pilot Test 1, we proposed providing a monetary incentive (\$5 in cash or cafeteria tokens) in each letter of invitation sent to employees in the survey sample to encourage participation. While both IRBs approved this incentive, the PVAMC Management Committee determined that a monetary incentive violated regulations concerning "gifts to Federal employees" and could not be permitted. Alternatively, a

non-monetary promotional magnet (previously described) was provided to employees at time of invitation. After resubmitting the protocol (with the revised plans for an incentive) to both IRBs, final approval was obtained in May 2005. The Occupational Safety and Health Manager at PVAMC served as the on-site principal investigator.

In summary, these two pilot tests were considered by both medical centers to involve human subject research. The resultant review and approval of the study protocol by IRBs required considerable coordination and frequent interaction between Battelle and the institutions and approximately 6 months to complete. This experience likely has significant implications when implementing a national-scale survey, particularly if conducted through establishments.

4.2 Management Survey

The Management Questionnaire was submitted to the principal investigator at each pilot test site for completion. Although input from multiple sources was required, we requested that one completed copy be returned to Battelle. The primary purpose for obtaining information from the Management Questionnaire in the two pilot tests was for comparison with information obtained from the Employee Questionnaires. These comparisons are discussed in Section 4.3.2.8.

4.3 Employee Survey

In this section, we discuss the employee survey conducted at both participating hospitals. First, we briefly describe survey methods (details are included in the study protocol for each respective pilot test). Second, we present the results of the employee survey.

4.3.1 Implementation

This section provides a summary of our methods for obtaining the employee rosters, selecting the sample of employees, recruitment of selected employees, and distribution and collection of survey materials for each pilot test.

4.3.1.1 Obtaining Employee Rosters

For this feasibility evaluation, employee rosters from each facility were obtained to:

- Implement a targeting approach for distribution of surveys and appropriate Hazard Modules;
- Send personalized recruitment notices to prospective participants;
- Send personalized reminders to non-respondents and thank-you letters to respondents;
- Track the participation status of those employees selected to complete the questionnaire; and,
- Determine whether respondents were representative of the sample and whether the sample was representative of the entire hospital staff.

Pilot Test 1 A list of SVAMC employees which included name, job title, service line (e.g., primary and specialty care, surgery, central processing), and duty station (main medical center or satellite facility), gender, date of birth, and years of employment was obtained from the Human Resources (HR) department in January 2004. Although hospital e-mail addresses for all employees were also requested, they could not be easily assembled and therefore were not provided. Due to delays in conducting the survey until July 2004, the original employee list was replaced with an updated version for sample selection.

Pilot Test 2 A roster of PVAMC employees was obtained in May 2005 that included name, business unit (equivalent to service line), occupational title (job title), mail code, and date of hire. We were denied the requested information on gender and date of birth; e-mail addresses were not requested at this site.

Written requests for the personnel rosters were required at each pilot test site; a legal review of the request and of the employee information being provided was conducted by both facilities prior to its release to Battelle.

4.3.1.2 Sample Selection

Rather than including all employees from each facility, a sample was selected for each pilot test based on available resources (project funding and personnel) and to limit survey burden. The minimum sample size was largely determined by the necessity to include a sufficient number of employees who were “potentially exposed” to the hazards targeted in the survey (assumed to be approximately 10% of all employees based on hospital estimates).

Pilot Test 1 For convenience, survey eligibility was limited to only SVAMC employees (n~3350) assigned to non-research and development (R&D) jobs at the Seattle facility (n~2290). A stratified random sample of 800 employees was selected for Pilot Test 1.

The primary purpose for stratifying the sample was to maximize selection of employees with potential exposure to targeted hazards so that a “customized” recruitment protocol could be evaluated (as previously described). Table 4.1 presents the sampling rates for both targeted and non-targeted employees, the rationale for inclusion in the sample, and the total number of employees sampled for Pilot Test 1.

Table 4.1: Sampling Rates for Employees in Pilot Test 1

Population	Rationale for Inclusion	Sampling Rate	# Employees (% of Sample Pool)
Experimental Group 1: Targeted Employees			
Respiratory therapists, pharmacists and pharmacy technicians, nurses and physician assistants working in oncology, employees in sterile processing, anesthesiologists and nurse anesthetists, other operating or recovery room employees, and housekeeping employees.	Known or highest likelihood of exposure to at least one of the targeted hazards.	100%	299 (37%)
Experimental Groups 2 and 3: Non-targeted Employees			
Employees in work areas in which other targeted employees work (e.g., those assigned to surgical service line)	High likelihood of exposure to targeted hazards.	50%	121 (15%)
Employees with patient care responsibilities, but not assumed to have exposure to targeted hazards (e.g., nurses, medical technologists, etc.)	Minimal likelihood of exposure to targeted hazards.	30%	311 (39%)
Employees with no patient care responsibilities and unlikely to be exposed to targeted hazards (e.g. administrative jobs).	Unlikely to have exposure to targeted hazards	10%	76 (9%)
Total Sample Pool			
Approximately 2300 eligible employees at the Seattle Medical Center	Test Population in a Federal Hospital	35%	800 (100%)

Pilot Test 2 Survey eligibility was limited to only PVAMC (n~3000) assigned to non-research and development (R&D) jobs at the primary Portland Medical Center (n~2129). A stratified random sample of 1000 employees was selected for Pilot Test 2.

Since the experimental design in Pilot Test 2 specified eliminating the targeted recruitment group (and thereby those employees determined *a priori* to have potential exposure to targeted hazards), we over-sampled selected non-administrative job titles (particularly those job titles and service lines, e.g. pharmacists, with high potential for exposure to targeted hazards), to increase inclusion of these employees in the survey. Table 4.2 presents the sampling rates for employees with various job titles, the rationale for inclusion in the sample, and the total number of employees sampled for Pilot Test 2.

Table 4.2: Sampling Rates for Employees in Pilot Test 2

Experimental Groups 1 and 2: Sampled Employees	Rationale for Inclusion	Sampling Rate	# Employees (% of sample Pool)
Respiratory therapists, pharmacists and pharmacy technicians, nurses and physician assistants working in oncology, employees in sterile processing, anesthesiologists and nurse anesthetists, and all other operating or recovery room personnel, and housekeeping employees.	Highest likelihood of exposure to at least one of the targeted hazards.	100%	497 (50%)
Primarily nurses, physicians and medical technologists who could have potential exposure to targeted hazards.	High likelihood of exposure to targeted hazards.	50%	420 (42%)
Employees with no patient care responsibilities and unlikely to be exposed to targeted hazards.	Unlikely exposure to targeted hazards	10%	83 (8%)
Total Sample Pool			
2129 eligible employees at the PVAMC	Test Population in a Federal Hospital	47%	1000 (100%)

4.3.1.3 Recruitment of Participants

Recruitment relates both to the method by which participants are notified of the survey and how the questionnaire is packaged and distributed to them. In both pilot tests, employees were provided notice of the survey by means of:

- An e-mail notice sent to all hospital staff from the Director of the Hospital. This notification informed employees that the hospital was participating in the survey and encouraged participation.
- A pre-survey letter sent to all selected participants. The purpose of this letter was to inform those selected to participate that they had been selected, to encourage their completing the questionnaire and to inform them that they were permitted to complete the questionnaire while at work.

Pre-survey notices have been shown to be important elements of successful surveys. This feasibility evaluation was not intended to assess these announcements; the protocols for both pilot tests specified the same pre-survey announcements. In the implementation of the individual pilot tests, we had intended that pre-survey e-mail notifications would be sent by the Directors of the respective hospitals, and that pre-survey letters to selected participants would be sent on Battelle letterhead, signed by the Battelle Project Manager. At the first pilot test site however, our co-PI, the Medical Chief-of-Staff, suggested that the pre-survey letter be on hospital letterhead with his signature. In the second pilot test, the letter was signed by the Battelle project manager as initially intended. This difference in the initial recruitment letter sent to employees at each site may have had an effect on response rates (See Section 4.3.3).

4.3.1.4 Distribution and follow-up

Approximately one week following the distribution of the pre-survey letters at each of the pilot test sites, the surveys were launched in the respective facilities. Questionnaires were distributed in accordance with the experimental designs for each site as shown in Tables 3.1, 3.2 and 3.3.

Similar procedures for follow-up, reminder and thank-you letters were followed at both sites. All survey materials were distributed through the hospital mail rooms in envelopes addressed by name to the individual participants. Battelle survey staff pre-sorted all mailings by mail stop and packaged them for delivery to the respective mail rooms. The mailings included:

- Questionnaires or survey letters (depending on Experimental Group) were sent one week following the pre-survey letter.
- First reminder/thank-you letters were sent one-week following the distribution of the questionnaires.
- Second reminders were sent to all non-respondents three weeks following the distribution of questionnaires.
- Thank-you letters were sent to all respondents within one week of receipt of the completed questionnaire.
- Non-respondent questionnaires were sent to a random sample of 200 non-respondents 8 to 9 weeks following the initial distribution of the questionnaires/letters.

A tracking system was created in Microsoft Access™ to document when surveys and all other survey correspondence (e.g., thank-you letters) were sent. Also, an ID label was affixed to each paper questionnaire and letter sent to participants. The ID was the exclusive means of identifying participants and was also used by participants to access the web version of the survey in a confidential manner. To protect their confidentiality, participants were instructed to avoid writing their names on the questionnaires. The unique ID allowed us to track respondents regardless of the mode used in completing the survey. We requested access to limited demographic information including name, job title, service line, duty station, gender, date of birth, date of hire and ethnicity (denied) for a short period of time during the pilot study so we could:

- Use individually addressed (personalized) letters to encourage participation by sampled employees;
- Track responses and direct the sending of thank-you and reminder letters to those participants who had or had not responded;
- Track those who completed the survey to analyze response rates by survey method, department, job title, and whether the employee was actually exposed to the agents of concern; and
- Track those who had completed the survey and those who had not, in order to direct follow-up analysis of the survey.

In Pilot Test 2, we also evaluated a passive recruitment approach in which posters were hung in selected locations throughout the facility. These posters presented information regarding the survey with

a toll-free telephone number and web-site URL for any PVAMC employee interested in participation. Only one individual chose to participate as a result of these posters.

4.3.1.5 Non-Response Survey

We distributed a questionnaire to a random sample of 50% of the non-respondents at both pilot test sites (or a maximum of 200 per site), primarily to ascertain their reasons for non-participation. The results of this non-response survey are presented in Section 4.3.2.5.

4.3.2 Results of Pilot Test

Hospitals are complex institutions with many different employee groups which differ in training and education, job activities, access to the internet, attitudes, available time, patient contact, unionization, or other issues. For purposes of data analysis and presentation, we created six condensed occupational groupings using employer-provided rosters. These groupings are based upon assumed similarities in many of the issues described above, the most important being job title and job activities.

In Pilot Test 1, the survey sample included 100 employees for which the job title was not obvious (e.g., numerical codes) from the employee roster. Thirty-six of these 100 employees subsequently participated and provided their self-reported job title; job titles were unknown for the remaining 64 employees and therefore categorized as “Missing.” It should be noted that after transferring the 36 participants who provided job titles to other categories, the response rate significantly decreased for the “Missing” category (from 38% to 3%) and slightly increased for those affected job categories which gained respondents. For Pilot Test 2, the employee roster from the hospital was complete for job titles.

4.3.2.1 Response Rates

We report response rates for each pilot study by experimental group, mode and job category in Table 4.3. The first pilot test had a 50% higher response rate than the second pilot test (54% compared to 36%). Similar differences in response rate between the two sites are observed within all job categories (ranging from 20% to 80% higher at the Pilot 1 site) except for “Physicians and Special Practitioners” where site 1 had a 320% higher response rate. One explanation for the difference in the overall response rate, and for the specific difference among physicians between the two test sites, may be the difference in the initial recruitment letter sent to employees (signed by the Medical Chief of Staff at site 1 and by the Battelle project manager at site 2). It should also be noted that a higher overall percentage of participants in pilot test 1 were initially sent a questionnaire (with or without hazard modules) than in pilot test 2 (69% in pilot test 1 versus 50% in pilot test 2).

Also of interest are the overall participation rates by experimental group. In Pilot Test 1, participation was higher in the groups sent the recruitment letter and a questionnaire (62% if the core questionnaire and 52% if the customized questionnaire was sent) compared to the group sent only the letter (49%). In Pilot Test 2, there was a similar pattern, but with a slightly greater difference in rates

between group 1, that received both letter and a questionnaire, and group 2, that was sent only a letter of invitation. It seems that having the option to complete an enclosed paper questionnaire or the web version was more attractive than the option to request a paper questionnaire by phone or to access the web-version. Other possible reasons for the difference in response rates may be that the bulkier mailing attracted more attention from potential participants and that having a paper questionnaire in hand was more convenient.

The extra burden on potential respondents of having to request a paper questionnaire by phone may explain the findings for the mode (paper vs. web) chosen by respondents in the three experimental groups. In Pilot Test 1, 79% of respondents sent the customized questionnaire and 72% of respondents sent the core questionnaire chose to complete the enclosed paper questionnaire; this compares to 14% choosing the paper mode by respondents sent only the letter. The observed difference is even greater in Pilot Test 2, where 79% of respondents initially sent the core questionnaire completed a paper version compared to only 5% of respondents sent only the letter.

Table 4.3 Response Rates for Pilot Tests by Job, Distribution Method, and Mode

Job Category	Experimental Group	Mode: Pilot Test 1			Mode: Pilot Test 2		
		Paper (%)	Web (%)	Response Ratio (Rate as %)	Paper (%)	Web (%)	Response Ratio (Rate as %)
Administration	Targeted	0 (0%)	0 (0%)	0/1 (0%)	Not tested		
	Letter + Core	12 (60%)	8 (40%)	20/25 (80%)	17 (77%)	5 (23%)	22/30 (73%)
	Letter Only	1 (7%)	13 (93%)	14/22 (64%)	0 (0%)	21 (100%)	21/40 (53%)
	Total	13 (38%)	21 (62%)	34/48 (71%)	17 (40%)	26 (60%)	43/70 (61%)
Cleaning, Maintenance and Food Service	Targeted	41 (89%)	5 (11%)	46/84 (55%)	Not tested		
	Letter + Core	3 (75%)	1 (25%)	4/5 (80%)	14 (74%)	5 (26%)	19/36 (53%)
	Letter Only	1 (50%)	1 (50%)	2/3 (67%)	2 (15%)	11 (85%)	13/43 (30%)
	Total	45 (87%)	7 (13%)	52/92 (57%)	16 (50%)	16 (50%)	32/79 (41%)
Nurses and Nurse Support Staff	Targeted	26 (81%)	6 (19%)	32/59 (54%)	Not tested		
	Letter + Core	46 (81%)	11 (19%)	57/89 (64%)	68 (76%)	22 (24%)	90/188 (48%)
	Letter Only	5 (13%)	33 (87%)	38/84 (45%)	3 (6%)	51 (94%)	54/174 (31%)
	Total	77 (61%)	50 (39%)	127/232 (55%)	71 (49%)	73 (51%)	144/362 (40%)
Physicians and Special Practitioners	Targeted	22 (76%)	7 (24%)	29/53 (55%)	Not tested		
	Letter + Core	12 (60%)	8 (40%)	20/31 (65%)	20 (80%)	5 (20%)	25/136 (18%)
	Letter Only	2 (14%)	12 (86%)	14/30 (47%)	1 (4%)	22 (96%)	23/141 (16%)
	Total	36 (57%)	27 (43%)	63/114 (55%)	21 (44%)	27 (56%)	48/277 (17%)
Technologists and Technicians	Targeted	29 (74%)	10 (26%)	39/69 (57%)	Not tested		
	Letter + Core	18 (64%)	10 (36%)	28/43 (65%)	34 (81%)	8 (19%)	42/89 (47%)
	Letter Only	4 (22%)	14 (78%)	18/27 (67%)	1 (3%)	28 (97%)	29/77 (38%)
	Total	51 (60%)	34 (40%)	85/139 (61%)	35 (49%)	36 (51%)	71/166 (43%)
Therapists	Targeted	3 (43%)	4 (57%)	7/15 (47%)	Not tested		
	Letter + Core	10 (83%)	2 (17%)	12/17 (71%)	12 (100%)	0 (0%)	12/22 (55%)
	Letter Only	2 (9%)	21 (91%)	23/27 (85%)	0 (0.0%)	6 (100%)	6/24 (25%)
	Total	15 (36%)	27 (64%)	42/59 (71%)	12 (67%)	6 (33%)	18/46 (39%)
Missing (No Job Title)	Targeted	1 (100%)	0 (0%)	1/14 (7%)	No Missing		
	Letter + Core	1 (100%)	0 (0%)	1/19 (5%)			
	Letter Only	0 (0%)	0 (0%)	0/31 (0%)			
	Total	2 (100%)	0 (0%)	2/64 (3%)			
Total	Targeted	122 (79%)	32 (21%)	154/295 (52%)	Not tested		
	Letter + Core	102 (72%)	40 (28%)	142/229 (62%)	165 (79%)	45 (21%)	210/501 (42%)
	Letter Only	15 (14%)	94 (86%)	109/224 (49%)	7 (5%)	139 (95%)	146/499 (29%)
	Total	239 (59%)	166 (41%)	405/748 (54%)	172 (48%)	184 (52%)	356/1000 (36%)

4.3.2.2 Targeting Accuracy and Effectiveness

The accuracy and efficiency of distributing a customized questionnaire at time of invitation was tested only in Pilot Test 1. In this test, ten of the twelve mail groups (mail groups 1-10) were targeted to receive specific Hazard Modules in addition to the Core Module and invitation letter (Experimental Group 1). Mail Groups 11 and 12 (Experimental Groups 2 and 3, respectively) received the Core Module and letter or the letter only, respectively. In Table 4.4, mail groups are represented by the rows (with the number of respondents in each mailing group shown in the “# Respondents” column) while Hazard Modules are represented by the columns. The specific Hazard Modules sent to each Mail Group are denoted by shaded cells (e.g. the six respondents in Mail Group 1 were each sent Module A). The number within each cell represents the number of respondents for that Mail Group who indicated that the corresponding Hazard Module was applicable (based on their responses to the gateway questions in the Core Module). For example, four of the six Module A questionnaires sent to Mail Group 1 were applicable; in addition, Modules E (n=1), H (n=2) and I (n=2) were also applicable to respondents in this mail group.

From this table, we can calculate the targeting sensitivity and specificity for each Hazard Module. The sensitivity for a specific module is the proportion of modules indicated and correctly identified by our targeting. It is calculated by dividing the number of modules correctly sent to responders divided by the “Total” number of responders who should have received that module. For example, although six respondents in Mail Group 1 were sent Module A; only four answered ‘yes’ to the Module A gateway question. Therefore, only four Module A questionnaires were “correctly” sent. An additional six responders in other mail groups indicated that they should have received module ‘A’ (one each in mail groups 3, 8, and 10 and three who received the core questionnaire and letter). Thus, the sensitivity or “accuracy” is 4/10 or 0.40.

Table 4.4 Accuracy and Efficiency of Targeted Approach for Pilot Test 1 Among Responders

		HAZARD MODULES INDICATED									
MAIL GROUPS	# Respondents	SHADING Shows Which Modules Were Sent Within Each Mail Group									
		A	B	C	D	E	F	G	H	I	J
1	6	4				1			2	2	
2	15		11								
3	6	1		6							
4	4				3	3	1			1	
5	12				1	12	4		1	1	2
6	22			1	15	20	9		10		7
7	6					1	3	1	3		1
8	33	1	1	2		9	22	3	21	3	3
9	4					1			1	4	
10	46	1			1	3	3		2	4	45
Core + Letter	142	3	2	3		4	4		3	7	21
Letter ONLY	109			5		4	3		2	2	10
TOTAL	405	10	14	17	20	58	49	4	45	24	89
Sensitivity and Specificity***											
Targeting Sensitivity		0.40	0.79	0.35	0.15	0.60	0.69	0.25	0.69	0.17	0.51
Targeting Specificity		0.995	0.990	1.00	0.997	0.991	0.924	0.987	0.933	1.00	0.997

*Sensitivity is the proportion of modules indicated that were correctly identified by our targeting.

** Specificity is the proportion of modules not indicated that were correctly identified as such.

***Overall Sensitivity is 0.53; Overall specificity is 0.982

Specificity represents the ratio of the respondents who were correctly not sent a specific Hazard Module as indicated by their response to gateway questions (we call this 'N' for numerator) and the total number of respondents who should not receive a specific module (we call it 'D' for denominator). D is calculated by taking 405 (the total number of respondents) and subtracting the number who should have received the module (the "Total" in the column for that module). To calculate N, we first calculate the number of people who incorrectly received the module (we call this 'X' for incorrect). X is calculated by taking the sum of the differences between the correctly identified respondents for that module (the number in the grayed boxes in that modules column) and the corresponding numbers of modules sent. N is then simply D minus X. The specificity is then the ratio of N and D or, as an equation, N/D . Using the example of module 'A', D is 405 minus 10 or 395. X is calculated for mailing group 1 only (as this is the only group that was mailed module 'A') and thus X equals six minus four (which equals 2). Thus, N equals 395 minus 2 or 393, and the specificity for module 'A' is $393/395$ which equals 0.995. We would expect specificity or "efficiency" to be high in this survey, given the design in which questionnaires were distributed (i.e. only potential respondents with known or highly probable exposures were sent a module).

4.3.2.3 Compliance and Data Completeness

In this study, we define "completeness" to mean responses for all applicable questions (across all questionnaire modules) for each participant. The modular approach selected for this survey had a strong impact on the completeness of the data collected. In particular, for respondents who selected to complete the survey using a paper questionnaire, the modular approach frequently required them to request additional questionnaires by phone, wait for them to arrive, then complete and return them. This additional burden was often decisive in determining whether or not the respondent would complete the additional modules indicated by responses to gateway questions and therefore submit a "complete" questionnaire. During Pilot Test 1, an attempt was made to minimize this burden by sending paper copies of the core and pre-selected modules to targeted employees with their initial invitation. This process was generally successful when targeting was accurate. However, as described above, our targeting efforts were not completely successful.

In this section, we use compliance rates to evaluate the success of various survey designs, "Compliance" is defined as the completion of all applicable Hazard Modules by each respondent (based on their responses to gateway questions in the Core Module). The compliance rates for both pilot tests are presented in Table 4.5. Respondents who completed all applicable modules were defined as "fully compliant." Respondents who completed at least one, but not all applicable modules were defined as "partially compliant" and those who did not complete any applicable modules were considered "non compliant." Since Pilot Test 2 did not include a targeted group, corresponding cells of the table are shaded.

A notable finding from the pilot tests is the very high compliance rates observed whenever the respondent chose to complete the web version of the questionnaire (ranging from 96% to 100%). This

result might be expected since the web version is seamless to the respondent (i.e., questions were presented serially without requiring any special actions to complete all applicable questions for all modules). It also suggests that the questionnaire burden (i.e., number of questions) itself is not a major problem for most respondents. Note: Despite the seamless appearance of the web version, the compliance rate for those completing it can be less than 100% when a respondent fails to complete the module after answering “Yes” to the respective gateway question. This could occur if the respondent, upon being directed to the Hazard Module (based on the response to the gateway question), realizes the Module is not applicable to his situation and quits the survey without modifying the response to the gateway question.

Table 4.5: Compliance with Instructions for Completing All Required Hazard Modules

Experimental Group	Survey Mode	Pilot Test 1				Pilot Test 2			
		Number Compliant (%)				Number Compliant (%)			
		Fully*	Partially	Not	Total	Fully*	Partially	Not	Total
Targeted Letter, Core & Selected Modules	Paper	67 (60%)	41 (37%)	3 (3%)	111	Not applicable			
	Web	25 (96%)	0	1 (4%)	26				
	Total	92 (67%)	41 (30%)	4 (3%)	137				
Letter & Core	Paper	0	0	20 (100%)	20	8 (16%)	2 (4%)	41 (80%)	51
	Web	11 (100%)	0	0	11	21 (100%)	0	0	21
	Total	11 (36%)	0	20 (65%)	31	29 (40%)	2 (3%)	41 (57%)	72
Letter Only	Paper	7 (100%)	0	0	7	2 (67%)	1 (33%)	0	3
	Web	14 (100%)	0	0	14	53 (96%)	1 (2%)	1 (2%)	55
	Total	21 (100%)	0	0	21	55 (95%)	2 (3%)	1 (2%)	58
Total	Paper	74 (53%)	41 (30%)	23 (17%)	137	10 (19%)	3 (6%)	41 (76%)	54
	Web	50 (98%)	0	1 (2%)	51	74 (97%)	1 (1%)	1 (1%)	76
	Total	124 (65%)	41 (22%)	24 (13%)	189	84 (65%)	4 (3%)	42 (32%)	130

*Fully compliant means all applicable Hazard Modules indicated by response to gateway questions were completed. Partially compliant means that at least one indicated Hazard Module was completed and Not Compliant means no applicable modules were completed.

In both pilot tests, the compliance rates varied by the completion mode and were better (i.e., higher rates for “fully compliant”) for respondents completing the web-version of the questionnaire. For example, 98% of web-respondents in Pilot Test 1 and 97% in Pilot Test 2 were fully compliant compared to only 53% and 19%, respectively, for paper-respondents. Another finding is that those respondents who received only a letter of invitation were consistently compliant with returning all applicable modules, regardless of completion mode.

The variation in full compliance is quite high among respondents completing the paper mode, varying from 0% to 100% between the different experimental groups. Full paper compliance was lowest for respondents only sent the Core Module (0% and 16% in Pilot Test 1 and 2, respectively). It was higher (60%) in the “targeted group” where respondents were initially sent all or some of the applicable Hazard Modules. However, full paper compliance increased to 94% among the 67 “targeted” respondents who were accurately targeted and thus sent all the modules they needed to complete (not shown in the table). This full paper compliance rate is comparable to rates among respondents sent only a letter (100% and 67% for Test 1 and 2, respectively), who answered gateway questions when they called for a paper questionnaire and thus received all appropriate modules. These results suggest that full compliance with the paper mode is largely determined by whether or not the respondent was sent all required modules (either initially at time of invitation or after requesting by phone).

4.3.2.4 Response Bias

In evaluating response bias, we compared those who participated in the survey with those who did not. The underlying assumption here is that if the two populations look similar (e.g. have the same age and gender distributions) there is less chance they were dramatically different in their attitudes and experiences. In other words, those responding would more likely be representative of the entire population.

Our ability to evaluate response bias is limited by the extent of the information we have on those who did not respond, which varied considerably between the two pilot studies. In the first pilot test site, we were able to obtain age, gender, duration of employment and job title (with a few exceptions) for the entire study population. At the second site, however, only duration of employment and job title were provided.

Table 4.6 compares non-responders to responders and the total study group for the Pilot Test 1 site. The study group is almost evenly split between males and females, with responders slightly biased toward females. However, the percentage difference is very small. When considering age distribution, non-responders and responders are very similar at the extremes. However, in the 40-60 years age range, responders tend to be older. This distinction is more pronounced than the gender differences, but it is not extreme. On the other hand, duration of employment distributions is very similar. This is also true for job distributions, although responders slightly over-represent administrators and therapists, and slightly under-represent nurses and physicians.

Table 4.6 Bias Analysis for the Pilot Test 1 Site

	Non-Respondent (% of Group)	Respondent (% of Group)	Total (% of Group)
Gender			
Male	183 (52%)	188 (46%)	371 (49%)
Female	167 (48%)	217 (54%)	384 (51%)
Age Group			
< 30 years	25 (7%)	24 (6%)	49 (7%)
30 to < 40 years	68 (19%)	66 (17%)	134 (18%)
40 to < 50 years	122 (35%)	114 (29%)	236 (32%)
50 to < 60 years	106 (30%)	160 (41%)	266 (36%)
60 years or older	29 (8%)	31 (8%)	60 (8%)
Employment Duration Group			
< 1 year	28 (8%)	23 (6%)	51 (7%)
1 to < 2 years	58 (17%)	78 (20%)	136 (19%)
2 to < 5 years	59 (17%)	59 (15%)	118 (16%)
5 to < 10 years	71 (21%)	79 (21%)	150 (21%)
10 to < 15 years	59 (17%)	51 (13%)	110 (15%)
15 to < 20 years	40 (12%)	60 (16%)	100 (14%)
20 years or older	28 (8%)	35 (9%)	63 (9%)
Job Group			
Administration	16 (5%)	34 (8%)	50 (7%)
Cleaning, Maintenance and Food Service	41 (14%)	52 (13%)	93 (13%)
Nurses and Nurse Support Staff	109 (36%)	127 (32%)	236 (34%)
Physicians and Special Practitioners	60 (20%)	63 (16%)	123 (17%)
Technologists and Technicians	57 (19%)	85 (21%)	142 (20%)
Therapists	19 (6%)	42 (10%)	61 (9%)

Table 4.7 compares non-responders to responders and the total study group for the Pilot Test 2 site. There is more variation between non-responders and responders at this site. With respect to duration of employment, longer duration employees are under-represented among the responders. In addition, physicians are significantly under-represented, resulting in all other job categories being slightly over-represented. Despite the variation, there is no evidence of extreme bias. There is sufficient participation from all age groups and job categories (other than physicians) to enable us to generalize study findings to the overall populations at the pilot test facilities.

Table 4.7 Bias Analysis for the Pilot Test 2 Site

	Non-Respondent (% of Group)	Respondent (% of Group)	Total (% of Group)
Employment Duration Group			
< 1 year	43 (7%)	18 (5%)	61 (6%)
1 to < 2 years	125 (19%)	58 (16%)	183 (18%)
2 to < 5 years	173 (27%)	92 (26%)	265 (27%)
5 to < 10 years	135 (21%)	60 (17%)	195 (20%)
10 to < 15 years	67 (10%)	30 (8%)	97 (10%)
15 to < 20 years	41 (6%)	62 (17%)	103 (10%)
20 years or more	60 (9%)	37 (10%)	97 (10%)
Job Group			
Administration	27 (4%)	44 (12%)	71 (7%)
Cleaning, Maintenance and Food Service	47 (7%)	32 (9%)	79 (8%)
Nurses and Nurse Support Staff	218 (34%)	144 (40%)	362 (36%)
Physicians and Special Practitioners	229 (36%)	48 (13%)	277 (28%)
Technologists and Technicians	95 (15%)	71 (20%)	166 (17%)
Therapists	28 (4%)	18 (5%)	46 (5%)

4.3.2.5 Non-response Questionnaire Results

In pilot test 1, we distributed 170 questionnaires to a randomly selected cohort of the 343 non-respondents; 22 of these were returned. In pilot test 2, we randomly selected 200 individuals from among the 644 non-respondents and sent them the non-response questionnaire. Twenty-eight of these questionnaires were returned. Table 4.8 presents the results of this non-response survey.

Table 4.8: Results of the Non-Respondent Survey

Reason for Non-Participation*	(Pilot Test 1) (n = 22)**	(Pilot Test 2) (n = 28)**
I did complete it but I didn't have a chance to return it	1	0
I didn't have time	10	13
I felt the survey was too long	4	5
I was not adequately told about the purpose of the survey	3	1
I didn't feel I could complete the questionnaire confidentially	3	4
I was not given the opportunity to complete the questionnaire at work	1	8
I am not interested in health and safety issues at work	0	0
I wanted to complete the paper version, but I didn't get one	1	6
I didn't have access to a computer	0	0
I was concerned there would be adverse consequences for me or for my facility	1	3
I felt the survey was not worthwhile	3	2
I never participate in surveys	3	1
Other	2	3

* Respondents were asked to check all applicable reasons for non-participation

** n = number of non-respondent questionnaires returned

Based on limited responses, the most common reasons cited for not completing the questionnaire was 'lack of time' and 'survey was too long.' Some of the reasons cited in the second pilot test (such as 'confidentiality,' 'not given an opportunity to complete the questionnaire at work,' and 'adverse consequences for participation') suggest that management support for the survey was inadequately communicated to employees.

4.3.2.6 Employee Feedback Results

In this section, we present the results of the employee feedback questions included at the end of the Employee Questionnaire. There were several employee feedback questions presented to respondents, and since this section was optional, not all respondents chose to answer any or all of the questions. Therefore, the numbers of respondents shown in Tables 4.9 – 4.11 are not identical.

Table 4.9: Reasons for Choosing a Particular Survey Mode*

Reasons for Completing PAPER Version – Pilot 1	Frequency	Percent
I don't have access to a computer	2	2.7
I don't have access to the Internet	1	1.4
I feel more comfortable completing the paper version	15	20.5
I was concerned about the privacy/security of the web version	7	9.6
The paper version was more convenient or flexible	38	52.0
I didn't know a web version was available	1	1.4
Other reason	9	12.3
No response	166	
Total	239	100.0

Reasons for Completing PAPER Version – Pilot 2	Frequency	Percent
I had difficulty finding or entering the web site	1	5.6
I feel more comfortable completing the paper version	5	27.8
I was concerned about the privacy/security of the web version	2	11.1
I felt the paper version would take less time	3	16.7
I felt the paper version was more convenient	2	11.1
I didn't know a web version was available	1	5.6
Other reason	4	22.2
No response	154	
Total	172	100.0

Reasons for Completing WEB Version – Pilot 2	Frequency	Percent
I felt more comfortable completing the web version	31	20
I felt the web version was more convenient	97	62.6
I didn't know a paper version was available	3	1.9
I felt I could complete the web version in less time	15	9.7
Other reason	9	5.8
No response	29	
Total	184	100.0

*These questions were inadvertently omitted from the web version on the Employee Questionnaire in Pilot Test 1.

Overall, the most common reason for choosing which mode to use for completing the questionnaire was ‘convenience.’ For web-respondents, ‘convenience,’ ‘comfort/familiarity’ and ‘less required time’ were the most common reasons for completing the web-version; similarly, paper respondents also cited ‘comfort’ and ‘convenience/flexibility’ of the paper version. Some of the reasons provided by paper respondents also suggest that the web version may have been their first choice but

access to the web-site was problematic and they therefore chose the paper version; several also expressed concerns about security/privacy of the web-version.

Additional employee feedback questions and responses are presented in Table 4.10. These results show that most employees learned about the survey from the recruitment letter but that “word of mouth” by co-workers and management also contributed to their knowledge of the survey. Most employees completed the survey at work, while the rest completed the survey at home or while commuting. Among the 123 respondents who chose to complete the questionnaire at home, 36 (30%) chose the web version. Approximately 80% of all respondents across both test sites indicated that they would or possibly would consider completing a web version of the survey in the future.

Table 4.10: Responses to Employee Feedback Questions

	Pilot Test 1		Pilot Test 2	
	Number	Percent	Number	Percent
How did you learn about the survey?				
Received a letter	348	72	314	73
Received an email message	72	15	55	13
A co-worker told me about the survey	6	1	13	3
From my supervisor/manager	43	9	27	6
A read a flyer or a poster about the survey	2	<1	10	2
Other	10	2	12	3
Where did you complete the survey?				
Work	324	81	294	83
Home	68	17	55	15
While commuting to or from work	0	0	2	<1
Other	8	2	4	1
Would you ever consider completing a web version of the survey in the future?				
Yes	96	44	10	53
No	47	21	4	21
Possibly	77	35	5	26

Table 4.11 presents data (combined from both pilot tests) on the time it took respondents to complete only the Core Module of the Employee Questionnaire. Nearly 76% of all respondents completed the Core Module in less than 30 minutes. A slightly higher percentage of respondents who chose the web version were able to complete the Core Module in less time than those who chose the paper version which suggests that the response burden may be slightly lower for the web version than for the paper version.

Table 4.11: Time to Complete the Core Module*

Time to Complete	Paper		Web		Total	
	Number	Percent	Number	Percent	Number	Percent
< 20 minutes	85	31.3	84	37.8	169	34.2
21-30 minutes	116	42.6	89	40.1	205	41.5
> 30 minutes	71	26.1	49	22.1	120	24.3
Totals	272	100.0	222	100.0	494	100.0

*Data combined from both pilot tests.

Table 4.12 presents the time to complete the Hazard Modules of the Employee Questionnaire. This information was available from only those respondents that fully completed the paper version of one or more Hazard Modules; (the web-version did not ask for a time estimate after each module). As shown here, 63% of all Hazard Modules were completed in less than 10 minutes. However, completion of a few of the paper-version modules, particularly Modules B, E, and J, frequently required more than 10 minutes. In fact, almost 30% of respondents indicated that it took more than 15 minutes to complete Module J (which is intended for housekeeping staff). Note: Largely because of the excessive burden associated with Module J, it was significantly revised to reduce the number of questions; we estimate that the current version of Module J should take less than 10 minutes to complete.

Table 4.12: Time to Complete Hazard Modules (both Pilot Tests combined)

		Time to complete module								
		<5 minutes		5-10 minutes		11-15 minutes		>15 minutes		Total
Module*	B	0	3	3	0	6				
	C	2	5	0	0	7				
	E	2	9	7	2	20				
	F	7	10	4	1	22				
	G	0	1	0	0	1				
	H	11	8	4	0	23				
	I	2	1	0	0	3				
	J	2	15	13	11	41				
Total	26	21%	52	42%	31	25%	14	11%	123	100%

Table 4.13 shows the number of Hazard Modules applicable to all respondents in both pilot tests (based upon their responses to screening questions in the Core Module).

Table 4.13: Number of Respondents Indicating Hazard Modules

Number of Hazard Modules	Number of Respondents	
	Number	Percent
0	444	58.3
1	179	23.5
2	66	8.7
3	45	5.9
4	21	2.6
5	7	0.9

Most (58%) respondents did not need to complete any Hazard Modules and 23% were required to complete a single Hazard Module. Based on the estimated time to complete the Core Module and an individual Hazard Module, more than 81% of respondents in the pilot tests would have completed the Employee Questionnaire (including the Core and all required Hazard Modules) in less than 40 minutes. (In actuality, many employees did not complete the required Hazard Modules, as discussed in Section 4.3.2.3 and shown in Table 4.5).

These findings have important implications for planning a national survey, especially if establishment-based. However, as discussed in Section 4.3.1.2, since we intentionally over-sampled employees with potential exposure to one or more of the targeted hazards, the overall “survey burden” on employees in these pilot tests would be expected to be greater than for a random sample of employees in a hospital-based survey. Although difficult to predict for a national survey, based on site visits to VHA and Military hospitals, we estimate that only about 10% of all hospital employees would be required to complete one or more Hazard Modules. So, a high majority (about 90%) of hospital employees would only need to complete the Core Module, which can frequently be completed in less than 30 minutes.

4.3.2.7 Validation of Employee Questionnaires

To validate the employee questionnaires, we obtained information from survey respondents who volunteered to participate in follow-up interviews, their supervisors, and observations of their work areas and work practices. We focused our interviews and observations on those questions pertaining to engineering controls, the use of PPE/C, and training associated with the targeted hazards.

At both sites, there were very few volunteers who participated in the validation interviews, so we are unable to quantitatively present any results. Therefore, we present only a brief summary of our findings from the validations conducted at both pilot test sites.

In general, training questions were validated by asking supervisors to describe hazard-specific training (when offered, if mandatory, and what is covered) and comparing this information with the employee’s response on the questionnaire. We found excellent agreement at both sites between employee responses on the questionnaire with those of the supervisors.

With regard to the use of PPE/C, we asked supervisors what equipment is required and their assessment of what a given employee typically wears. We asked employees to show us the PPE/C that they use when working with the targeted hazards. At both sites, we found that employees were usually able to show us all PPE/C they indicated on their surveys. We also found very good agreement between PPE/C requirements and usage (as indicated by supervisors) and PPE/C usage by employees (as indicated by their questionnaire responses).

We have less confidence in employees’ responses regarding the types and use of engineering controls. Although based on limited observations, it appears that some employees are not able to accurately assess the types or adequacy of specific engineering control(s) used or available in their work

areas. For example, in one case an employee considered general room ventilation to be an “effective local exhaust system.”

Employees were generally able to provide accurate information regarding the hazardous chemicals they use on their jobs (although in one case, an employee indicated the use of a high-level disinfectant, as defined in the questionnaire, when the material used was actually chlorine bleach).

Overall, there was fairly good agreement between employee survey responses and our validation interview responses and work area observations. Although the validation effort was limited, we feel that employees are able to provide accurate information regarding their use of hazardous materials as well as the engineering and administrative controls and the use of PPE/C and their participation in hazard training. However, their ability to recognize and accurately describe engineering controls and hazardous chemicals appears to be less reliable. This may be due to their misunderstanding of the questions/responses or their unfamiliarity with “technical” terms (e.g. local exhaust ventilation). This suggests the need to simplify terms and/or eliminate certain questions from the Employee Questionnaire (and therefore the information that can be collected).

4.3.2.8 Comparison: Management vs. Employee Responses

In this comparison, we explore the quality and usefulness of the information obtained through the management questionnaire as compared to the employee questionnaire (i.e. the aggregate responses from all employee questionnaires). We recognize that the management questionnaire allows only a single response to a question, while the employee questionnaire provides a range of responses which describes the variability in which certain programs or methods are implemented and/or perceived throughout the workforce. We attempt not to assume that one or the other response is more accurate.

Our comparison is shown in Table 4.14, and is divided into several categories. First, we evaluate data collected on the hospital's health and safety program in terms of hazard evaluation, training and medical monitoring (i.e. medical surveillance). With respect to hazard evaluation and training, employees usually agreed that these activities have successfully taken place. However, the responses between management and employees are in less agreement for some aspects of medical monitoring. For example, management at both facilities reported that notification of medical monitoring results was included for all employees who were monitored. However, among those responding employees who reported receiving a medical evaluation, only 59% in Pilot 1 site and 81% in Pilot 2 site reported receiving results of the evaluation.

These results may be partially explained by the fact that medical monitoring (i.e. surveillance) was reported to be conducted on only those employees considered to have hazardous exposures. For example, in the two pilot hospitals, only those employees with exposure to antineoplastic agents were included in a required medical surveillance program. One of the facilities also indicated that their medical surveillance program included employees with exposure to waste anesthetic gases. However, when we

limit our analysis to those employees who indicated that they worked with antineoplastic agents, we had similar results. At Pilot 1, 14 of 32 respondents (44%) stated that they had participated in a medical surveillance program, and at Pilot 2 only 10 of 30 respondents (33%) so indicated. These contradictory results may also be explained by the fact that the medical exams were periodic only at the Pilot Test 1 site. At the Pilot Test 2 site, medical evaluations were provided only during a pre-employment examination (which might not be considered by the employee as a medical monitoring evaluation) and after a needlestick involving antineoplastic agents (which would limit the number of employees monitored). At both sites management ignored the questionnaire skip pattern to explain that employees might not be monitored in areas where engineering controls reduced exposure to a minimal level. Nevertheless, none of these concerns explain why so many employees who did participate in a monitoring program report not receiving results of their exams.

There is inconsistency between management and employee responses for questions concerning workplace violence. Employees strongly agreed with management that they are trained in how to handle workplace violence. However, there is wide disagreement between management and employees in the number of incidents reported. The numbers reported by employees are an order of magnitude higher than those indicated by management.

There is also disagreement in responses concerning the types of latex gloves used. At the first pilot test site, management reported that only powder-free gloves were used while employees indicated that both powdered and powder-free gloves were worn.

For other questions concerning personal protective equipment, there was high concordance between management and employee responses when the use of such equipment is generally considered a specific “best practice” for working with a particular hazard (such as using protective gloves and gowns when working with antineoplastic agents). However, reporting on more general-use PPE/C or practices (such as eye protection and respirator fit testing) shows much less agreement. In some cases employees reported the use of eye protection as almost universal even when management reported that it is not required.

Management claimed some training (if only at orientation) was provided for almost all identified hazards, and, by and large, most employees reported having received training. When this was not the case, the difference can usually be explained by different categorizations between the management response and the employees included in the exposed category. Bystander exposures to waste anesthetic gasses and surgical smoke and the inclusion of only certain categories of high level disinfectants in the training program protocol are a few examples. One discrepancy that is difficult to explain is the number of housekeepers who claimed not to have been trained at all at the Pilot 1 site. As to when training takes place, there was little or no agreement between management and employees.

Overall, it is our impression that single responses from management are inadequate to capture the complexity of health and safety patterns at large institutions such as hospitals. While we do not

consider either reporting system a gold standard, we believe that employee surveys provide a more comprehensive and realistic description of actual health and safety practices at hospitals, especially when comparing several institutions.

Table 4.14: Comparisons Between Management Questionnaire and Employee Survey

Management Questionnaire			Employee Survey			
Question	Response		Question/ Statement	Response Category	Response	
	Pilot 1	Pilot 2			Pilot 1	Pilot 2
Hospital's Written Health and Safety Program						
Does your program include Job Hazard Analysis?	Yes	Yes	My work area periodically inspected for hazards.	Strongly Agree	62	75
				Agree	243	213
				Disagree	78	54
				Strongly Disagree	15	7
Does your program include Employee Training?	Yes	Yes	I feel adequately trained to recognize hazards.	Strongly Agree	80	93
				Agree	283	233
				Disagree	37	20
				Strongly Disagree	3	4
Does your program include: Medical Monitoring?	Yes	Yes	Have you received a medical evaluation?	Yes	126	82
				No	272	270
Does your program include: Reporting of Medical Monitoring Results?	Yes	Yes	Have you been provided results of this evaluation?	Yes	72	63
				No	50	15
Workplace Violence						
Are employees trained on recognition and management of workplace violence?	Yes	Yes	I have been trained to deal with workplace violence.	Strongly Agree	78	76
				Agree	268	226
				Disagree	48	42
				Strongly Disagree	7	6
What is the number of incidents reported during the last year?	1-10 incidents	11-50 incidents	How often have you reported incidents in the last year?	Never	304	258
				One time	62	49
				2-3 times	26	36
				>=4 times	9	10
Ergonomics of Lifting Patients						
Do employees lift patients weighing over 50 pounds?	Yes	Yes	How often have you lifted patients during the last week?	Never	248	193
				1-5 times	67	68
				6-10 times	30	26
				11-20 times	23	22
				21-50 times	17	32
				> 50 times	13	6
Are gait-belts used when transferring patients?	Yes, some areas	Yes, all areas	How often did you use a gait-belt when moving patients?	Never	87	95
				Rarely	27	27
				About half the time	9	5
				Most of the time	9	3
				All of the time	4	1
				Not Available	10	18

Table 4.14: Comparisons Continued

Management Questionnaire			Employee Survey			
Question	Response		Question/ Statement	Response Category	Response	
	Pilot 1	Pilot 2			Pilot 1	Pilot 2
Use of Personal Protective Equipment (PPE)						
What types of latex gloves do employees use?	Powder Free	Both Powdered & Powder Free	What types of latex gloves did you use during the last week?	Yes, powder-free	155	121
				Yes, powdered	38	28
				Yes, don't know type	36	31
				Not Used	194	183
Is fit-testing conducted when tight fit respirators are required?	Yes	Yes	Were you fit-tested for your respirator?	Yes	47	85
				No	25	28
				Not Applicable-	322	232
Required Use of PPE with Antineoplastic Agents						
Does Required PPE Include: Protective Gown?	Yes	Yes	How often do you wear a Protective Gown?	Always	15	2
				Sometimes	0	0
				Never	0	0
Required PPE Includes: Protective Gloves?	Yes	Yes	How Often do you wear Protective Gloves?	Always	15	2
				Sometimes	0	0
				Never	0	0
Required PPE Includes: Eye Protection?	Yes (Preparing only)	No	How Often do you wear Eye Protection?	Always	8	2
				Sometimes	0	0
				Never	7	0
High Level Disinfectants						
Required PPE Includes: Protective Gown?	Yes (OPA*)	Yes	How often do you wear a Protective Gown?	Always	18	1
				Sometimes	1	0
				Never	6	5
Required PPE Includes: Protective Gloves?	Yes (OPA)	Yes	How Often do you wear Protective Gloves?	Always	24	5
				Sometimes	0	1
				Never	1	0
Required PPE Includes: Eye Protection?	Yes (OPA)	No	How Often do you wear Eye Protection?	Always	23	3
				Sometimes	1	0
				Never	1	3

*ortho-phthalaldehyde

Table 4.14: Comparisons Continued

Management Questionnaire			Employee Survey			
Question	Response		Question/ Statement	Response Category	Response	
	Pilot 1	Pilot 2			Pilot 1	Pilot 2
Employee Training						
Training on Safe Handling of Antineoplastic Agents (Preparing and Administering)						
When does training occur for employees exposed to Antineoplastic Agents?	Orientation and Annually (administer)	Annually	If exposed, when did you receive training?	At Hire	6	8
				During orientation	14	5
				Periodically	4	15
				Other training	6	0
				Never	2	2
Training on Safe Handling of Aerosolized Medications						
When does training occur for employees exposed to Aerosolized Medications?	Orientation and Annually	No Response (not used)	If exposed, when did you receive training?	At Hire	2	0
				During orientation	3	1
				Periodically	1	0
				Other training	1	0
				Never	0	0
Training on Safe Handling of High Level Disinfectants						
When does training occur for employees exposed to High Level Disinfectants?	Orientation and Some Annually (OPA)	Orientation (Glutaraldehyde)	If exposed, when did you receive training?	At Hire	10	4
				During orientation	17	4
				Periodically	20	10
				Other training	8	1
				Never	10	3
Training on Safe Handling of Chemical Sterilants						
When does training occur for employees exposed to Chemical Sterilants?	Orientation and Annually	Orientation	If exposed, when did you receive training?	At Hire	0	1
				During orientation	2	1
				Periodically	5	2
				Other training	0	0
				Never	0	1
Training on Safe Handling of Waste Anesthetic Gases – Including Bystanders						
When does training occur for employees exposed to Waste Anesthetic Gas?	Orientation	Orientation or Never (bystander)	If exposed, when did you receive training?	At Hire	3	4
				During orientation	10	3
				Periodically	2	3
				Other training	6	2
				Never	33	23
Training on Safe Handling of Surgical Smoke – Including Bystanders						
When does training occur for employees exposed to Surgical Smoke?	Annually	Orientation	If exposed, when did you receive training?	At Hire	1	5
				During orientation	11	2
				Periodically	3	3
				Other training	8	0
				Never	18	15
Training on Safety in Housekeeping						
When does training occur for Housekeepers?	Orientation and Annually	Annually	If a Housekeeper, when did you receive training?	At Hire	22	5
				During orientation	21	2
				Periodically	46	11
				Other training	3	2
				Never	18	0

5.0 Validation of Management Questionnaire

The Management Questionnaire was validated at four hospitals, indicated as sites A, B, C and D. The two Pilot Test sites (1 and 2) were not included in this validation effort.

5.1 Methods

Four hospitals agreed to complete the Management Questionnaire and permit a site visit to assess the accuracy of their responses, despite our efforts to include a total of nine (9) hospitals. To minimize burden, we selected only a subset of questions from the Management Questionnaire for validation. The on-site validation consisted of a combination of interviews with hospital staff and observation of selected work areas by two Battelle industrial hygienists who independently rated the accuracy of the survey responses. Each rater scored their perceived confidence in the accuracy of the response originally provided in the Management Questionnaire using the following scale:

- 1 = No Confidence;
- 2 = Low Confidence;
- 3 = High Confidence;
- 4 = Complete Confidence; or,
- 9 = Could not rate

No Confidence (score = 1) was assigned when, usually through observation, it was definite that a questionnaire response was inaccurate. Low Confidence (score = 2) was assigned when the rater determined, without complete confirmation, that it was likely the survey response was inaccurate. High Confidence (score = 3) was assigned in situations where the rater assumed a correct response since the stated source of information was credible, although conclusive evidence was not confirmed. Complete Confidence (score = 4) was indicated when a survey response was independently verified, usually through observation, or when answers to a series of interview questions left little doubt as to the accuracy of the original survey response. Questions that could not be rated (score = 9) included those not answered on the survey (either because they were not applicable or they were skipped).

Prior to conducting each site visit, both raters reviewed and discussed the original questionnaire responses to determine a common approach for obtaining the pertinent information for validation. However, the raters were independent when scoring each survey response during the site visits. After the site visit, the two raters compared notes and discussed the ratings to determine a consensus rating for each question.

5.2 Results

A total of 110 questions from Sections A (Core), B (Antineoplastic Agents), and E (Chemical Sterilants) in the Management Questionnaire were selected *a priori* for validation at each hospital. However, many of these questions were not applicable at all four sites and therefore could not be rated

(and were therefore scored as “9”) and treated as “missing” data. The frequencies of consensus rating scores are presented in Table 5.1. “No” and “Low” confidence ratings are shaded in the table to highlight raters’ concerns about hospital management responses. As can be seen from this table, we had high or complete confidence in nearly 95% of all management responses.

Table 5.1: Management Questionnaire: Raters’ Confidence Scores										
Confidence Level Rating	Site A		Site B		Site C		Site D		All Sites	
	Count	%	Count	%	Count	%	Count	%	Count	%
No	0	0.0	0	0.0	0	0.0	1	1.2	1	0.3
Low	3	3.8	8	9.4	8	9.3	1	1.2	20	6.0
High	11	13.8	1	1.2	1	1.2	2	2.4	15	4.5
Complete	66	82.5	76	89.4	77	89.5	78	95.1	297	89.2
Missing	30		25		24		28		107	
Total	110	100.0	110	100.0	110	100.0	110	100.0	440	100.0

In Table 5.2 we present a list of the specific questions for which we had no or low confidence in the management responses at one or more of the sites. In order to understand why these particular questions posed problems, we held follow-up discussions with those hospital representatives who had completed the Management Questionnaire. In most cases, the problem involved a misunderstanding of the question because of unclear or non-specific wording. Based upon this information, we modified a number of questions in the Management Questionnaire by changing the wording and/or by providing examples to clarify the question and the response choices. The goal was to maximize the likelihood that future survey respondents interpret the questions as intended and that responses represent actual conditions.

Table 5.2: Management Questions with Rating of No or Low Confidence*

Question	SiteA	SiteB	SiteC	SiteD
Which elements are included in Emergency Preparedness Plan - Increased inpatient/outpatient/supplies/mental health/immunization/bio-ppe/self-sufficiency/bedding/security/expenses/coord/isolation/decontamination?	4	2	2	4
Does this facility provide staff training on emergency preparedness?	4	2	2	4
Which personnel are trained in emergency preparedness - Physicians/Specialty medical staff/Nursing/Residents/Student Interns/Administration/Laboratory/Volunteer/Security/Other?	4	2	2	4
Does this facility have an internal health surveillance system in place to track patients presenting problems or complaints?	**	**	2	4
Has a job hazard analysis been conducted?	2	4	4	4
Are organized lift teams used for lifting or transferring patients?	2	**	**	4
Are high-risk workers periodically screened for symptoms of latex allergy?	**	4	4	2
How many workers who provide services at this facility are not on your payroll?	2	4	4	4
Is the IV tubing used for delivery of antineoplastic agents always required to be primed with diluents?	4	2	4	1
Is the consumption of food and beverages by employees prohibited in areas in which antineoplastic agents are administered?	4	4	2	4
Which AN spills are cleaned up by specialty personnel: none/small/med/large?	4	2	4	4
What PPE is required for preparing/administering antineoplastic drugs: gown/gloves/eye/respirator/booties/other?	4	2	2	4
Have air samples been collected in the past 12 months to assess worker exposure to ethylene oxide?	4	2	2	**
Where are the fixed location EtO monitors located - Adjacent to sterilizer loading door/immediate area of tanks/other?	4	2	2	**

*Includes those questions for which consensus scores were 1 or 2 (bolded) in at least one participating hospital.

** Unable to rate at hospital—Question was either not applicable or not answered.

6.0 Discussion

Our discussion will pertain to the findings from the two pilot tests designed to evaluate tools and methods for conducting an employee survey and our evaluation of the Management Questionnaire, with emphasis on the implications for conducting the NEWS in the healthcare sector nationally. Our discussion will specifically address:

- Aspects associated with the recruitment of the facilities and the employees;
- Implementation of the employee survey in participating facilities;
- The comparison of responses to questions on the Management Questionnaire versus similar items on the Employee Questionnaire;
- The validation of the Management Questionnaire; and,
- Study Limitations.

6.1 Employee Survey

6.1.1 Recruitment of Facilities

Considerable effort by NIOSH/Battelle was required to obtain the participation of the two hospitals in the pilot tests, despite Departmental support of the project received from the national office of the VHA. Local approval from the two hospitals involved briefing management and labor representatives, the review and approval of the study protocol by IRBs and affiliated committees, and numerous communications involving e-mails, letters, phone calls and meetings. In total, these activities required approximately 6 months to complete prior to implementing the actual surveys. While facility recruitment for a national survey may not be as burdensome and time consuming (e.g., if IRB approval is not always required by facilities), it is an issue that has significant implications for a facility-based national survey.

6.1.1.1 IRB Approval of Survey Protocol

Since Battelle and both participating hospitals considered the pilot tests to involve human subjects research, full review and approval of the study protocol by their respective IRBs was necessary. In all cases, multiple revisions to the protocol were necessary to address specific comments from review committees and the IRBs. Since the hospital and Battelle reviews were concurrent, some revisions (e.g. providing a monetary incentive) required re-submission and approval of a protocol just recently approved. Obtaining IRB approvals for each pilot test generally required about 3 to 4 months.

It should be stated that the intended purpose and scope of this feasibility evaluation was fundamentally different than the planned NEWS since this project involved an evaluation of surveillance tools and methods rather than conducting surveillance (which is generally exempt from regulations regarding research involving human subjects). Also, for the purposes of this study, personal identifiers were associated with human participants to permit tracking and follow-up evaluation of survey responses. This might not be necessary in the NEWS and further suggests possible exemption from IRB

requirements. However, any participating employer has the prerogative and discretion to require the review/approval of any project involving human subjects at their facility.

An establishment-based survey in the healthcare sector would be complicated by the autonomous nature of individual facility IRBs. Most hospitals would likely require, at minimum, an initial review of the study protocol by management and/or their IRB which could take several weeks to complete. Full review may be required in many cases, requiring several additional weeks. IRB requirements for a population-based survey approach (e.g., implemented through professional associations, labor unions, etc.) would be considerably less burdensome since individual hospital IRBs would not be involved. Rather, the protocol would be reviewed by the NIOSH HSRB (and possibly the contractor's IRB) only once prior to beginning the survey. Even if a population-based survey were considered to be subject to the Federal regulations regarding human subjects' research, the fact that individual hospital IRB review would be unnecessary means significantly less burden and enhanced feasibility for a population-based national survey.

6.1.2 Recruitment of Employees

6.1.2.1 Personalized Distribution of Recruitment Letters

Identification and recruitment of employees using hospital personnel rosters was desirable for this feasibility evaluation since it enabled personalized recruitment, employee tracking (for follow-up recruitment and communication), and detailed evaluation of response rates and potential bias. In a national survey, while the names of sampled employees would be desirable for a personalized recruitment strategy, it may not be a critical requirement, especially since it raises concerns regarding privacy and confidentiality. An alternative, such as a mass distribution to all employees of an institution or to the management of an organization without NIOSH receiving any identifying information may be more feasible; however, this option would not permit the tracking of respondents and non-respondents for the purpose of individualizing reminders and thank-you letters, as evaluated in these pilot tests.

6.1.2.2 Incentives

We were unable to evaluate incentives in this study. However, based upon information obtained from focus groups of healthcare workers, incentives (especially monetary) are desirable and would likely increase participation. Suggested monetary incentives included cash, coffee cards, gift cards, and movie passes. Alternatively, a few larger incentives awarded to participants selected in a random lottery may be the most feasible method. Another potential incentive brought up in the focus groups was continuing education credits for appropriate professional groups (recognizing the value of the questionnaire as a continuing education tool). While incentives will generally boost response rates, they obviously increase survey costs.

6.1.2.3 Work time allowance

Both VHA facilities participating in the pilot tests were research oriented and accustomed to employee surveys conducted in their establishments. Both permitted employees to complete the questionnaires during work time, which we consider a major factor in maximizing the overall response rate. It is uncertain whether such permission would be the norm in a national survey. Inconsistency in work time allowance would likely result in differential response rates and affect the representativeness of the survey data obtained.

6.1.3 Implementation

6.1.3.1 Targeted Distribution of Questionnaires

The targeted approach evaluated in the first pilot test was found to be ineffective since we were not able to rely solely on *a priori* assumptions based upon accessible information such as job title and service line. Rather, for many of the targeted exposures, such as those involving the preparation and administration of antineoplastic agents and the use of high level disinfectants, it was necessary to obtain the names of specific employees from hospital management. Despite this enhanced effort to pre-identify potentially exposed employees, the targeting was frequently inaccurate. We therefore feel that this approach, which requires a significant burden on hospital management and the survey sponsor, would not be feasible in a large-scale survey despite the reduced costs of survey distribution (primarily reduced postal expenses) and the reduced survey burden on “non-exposed” employees.

6.1.3.2 Preference for Web or Paper Questionnaires

We found that a participant’s preference for completing a web or paper version of the questionnaire was highly associated with the method in which they were recruited. Employees who were sent a paper version (with or without Hazard Modules) tended to complete the paper version, while those sent only a letter of invitation tended to complete the web version. The results also suggest that an employee’s occupation had little influence on their choice of web versus paper. This is demonstrated particularly in the second pilot test where all employees were randomly assigned to receive either a questionnaire or a letter only. The overall mode preference was similar (with slightly more favoring the web version), with only slight differences observed between the six occupational groups. It is important to note however, that all employees in our two pilot tests have access to computers and the Internet at work. This may not be the case in a nationwide survey of employees. In fact, our pilot tests were conducted in the Pacific Northwest, a region of the country that has the highest percentage of Internet usage in the United States. In other regions, Internet usage is as much as 40% lower than in the Pacific Northwest.⁹

Survey research and findings from our pilot tests indicate the importance of providing multiple modes of the questionnaire to participants. We believe that both a web and paper version of the employee questionnaire will be necessary for successful implementation of the NEWS.

6.1.3.3 Requesting Additional Hazard Modules and Data Completeness

The choice of mode (paper or web) can have a large impact on how well respondents complete the questionnaire, particularly for complex questionnaires such as that used in this survey, which included many skip patterns and questions that may not pertain to all respondents. For example, the paper version of the Employee Questionnaire required participants to read gateway questions and correctly follow skip patterns, to understand and locate applicable sections or separate modules, and, in some cases, to call and request additional paper questionnaires. This increased the complexity of the survey and imposed a burden on participants which affected our obtaining complete information from all respondents.

Alternatively, the computerized web version of the Employee Questionnaire presented participants with only applicable questions based on their prior responses. In other words, the skip patterns and proper inclusion of questions were “seamless” and unperceivable; web respondents were unaware that questions or entire sections had been skipped. This increased the accuracy of respondents identifying applicable questions, shortened the time required to complete all applicable questions (since additional module requests were not needed), and minimized the perceived burden in completing the questionnaire (since the length of the questionnaire was unknown to the participants beforehand).

In this study, we found that the participants’ completion of the paper versus web version had a major effect on the completeness of the data submitted. Those employees who completed the paper version, particularly those who were not initially sent any Hazard Modules, failed to complete all of the requisite Hazard Modules which were indicated by their responses to gateway questions. Those completing the web version, on the other hand, were highly compliant in completing all applicable questions/modules. The web version clearly provided more complete information and minimized perceived survey burden.

The design of the pilot tests affects our ability to fully evaluate this issue. While those completing the web version had higher compliance rates overall (i.e. they completed all requisite Hazard Modules), participants who were initially sent a paper version with all appropriate Hazard Modules included, had a compliance rate similar to respondents completing the web version. This was also true in the second pilot test for respondents who had to call to request a paper version of Hazard Modules; this high compliance may largely be the result of accurate screening by the telephone operator which resulted in all requisite modules being sent to participants.

6.1.3.4 Single versus Multi-mode Questionnaire

It is clear from the above discussion that compliance with gateway question instructions is associated with the recruitment method (and therefore what survey materials were initially provided to the participant). When all requisite Hazard Modules were included in the questionnaire initially provided to the participant, compliance was high regardless of survey mode. The implication of this finding for a national survey is the importance to include all appropriate Hazard Modules with the initial questionnaire. This is inherently designed in the web version. However, including all pertinent Hazard Modules at time of recruitment (as evaluated in the first pilot test) was found to be inaccurate and considered infeasible. Alternatively, an accurate screening for all pertinent Hazard Modules could be performed (by telephone operator) when participants (who initially receive a Core Module and/or a letter of invitation) call to request a paper version. While high compliance can be achieved, this method for receiving Hazard Modules requires an additional effort to call, which was found to result in lower response rates.

There is an obvious trade-off between high response rates and high compliance rates. The highest response rates were attained in the experimental groups initially sent the Core Module, while the lowest response rates were observed among the groups sent the letter of invitation only. On the other hand, the lowest compliance rates were found in the groups initially sent the Core Module (and who also chose to complete the paper version). One possible solution would be to provide an all-in-one questionnaire (which includes the Core Module and all Hazard Modules). While an all-in-one questionnaire would provide all modules in a single questionnaire, it may add complexity by requiring respondents to identify and locate all pertinent questions, and would also increase distribution costs. This type of questionnaire was not evaluated in the pilot tests, primarily because focus groups expressed concerns about the perceived burden of a bulky-looking questionnaire.

6.1.3.5 Costs

Cost is a major factor in the feasibility of a national survey. In this section we present a brief discussion of the costs associated with different options as evaluated in this feasibility study. While we did not directly calculate the costs of each of the recruitment protocols evaluated in these pilot tests, we are able to estimate cost differentials associated with the different methods of recruiting participants and distributing surveys. For the purposes of this discussion we assume certain costs do not vary as a function of the recruitment protocol. These include:

- Development of the questionnaires (including preparing camera ready copies of the paper questionnaire and programming the web version);
- Pre-survey coordination with upper management and hospital contacts;
- Obtaining employee rosters;
- Sample stratification and selection;
- Tracking respondents and non-respondents;

- Cleaning and processing survey data; and
- Data analysis and dissemination.

The cost factors associated with each distribution protocol are shown in Table 6.1. In order to define costs, we assume a sample size of 1000 with a 50% response rate. Based on the results observed in the pilot tests, we further assume that 10% of those receiving a letter of invitation only will choose a paper version; and that 75% of the respondents initially sent a paper questionnaire will complete the paper version (return mail and data entry costs are based on this assumption). Since all survey mailings in the first pilot test and the initial survey mailings in the second pilot test were actually hand-delivered to the facility’s mailroom by Battelle survey staff, the costs for first-class postage are estimated.

Table 6.1: Cost Factors Associated with Different Methods of Survey Distribution

Distribution Method	Cost Factors	Cost
<p>Option 1 Letter and all questionnaire modules (Core and Hazard Modules)</p>	• Printing 1000 complete surveys:	\$5500
	• Mailing 1000 surveys:	\$6050
	• Mailing announcement, 2 reminders and thank-you letters to respondents	\$1267
	• Return mail postage	\$3100
	• Data entry	\$1625
	Total for Option 1	\$17,542
<p>Option 2 Letter and Core Module only. Provide additional Hazard Modules if requested.</p>	• Printing core and limited modules:	\$4065
	• Mailing 1000 surveys	\$1110
	• Mailing announcements, 2 reminders and thank-you letters to respondents	\$1267
	• Return mail postage	\$650
	• Data entry	\$1220
	Total for Option 2	\$8,312
<p>Option 3 Letter only. Provide paper questionnaire (Core and Hazard Modules) if requested.</p>	• Printing 100 complete surveys	\$750
	• Mailing 50 surveys	\$103
	• Mailing announcements, 2 reminders and thank-you letters to respondents	\$1267
	• Limited data entry	\$160
	Total for Option 3	\$2,280

6.1.3.6 Recruitment Letter Only Compared to Letter and Core Module

Survey research and our experiences in the pilot tests indicate the importance of making available multiple modes to provide options for prospective participants. We believe that both a web and paper version of the employee questionnaire will be necessary for successful implementation of the NEWS. The question becomes how the paper questionnaire will be made available. As discussed above and shown in Table 6.1, if a questionnaire is sent along with a letter of invitation, it will be necessary to include all Hazard Modules (i.e., an all-in-one questionnaire). Those participants choosing to complete the paper copy when only the core is provided initially will not request applicable modules. Based on cost factors alone, such an approach would likely be infeasible as mailing costs for the paper questionnaire containing all modules would be prohibitive.

Sending a letter only would have the result of driving participants to the web version. From a cost perspective, this is desirable. The paper version could still be available and it would not be necessary to send the entire questionnaire to all participants as those calling to request a paper version would be screened and only applicable Hazard Modules would be sent.

6.2 Management Information Compared to Employee Information

We found that much richer health and safety information is obtained from employees than from management; the aggregate information elicited by the Employee Questionnaire captures the variability of health and safety practices in the participating hospitals. Given the design of the two questionnaires, this was not unexpected. The Management Questionnaire permits one response per question, as this questionnaire is intended to be completed for the facility, and only one questionnaire is therefore administered per facility. The Employee Questionnaire, on the other hand, is designed to be completed by each participating employee, and many questionnaires are administered per facility (in a facility-based survey). By design, the Employee Questionnaire captures more of the variation in the implementation of safety and health programs within facilities.

While we found reasonably consistent responses between Management and Employees when comparing similar questions on each of the instruments within a facility, we believe that reliance on the Management Questionnaire only would result in a less clear understanding of how health and safety programs are implemented than if we were to rely on information obtained solely from employees. The Management Questionnaire is designed to elicit information regarding policies and programs at an institutional level while the Employee Questionnaire gathers information regarding individual perceptions and practices, in essence, the extent to which policies and programs are implemented throughout the institution. Aggregate information obtained from employees can provide a reasonably clear picture of the effectiveness of safety and health programs within and across institutions.

6.2.1 Management Questionnaire Validation

The data obtained through our comparison of Employee and Management Questionnaires, as well as those data obtained through validation of the Management Questionnaire in four additional hospitals indicate that generally accurate information is obtained. Despite the validity of the data, however, the picture is incomplete. The Management Questionnaire provides information regarding health and safety policies and programs on an institutional level. Although important from a surveillance perspective, it is equally and perhaps more important, to understand the extent to which health and safety policies and programs are implemented by employees throughout the institution..

The value of the Management Questionnaire is that it provides information regarding resources devoted to occupational safety and health, and to a certain extent, provides the context by which the health and safety culture of the organization is defined. Even absent Employee Survey responses from the same institution, the Management Questionnaire provides valuable information enabling an understanding of the importance placed on occupational safety and health within the organization. If this questionnaire were administered to a representative sample of healthcare establishments across the US, NIOSH could gain valuable insight into how safety and health issues are prioritized and addressed in this important sector.

While we believe the Employee Questionnaire provides a more accurate assessment of the health and safety efforts undertaken by healthcare establishments, we also believe that the Management Questionnaire is important and that NIOSH should give strong consideration to administering it as widely as is economically feasible, even if the NEWS is ultimately fielded as a population-based survey. Since the Management Questionnaire gathers facility-based information only, rather than any personal data, there would be no requirement to obtain IRB approval for the administration of this instrument within any healthcare facility. This exemption alone would significantly reduce the burden on NIOSH in implementing the survey in healthcare establishments.

6.3 Study Limitations

Although this study was intended to assess the feasibility of conducting an establishment-based nationwide NEWS survey using self-administered questionnaires, it was necessary from a time and cost perspective to limit the number of options evaluated. In this section, we briefly discuss these limitations.

6.3.1 Limited Sample Size – Only Two Similar Hospitals

To maximize the influence of NIOSH and minimize feasibility project costs and complexities (e.g., securing the approval of the OMB for the feasibility assessment), a decision was made to limit this project to federal hospitals. The two VHA hospitals recruited to participate were in the same region and therefore had the same management structures. Both hospitals were research oriented and provided a high level of management support for the survey effort, including permitting employees to complete questionnaires

while on work time. Both provided internet access for all employees; and all employees were English-speaking (a condition of employment).

6.3.2 Unable to Test Some Variables of Interest

There were a number of survey-related issues which we did not evaluate in the two pilot tests. These included: 1) the “electronic” recruitment of employees through e-mail (both hospitals were unwilling to provide e-mail addresses); 2) inclusion of monetary incentives; 3) an all-in-one version of the paper questionnaire; and 4) the recruitment and response rates among contract workers (who are an increasing proportion of the healthcare workforce). Some of these issues may need to be addressed (e.g. by pilot studies or literature review) prior to designing the NEWS.

7.0 Lessons Learned

This feasibility project provided several noteworthy lessons which have significant implications for a national survey like the NEWS in the healthcare sector. Many of these lessons provide the basis for our recommendations for designing and conducting the NEWS which are presented in Section 8.0

7.1 Recruitment of Facilities

The burden of conducting an establishment-based survey was greater and more complicated than expected. Recruitment of facilities was a time-consuming effort affected significantly by IRB requirements, especially at participating facilities. IRB review and approval are likely to pertain to a national, establishment-based survey in the healthcare sector, particularly at medical centers that conduct research involving human subjects.

Moreover, despite having secured letters of agreement to cooperate in this feasibility project from Department level managers at the VHA, it still took nearly six months to obtain local management approval at each of the pilot test facilities. Recruitment represented a significant burden on hospital administrative personnel as well as Battelle and NIOSH project staff and the implications for a national establishment-based survey are obvious. Without exercising a “right-of-entry” into selected healthcare establishments, NIOSH would likely find facility recruitment of a nationally representative number of healthcare establishments too time consuming and costly to be feasible for the NEWS. And although we did not evaluate the NIOSH “right-of-entry” authority during this project, it is not difficult to speculate on the difficulties such an approach would engender in a national survey. Management cooperation would be a critical element in the success of an establishment-based employee survey. Without such cooperation, employees may not be encouraged by their managers to participate and may not be provided work time in which to complete the questionnaire; consequently, employee response rates may presumably be lower than obtained in these pilot tests.

7.2 Recruitment of Employees

Survey participation should be endorsed by top management or other “key informants.” We postulate that the higher overall response rates (and group-specific rates for physicians) in the first pilot test may have been due to the pre-survey letter being on SVAMC letterhead stationery and signed by the Medical Chief of Staff, whereas the same letter was on Battelle letterhead stationery and signed by the Battelle Project Manager in the second pilot test. This finding, which was not a part of the experimental design, suggests that the recruitment of employees is greatly influenced by the perceived and explicit level of support from work peers, superiors, and management. We surmise that it is not enough for management to simply permit the survey to occur, they must actively encourage participation. For example, higher-level healthcare professionals, particularly physicians, may be more likely to be motivated to participate in a workplace survey by their superiors (such as the Chief of Staff) who serve to

help establish the legitimacy and value of the survey as compared to other possible sponsors (such as the Occupational Safety and Health Manager) or unrecognized persons from outside the organization.

Targeting of employees with specific exposures to receive customized questionnaires is not feasible. Our targeting of employees with known or presumed exposures to specific hazards for the purpose of distributing customized Employee Questionnaires proved to be inaccurate and inefficient in this study despite a high level of management involvement. This was partly due to the relatively small percentage of workers with these specific exposures – estimated at about 10% of the workforce at each pilot test site, and was complicated by the complexity of the hospital organization. For example, medical technicians are widely represented throughout the hospital, but only a small percentage of these individuals are responsible for using high-level disinfectants (HLDs—one of the targeted hazards) to disinfect medical equipment such as endoscopes. Our *a priori* attempt to identify all medical technicians who use HLDs by job title/service line or by obtaining a list of names from hospital management was highly inaccurate; among those who completed at least a core questionnaire, we missed nearly 40% of the employees who indicated exposure to HLDs.

Passive recruitment did not increase participation by non-sampled employees. While not explicitly evaluated in these pilot tests, the limited use of informational posters in the second pilot test was entirely ineffective in increasing participation among those employees who were not part of the original survey sample. This “passive recruitment” resulted in only one additional request for an Employee Questionnaire. Based upon this limited evaluation, relying on passive recruitment methods would likely be ineffective as the sole approach for recruiting participants in a national survey. The implication is that effective recruitment of employees may require a more active approach involving methods similar to those employed in this feasibility assessment (i.e. meetings with management at selected establishments to obtain support and assistance for the employee survey and direct communication with selected employee participants in the form of pre-survey announcements and reminders).

7.3 Response Rates

Highest response rates were obtained when the paper version was provided at time of invitation. Employees responded at the highest rates when they were provided the questionnaire at the time of recruitment. This could be due to a number of factors. Employees who received the Core Module in addition to their letter of invitation were able to gauge the burden immediately and were also able to review the questionnaire to decide if it was worthwhile to complete. Also, the bulkier mailing may have been more difficult to overlook than only a letter. On the other hand, employees who received only a letter were required to take action in order to access the web version or to request a paper version of the Employee Questionnaire. This required additional effort and their “uncertainty” about the survey burden may have discouraged many of these employees from participating.

Response rates were lower but acceptable even when the paper questionnaire was not initially provided. Although lower than the response rates obtained when participants were sent a paper survey (with or without Hazard Modules), the response rates among those sent only a letter of invitation were acceptable for further consideration of this recruitment method in the NEWS. Across both sites, the response rates for experimental groups sent only a letter were approximately 77% of those who were sent a paper questionnaire in addition to the letter. Approximately 90% of those participants who received only a letter completed the web-version of the questionnaire. These response rates and the cost differential between sending a paper survey (especially an all in one paper version) compared to sending only a letter of invitation suggest that this may be a practical approach for a national survey. Costs may be further reduced, possibly without compromising overall responses rates, if employees were recruited via email messages and encouraged to complete a web-version of the questionnaire (for example, by embedding a hot link to the survey web site); this design was not evaluated in this project).

Employees generally responded at similar rates across job categories. The response rates for each of the six condensed occupational groupings at the two pilot test sites were not substantially different than the overall response rates for each of the respective pilot test sites. The major exception was for physicians at the second site. This general lack of differential participation across jobs was not expected since we had been informed during stakeholder meetings and focus group discussions to expect certain job categories to be difficult to recruit and obtain participation. Specifically, we expected to see lower response rates from housekeepers and employees in Central Supply and Distribution as well as from Physicians and Surgeons—professions at opposite ends of the socio-economic spectrum in the healthcare sector. It was suggested that a high percentage of employees in Housekeeping, Laundry and Supply and Distribution have limited fluency in English, and some may be wary of a Government-sponsored survey without a clear understanding of its purpose. It was speculated that many physicians may feel too busy to take the time to participate in a survey, especially if it compromises their time for treating patients. However, participation by both of these occupational groups was higher than expected in these pilot tests.

7.4 Response Completeness

Requiring participants to request any additional Hazard Modules affected completeness of responses. In this study we found that participants did not complete the entire questionnaire (the Core Module and all applicable Hazard Modules) if all modules were not immediately available when they completed the questionnaire. Since many employees received the Core Module only or with an incomplete set of Hazard Modules (due to our inaccurate targeting approach), they were frequently required to call to request paper Hazard Modules (or complete the web-version). However, most of these participants failed to request and/or complete these modules which resulted in many incomplete questionnaire responses. This finding supports the premise that requesting additional applicable Hazard

Modules is too burdensome for many employees and that completeness of responses, and therefore data quality, significantly decreases.

Methods which initially provide potential participants with all applicable Hazard Modules are necessary to help maximize completeness of responses. Without a targeted approach for distributing customized questionnaires, there are two options for assuring participants have all applicable modules at the time of recruitment: 1) send an “all-in-one” paper questionnaire to employees; or, 2) send only a letter to employees with instructions for obtaining a paper questionnaire and for accessing the web version, if preferred. Those who request a paper version could be screened at the time of request and sent all applicable modules. However, this two-step effort to obtain a paper version will likely decrease an employee’s interest and willingness to complete the paper questionnaire, as observed in this study.

7.5 Self-Reported Information from Employee and Management Questionnaires

An employee survey effectively describes the variability of health and safety conditions at an establishment. As might be expected, the information obtained from a single Management Questionnaire at each pilot test facility did not characterize the variability of health and safety conditions at the two hospitals which was cumulatively described by responses to the Employee Questionnaire. Employee responses provided a more comprehensive description of the scope and extent of occupational exposure issues at these complex workplaces than obtained solely from the Management Questionnaire.

Self-reported data collected from employees was accurate. While the accuracy of some of the information provided by either source was sometimes difficult to definitively ascertain, our validation efforts suggested that employees were generally able to provide accurate responses to specific issues concerning health and safety exposures, including the identification of health hazards, presence of engineering controls, and their use of PPE/C. In some cases, their unfamiliarity with technical terms or misunderstanding of questions or responses resulted in incomplete or inaccurate information. Overall, the accuracy and quality of information obtained during the two pilot tests strongly suggests that a self-reported employee survey can effectively elicit exposure-related information, much of which was suggested to have specific importance to healthcare industry stakeholders, such as work organization, stress, violence, and health and safety perceptions.

8.0 Recommendations for a National Survey in the Healthcare Sector

The following recommendations are based on the limited scope of this feasibility evaluation. Additional activities and evaluations may be necessary before planning the NEWS, some of which are discussed below.

8.1 Employee Survey

- A national-scale population-based Employee Survey of the healthcare sector should be conducted through professional associations and union organizations to help maximize the efficient collection of information from a large and diverse pool of respondents. [Based largely upon the significant resources (inc. time, personnel, and funding) required to recruit and obtain approval (inc. IRB) of individual establishments, an establishment-based survey is not recommended for the healthcare sector].
- The population-based Employee Survey should be designed to increase the diversity of respondents (based on their demographics, occupations, and work organizations). Information for determining how well various organizations represent healthcare workers should be obtained prior to designing the national survey. Information should include the number, occupations, and demographics of members for comparison to national (e.g. BLS) and industry data. Accessibility to membership (via postal and/or email addresses) should also be determined.

Potential participating organization should include the: American Nurses Association, American Medical Association, American Association of Operating Room Nurses, Professional Associations for Medical Technicians, Medical Technologists, Pharmacists and Pharmacy Technicians, Oncology Nurses and public and private sector unions including AFSCME, AFGE, and SEIU.

- A strong commitment of support of the survey should be obtained from the management of participating organizations. This support should be effectively communicated throughout the organization's membership. In addition, a highly recognized peer or "key informant" (e.g. a peer-elected officer) for different occupational populations should be obtained to assist recruitment (e.g., by signing pre-survey announcements and recruitment letters).
- Incentives to prospective participants of the NEWS should be considered to help maximize participation rates. Monetary incentives, including cash, gift cards, gift certificates, etc. are generally considered to be the most effective, although certain non-monetary incentives such as continuing education credit might also be considered. In lieu an incentive for each recruited employee, a lottery-type incentive (in which respondents are *eligible* to win cash, gift certificates, merchandise, etc) could be effective.
- The method(s) for distributing survey correspondence should be selected based on accessibility by NIOSH to information required to contact employees (such as name and address). If contact information is not made available to NIOSH, survey correspondence should be distributed directly through participating organizations.
- Survey correspondence to employees should be distributed via email, whenever possible, to minimize costs and maximize efficiency. Postal mail should be used when email addresses are not available for sampled employees.
- The current Employee Questionnaire that was developed during this feasibility evaluation should be modified for use in a population-based survey. For example, questions regarding the respondent's place of employment (inc., name, location, size, type, etc.) should be included.
- A web-based questionnaire should be the primary mode for the Employee Survey to simplify logistics, to minimize implementation and data management costs, and to maximize data quality (including completeness of responses). A participant's selection of and access to the web-based

questionnaire should be facilitated in e-mail recruitment messages by including embedded hot links to the survey website and questionnaire,

- A paper questionnaire should also be available, upon request, for the Employee Survey since some employees will not have access to computers and/or prefer the paper mode. Procedures for requesting the paper questionnaire by telephone, email, or postal mail should be established so that a “customized” questionnaire (which includes the Core and only applicable Hazard Modules) is sent to a participant. [Alternatively, an “all-in-one” paper questionnaire (which includes the Core and all Hazard Modules) could be included with any recruitment letters sent to employees without email addresses. This would, however, significantly increase costs for printing, distribution, and data management].

8.2 Management Survey

- A Management Survey should be conducted of those establishments identified from the Employee Survey. Information obtained from both the Employee Questionnaire and the Management Questionnaire should be linked and stratified for analytical purposes.
- Site visits should be conducted at a sample of establishments in the Management Survey to validate data collected from both the Employee and Management Surveys.

8.3 Dissemination of Results

- Results from both the Employee and Management Surveys should be posted on a NEWS website. In general, only aggregate results without identifiers should be available to the general public. However, procedures for accessing organization- or establishment-specific results should be developed (which meet privacy requirements); such access will provide data for “benchmarking” and may help to provide an incentive for participation by organizations and their members.

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**Protocol for the National Exposures at Work Survey
(NEWS) at the VHA Puget Sound Seattle Medical Center**

March 18, 2004

Prepared for:

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Protocol for the NEWS at the VHA Puget Sound Seattle Medical Center

This document is designed to elaborate the protocol for the field evaluation of survey tools and methods that have been developed for the National Exposures at Work Survey (NEWS). The feasibility evaluation will involve the field testing of survey instruments in one or more federal hospitals. Five Veterans Health Administration (VHA) hospitals and three military hospitals have agreed to participate in the feasibility evaluation.

This feasibility study is being conducted by the Battelle Centers for Public Health Research and Evaluation under contract to the National Institute for Occupational Safety and Health (NIOSH), Centers for Disease and Prevention (CDC).

The purpose of NEWS will be to collect descriptive data on health and safety activities and work organization; and to assess workers' potential exposures to chemical and physical agents, as well as biological, ergonomic, and safety hazards. These data will be collected by means of questionnaires administered to management and employees at selected institutions. While the NEWS is conceived to encompass the broad spectrum of American industry, NIOSH currently plans to implement the survey on a sector-by-sector basis beginning with the healthcare industry.

In order to help clarify the scope and focus of this survey of the healthcare sector, NIOSH convened two stakeholder meetings in February, 2002. Participants represented a diverse mix of individuals including nurses, physicians, researchers and academicians, managers of healthcare facilities, representatives of professional organizations, unions, regulators and consultants. These stakeholders identified the importance of designing a survey that would accommodate the capture of information on the diversity of health and safety hazards in the healthcare industry. They recommended that data collection specifically include input from employees involved in providing direct patient care, and suggested that separate survey instruments be designed for different occupational groups and for management in order to obtain more relevant and specific information.

Battelle, under the direction of NIOSH, evaluated the information obtained from stakeholder meetings and developed management and employee questionnaires as the primary tools to be used for the NEWS. The focus of the management instrument is on safety and health policies and programs, and on the procedures and equipment in place to minimize employee exposures to safety and health hazards. The employee questionnaire is designed to elicit information regarding specific work practices and the use of personal protective equipment, as well as to identify organizational factors that may contribute to or impede the implementation of effective health and safety practices in the workplace.

Consistent with stakeholders' recommendations, the employee questionnaire has been modularly designed and consists of a core module to be completed by all employees selected to participate, and ten individual hazard modules focused on specific chemical hazards. The core module focuses on organizational factors related to health and safety and is envisioned to be used (with appropriate modification) in all industry sectors of the NEWS. The hazard modules will be completed by those employees who indicate, via a series of screening questions contained in the core module, they perform certain activities demonstrating a potential for exposure to one or

more of the specific hazards of concern. This modular format is designed to minimize the length of the questionnaire presented to individual employees thereby reducing the burden associated with their participation in the survey.

The next phase of the feasibility evaluation is to pilot test management and employee questionnaires in one or more federal hospitals that have agreed to assist in this evaluation. The first pilot test will take place at the VA Puget Sound Medical Center located in Seattle, Washington. The goal of the feasibility study is to evaluate the quality of the information obtained by the questionnaire surveys as well as to assess the survey process. The specific aim of this pilot test is to determine whether the questionnaires effectively elicit desired information and to evaluate two modes of administration (i.e., paper and web-based) and distribution of the employee questionnaires within the participating institution(s). To this end, we would like to attain the highest possible response rate, especially among those who are exposed to specific hazards (see I. Sampling Plan below). It is also important to test questionnaire administration methods that could be replicated on a national level. Administration on a national level will require minimal burden on healthcare management and employees.

In the remainder of this document, we detail the steps involved in implementing the pilot test of the employee survey in the Puget Sound VHA, Seattle Medical Center. This document is divided into the following six sections:

- I. Sampling Plan;
- II. Sample Selection Procedure;
- III. Questionnaire Distribution;
- IV. Survey Timeline;
- V. Post-Survey Evaluation, and;
- VI. Reporting.

I. Sampling Plan

One management survey is to be completed by this facility by a consortium of managers who volunteer to complete areas of the questionnaire they either have responsibility for, or are most familiar with. The management survey is included in Appendix A.

The voluntary employee survey will be distributed using a weighted stratification, with employees most likely to be exposed to the targeted hazards of concern being sampled at a greater frequency. These hazards include: aerosolized medications (specifically, ribavirin, pentamidine and tobramycin), anti-neoplastic drugs, chemical sterilants, high-level disinfectants, surgical smoke and waste anesthetic gases. In addition, the generalized exposures experienced by housekeeping staff (cleaning chemicals and potential exposures to many of the other hazards of concern while handling soiled bedding or clothing, etc.) are also addressed by a hazard module. The employee survey is included in Appendix B.

In cooperation with our Survey Coordinator Contact from the Seattle VA Hospital, Battelle has defined targeted employees into the following ten (10) groups:

1. Respiratory Therapists are potentially exposed to aerosolized medications while administering them and will receive Module A.
2. Pharmacists and Pharmacy Assistants in the pharmacy are potentially exposed to anti-neoplastic agents while preparing them and will receive Module B.
3. Nurses and Physician Assistants working in oncology units are potentially exposed to anti-neoplastic agents while administering them and will receive Module C.
4. Employees in the sterile processing unit are potentially exposed to both chemical sterilants and high-level disinfectants while sterilizing or disinfecting medical equipment and supplies and will receive Modules D and E.
5. Employees in the various Endoscopy Units (e.g., GI, ENT etc.) are potentially exposed to high level disinfectants while disinfecting endoscopes and other medical equipment and will receive Module E.
6. All employees who perform activities in Operating Rooms, including physicians, nurses, technicians and assistants are potentially exposed to surgical smoke during laser and electro-surgery and will receive Module F.
7. Anesthesiologists and Nurse Anesthetists are potentially exposed to anesthetic gases while administering them and will receive Module G.
8. All other Operating Room employees are potentially exposed to waste anesthetic gases during surgical procedures and will receive Module H.
9. All Recovery Room personnel are potentially exposed to exhaled anesthetic gases while caring for post-operative patients and will receive Module I.
10. Housekeeping employees will receive Module J.

Battelle understands that not all employees within the targeted groups actually are exposed to the hazardous material of interest. In some cases, we assume that all employees in specific departments, such as the Sterile Processing Unit, are potentially exposed to the one or more of the targeted hazards and we will select 100% of these employees to participate. In other cases we know that not all employees in a particular area, such as pharmacy, are exposed to a targeted hazard. In these cases, we will obtain the names of those individuals who work with the agent of concern and will target those employees specifically. Other employees in the same department will be sampled at a 50% rate in order to increase the likelihood of capturing employees who may be exposed to a targeted hazard. Battelle will attempt, with help from our Survey Coordinator Contact at the Seattle VA Hospital, to identify those employees who will have been actually handling the agents of concern during the fielding period of the study. This identification process is important as it will be necessary for analyzing the participation rates of employees exposed to the targeted hazards of concern and in identifying employees to be selected for post-survey interviews.

Non-targeted employees will be sampled at an approximate 25% overall sampling rate. However, since some categories of employees, such as administrative staff or others with no responsibility for direct patient care, may have a low potential of exposure to targeted hazards

while others may have average potential of exposure, the sampling rates for specific groups of non-targeted employees will vary.

The following assumptions have been used as a basis for selecting the sampling frame for the pilot test:

- There are approximately 2300 eligible participants at the Seattle VA facility;
- There are approximately 525 employees working in departments or work areas with known exposure to one or more of the targeted hazards, 300 of these with known exposure and 225 in the same departments or work areas;
- There are approximately 1100 employees with patient care responsibilities but not likely to be exposed to any of the targeted hazards, and;
- There are approximately 750 employees in work areas, such as administration or other employees having no patient care responsibilities, in which we have assumed minimal likelihood of exposure to any of the targeted hazards.

In **Table 1** on the following page, sampling rates are presented for each targeted and non-targeted employee group. The overall sample size will be kept to approximately 800 employees. This represents 35% of the 2300 eligible employees located at the Seattle VA Medical Center. As stated previously, a variable sampling rate is proposed that over-samples employees who are determined *a priori* to have potential exposure to targeted hazards while under-sampling those employees expected to have no potential exposure to the targeted hazards.

Table 1: Sampling Rates for Targeted and Non-Targeted Employees			
Population	Rationale for Inclusion	Sampling Rate	# Employees (% of Study Population)
I. Targeted			
Respiratory therapists, pharmacists and pharmacy assistants, nurses and physician assistants working in oncology, employees in sterile processing, anesthesiologists and nurse anesthetists, other operating or recovery room employees, and housekeeping employees.	Known or expected to have exposures to at least one of the targeted hazards.	100%	300 (37%)
II. Non-Targeted			
Employees in work areas in which other targeted employees work	Exposure to targeted hazard is unknown, but because they are in a work area or have a job title similar to targeted employees, have a potential for exposure.	50%	110 (13%)
Employees with patient care responsibilities, but not assumed to have exposure to targeted hazards	Average likelihood of exposure to targeted hazards.	30%	330 (40%)
Employees with no patient care responsibilities and unlikely to be exposed to targeted hazards.	Minimal likelihood of exposure	10%	75 (9%)
III. Total Sample Pool			
Approximately 2300 eligible employees at the Seattle VA Hospital (all 3350 Puget Sound Veteran's Administration Medical Service employees minus 800 employees at American Lake and an estimated 260 ineligible employees, such as researchers).	Test Population in a Federal Hospital	35%	815 (100%)

II. Sample Selection

The selection of managers for participation in the management questionnaire survey will be coordinated through our Survey Coordinator Contact. Additional managers may be called on by the group to answer specific questions as needed.

In order to select participants for the employee survey, Battelle will work with our Human Resources contact at the Seattle VA Hospital to obtain a complete list of current Seattle VA Hospital employees, preferably in electronic format (Excel, Access, ASCII, etc.). This list should include name, job title, department, and unit of assignment for all current non-research staff at the Seattle facility. Battelle and NIOSH will identify the employee groups of interest from this list. This list will only be used to identify employees for inclusion in the sample and will be maintained in a confidential manner.

Battelle will take the responsibility for enumeration of the survey participants and assigning them to their respective groups. Battelle will then assign a unique identification (ID) number to each sampled employee to identify and track respondents. Each paper survey questionnaire will have an ID label. **Employees will not be asked to put their names on the questionnaire.** This ID will also be used to access the internet version of the survey by participants in a confidential manner, and also allow Battelle to track respondents using this survey mode. Responses from paper questionnaires will be integrated into the web-based survey database by Battelle staff. Battelle is only requesting access to limited employee identifying information for a short period of time to conduct the pilot study so we can:

1. Use individually addressed (personalized) letters to encourage participation for those who are selected;
2. Track responses to direct the sending of thank-you and reminder letters to those participants who have or have not responded;
3. Track those who have completed the survey to analyze response rates by survey method, department, job title, and whether the employee is actually exposed to the agents of concern; and
4. Track both those who have completed the survey and those who have not completed the survey in order to direct follow-up analysis of the survey (see Section VI below).

Battelle has strict policies in place to maintain confidentiality. Specifically, web-based surveys will be maintained on secure Battelle computer servers, which have extensive firewall and privacy protections. Completed paper surveys will be mailed directly to Battelle and then entered by Battelle staff into the same secure system as the web-based surveys. Completed paper copies of the survey will be maintained in locked file cabinets until the end of the project when they will be provided to NIOSH where all personal information will be maintained in accordance with the Federal Privacy Act. Once a survey is returned to Battelle, we will produce a thank-you letter addressed to the individual and then delete their name from our database. Thus, the name, Case ID and survey data will be linked for less than 24 hours. All research staff, including staff from the telephone center who will handle calls from employees, are required to sign a pledge of confidentiality and are trained in the protection of human subjects. No personal information, including whether or not an individual participated in the survey, will be released to the Seattle VA Hospital or anyone outside of the NIOSH/Battelle research team.

III. Questionnaire Distribution

The employee survey questionnaire was designed to evaluate general health hazards and concerns of health care workers, as well as to evaluate exposures to specific hazards identified by NIOSH. To this purpose, Battelle developed a health care employee core questionnaire and ten hazard-specific modules. Participants will be offered two administration options to respond to the survey - either by a paper questionnaire returned to Battelle via a postage-paid envelope (provided) or by a Web-based survey on the internet via a secure Website maintained by Battelle. In order to promote high response rates, NIOSH/Battelle has decided to provide both options to each selected participant. For this reason, Battelle has developed three strategies for questionnaire distribution to evaluate during this pilot test. These three distribution protocols will be evaluated in terms of response rate and level of administrative effort required on both the participating hospital and Battelle in conducting the pilot test. The three protocols are described below and illustrated in Table 2.

Population	Distribution Mode	Paper Questionnaire	Web Survey
Group 1: Targeted Employees (most likely exposed to targeted hazards)	Personalized letter with a customized questionnaire	Employee Core module and pre-determined hazard specific module(s) with instructions on how to request additional modules if necessary	Instructions on how to access Web-based survey
Group 2: One-half of Non-Targeted Employees	Personalized letter with an employee core questionnaire	Employee Core module only with instructions on how to request additional modules if necessary	Instructions on how to access Web-based survey
Group 3: One-half of Non-Targeted Employees	Personalized letter only	Instructions on how to request a paper questionnaire	Instructions on how to access Web-based survey

One week in advance of the initial mailing of the surveys to selected participants, each of the selected employees will be sent via US Mail to their hospital address, a letter alerting them to the fact that they have been selected to participate in the survey. If email addresses are available, we will send the same letter via email, to make sure that we reach as many selected participants as possible. These pre-survey notices will be customized to each of the three groups of participants (See Appendix C). Sample members will also receive a brief email notice from the hospital indicating that the hospital has agreed to participate in the study and that work time will be provided for them to complete the survey. This message is also contained in Appendix C.

Department heads for the entire hospital will receive an introduction letter to the study about a week prior to distribution of the survey materials. This letter will explain the study, specify that the information provided by their employees is confidential and will not be shared with them except in aggregate form, and ask them to provide work time for their employees to complete the

survey. They will also be asked to encourage participation, but that participation in the survey is voluntary and there are no consequences for not participating (See Appendix D).

Once the survey period begins, each participant will receive, at minimum, a personalized letter enclosed in an envelope and addressed to them by name, through their hospital mail inviting them to participate in the survey (See Appendix E). This letter will describe the purpose of the study, why they are being asked to participate, what participation entails, what rights they have as a study participant, and how to participate in the survey (including instructions about how to complete the survey either in paper form or on the internet), as well as telephone numbers to call for additional information. We will enclose a formal Information Sheet (i.e., implied consent document included in Appendix E) in accordance with the University of Washington Institutional Review Board's requirement along with the survey when we mail them to survey participants. All participants will receive the information sheet, regardless of their survey group. The instructions for completing the survey on the Web are included in Appendix F. The instructions for completing the paper version of the survey are also found in Appendix F. These instructions will be located on the inside cover of all survey booklets.

We first describe the distribution protocol for those employees most likely exposed to the targeted hazards (Group 1). These employees will receive an invitation packet that includes the letter described above, along with a paper survey customized to their specific exposures. They will be given the option of either completing the paper version of the survey questionnaire, or going on-line to complete the Web-based survey. The Web-based version of the survey, by means of a series of screening questions, presents applicable hazard modules to respondents automatically and, from their perspective, seamlessly.

The second distribution protocol is for one-half of the non-targeted employees selected for participation in the study (Group 2). These employees will receive an invitation packet that includes the letter described above, along with a paper survey that includes only the employee core module.

Employees who receive paper surveys (Groups 1 and 2 described in Table 2) will receive a pre-paid addressed envelope in their packet for returning the paper survey. This envelope will be addressed directly to Battelle to assure that their responses are not seen by any Seattle VA Hospital or administrative staff. These packets will be prepared by Battelle and organized by department. Battelle will deliver these packets to our Mail Room Contact at the Seattle VA Hospital for distribution through their in-house mailing system.

Employees in these two groups who decide to complete the paper questionnaire will be asked 'screening' questions at the end of the core module. Their responses will indicate whether or not they work with any of the hazards of concern (or additional hazards of concern) for the targeted group. If they do, they will be instructed to call a toll-free number to request the applicable hazard modules be mailed to them. Those who call between 7 am and 8 pm PST on weekdays or between 10 am and 6 pm on weekends will be able to speak to a Battelle research staff member. They will be asked for their mailing address and which modules they need to receive, or if necessary, re-screened to determine the appropriate modules to send to them. These employees will then be mailed a packet (containing the additional modules and another pre-paid return envelope). Appendix G provides the telephone center scripts to be used when employees call to request additional modules to the survey.

The third distribution protocol is for the remaining one-half of the non-targeted employees selected for participation in the study (Group 3). These employees will receive an invitation packet that includes only a letter of invitation. These packets will be prepared by Battelle and organized by department. Battelle will deliver these personalized survey packets to our Mail Room Contact at the Seattle VA Hospital for distribution through the in-house mailing system. The letter will provide instructions on how to access the survey on the web, and provide a toll-free number to request a paper survey. Those who call will be able to speak to a live operator from 7 am to 8 pm PST on weekdays and from 10 am to 6 pm on weekends (See Appendix G). They will be asked a series of ‘screening’ questions to determine the appropriate hazard-specific modules to be included, along with the core module, in their survey packet. They will be asked for contact information for mailing purposes only. These employees will then be mailed a packet (containing the customized survey, instructions and a pre-paid return envelope) via USPS to either their home or place of employment, depending upon their preference.

IV. Survey Timeline

The employee survey response period will be five weeks. At one week post-distribution of the survey, Battelle will send all survey participants a letter reminding them of the survey they received and thanking them if they have already responded (See Appendix H). This letter will be sent via email if we are able to obtain email addresses and via hospital mail if we are not able to attain email addresses from the Seattle VHA. At three weeks post-distribution, Battelle will send a second reminder letter to participants from whom we have not yet received a response (by mail or web). This personalized letter will stress the importance of their participation (See Appendix I). Non-responders who had originally received a paper version of the questionnaire (Groups 1 and 2 in Table 2), will receive a second copy of the questionnaire with the reminder letter. These letters will be sent through the hospital mail system. Throughout the study period, Battelle will prepare thank-you letters to those who have responded (See Appendix J). Once the letters have been produced and stuffed into addressed envelopes, the names of these respondents will be deleted from our database in order to destroy the link between the subject and his or her survey data. These letters will be delivered to our contact in the Mail Room. Battelle will use letters rather than post-cards to preserve the privacy of participants and prevent disclosure of participation status. Thank-you, reminder, and non-respondent letters will all be mailed in the similar envelopes so that no one but the addressee will be able to ascertain the contents.

Table 3 on the following page provides a time line for employee survey activities, showing the approximate dates for the notification letters, survey mailing and follow-up notices.

Table 3: Survey Timeline																
	February			March				April				May				
Activity	16	23	29	8	15	22	29	5	12	19	26	3	10	17	24	31
Obtain list of employees	■															
Select sample frame		■	■	■	■											
Produce and send introductory mailing							■									
Send notice to department supervisors							■									
Mail Survey								■								
Send Reminder to Non-respondents										■						
Send Thank-you to respondents									■	■	■	■	■			
Send reminder with survey to non-respondents												■				
Non responder survey														■		
Follow-up																■

V. Post-Survey Evaluation

a. Survey Procedures

All participants in the manager survey will be asked to meet with Battelle investigators to discuss the relevance of and effort required to complete the survey. Suggestions for changes and additions will be solicited.

All employee respondents will be asked questions regarding their experience with the survey. These questions are incorporated into both the paper and web versions, and will seek opinions regarding the length of the survey, why they chose the mode they used, and where they completed the survey. These questions are included at the end of each module for the paper version of the survey, and at the end of the questionnaire for the web version of the survey.

After the five-week survey period has ended, a stratified random sample of 50% or a maximum of 200 non-respondents will be sent a short survey (see Appendix K) to obtain information regarding why they chose not to complete the employee questionnaire. This survey will be structured to allow respondents to choose the reasons that apply to them (i.e., survey length, mode of distribution, lack of access to a computer, lack of time at work, etc.).

Survey response rates will be tracked over time to evaluate the effect of the various follow-up letters. Response rates will be individually tracked for each distribution mode and for each hazard specific module. In addition, we will track the mode of response by these groups. This information will be integrated into our evaluation of the overall acceptance of the survey and the modes offered among the various sectors of the hospital employee population.

b. Questionnaire Validation

After the 5-week survey response period has passed, Battelle will invite 30 respondents to participate in a post-survey interview. These respondents will be selected from among those who have completed at least one hazard-specific module (or approximately 2 interviews per module).

These interviewees will be invited through their thank-you letters and will be selected based upon:

- The specific hazard module(s) completed,
- Consistency of their responses with other employees from the same department or work unit (to evaluate reasons for inconsistencies in the data collected with this survey method), and
- Unexpected exposures disclosed (to further evaluate the circumstances of these exposures).

Employees selected for post-survey interviews will receive compensation in the amount of \$50 for their time and effort, and will be interviewed at their place of employment. These interviews will focus on whether or not the hazard module questions were understandable and meaningful. The interviewer will have a copy of the participant's responses for the hazard-specific module(s) completed during the survey. They will evaluate how accurately the participants were able to answer the questions (are their responses at the time of the interview the same?), how familiar they are with the various factors used to evaluate hazard exposures (ventilation, specific products used, etc.), and how representative their responses are for their weekly exposures over time. These interviews are anticipated to last no more than one-half hour.

Data collected from the management and employee surveys, along with data collected through the employee interviews, will be compared to the results of hazard inventories taken during a brief walk-through of each exposure area by a trained industrial hygienist. Survey responses will be compared to IH observed engineering controls, ventilation, and the availability and use of personal protection equipment. These analyses will be used to evaluate the validity and utility of the management survey and the employee hazard-specific modules.

VI. REPORTING OF RESULTS

The primary emphasis of this project is the efficacy of the survey itself, and the ability to gain useful information regarding health and safety practices, and potential employee exposure to chemical and physical stressors by means of employee questionnaires. However, we expect to be gathering information through this process that will be useful to the VHA Puget Sound Health Care System in improving the health and safety of employees. This information will be provided to the VHA in appreciation for their cooperation in this effort.

Our plan is to share aggregate data with the VHA Puget Sound Health Care System so long as the data are of reasonable quality and can be aggregated in such a way as to protect the confidentiality of individual employees. Our goal is to provide the VHA with information regarding the work practices of employees and their perceptions about health and safety at the Seattle facility while maintaining individual confidentiality.

Battelle will provide this summary to our primary contact, Mr. Joe Cain, Safety Director, in a written report. In addition, as an ancillary component of this project, Battelle and NIOSH are developing a Web site through which institutions participating in the future NEWS effort will be able to obtain summary statistics and will be able to compare their facility with other facilities. We will invite VHA Puget Sound Health Care System to use and evaluate this website, and

provide us with input on the various data comparisons and statistics that are most useful for their purposes.

Appendix A
Management Questionnaire

SECTION A: CORE QUESTIONS

A1. What are the functions/activities of this facility? **Please ✓ all that apply.**

- General Medical/Surgical Hospital
- Home Health Care
- Medical/Diagnostic Lab
- Nursing Care Facility
- Other Health Practitioners
- Outpatient Care Center
- Physician's Office
- Psychiatric/Substance Abuse Hospital
- Specialty(ies) Hospital
- Dentist's Office
- Other (Please specify): _____

A2. Which of the following characterizes this facility? **Please ✓ all that apply.**

- For profit (individual, partnership, or corporation)
- Private non-profit (e.g., religious group, charity, etc.) or not-for-profit corporation
- City, county, district, or state government (including public university-based)
- Federal government (e.g., military or VHA)
- Other (Please specify): _____

A3. Is this facility currently part of a managed care or health maintenance organization (HMO)?

- Yes
- No

A4. Is this facility currently accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO)?

- Yes
- No
- Not applicable

- A5. What is the average daily inpatient census over the past calendar year?
- 1-50
 51-100
 101-200
 201-500
 Greater than 500
 This facility does not provide inpatient services
- A6. What is the average number of **daily** outpatient appointments at this facility over the past calendar year?
- 1-50
 51-100
 101-200
 201-500
 Greater than 500
 This facility does not provide outpatient services
- A7. How many full-time equivalent (FTE) employees are currently on your payroll?
- Less than 10
 10-50
 51-250
 251-1000
 More than 1000
- A8. How many workers who provide services at this facility are not on your payroll? (*Please include physicians, nurses, maintenance, housekeeping, laundry and food service.*)
- Less than 10
 10-50
 51-250
 251-1000
 More than 1000
- A9. What is the turnover percentage rate among all employees on the payroll at this facility in the past 12 months?
- Turnover rate %
 NA
- A10. What is the turnover percentage rate among nurses on the payroll at this facility in the past 12 months?
- Turnover rate %
 NA

A11. Are any employees on your payroll represented by unions? Yes No

A12. Is there a policy for working overtime at this facility? *Note: Overtime may be defined as any hours worked in excess of the hours of a normal work shift, whether paid or unpaid for those excess hours. Please ✓ all that apply.* Yes, established by management Yes, mandated by union contract No specific policy

Skip to Question A13.

A12A. Which of the following elements does the policy contain? **Please ✓ all that apply.**

- Mandatory overtime may be required
- Restrict the maximum number of overtime hours that can be worked per pay period
- Restrict the personnel that can be paid overtime
- Other (Please specify): _____

A13. Is there a policy for taking rest breaks at this facility? **Please ✓ all that apply.** Yes, established by management Yes, mandated by union contract No specific policy

A14. How many of the following professionals are on your payroll to provide health and safety services to employees at this facility on a full-time equivalency (FTE) basis?

	FTEs
a. Occupational Physician.....	□□□ . □
b. Occupational Health Nurse	□□□ . □
c. Industrial Hygienist (occupational health specialist)	□□□ . □
d. Safety Professional	□□□ . □
e. Professional Ergonomist	□□□ . □
f. Infection Control Specialist.....	□□□ . □
g. Radiation Safety Officer	□□□ . □

- A15. Is there an individual on the payroll of this facility whose **primary** responsibilities involve managing the occupational safety and health program?
- Yes
 No  **Skip to Question A18.**
- A16. What proportion of the occupational safety and health program manager's time is spent **specifically** on occupational safety and health?
- 0-25%
 26-50%
 51-75%
 76-100%
- A17. To whom does the occupational safety and health program manager report?
- Chief Executive Officer
 Vice President
 Human Resources Director
 Facility Director
 Other (Please specify): _____

- A18. During the past 12 months, which of the following occupational health and safety services have been provided at this facility by an **outside source**, (e.g., Insurance carrier, private consultant, federal [NIOSH or OSHA] or state government, etc.)? **Please ✓ all that apply.**
- Exposure Monitoring
 Employee Safety
 Ergonomics
 Occupational Health
 Other (Please specify): _____

- None
- A19. Does this facility have specially trained staff to respond to individuals potentially affected by chemical, biological, radiological, or nuclear agents as a result of a natural disaster or terrorist action?
- Yes
 No

The next few questions deal with health and safety programs

A20. Is there a **written** employee safety and health program in place at this facility?

Yes

No

 **Skip to Question A23.**

A21. Which of the following elements are specifically included in the written employee health and safety (H&S) program at this facility? **Please** ✓ **all that apply.**

- Management leadership (top level management setting H&S policies and goals, active in H&S committees, etc.)
- Employee involvement (workers participating in H&S program planning and goal setting, H&S inspections, H&S committees, etc.)
- Safety Incentive Program (employees or work groups are rewarded for reducing accidents, offering safety suggestions, reporting hazards and near misses, and/or attending safety meeting)
- Job hazard analysis (identification of health and safety hazards associated with each job)
- Task analysis for proper selection of personal protective equipment
- Use of engineering, administrative, and personal protective equipment controls to eliminate or reduce occupational H&S hazards
- Regularly scheduled inspection and maintenance of engineering controls and personal protective equipment
- Providing H&S training to employees prior to assignment of job duties
- Procedures for employees to report health and safety problems without fear of reprisal
- Monitoring of workers for exposure to chemical, biological, and/or physical agents
- Medical surveillance of employees in high hazard jobs
- Routine worker notification of medical surveillance results
- Routine worker notification of exposure monitoring results
- Evaluation of H&S program effectiveness on periodic basis
- Policies to provide site-specific health and safety information for contractors' employees prior to their beginning work at this facility
- Evaluation of contractors' health and safety training provided to their employees prior to their assignment at this facility

- A22. What data are used to evaluate the effectiveness of the employee health and safety program at this facility? **Please ✓ all that apply.**
- Injury and illness data
 - Number of lost work-days
 - Workers' compensation data
 - Number of "near-miss" accidents or incidents
 - Number of employees who have completed mandatory training
 - Average number of days to complete corrective action requests
 - Training logs
 - Knowledge tests
 - Attitude scales
 - Symptom surveys
 - Observations from walk through inspections
 - Cost-benefit data
 - Other (Please specify): _____
- _____
- None, we do not evaluate our health and safety program

The next few questions pertain to occupational stress among employees.

- A23. Have there been any employee complaints related to occupational stress reported in the past 12 months at this facility?
- Yes
 - No complaints reported
 - No formal reporting system is used
- A24. Is stress management training available to all employees at this facility?
- Yes
 - No
- A25. Are employee assistance programs available to all employees at this facility?
- Yes
 - No

The next few questions pertain to types of programs sometimes used to reduce the occurrence of acute or cumulative trauma resulting in back, shoulder, or other types of musculoskeletal injury.

- A26. Has a written ergonomics program been implemented?
- Yes, in all areas
 Yes, in some areas
 No
- A27. Have teams of management and workers been formed at this facility to identify ergonomic risk factors?
- Yes, in all areas
 Yes, in some areas
 No
- A28. Has a job hazard analysis been conducted?
- Yes, in all areas
 Yes, in some areas
 No
- A29. Has an ergonomic training program been implemented at this facility?
- Yes, in all areas
 Yes, in some areas
 No
- A30. Are back belts provided for lifting tasks?
- Yes, in all areas
 Yes, in some areas
 No

The next questions deal with devices and policies designed to help safeguard workers in performing physical tasks.

- A31. Have adjustable work stations (tables, chairs, foot stands, etc.), been provided for employees performing stationary tasks?
- Yes, in all areas
 Yes, in some areas
 No
 Task not performed
- A32. Are wrist braces for repetitive upper extremity tasks, such as typing, pipetting, sonography, etc., provided to affected employees?
- Yes, in all areas
 Yes, in some areas
 No
 Task not performed

- A33. Are anti-fatigue mats or sit/stand bars for tasks requiring prolonged standing provided to affected employees?
- Yes, in all areas
 Yes, in some areas
 No
 Task not performed

- A34. At this facility, do employees **ever** lift or move patients weighing 50 or more pounds?

Yes

No

Skip to Question A40.

- A35. Have transport carts and lift tables or other assistive devices been provided where necessary?

Yes, in all areas

Yes, in some areas

No

- A36. Have mechanical lifting devices (e.g., Hoyer[®] lift) been provided in areas where patients are moved?

Yes, in all areas

Yes, in some areas

No

- A37. Has a “zero lift” policy been implemented at this facility, i.e., are mechanical lifting devices used exclusively for patient lifting?

Yes, in all areas

Yes, in some areas

No

- A38. Are organized lift teams used for lifting or transferring patients?

Yes, in all areas

Yes, in some areas

No

- A39. Are gait belts (or transfer belts) used for lifting or transferring patients?

Yes, in all areas

Yes, in some areas

No

The following questions pertain to the issue of workplace violence at this facility.

- A40. Are employees at this facility provided training in the skills necessary to defuse a potentially violent confrontation with patients, co-workers, supervisors, clients, family members, strangers, etc.?

Yes, all workers

Yes, only high risk workers

No

- A41. Do you have a formal program or policy in place at this facility for workers to report incidents of workplace violence?

Yes

No

Don't Know

Skip to Question A43.

- A42. How many incidents of workplace violence (physical attacks or assaults, verbal abuse, or confrontations) have been reported by employees at this facility during the last 12 calendar months?
- None
 - 1-10
 - 11-50
 - 51-100
 - More than 100 incidents
 - Don't know

These next six questions ask about the use of natural rubber latex at your facility.

- A43. Are any latex (natural rubber) products used anywhere in this facility?
- Yes
 - No  **Skip to Question A49.**
- A44. Are latex (natural rubber) **gloves** currently used anywhere in this facility?
- Yes, powdered latex gloves
 - Yes, powder-free latex gloves
 - Yes, both powdered latex and powder-free latex gloves
 - No
- A45. Is there a written policy in place at this facility to restrict unnecessary use of latex products?
- Yes
 - No
- A46. Are prevention strategies at this facility re-evaluated whenever a worker is diagnosed with latex allergy?
- Yes
 - No
- A47. Are employees provided training about latex allergies?
- Yes
 - No
- A48. Are high-risk workers (e.g., surgical staff) periodically screened for symptoms of latex allergy?
- Yes
 - No

The next three questions ask about respirator usage at this facility.

A49. Are any employees at this facility required to wear respiratory protection for any reason? *(Note: surgical masks are not considered respiratory protection for the user.)*

Yes

No

Skip to Section B on Page 11.

A50. Is training on respirator usage and maintenance provided to all employees who are required to wear respirators at this facility?

Yes

No

A51. Is fit testing required for all employees who are required to wear respiratory protection at this facility?

Yes

No

**Thank you for completing Section A.
Please continue to Section B: Antineoplastic Agents on Page 11.**

SECTION B: ANTINEOPLASTIC AGENTS

This section focuses on antineoplastic agents. The focus is on policies and procedures that apply to employees who prepare or mix these agents, such as pharmacists and pharmacy technicians, and employees who administer these drugs, including infusion nurses working with cancer, rheumatoid arthritis, and obstetrics patients. Other terms used for antineoplastic agents may include: antineoplastic drugs, cytotoxic drugs, and anti-cancer drugs.

B1. Are antineoplastic agents used at this facility?

 Yes

 No



B2. During the **past week**, how many doses of the following drugs were administered at this facility?

Drug Name:	NUMBER OF DOSES					Drug Name:	NUMBER OF DOSES				
	0	1-10	11-25	26-50	>50		0	1-10	11-25	26-50	>50
a. Aldesleukin	<input type="checkbox"/>	o. Busulfan	<input type="checkbox"/>								
b. Alemtuzumab.....	<input type="checkbox"/>	p. Capecitabine	<input type="checkbox"/>								
c. Alitretinoin.....	<input type="checkbox"/>	q. Carboplatin.....	<input type="checkbox"/>								
d. Altretamine	<input type="checkbox"/>	r. Chloambucil (Leukeran®).....	<input type="checkbox"/>								
e. Aminoglutethimide.....	<input type="checkbox"/>	s. Cisplatin	<input type="checkbox"/>								
f. Amifostine.....	<input type="checkbox"/>	t. CPT-11.....	<input type="checkbox"/>								
g. Anastrozole	<input type="checkbox"/>	u. Cladribine	<input type="checkbox"/>								
h. Arsenic trioxide	<input type="checkbox"/>	v. Cyclophosphamide (Cytoxan®).....	<input type="checkbox"/>								
i. Asparaginase- E.coli strain.....	<input type="checkbox"/>	w. Cytarabine (Cytosar®).....	<input type="checkbox"/>								
j. BCG live	<input type="checkbox"/>	x. Daunorubicin (Cerubidin®).....	<input type="checkbox"/>								
k. Bexarotene	<input type="checkbox"/>	y. Dacarbazine (DTIC)	<input type="checkbox"/>								
l. Bicalutamide	<input type="checkbox"/>	z. Dactinomycin.....	<input type="checkbox"/>								
m. Bleomycin (Bleo®).....	<input type="checkbox"/>	aa. Denileukin diftitox ...	<input type="checkbox"/>								
n. BNCU (Carmustine®).....	<input type="checkbox"/>	bb. Docetaxel	<input type="checkbox"/>								

Drug Name:	NUMBER OF DOSES					Drug Name:	NUMBER OF DOSES				
	0	1-10	11-25	26-50	>50		0	1-10	11-25	26-50	>50
cc. Doxorubicin (Adriamycin®).....	<input type="checkbox"/>	bbb. Metho-trexate (Amethopterin®).....	<input type="checkbox"/>								
dd. Epirubicin.....	<input type="checkbox"/>	ccc. Mitomycin-C.....	<input type="checkbox"/>								
ee. Estramustine.....	<input type="checkbox"/>	ddd. Mitotane.....	<input type="checkbox"/>								
ff. Etoposide.....	<input type="checkbox"/>	eee. Mitoxantrone.....	<input type="checkbox"/>								
gg. Exemestane.....	<input type="checkbox"/>	fff. Nilutamide.....	<input type="checkbox"/>								
hh. Floxuridine.....	<input type="checkbox"/>	ggg. Paclitaxel.....	<input type="checkbox"/>								
ii. Fludarabine.....	<input type="checkbox"/>	hhh. Pegaspargase ...	<input type="checkbox"/>								
jj. Flutamide.....	<input type="checkbox"/>	iii. Pentostatin.....	<input type="checkbox"/>								
kk. Fluorouracil (5-FU®).....	<input type="checkbox"/>	jjj. Plicamycin.....	<input type="checkbox"/>								
ll. Gemcitabine (Gemzar®).....	<input type="checkbox"/>	kkk. Procarbazine.....	<input type="checkbox"/>								
mm. Gemtuzumab ozogamicin.....	<input type="checkbox"/>	lll. Rituximab.....	<input type="checkbox"/>								
nn. Goserelin.....	<input type="checkbox"/>	mmm. Strptozocin.....	<input type="checkbox"/>								
oo. Hydroxyurea.....	<input type="checkbox"/>	nnn. Tamoxifen.....	<input type="checkbox"/>								
pp. Idarubicin.....	<input type="checkbox"/>	ooo. Temozolomide...	<input type="checkbox"/>								
qq. Iphosphamide.....	<input type="checkbox"/>	ppp. Teniposide.....	<input type="checkbox"/>								
rr. Imatinib mesylate..	<input type="checkbox"/>	qqq. Thioguanine.....	<input type="checkbox"/>								
ss. Interferon Alfa-2a.....	<input type="checkbox"/>	rrr. Thiotepa.....	<input type="checkbox"/>								
tt. Interferon Alfa-2b.....	<input type="checkbox"/>	sss. Topotecan.....	<input type="checkbox"/>								
uu. Irenotecan.....	<input type="checkbox"/>	ttt. Toremifene.....	<input type="checkbox"/>								
vv. Letrozole.....	<input type="checkbox"/>	uuu. Trastuzumab.....	<input type="checkbox"/>								
ww. Leuprolide.....	<input type="checkbox"/>	vvv. Tretinoin.....	<input type="checkbox"/>								
xx. Megestrol.....	<input type="checkbox"/>	www. Valrubicin.....	<input type="checkbox"/>								
yy. Mercaptopurine (Leupurin®).....	<input type="checkbox"/>	xxx. Vinblastine (Velban®).....	<input type="checkbox"/>								
zz. Merchlorethamine.....	<input type="checkbox"/>	yyy. Vincristine (Oncovin®).....	<input type="checkbox"/>								
aaa. Melphalan.....	<input type="checkbox"/>	zzz. Vincorelbine.....	<input type="checkbox"/>								
						Other (Please specify):	<input type="checkbox"/>				

The next two questions pertain to the number of male and female workers at this facility currently performing activities involving the handling of antineoplastic agents. If a worker performs more than one of the activities listed, please count this individual in each applicable category. Enter "0" for none.

- B3. How many workers mix or prepare doses of antineoplastic agents? (These workers are usually pharmacists or pharmacy technicians.)
- | | 0 | 1 | 2-5 | 6-10 | 11-20 | > 20 |
|------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Males..... | <input type="checkbox"/> |
| b. Females | <input type="checkbox"/> |
- B4. How many workers administer antineoplastic agents? (These workers are usually oncology/infusion nurses, or may also work in areas where patients are being treated for rheumatoid arthritis or ectopic pregnancies.)
- | | 0 | 1 | 2-5 | 6-10 | 11-20 | > 20 |
|------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Males..... | <input type="checkbox"/> |
| b. Females | <input type="checkbox"/> |
- B5. Are there **written** standard procedures (SOPs) for any of the following activities? **Please ✓ all that apply.**
- Receipt and unpacking antineoplastic agents
 - Mixing or preparing antineoplastic agents
 - Administering antineoplastic agents
 - Cleanup of spills of antineoplastic agents
 - Handling bodily fluids (e.g., urine, stool, vomit, etc.) of patients receiving antineoplastic agents
 - Disposal of AN-contaminated waste (empty vials, syringes, IV bags, absorbent pads, tubing, etc.)

B6. When do workers who perform the following activities receive training which addresses the safe handling and hazards of antineoplastic agents? **Please ✓ all that apply.**

	Never	At job or task orientation	At least annually, i.e., one or more times every 12 months	Other (Please specify)
a. Preparing antineoplastic agents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ _____
b. Administering antineoplastic agents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ _____
c. Any other activities with potential exposure to antineoplastic agents (e.g. cleaning-up spills, handling waste)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ _____



If training is never provided to any employee who handles antineoplastic agents, skip to Question B8.

B7. Is this training mandatory or voluntary?

Mandatory
 Voluntary

B8. Has exposure monitoring (e.g., air sampling, surface wipe sampling, etc.) been performed in the past 12 months to assess workers' potential exposure to **any** antineoplastic agents at this facility?

Yes
 No **➔** **Skip to Question B9.**

B8A. What type(s) of samples were collected? **Please ✓ all that apply.**

Skin wipes
 Surface wipes
 Air samples

Skip to Question B10.

B9. What are the reasons exposure monitoring has **not** been performed in the past 12 months at this facility to assess workers' exposure to any antineoplastic agents?
Please ✓ **all that apply**.

- 1. Exposure to antineoplastic agents is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
- 2. Exposure to antineoplastic agents is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility
- 3. Not required by OSHA
- 4. Unaware of appropriate sampling methods for antineoplastic agents
- 5. Lack of health and safety personnel
- 6. Too costly
- 7. Other (Please specify): _____

B9A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** exposure monitoring **has not** been collected at this facility to assess workers' exposure to any antineoplastic agents

Most important reason.....

B10. Is medical surveillance (such as medical questionnaire, physical exam, blood test, urine test) currently conducted for workers who handle, work with or are otherwise potentially exposed to antineoplastic agents?

- Yes
- No

Skip to Question B13.

B11. When are the following medical surveillance tests or exams provided to employees potentially exposed to antineoplastic agents? *(For each type of exam, enter a ✓ for each applicable time of administration).*

	Never	At pre-placement	Periodically	Following a needlestick	At job exit
a. Standardized medical questionnaire.....	<input type="checkbox"/>				
b. Physical exam	<input type="checkbox"/>				
c. Blood test	<input type="checkbox"/>				
d. Urine test.....	<input type="checkbox"/>				

B12. Are the results of these tests provided to affected employees? Yes No



If medical surveillance is conducted for all workers potentially exposed to antineoplastic agents, skip to Question B14.

B13. What are the reasons medical surveillance is not currently conducted for workers exposed to antineoplastic agents at this facility? **Please ✓ all that apply.**

- 1. Exposure to antineoplastic agents is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
- 2. Exposure to antineoplastic agents is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility
- 3. Not required by OSHA
- 4. Lack of health and safety personnel
- 5. Too costly
- 6. Other (Please specify): _____

B13A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** medical surveillance **has not** been conducted for workers' exposed to antineoplastic agents at this facility

Most important reason.....

- B14. Does this facility have a policy or procedures to identify/screen employees about pregnancy (planning or currently pregnant) and potential exposure to antineoplastic agents?
- Yes
 No

Policies for Preparing Antineoplastic Agents

- B15. Are antineoplastic agents prepared at this facility?
- Yes
 No  **Skip to Question B24.**
- B16. Are antineoplastic agents required to be prepared in a restricted area, accessible only to personnel trained in the specific requirements associated with preparing these agents?
- Yes
 No
- B17. Is consumption of food and beverages by employees prohibited in areas where antineoplastic agents are prepared?
- Yes
 No
- B18. Are antineoplastic agents required to be mixed or prepared in either a Class II, Type B, or Class III Biological Safety Cabinet?
- Yes
 No
- B19. Are antineoplastic agents required to be mixed using a closed drug transfer system?
- Yes
 No
- B20. Are antineoplastic agents required to be mixed using a needle-less drug transfer system?
- Yes
 No
- B21. Is the IV tubing used for delivering antineoplastic agents always required to be primed in a biological safety cabinet?
- Yes
 No
- B22. Is the IV tubing used for delivery of antineoplastic agents always required to be primed with diluent (i.e., a liquid other than AN agent)?
- Yes
 No

- B23. After mixing, are antineoplastic agents required to be packaged for delivery to remote units in sealed and properly labeled bags?
- Yes
 No

Policies for Administering Antineoplastic Agents

- B24. Are antineoplastic agents administered at this facility?
- Yes
 No

 **Skip to Question B28.**

- B25. Are antineoplastic agents required to be administered using a drug delivery system with Luer lock-type fittings?
- Yes
 No

- B26. Are antineoplastic agents required to be administered using a needle-less drug transfer system?
- Yes
 No

- B27. Is the consumption of food and beverages by employees prohibited in areas in which antineoplastic agents are administered?
- Yes
 No

Policies for Designated Spill Clean-up Teams

- B28. Which of the following spills of antineoplastic agents are cleaned up by specially trained clean-up personnel?
Please ✓ all that apply
- None, do not use special spill team
 Small-sized spills (< 5cc)
 Medium-sized spills (5-25cc)
 Large spills (> 25cc)

- B29. Please check the types of personal protective equipment/clothing (PPE) that are **required** for workers potentially exposed to antineoplastic agents in this facility. Please answer this for the following two activities for each of the types of PPE.

Personal Protective Equipment (PPE) Type	<i>Preparing</i> antineoplastic agents	<i>Administering</i> antineoplastic agents
a. Activity not performed at this facility	<input type="checkbox"/>	<input type="checkbox"/>
b. None are required.....	<input type="checkbox"/>	<input type="checkbox"/>
c. Single-use, disposable gown with closed front and tight cuffs.....	<input type="checkbox"/>	<input type="checkbox"/>
d. Laundered protective garment (e.g., lab coat, scrubs, apron, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
e. Chemotherapy “chemo” gloves (of any type of material).....	<input type="checkbox"/>	<input type="checkbox"/>
f. Natural rubber latex gloves, excluding “chemo” gloves	<input type="checkbox"/>	<input type="checkbox"/>
g. Non-latex gloves, excluding “chemo” gloves	<input type="checkbox"/>	<input type="checkbox"/>
h. Two pairs of gloves (“double glove”).....	<input type="checkbox"/>	<input type="checkbox"/>
i. Eye protection (e.g., face shield, splash goggles, or safety glasses)	<input type="checkbox"/>	<input type="checkbox"/>
j. Disposable particulate respirator (also called filtering facepiece respirator, e.g., N95)	<input type="checkbox"/>	<input type="checkbox"/>
k. Elastomeric half-mask or full-facepiece respirator with replaceable cartridges.....	<input type="checkbox"/>	<input type="checkbox"/>
l. Powered air purifying respirator (PAPR)	<input type="checkbox"/>	<input type="checkbox"/>
m. Supplied air respirator.....	<input type="checkbox"/>	<input type="checkbox"/>
n. Other respirator (excluding surgical mask)	<input type="checkbox"/>	<input type="checkbox"/>
o. Disposable booties	<input type="checkbox"/>	<input type="checkbox"/>
p. Other PPE (Please specify)	<input type="checkbox"/>	<input type="checkbox"/>

B30. Does this facility have a **policy** which prohibits taking home any clothing (protective clothing or street clothes) which were worn when...

	Yes	No
a. Preparing antineoplastic agents?	<input type="checkbox"/>	<input type="checkbox"/>
b. Administering antineoplastic agents? ...	<input type="checkbox"/>	<input type="checkbox"/>

**Thank you for completing Section B.
Please continue to Section C: Aerosolized Medications on Page 21.**

SECTION C: AEROSOLIZED MEDICATIONS

This section focuses on aerosolized ribavirin (Virazole®), pentamidine (Nebupent®), and tobramycin (Nebcin®). The focus is on policies and procedures that apply to respiratory therapists and others who administer or otherwise handle these medications.

C1. Is aerosolized ribavirin, pentamidine, or tobramycin used at this facility?

Yes

No

Skip to Section D on Page 26.

C2. During the **past month**, how many doses of the following drugs were administered at this facility? **Check "0" for none.**

Drug Name:	Number of Doses				
	0	1-10	11-25	26-50	>50
a. Aerosolized Ribavirin	<input type="checkbox"/>				
b. Aerosolized Pentamidine	<input type="checkbox"/>				
c. Aerosolized Tobramycin	<input type="checkbox"/>				

The next questions pertain to the number of male and female workers at this facility currently administering aerosolized ribavirin, pentamidine or tobramycin.

C3. How many workers at this facility currently administer aerosolized ribavirin, pentamidine and/or tobramycin?

	0	1	2-5	6-10	11-20	> 20
a. Males	<input type="checkbox"/>					
b. Females	<input type="checkbox"/>					

C4. When do workers who administer ribavirin, pentamidine and/or tobramycin receive training which addresses the hazards and safe handling of any of these aerosolized medications? **Please ✓ all that apply.**

Never

At job or task orientation

At least annually, i.e. one or more times every 12 months

Other (Please specify): _____

Skip to Question C6.

C5. Is this training mandatory or voluntary?

Mandatory

Voluntary

- C6. Has exposure monitoring (e.g., air sampling, surface wipe sampling, etc.) been performed in the past 12 months to assess workers' potential exposure to ribavirin, pentamidine or tobramycin (any or all) at this facility?
- Yes  **Skip to Question C8.**
- No
- C7. What are the reason(s) exposure monitoring has **not** been performed in the past 12 months at this facility to assess workers' exposure to any of these aerosolized medications? **Please ✓ all that apply.**
1. Exposure to aerosolized medications is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
2. Exposure to aerosolized medications is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility
3. Not required by OSHA
4. Unaware of appropriate sampling methods for antineoplastic agents
5. Lack of health and safety personnel
6. Too costly
7. Other (Please specify): _____
- _____
- C7A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** exposure monitoring **has not** been performed at this facility to assess workers' exposure to any aerosolized medications.
- Most important reason.....
- C8. Is medical surveillance (such as medical questionnaire, physical exam, blood test, urine test, pulmonary function test) currently conducted for workers potentially exposed to ribavirin, pentamidine or tobramycin?
- Yes
- No  **Skip to Question C12.**

C9. When are the following medical surveillance tests or exams provided to employees potentially exposed to aerosolized ribavirin, pentamidine or tobramycin (any or all)?

	Never	At Pre-placement	Periodically	At Job exit
a. Standardized medical questionnaire.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Physical exam.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Blood tests.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Urine tests.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Pulmonary function test.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C10. Are the results of these tests provided to affected employees? Yes No



If medical surveillance is currently conducted for all employees exposed to aerosolized medications, Skip to Question C12.

C11. What are the **primary** reasons medical surveillance is not currently conducted for all workers exposed to these aerosolized medications at this facility? **Please ✓ all that apply.**

- 1. Exposure to aerosolized medications is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
- 2. Exposure to aerosolized medications is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility
- 3. Not required by OSHA
- 4. Lack of health and safety personnel
- 5. Too costly
- 6. Other (Please specify): _____

C11A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** medical surveillance **has not** been conducted for all workers exposed to these aerosolized medications at this facility. Most important reason.....

- C12. Does this facility have a policy or procedures to identify/screen employees about pregnancy (planning or currently pregnant) and potential exposure to these aerosolized medications?
- Yes
 No
- C13. In this facility, which of the following work practices or engineering controls **are required** during administration of these aerosolized medications? **Please ✓ all that apply.**
- Oxygen tent
- Double containment system (i.e., HEPA filtered oxygen tent over oxygen hood)
- Mechanical ventilator equipped with exhalation filter
- Nebulizer or aerosol generator equipped with exhalation filter
- HEPA-filtered isolation chamber/booth/hood
- Negative pressure isolation rooms with ventilation system equipped with HEPA filters or direct exhaust to the outdoors
- Restrict non-essential employee access during and immediately following (within 30 minutes) administration of aerosolized medications.
- Clean the surfaces of the nebulizer prior to moving it to another location.
- Other (Please specify): _____

- None

- C14. Which types of Personal Protective Equipment (PPE) are **required** for employees while they are administering ribavirin, pentamidine and/or tobramycin at this facility? **Please ✓ all that apply.**
(Please do not include surgical masks as respiratory protection.)
- Protective gown or garment
 - Protective gloves
 - Eye protection (e.g., face shield, splash goggles, or safety glasses)
 - Disposable particulate respirator (also called filtering face-piece respirator, e.g., N95)
 - Elastomeric half-mask or full-face-piece respirator with replaceable filters or cartridges
 - Powered air purifying respirator (PAPR)
 - Disposable booties
 - Other (Please specify): _____

- C15. Does this facility have a **policy** which prohibits taking home any clothing (protective clothing or street clothes) which were worn while administering ribavirin, pentamidine and/or tobramycin?
- Yes
 - No

**Thank you for completing Section C.
Please continue to Section D: Glutaraldehyde and
Other High Level Disinfectants (HLDs) on page 26.**

SECTION D: GLUTARALDEHYDE AND OTHER HIGH LEVEL DISINFECTANTS (HLDs)

*This module is directed towards anyone who disinfects medical instruments, devices, or supplies (such as endoscopes, thermometers, and other items which cannot be sterilized) using **disinfectants** containing the following:*

- **Glutaraldehyde** (e.g., Cidex[®], ColdSport[®], Endocide[®], Glutacide[®], Hospex[®], Metricide[®], Sporidicin[®], Wavicide[®]),
- **Ortho-phthalaldehyde** (e.g., Cidex OPA[®]),
- **Peracetic acid** (e.g., Steris[®] system), or
- **Hydrogen peroxide** (e.g., Accell[®], Optim[®]).

- D1. Are HLDs used at this facility? Yes No  **Skip to Section E on Page 33.**
- D2. Are **HLDs** used to disinfect endoscopes or other medical instruments and devices at this facility? Yes No  **Skip to Question D28.**
- D3. Is **glutaraldehyde** used to disinfect endoscopes or other medical instruments and devices at this facility? Yes No  **Skip to Question D13.**
- D4. How many workers at this facility currently use glutaraldehyde to disinfect medical instruments? 1 2-5 6-10 11-20 > 20
- D5. Are there written standard procedures for the safe handling of glutaraldehyde for disinfection at this facility? Yes No
- D6. When do workers who use **glutaraldehyde** to disinfect medical instruments receive training from this employer which addresses the hazards and safe handling of this HLD? **Please ✓ all that apply.** Never At job or task orientation At least annually (i.e., one or more times in 12 months) Other (Please specify): _____
- D7. Have air samples been collected in the past 12 months to assess worker exposure to glutaraldehyde at this facility? Yes No  **Skip to Question D9.**

D8. What are the reasons air samples **have not** been collected in the past 12 months at this facility to assess workers' exposure to glutaraldehyde? **Please** ✓ **all that apply.**

- 1. Exposure to glutaraldehyde is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
- 2. Exposure to glutaraldehyde is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility
- 3. Not required by OSHA
- 4. Unaware of appropriate sampling methods for glutaraldehyde
- 5. Lack of health and safety personnel
- 6. Too costly
- 7. Other (Please specify): _____

D8A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** air samples **have not** been collected at this facility to assess workers' exposure to glutaraldehyde.

Most important reason.....

D9. Is medical surveillance (such as medical questionnaire, physical exam, pulmonary function test, allergy/sensitization test) currently conducted for workers who use **glutaraldehyde** to disinfect medical instruments?

- Yes
- No



Skip to Question D12.

D10. When are the following medical surveillance tests or exams provided to employees potentially exposed to **glutaraldehyde**? **Please** ✓ **all that apply.**

	Never	At pre-placement	Periodically	Following an acute exposure (e.g., a spill)	At job exit
a. Standardized medical questionnaire.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Physical exam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Pulmonary function test.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Allergy/sensitization test.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- D11. Are results of these tests provided to affected employees? Yes
 No



If medical surveillance is conducted for all workers potentially exposed to glutaraldehyde, Skip to Question D13.

- D12. What are the reasons medical surveillance is not currently conducted at this facility for workers exposed to **glutaraldehyde**? **Please ✓ all that apply.**
1. Exposure to glutaraldehyde is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
2. Exposure to glutaraldehyde is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility
3. Not required by OSHA
4. Lack of health and safety personnel
5. Too costly
6. Other (Please specify): _____

D12A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** medical surveillance **has not** been conducted for workers exposed to glutaraldehyde at this facility.

Most important reason.....

- D13. Has ortho-phthalaldehyde, peracetic acid or hydrogen peroxide been **substituted** for glutaraldehyde as a high level disinfectant? (i.e., switch to *Cidex OPA[®]*, *Steris[®]* system, *Accel[®]*, or *Optim[®]* from *Cidex[®]*, *ColdSport[®]*, *Endocide[®]*, *Glutacide[®]*, *Hopsex[®]*, *MetriCide[®]*, *Sporicindin[®]*, *Wavicide[®]*)

- Yes, in all cases
 Yes, in some cases
 No

Skip to Question D14.

D13A. What was the **primary** reason for the substitution? **Please ✓ only one.**

- Recommendation from supplier
 Improve worker health and safety conditions
 Reduce regulatory concerns
 Reduce cost
 Other (Please specify): _____

- D14. Is **ortho-phthalaldehyde** used to disinfect medical instruments at this facility?
- Yes
 No  **Skip to Question D18.**
- D15. How many workers at this facility currently use **ortho-phthalaldehyde** to disinfect medical instruments?
- 1
 2-5
 6-10
 11-20
 > 20
- D16. Are there written standard procedures for the safe handling of ortho-phthalaldehyde for disinfection at this facility?
- Yes
 No
- D17. When do workers who use **ortho-phthalaldehyde** to disinfect medical instruments receive training from this employer which addresses the hazards and safe handling of this HLD? **Please ✓ all that apply.**
- Never
 At job or task orientation
 At least annually (i.e., one or more times in 12 months)
 Other (Please specify): _____

- D18. Is **peracetic acid** used to disinfect medical instruments at this facility?
- Yes
 No  **Skip to Question D22.**
- D19. How many workers at this facility currently use **peracetic acid** to disinfect medical instruments via immersion processing techniques?
- 1
 2-5
 6-10
 11-20
 > 20
- D20. Are there written standard procedures for the safe handling of peracetic acid for disinfection at this facility?
- Yes
 No
- D21. When do workers who use **peracetic acid** to disinfect medical instruments receive training from this employer which addresses the hazards and safe handling of this HLD? **Please ✓ all that apply.**
- Never
 At job or task orientation
 At least annually (i.e., one or more times in 12 months)
 Other (Please specify): _____

- D22. Is **hydrogen peroxide** used to disinfect medical instruments via immersion processing techniques at this facility?
- Yes
 No  **Skip to Question D26.**
- D23. How many workers at this facility currently use **hydrogen peroxide** to disinfect medical instruments via immersion processing techniques?
- 1
 2-5
 6-10
 11-20
 > 20
- D24. Are there written standard procedures for the safe handling of hydrogen peroxide for disinfection at this facility?
- Yes
 No
- D25. When do workers who use **hydrogen peroxide** to disinfect medical instruments receive training from this employer which addresses the hazards and safe handling of this HLD? **Please ✓ all that apply.**
- Never
 At job orientation
 At least annually (i.e., one or more times in 12 months)
 Other (Please specify): _____

The next few questions refer to any of the four specific high level disinfectants (i.e., glutaraldehyde, ortho-phthalaldehyde, paracetic acid, and hydrogen peroxide) previously addressed in this module.

- D26. Have any equipment modifications or procedural changes been made for the primary purpose of reducing worker exposure to high level disinfectants?
- Yes
 No  **Skip to Question D27.**
- D26A. What was the nature of these equipment modifications or procedural changes? **Please ✓ all that apply.**
- Use of automated, enclosed disinfection systems which are ventilated
 Use of covered or ventilated disinfection trays/bins
 Centralize high level disinfectants stations into fewer locations
 Use of a closed system for transferring high level disinfectants
 Other (Please specify): _____

D27. Please check the types of personal protective equipment/clothing that **are required** for workers potentially exposed to high level disinfectants in this facility. Please answer for the following four high level disinfectants and for each of the types of PPE. *(Check the boxes in part "a" if the particular product is not used, and check the boxes in part "b" if no personal protective equipment is required for employees working with a particular disinfectant.)*

Personal Protective Equipment (PPE) Type	Glutaraldehyde for disinfection	Ortho-phthalaldehyde for disinfection	Peracetic acid for disinfection	Hydrogen peroxide for disinfection
a. This HLD is not used at this facility.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. None are required.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Protective gown or garment.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Protective gloves (non-fabric).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Eye protection (e.g., face shield, splash goggles, or safety glasses).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Elastomeric half-mask or full-facepiece respirator with replaceable cartridges.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Powered air purifying respirator (PAPR).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Other respirator (excluding surgical mask).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Other PPE (Please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D28. Are **glutaraldehyde**-containing solutions used for **tissue fixation** processes at this facility?

- Yes
- No



D29. How many workers at this facility currently use glutaraldehyde for **tissue fixation** processes?

- 1
- 2-5
- 6-10
- 11-20
- > 20

D30. Are **glutaraldehyde**-containing solutions used for **X-ray processing** at this facility?

Yes

No

Skip to Section E on Page 33.

D31. How many workers at this facility currently use glutaraldehyde for X-ray processing?

1

2-5

6-10

11-20

> 20

**Thank you for completing Section D.
Please continue to Section E: Chemical Sterilants on page 33.**

SECTION E: CHEMICAL STERILANTS

This section focuses only on **ethylene oxide and hydrogen peroxide gas plasma (e.g., the STERRAD® system)**. It excludes steam sterilizers and autoclaves. The focus of this section is on policies and procedures that apply to central processing employees or others who sterilize medical instruments or supplies using chemical sterilants.

- E1. Are chemical sterilants (either ethylene oxide or hydrogen peroxide gas plasma) used at this facility? Yes No  **Skip to Section F on Page 39.**
- E2. Are there written standard procedures (for the safe handling of chemical sterilants at this facility)? Yes No
- E3. When do workers who work with chemical sterilants receive training from this employer which addresses the hazards and safe handling of these materials? **Please ✓ all that apply.** Never At job or task orientation At least annually (i.e., one or more times in 12 months) Other (Please specify): _____

- E4. Does this facility currently use **ethylene oxide** to sterilize medical instruments or supplies? Yes No  **Skip to Question E14.**
- E5. During the **past week**, what was the approximate number of loads sterilized using ethylene oxide at this facility? 0 1-10 11-20 21-50 >50
- E6. How many workers at this facility currently sterilize medical instruments or supplies using ethylene oxide?
- | | 0 | 1 | 2-5 | 6-10 | 11-20 | > 20 |
|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Males..... | <input type="checkbox"/> |
| b. Females..... | <input type="checkbox"/> |

E7. Have air samples (personal samples or fixed location area samples) been collected in the past 12 months to assess worker exposure to ethylene oxide?

- Yes, only personal samples  **Skip to Question E9.**
- Yes, only fixed location monitors
- Yes, both personal samples and fixed location monitors
- No  **Skip to Question E8.**

E7A. Where are the fixed location monitors located? **Please ✓ all that apply.**

- Adjacent to sterilizer loading door
- In immediate area where in-service ethylene oxide tanks are located
- Other (Please specify): _____
- _____

E8. What are the reasons air samples **have not** been collected in the past 12 months to assess workers' exposure to ethylene oxide? **Please ✓ all that apply.**

1. Exposure to ethylene oxide is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
2. Exposure to ethylene oxide is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility
3. Not required by OSHA
4. Lack of appropriate sampling methods for ethylene oxide
5. Lack of health and safety personnel
6. Too costly
7. Other (Please specify): _____
- _____

E8A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** air samples **have not** been collected at this facility to assess workers' exposure to ethylene oxide.

Most important reason.....

E9. Is medical surveillance (such as medical questionnaire, physical exam, blood test) currently conducted for all workers who use **ethylene oxide** to disinfect medical instruments?

Yes
 No  **Skip to Question E12.**

E10. When are the following medical surveillance tests or exams provided to employees at this facility who are potentially exposed to **ethylene oxide**? Please **✓ all that apply or never**.

	Never	At pre- placement	Periodically	After an acute exposure (i.e., a release)	At job exit
a. Standardized medical questionnaire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Physical exam.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Blood tests.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E11. Are results of these tests provided to employees?

Yes } **Skip to Question E13.**
 No }

E12. What are the reasons medical surveillance is not currently conducted for all workers exposed to ethylene oxide at this facility? Please **✓ all that apply**.

1. Exposure to ethylene oxide is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings

2. Exposure to ethylene oxide is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility

3. Not required by OSHA

4. Lack of health and safety personnel

5. Too costly

6. Other (Please specify): _____

E12A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** medical surveillance **has not** been conducted for all workers' exposed to ethylene oxide at this facility.

Most important reason.....

- E13. Are any of the following engineering controls or work practices **required** when ethylene oxide is used for sterilization at this facility?
- | | Yes | No |
|--|--------------------------|--------------------------|
| a. Use a combination sterilizer/aerator unit (i.e., where manual transfer of load between sterilizer and aerator is unnecessary) | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Sterilizer located in a separately enclosed room | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Aerator located in a separately enclosed room | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Other (Please specify): _____ | <input type="checkbox"/> | <input type="checkbox"/> |
- E14. Does this facility currently use **hydrogen peroxide gas plasma (e.g. STERRAD[®] system)** to sterilize medical instruments or supplies?
- Yes
 No  **Skip to Question E20.**
- E15. During the **past week**, what was the approximate number of loads sterilized using hydrogen peroxide gas plasma at this facility?
- 0
 1-10
 11-20
 21-50
 >50
- E16. How many workers at this facility currently sterilize medical instruments or supplies using hydrogen peroxide gas plasma?
- 0
 1
 2-5
 6-10
 11-20
 > 20
- E17. Is the hydrogen peroxide gas plasma sterilizer(s) located in a separately enclosed room?
- Yes, in all areas
 Yes, in some areas
 No
- E18. Is hydrogen peroxide gas plasma (e.g., the STERRAD[®] system) used in place of ethylene oxide for chemical sterilization at this facility?
- Yes
 No  **Skip to Question E20.**

E19. What are the reasons you have chosen to use hydrogen peroxide gas plasma instead of ethylene oxide for chemical sterilization? **Please ✓ all that apply.**

1. Employee health and safety
 2. Reduced sterilization cycle time
 3. Reduced regulatory burden
 4. Recommendation from vendor
 5. Company mandate
 6. Cost factors
 7. Other (Please specify): _____

E19A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** that you have decided to use hydrogen peroxide gas plasma instead of ethylene oxide for chemical sterilization.

Most important reason.....

E20. Please check the types of personal protective equipment/clothing that **are required** for workers potentially exposed to chemical sterilants in this facility. Please answer this for the following two types of sterilants for each of the types of PPE.

Personal Protective Equipment (PPE) Type	Using ethylene oxide	Using hydrogen peroxide plasma
a. Sterilant not used at this facility	<input type="checkbox"/>	<input type="checkbox"/>
b. None are required (SKIP TO Question E21)	<input type="checkbox"/>	<input type="checkbox"/>
c. Single-use, disposable gown	<input type="checkbox"/>	<input type="checkbox"/>
d. Laundered protective garment (e.g., lab coat, scrubs, apron, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
e. Protective gloves, non fabric.....	<input type="checkbox"/>	<input type="checkbox"/>
f. Eye protection (e.g., face shield, splash goggles, or safety glasses).....	<input type="checkbox"/>	<input type="checkbox"/>
g. Respiratory protection (e.g., half or full face piece respirator with replaceable filters or cartridges, powered air-purifying respirator, or supplied air respirator—do not include surgical masks as respiratory protection).....	<input type="checkbox"/>	<input type="checkbox"/>
i. Other PPE (Please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>

- E21. Does this facility currently use gamma radiation to sterilize medical instruments/supplies? Yes
 No
- E22. How many workers at this facility currently sterilize medical instruments or supplies using gamma radiation? 0
 1
 2-5
 6-10
 11-20
 > 20

**Thank you for completing Section E.
Please continue to Section F: Waste Anesthetic Gases on page 39.**

SECTION F: WASTE ANESTHETIC GASES

This section focuses on the use and control of anesthetic gases. The focus is on policies and procedures that apply to employees working in areas such as operating rooms, PACU, emergency rooms, labor and delivery rooms, dental clinics and other areas where exposure to waste anesthetic gases is possible. Anesthetic gases include nitrous oxide, enflurane, desflurane, halothane, isoflurane, sevoflurane, and others.

F1. Are anesthetic gases used at this facility?

Yes

No

Skip to Section G on Page 44.

F2. Have any of the following anesthetic agents been used at this facility during the **past week** (i.e., the past 7 calendar days)?

Name of Anesthetic Agent:	Yes	No
a. Nitrous Oxide	<input type="checkbox"/>	<input type="checkbox"/>
b. Enflurane	<input type="checkbox"/>	<input type="checkbox"/>
c. Desflurane	<input type="checkbox"/>	<input type="checkbox"/>
d. Halothane	<input type="checkbox"/>	<input type="checkbox"/>
e. Isoflurane	<input type="checkbox"/>	<input type="checkbox"/>
f. Sevoflurane	<input type="checkbox"/>	<input type="checkbox"/>
g. Other (Please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>

F3. In the **past week**, what was the approximate amount of the following anesthetic agents used at this facility?

	Amount Used (in liters)			
	None	1-50	51-250	> 250
a. Nitrous Oxide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Enflurane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Desflurane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Halothane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Isoflurane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Sevoflurane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Other (Please specify): _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F4. What is the approximate number of male and female workers at this facility who routinely work in each of the following areas?

	Males	Females
a. Operating rooms or induction rooms.....	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40
b. Recovery areas, including the PACU and labor and delivery rooms	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40
c. Emergency rooms.....	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40
d. All other areas where anesthetic gases may be administered	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40

F5. Are there written standard procedures for the safe handling of anesthetic agents at this facility?

- Yes
 No

F6. When do workers with the following responsibilities receive training which addresses the safe handling of anesthetic agents? **Please ✓ all that apply.**

	Never	At job or task orientation	At least annually, i.e., one or more times every 12 months	Other (Please specify)
a. Administer anesthetic agents to patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____
b. Work in areas where exposure to waste anesthetic agents is possible (e.g., areas where agents are being administered or in post anesthesia care areas).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____

F7. Have air samples been collected in the past 12 months to assess worker exposure to any waste anesthetic gases at this facility?

Yes  **Skip to Question F9.**

No

F8. What are the reasons air samples **have not** been collected in the past 12 months at this facility to assess workers' exposure to any waste anesthetic gases? **Please ✓ all that apply.**

- 1. Exposure to waste anesthetic gases is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
- 2. Exposure to waste anesthetic gases is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility
- 3. Not required by OSHA
- 4. Unaware of appropriate sampling methods for waste anesthetic gases
- 5. Lack of health and safety personnel
- 6. Too costly
- 7. Other (Please specify): _____

F8A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** air samples **have not** been collected at this facility to assess workers' exposure to waste anesthetic gases

Most important reason

- F9. Is medical surveillance (such as medical questionnaire or physical exam) currently conducted for workers who perform the following activities involving waste anesthetic gases?
- | | Yes | No |
|---|--------------------------|--------------------------|
| a. Administering anesthetic gases..... | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Work in areas where exposure to waste anesthetic gases is possible | <input type="checkbox"/> | <input type="checkbox"/> |



If medical surveillance is not conducted on any employees with potential exposure to waste anesthetic gases, skip to Question F12.

- F10. When are the following medical surveillance tests or exams provided to employees potentially exposed to waste anesthetic gases?
Please ✓ all that apply.
- | | Never | At pre-
placement | Periodically | At job
exit |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Standardized medical questionnaire | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Physical exam | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Blood tests | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- F11. Are results of these tests provided to affected employees?
- Yes
 No



If medical surveillance is conducted for all workers potentially exposed to waste anesthetic gases, skip to Question F13.

- F12. What are the reasons medical surveillance is not currently conducted for workers exposed to waste anesthetic gases at this facility? **Please** ✓ **all that apply.**
- 1. Exposure to waste anesthetic gases is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
 - 2. Exposure to waste anesthetic gases is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility
 - 3. Not required by OSHA
 - 4. Lack of health and safety personnel
 - 5. Too costly
 - 6. Other (Please specify): _____

F12A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** medical surveillance **has not** been conducted for workers' exposed to waste anesthetic gases at this facility.

Most important reason

- F13. In this facility, is a gas scavenging system always **required** during administration of anesthetic gases?
- Yes
 - No

- F14. Please check the types of personal protective equipment/clothing that are required for workers potentially exposed to waste anesthetic gases at this facility. **Please** ✓ **all that apply.**
- None are required
 - Single-use disposable gown
 - Laundered protective garment (e.g., lab coat, scrubs, apron, etc.)
 - Protective gloves, non-fabric
 - Eye protection (e.g., face shield, splash goggles, or safety glasses)
 - Respiratory protection (e.g., half or full face-piece respirator with replaceable cartridges, powered air-purifying respirator, or supplied-air respirator-do not include surgical masks as respiratory protection)
 - Other PPE (Please specify): _____

Thank you for completing Section F.
Please continue to Section G: Surgical Smoke from Lasers or Electrosurgery Devices on page 44.

SECTION G: SURGICAL SMOKE FROM LASERS OR ELECTROSURGERY DEVICES

This section focuses on surgical smoke. Surgical smoke refers to emissions created by thermal destruction of tissue using lasers or electrosurgery devices. The focus is on policies and procedures applying to employees who work in operating rooms, emergency rooms, dermatology clinics, dental operatories or other areas where laser or electrosurgery devices are used.

- G1. Are lasers or electrosurgical devices used at this facility? Yes No  **Skip to Section H on Page 47.**
- G2. How many workers at this facility currently use lasers or electrosurgical devices in surgical procedures or work in proximity (i.e., within 5 feet) to where these devices are being used by others? 1 2-10 11-25 26-50 > 50
- G3. When do workers who use lasers or electrosurgery devices in surgical procedures receive training which addresses the hazards of surgical smoke? **Please ✓ all that apply.** Never At job or task orientation At least annually (i.e., one or more times every 12 months) Other (Please specify): _____

- G4. Have air samples been collected in the past 12 months to assess workers' exposure to surgical smoke? Yes No  **Skip to Question G6.**

- G5. What are the reasons air samples **have not** been collected in the past 12 months at this facility to assess workers' exposure to surgical smoke? **Please** ✓ **all that apply.**
- 1. Exposure to surgical smoke is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
 - 2. Exposure to surgical smoke is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility
 - 3. Not required by OSHA
 - 4. Unaware of appropriate sampling methods for surgical smoke
 - 5. Lack of health and safety personnel
 - 6. Too costly
 - 7. Other (Please specify): _____
- _____

G5A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** air samples **have not** been collected at this facility to assess workers' exposure to surgical smoke.

Most important reason.....

- G6. Is local exhaust ventilation (e.g., smoke evacuator/filtration device, room suction system) designed to remove the smoke plume at the surgical site required at this facility when lasers or electrosurgical devices are being used?
- Yes, always
 - Yes, sometimes
 - No 
- Skip To Question G9.

- G7. How often is the smoke evacuation system required to be inspected to prevent possible leaks?
- As determined by the operator
 - Before each procedure
 - Once a week
 - Once a month
 - Other (Please specify): _____
- _____

- G8. How often are new filters required to be installed in the smoke evacuation system?
- As determined by the operator
 - Per manufacturer's instructions
 - Before each procedure
 - Once a week
 - Once a month
 - Other (Please specify): _____

G9. Please check the type(s) of personal protective equipment/clothing that **are always required** for employees exposed to surgical smoke in this facility. *(This includes employees operating lasers or electrosurgery devices and all others working in the same room within 5 feet of the operation. Please do not include a surgical mask as respiratory protection.)*

	Yes	No
a. Personal protective equipment is not required.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Disposable particulate respirator (also called filtering face piece respirator, e.g., N95).....	<input type="checkbox"/>	<input type="checkbox"/>
c. Elastomeric half-mask or full-facepiece respirator with replaceable cartridges.....	<input type="checkbox"/>	<input type="checkbox"/>
d. Powered air purifying respirator (PAPR).....	<input type="checkbox"/>	<input type="checkbox"/>
e. Supplied air respirator.....	<input type="checkbox"/>	<input type="checkbox"/>
f. Other respirator (excluding surgical mask).....	<input type="checkbox"/>	<input type="checkbox"/>
g. Other PPE (Please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for completing Section G.
Please continue to Section H: Spill Response Teams and Housekeeping on page 47.

SECTION H: SPILL RESPONSE TEAMS AND HOUSEKEEPING

- H1. Are there special "spill teams" designated at this facility to respond to spills of hazardous materials?
- Yes
 No  **Skip to Section I on Page 49.**
- H2. Which of the following types of hazardous materials would be cleaned-up by specially-designated spill teams? **(Please ✓ all that apply).**
- Antineoplastic agents
 Other hazardous drugs including ribavirin, pentamidine, and tobramycin
 High level disinfectants such as glutaraldehyde, ortho-phthalaldehyde, peracetic acid, or hydrogen peroxide
 Chemical sterilants such as ethylene oxide or hydrogen peroxide
 Volatile anesthetic agents
 Other (Please specify): _____

- H3. Are there written standard procedures for the clean-up of spills of hazardous materials at this facility?
- Yes
 No
- H4. How many workers at this facility are currently assigned to the hazardous materials spill team(s)?
- 1
 2-5
 6-10
 11-20
 > 20
- H5. When do workers at this facility who clean-up spills of hazardous materials receive training on the hazards of the materials they may encounter? **Please ✓ all that apply.**
- Never  **Skip to Question H7.**
 At job orientation
 At least annually (i.e., one or more times every 12 months)
 Other (Please specify): _____

- H6 Which of the following elements are included in the training program for individuals assigned to the spill team? **Please ✓ all that apply.**
- Hazard assessment
 - Personal Protective Equipment selection
 - Emergency communication procedures
 - First aid procedures
 - Chemical neutralizing techniques
 - Proper clean-up procedures
 - Packaging for disposal
 - Critiquing of incidents
 - Other: Please specify: _____

- H7. Please check the types of personal protective equipment/clothing that **are required** for workers when cleaning up spills of hazardous materials at this facility. Please answer for the following four hazardous materials and for each of the types of PPE. *(Check the boxes in part "a" if the particular material is not cleaned-up by the spill team or not used at this facility, and check the boxes in part "b" if no personal protective equipment is required for employees cleaning-up a particular type of hazardous material.)*

Personal Protective Equipment (PPE) Type	Hazardous drugs including antineoplastic agents and aerosolized medications	High Level Disinfectants	Chemical sterilants	Volatile anesthetic agents
a. This material is not used at this facility.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. None are required.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Water resistant gown or garment.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Water resistant gloves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Eye protection (e.g., face shield, splash goggles, or safety glasses)...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Elastomeric half-mask or full-facepiece respirator with replaceable cartridges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Powered air purifying respirator (PAPR).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Other respirator (excluding surgical mask).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Other PPE (Please specify):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Thank you for completing Section H.
Please continue to Section I: Closing on page 49.**

SECTION I: CLOSING

11. Please select the positions or titles of the people who have worked on responding to this questionnaire. **Please ✓ all that apply.**

- Pharmacy Manager
- Operating Room Director
- Health and Safety Director
- Medical Director
- Director of Nursing
- Human Resource manager
- Other (Please specify): _____

12. What is the name, title, and telephone number of the individual who coordinated the completion of this survey?

Name: _____

Title: _____

Telephone Number: _____

Thank you.

Appendix B
Employee Questionnaire

HEALTH AND SAFETY HAZARD CONCERNS

1. Please indicate the level to which you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. The health and safety of workers is a major priority with top management at this facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I feel safe from work-related injury or illness in my current work environment.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I usually have enough time to take safety precautions while completing my duties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I feel free to express my concerns about health and safety conditions to management.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Proper personal protective equipment is made readily available by my employer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. I know how to reduce the risk of accidents and incidents in the workplace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. I am often required to do a task that makes me feel like I might be at risk of getting hurt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. People working in my department or unit are frequently exposed to dangerous or risky situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Employees have sufficient access to workplace health and safety training programs.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. The safety procedures and practices in this organization are useful and effective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Managers and supervisors set proper examples by following safety rules and work practices.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. I know how to use safety equipment and standard work procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Work areas are periodically inspected to identify potential health and safety hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
n. Unsafe working conditions are corrected in a reasonable time period	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. I have received adequate training from my current employer to recognize health and safety hazards in my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. I have been trained by my current employer in how to recognize and deal with potential incidents of workplace violence.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. I could talk to my employer if I had a problem with violence or aggression in my workplace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r. My work area is adequately staffed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. I can report injuries to my manager without worrying about how it will affect my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. I can report injuries to my manager without worrying about how it will affect my department's safety record.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
u. I worry about reporting injuries to my manager because I may have to take a drug test.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Please estimate the level of risk (where "1" is no risk and "5" is high risk) to **you** from the following health and safety hazards specifically as they relate to your **job** or workplace.

	No Risk				High Risk
	1	2	3	4	5
a. Chemical agents in general (e.g., acids, caustics, solvents).....	<input type="checkbox"/>				
b. Anesthetic gases	<input type="checkbox"/>				
c. Hazardous drugs (including antineoplastic agents).....	<input type="checkbox"/>				
d. High level disinfectants (e.g., glutaraldehyde)	<input type="checkbox"/>				
e. Sterilants (e.g., ethylene oxide, hydrogen peroxide).....	<input type="checkbox"/>				
f. Ionizing radiation (e.g., X-rays, gamma rays, etc.)	<input type="checkbox"/>				

	No Risk				High Risk
	1	2	3	4	5
g. Machine safety hazards (e.g., exposed moving parts, etc.).....	<input type="checkbox"/>				
h. Non-ionizing radiation (e.g., UV, microwaves, radio-frequency, magnetic/electric fields, etc.)	<input type="checkbox"/>				
i. Smoke from lasers and electrosurgery devices.....	<input type="checkbox"/>				
j. Infectious disease agents (e.g., tuberculosis)	<input type="checkbox"/>				
k. Blood-borne pathogens (e.g., HIV or hepatitis).....	<input type="checkbox"/>				
l. Latex allergens (e.g., from gloves)	<input type="checkbox"/>				
m. Needlesticks and other sharps	<input type="checkbox"/>				
n. Temperature extremes	<input type="checkbox"/>				
o. Noise level	<input type="checkbox"/>				
p. Poor indoor air quality (e.g., molds, cigarette smoke, vehicle exhaust, etc.)	<input type="checkbox"/>				
q. Workplace stress	<input type="checkbox"/>				
r. Repetitive hand, wrist, arm or shoulder motions	<input type="checkbox"/>				
s. Slips, trips, and falls.....	<input type="checkbox"/>				
t. Prolonged standing.....	<input type="checkbox"/>				
u. Lifting/repositioning heavy objects (including patients)	<input type="checkbox"/>				
v. Violence at work (e.g., assaults, threats, etc.).....	<input type="checkbox"/>				
w. Acts of bioterrorism at work	<input type="checkbox"/>				
x. Other health and safety issues (Please specify)	<input type="checkbox"/>				
Specify: _____					

JOB AND FACILITY DESCRIPTION

3. Which of the following best describes your current occupation? Please ✓ only one.

Health Services**Dentists:**

- General Dentist
 Oral or Maxillofacial Surgeon
 Orthodontist
 Prosthodontist
 Other (Specify): _____

Dietitians and Nutritionists

- Dietician
 Nutritionist
 Other (Specify): _____

Special Practitioners

- Chiropractor
 Optometrist
 Pharmacist
 Physician Assistant
 Podiatrist
 Other (Specify): _____

Physicians and Surgeons

- Anesthesiologist
 Family or General Practitioner
 Internist
 Obstetrician/Gynecologist
 Pediatrician
 Psychiatrist
 Surgeon
 Other (Specify): _____

Nurses

- Registered Nurse
 Licensed Practical Nurse
 Nurse Practitioner
 Other (Specify): _____

Nurse Support Staff

- Home Health Aide
 Nurses' Aide
 Orderly/Attendant
 Psychiatric Aide
 Other (Specify): _____

Therapists

- Audiologist
 Occupational Therapist
 Physical Therapist
 Radiation Therapist
 Recreational Therapist
 Respiratory Therapist
 Speech-Language Pathologist
 Other (Specify): _____

Health Technologists & Technicians

- Dental Assistant
 Dental Hygienist
 Medical Assistant
 Medical and Clinical Laboratory Technician
 Medical and Clinical Laboratory Technologist
 Other (Specify): _____

Technologists and Technicians

- Anesthesia Technician
 Cardiovascular Technologist or Technician
 Central Processing Technician
 Dental Technician
 Dietetic Technician
 Emergency Medical Technician
 Medical Records and Health Information Technician
 Medical Sonographer
 Nuclear Medical Technologist
 Occupational Health and Safety Specialist
 Optician
 Orthotist
 Paramedic
 Pharmacy Technician
 Prosthetist
 Psychiatric Technician

- Radiologic Technologist or Technician
 Respiratory Therapy Technician
 Surgical Technologist
 Other (Specify): _____

Support Services**Administration:**

- Administrator
 Clerical
 Human resources
 Legal
 Security
 Other (Specify): _____

Cleaning and Maintenance

- Building Engineer/Mechanical Systems Technician
 First Line Supervisor/Manager of House-keeping/Janitorial Workers
 Housekeeper
 Janitor
 Landscaping/Grounds-keeping Worker
 Pest Control Worker
 Other, (Specify): _____

Food Preparation and Serving

- Chef or Head Cook
 Cook
 Dishwasher
 Fast Food/Counter Worker
 First Line Supervisor/Manager
 Food Preparation Worker
 Other (Specify): _____

4. How long have you worked in this occupation **over your entire career** (including other facilities)?
- Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years
5. How long have you worked at this facility?
- Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

Please continue on next page.

6. In which department(s) or specialty area(s) did you spend any substantial amount of time working (i.e., greater than 60 minutes) during the **past week** (i.e., 7 calendar days) at this facility? **Please ✓ all that apply.**

ADMINISTRATIVE:	HEALTHCARE:	
<input type="checkbox"/> 1. Administration <input type="checkbox"/> 2. Engineering Services <input type="checkbox"/> 3. Food Service <input type="checkbox"/> 4. Housekeeping <input type="checkbox"/> 5. Human Resources <input type="checkbox"/> 6. Laundry Service <input type="checkbox"/> 7. Security <input type="checkbox"/> 8. Safety and Health <input type="checkbox"/> 9. Supply/Distribution	<input type="checkbox"/> 10. Adult Primary Care <input type="checkbox"/> 11. Anesthesiology <input type="checkbox"/> 12. Audiology <input type="checkbox"/> 13. Cardiology <input type="checkbox"/> 14. Central Processing <input type="checkbox"/> 15. Dental Services <input type="checkbox"/> 16. Dermatology <input type="checkbox"/> 17. Ear, Nose & Throat <input type="checkbox"/> 18. Emergency <input type="checkbox"/> 19. Endocrinology <input type="checkbox"/> 20. Family Practice <input type="checkbox"/> 21. Gastroenterology <input type="checkbox"/> 22. Geriatrics <input type="checkbox"/> 23. Hematology <input type="checkbox"/> 24. HIV/AIDS Clinic <input type="checkbox"/> 25. Home Healthcare <input type="checkbox"/> 26. Hospice Care <input type="checkbox"/> 27. Immunology <input type="checkbox"/> 28. Infectious Disease <input type="checkbox"/> 29. Infusion Therapy <input type="checkbox"/> 30. Intensive Care <input type="checkbox"/> 31. Laboratory <input type="checkbox"/> 32. Long-term care Mental Health	<input type="checkbox"/> 33. Nephrology <input type="checkbox"/> 34. Neurology <input type="checkbox"/> 35. Nuclear Medicine <input type="checkbox"/> 36. Nutrition <input type="checkbox"/> 37. Obstetrics/Gynecology <input type="checkbox"/> 38. Occupational Medicine <input type="checkbox"/> 39. Oncology <input type="checkbox"/> 40. Ophthalmology <input type="checkbox"/> 41. Optometry <input type="checkbox"/> 42. Orthopedics/Sports Medicine <input type="checkbox"/> 43. Pathology <input type="checkbox"/> 44. Pediatrics <input type="checkbox"/> 45. Pharmacy <input type="checkbox"/> 46. Physical/Occupational Therapy <input type="checkbox"/> 47. Psychiatry <input type="checkbox"/> 48. Podiatry <input type="checkbox"/> 49. Post Anesthesia Care Unit <input type="checkbox"/> 50. Pulmonary <input type="checkbox"/> 51. Radiology <input type="checkbox"/> 52. Research <input type="checkbox"/> 53. Respiratory Care <input type="checkbox"/> 54. Rheumatology <input type="checkbox"/> 55. Sleep Disorders <input type="checkbox"/> 56. Social Work <input type="checkbox"/> 57. Surgery <input type="checkbox"/> 58. Urology <input type="checkbox"/> 59. Other (Specify): _____ _____

6A. From the department(s) and specialty area(s) checked above, please write the number (1, 2, 3, etc.) of the department or specialty area in which you spent **most of the time** during the **past week**. Most time.....

7. Which of the following best describes your **current** employment status?
- Full-time employee of this facility (35 or more hours per week)
 - Part-time employee of this facility (less than 35 hours per week)
 - Per diem employee of this facility
 - Work for a professional services agency providing services to this facility
 - Work for a temporary job agency
 - Work for a company contracted by this facility
 - Student, volunteer or other non-paid employee
 - Other (Please specify): _____

8. Are you currently employed by this facility on a permanent or temporary basis? (A *temporary basis* is employment for a **specific project** or for a **specified period of time**.)
- Permanent basis
 - Temporary basis
9. Do you currently supervise other employees? (For the purpose of this question, a supervisor is someone who directs others' activities and performs such duties as conducting performance evaluations, approving leave requests, etc.)
- Yes
 - No  Skip to Question 11.
10. How many people do you directly supervise?
- 1 employee
 - 2-5 employees
 - 6-10 employees
 - 11-25 employees
 - More than 25 employees
11. Do you currently provide direct patient care?
- Yes, less than 50% of the time
 - Yes, 50% of the time or more
 - No

12. Which of the following descriptions comes closest to describing your **current** work shift in the past week (7 calendar days)?
Please ✓ only one.
- Day only
- Evening/swing only
- Nights only
- A mix of day, evening or night shifts
- Split shift
- Other (Please specify): _____
-
13. In the past week (7 calendar days), how many days did you work at this facility?
- Number of days worked
- (Please write a number from 0-7)
14. During the past week (7 calendar days), how many total hours were you scheduled to work?
- Number of total hours scheduled
15. During the past week (7 calendar days), how many hours did you actually work?
- Number of hours actually worked.....
16. During the past week, were you paid overtime?
- Yes
- No
17. Compared to most weeks, was the past week a typical work week in terms of total hours worked?
- Yes, the past week was typical
- No, I worked more hours in the past week
- No, I worked fewer hours in the past week
18. Were you ever “on call” whether or not you were actually called during the past week?
- Yes
- No  **Skip to Question 20.**
19. How many days were you “on call” during the past week?
- Number of days “on call”
- (Please write a number from 1-7)
20. How many hours in the past week did you work on any **other** paid job? (*Do not include hours worked at this facility*)
- Number of hours
- Did not have another paid job

JOB DEMANDS

21. Now we would like to know more about your current job in this health care facility. Please tell us your general level of agreement with each of the following statements as they describe your current job.

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. My job requires that I learn new things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. My job involves a lot of repetitive work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. My job requires me to be creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. My job requires a high level of skill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I get to do a variety of different things on my job.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. I have an opportunity to develop my own special abilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. My job allows me to make a lot of decisions on my own.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. On my job, I have very little freedom to decide how I do my work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. I have a lot of say about what happens on my job.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. My job requires working very fast.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. My job requires working very hard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. I am not asked to do an excessive amount of work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. I have enough time to get the job done	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Some demands I face at work are in conflict with other demands at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. My job requires a great deal of concentration.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. My supervisor is concerned about the welfare of those under his or her supervision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. My supervisor pays attention to what I am saying.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r. My supervisor is helpful in getting the job done	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. My supervisor is successful in getting people to work together.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. People I work with are competent in doing their jobs.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
u. People I work with take a personal interest in me.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. People I work with are friendly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
w. People I work with are helpful in getting the job done	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
22. I have a lot of say about...				
a. Whether or not I work overtime	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Whether I work day, afternoon, or evening shifts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Whether or not I work weekends.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. At what time of the day I take a break.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. When I take leave or vacation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
23. Please indicate the level to which you agree or disagree with the following statements.				
a. Over the past few years my job has become more and more demanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I experience adequate support in difficult situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I am treated unfairly at work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I have good opportunities for promotion, increase in income, or professional development.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I have experienced or I expect to experience an undesirable change in my work situation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. My job security is good.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. My current occupational position adequately reflects my education and training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Considering all my efforts and achievements, I receive the respect that I deserve at work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Considering all my efforts and achievements, my salary/income is adequate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- | | | Strongly
Disagree | Disagree | Agree | Strongly
Agree |
|-----|--|--|--------------------------|--------------------------|--------------------------|
| 24. | Please indicate the level to which you agree or disagree with the following statements. | | | | |
| | a. After work I come home too tired to do some of the things I'd like to do..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | b. On the job, I have so much work to do that it takes away from my personal interests..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | c. My family and/or friends dislike how often I am preoccupied with my work while I am at home..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | d. My work takes up time that I'd like to spend with family/friends..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. | How do your skills and training compare with the tasks you are asked to perform on your job? | <input type="checkbox"/> I am asked to do more than I am trained for
<input type="checkbox"/> My tasks are a good match for my skills and training
<input type="checkbox"/> My skills and training are more than I can use in my job | | | |
| 26. | How much stress would you say you experienced at work this past week? | <input type="checkbox"/> Almost no stress at all
<input type="checkbox"/> A moderate amount of stress
<input type="checkbox"/> A lot of stress | | | |
| 27. | How likely is it that you will make a genuine effort to find a new job (with another employer) within the next year? | <input type="checkbox"/> Not at all likely
<input type="checkbox"/> Somewhat likely
<input type="checkbox"/> Very likely | | | |
| 28. | If a good friend of yours said that he or she was interested in working in a job like yours for your same employer what would you say? | <input type="checkbox"/> I would recommend this job
<input type="checkbox"/> I would have doubts about recommending this job
<input type="checkbox"/> I would advise my friend against taking this job | | | |

SAFE NEEDLE DEVICES AND NEEDLESTICK INJURIES

29. Do you use or handle syringes, scalpels, or other sharp instruments which may puncture your skin when performing your job at this facility?
- Yes
 No  **Skip to pg. 14, Violence in the Workplace.**
30. Do you perform injections, IV insertions, or phlebotomy in performing your job at this facility?
- Yes
 No  **Skip to Question 34.**
31. When performing injections, IV insertions, or phlebotomy, do you ever use safe needle devices?
- Yes
 No  **Skip to Question 33.**
32. How often do you use safe needle devices when performing injections, IV insertions, or phlebotomy? **Please ✓ only one.**
- Occasionally
 Frequently
 Usually
 Always  **Skip to Question 34.**
33. What are the reasons you do not always use safe needle devices? **Please ✓ all that apply.**
- Potential for exposure to hazards is insignificant
 Exposure is possible but the health hazard is insignificant
 Not required by employer
 Not provided by employer
 Too time consuming
 Too awkward or difficult to use
 Too uncomfortable
 Not readily available in work area
 Device not commercially available
 Other (Please specify): _____
-

34. Over the past 12 months, how many needlestick or other sharps-related injuries (i.e., punctured your skin with a **non-sterile needle** device or sharp) did you **receive** while working at this facility?
- 0  **Skip to p. 14, Violence in the Workplace.**
 1
 2
 3
 4
 5
 More than 5
35. Over the past 12 months, how many needlestick or other sharps-related injuries (i.e., punctured your skin with a **non-sterile needle** device or sharp) did you **report** to your employer at this facility (i.e., to employee health, your supervisor, or someone else in authority at work)?
- All  **Skip to p. 14, Violence in the Workplace.**
 Some, but not all
 None
36. For your most recent needlestick injury that you **did not** report, please select the reasons which best describe why you did not file a report? **Please ✓ all that apply.**
1. I did not think the injury was significant enough to report
 2. I was too busy and did not have time to report the injury
 3. I was concerned about being blamed for unsafe work practices
 4. There was no one to cover my job while I went to report the injury
 5. There are no procedures at work for reporting needlestick injuries
 6. Other (Please specify): _____

- 36A. From the all the reasons checked above, please write the **number** (1, 2, 3, etc.) corresponding to the one most important reason you did not report your most recent needlestick injury.
- Most important reason

VIOLENCE IN THE WORKPLACE

The next few questions describe events which may occur from many sources at work, including **patients, family members, visitors, coworkers** or **supervisors**. For each item please indicate how often you have experienced the events **at work** during **the past year**.

In the past 12 months, how many times...	Never	1 time	2-3 times	4 or more times
37. Have you been hit, kicked, grabbed, shoved, bitten, or had an object thrown at you while you've been at work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. Have you witnessed another person being hit, kicked, grabbed, shoved, bitten, or having an object thrown at them while you've been at work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. Have you been threatened with physical violence or with a weapon (like a gun, knife, club, sharp object) while you've been at work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. Have you been shouted at, sworn at, called names, or verbally confronted while you've been at work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. Have you been fearful that someone in your current workplace would physically harm you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. Have you reported an incident of violence to your employer at this facility?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please continue on next page.

PHYSICAL DEMANDS/ERGONOMIC ISSUES

43. Please tell us your general level of agreement with the following statements:	Strongly Disagree	Disagree	Agree	Strongly Agree
a. My job requires lots of physical effort.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I am often required to move or lift very heavy loads (objects or people) on my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. My work requires rapid and continuous physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I am often required to work for long periods with my body in physically awkward positions.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I am often required to work for long periods with my head or arms in physically awkward positions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. I am often required to repeatedly reach above chest height.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. My work requires repeated and strenuous pushing, pulling, or bending	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. I am often required to squat or kneel to do my job.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. I am often required to bend or twist my wrists to do my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. I am often required to use a lot of force with my fingers to do my job.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. I am often required to make repeated precision movements with my fingers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. I am often required to work continuously for long periods at a computer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

44. During the past week (7 calendar days), how many times did you lift or move **patients** weighing 50 lbs or more?

- 0  **Skip to Question 46.**
- 1-5 times
- 6-10 times
- 11-20 times
- 21-50 times
- More than 50 times

45. In the past week, how often did you use any of the following when lifting or moving **patients** weighing 50 lbs or more? (Check "Not Available" to indicate that the specified device or team was not available at your work facility.)

	Never	Rarely	About half the time	Most of the time	All of the time	Not Available
a. Lift or move by hand (unassisted).....	<input type="checkbox"/>					
b. Mechanical lifting devices (e.g., Hoyer™ lift).....	<input type="checkbox"/>					
c. Slip or friction reduction sheets.....	<input type="checkbox"/>					
d. Gait belts (also called transfer belts).....	<input type="checkbox"/>					
e. Back belts.....	<input type="checkbox"/>					
f. Lifting assistance from one or more co-workers (including designated lift teams).....	<input type="checkbox"/>					
g. Roller boards.....	<input type="checkbox"/>					
h. Any other assistive device (Please specify).....	<input type="checkbox"/>					
Specify: _____						

46. During the past week, how many times did you lift or move **objects**, other than patients, weighing 50 lbs or more?

- 0
- 1-5 times
- 6-10 times
- 11-20 times
- 21-50 times
- More than 50 times

Skip to Question 48.

47. In the past week, how often did you use any of the following when lifting or moving **objects**, other than patients, weighing 50 lbs or more? (Check "Not Available" to indicate that the specified device or team was not available at your work facility.)

	Never	Occasionally	Frequently	Usually	Always	Not Available
a. Lift or move by hand	<input type="checkbox"/>					
b. Mechanical lifting devices (e.g., winch, dolly, forklift, etc.).....	<input type="checkbox"/>					
c. Back belts	<input type="checkbox"/>					
d. Lifting assistance from one or more co-workers....	<input type="checkbox"/>					
e. Any other assistive device (Please specify)	<input type="checkbox"/>					

Specify: _____

48. Has your employer evaluated your job or workstation for ergonomic hazards in the past year?
- Yes
- No
- Don't know

Please continue on next page.

PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING

49. Which of the following personal protective devices or equipment are you **required by your employer to wear** on your job? Please ✓ **all that apply**.

- None
- Respirators (does not include surgical mask)
- Eye protection (e.g., safety glasses, goggles, etc.)
- Face protection (e.g., face shield, welding helmets, etc.)
- Foot protection (e.g., steel toed shoes, chemical resistant boots, etc.)
- Protective clothing which is reusable (e.g., aprons, lab coats, scrubs, etc.)
- Protective clothing which is disposable (e.g., isolation gowns, coveralls, etc.)
- Ear protection (ear plugs or muffs)
- Hand protection (e.g., gloves, hand pads, barrier creams, etc.)
- Knee protectors
- Back belts or lumbar support
- Other (Please specify): _____

Please continue on next page.

50. On which of the following personal protective devices has your employer provided training to you in the proper selection, use, care, maintenance and replacement? **Please** ✓ **all that apply.**
- None
 - Respirators (does not include surgical mask)
 - Eye protection (e.g., safety glasses, goggles, face shield, etc.)
 - Face protection (e.g., face shield, welding helmets, etc.)
 - Foot protection (e.g., steel toed shoes, chemical resistant boots, etc.)
 - Protective clothing which is reusable (e.g., aprons, lab coats, scrubs, etc.)
 - Protective clothing which is disposable (e.g., isolation gowns, coveralls, etc.)
 - Ear protection (ear plugs or muffs)
 - Hand protection (e.g., gloves, hand pads, barrier creams, etc.)
 - Knee protectors
 - Back belts or lumbar support
 - Other (Please specify): _____

51. Have you been fit-tested for the respirator you wear on your present job?
- Yes, I have been fit-tested
 - No, I wear a respirator on my present job but I have not been fit-tested
 - Not Applicable, I do not wear a respirator on my present job
52. During the past week, did you wear natural rubber latex gloves while at work? **Please** ✓ **all that apply.**
- Yes, powder-free
 - Yes, powdered
 - Yes, don't know if powdered or powder-free
 - No
53. During your work at this facility have you ever participated in a medical surveillance program (which may include a medical questionnaire, physical examination, blood tests, and/or urine test)?
- Yes
 - No  **Skip to Question 56.**

54. When are you provided with the following medical surveillance tests or exams?

Please ✓ all that apply.

	Never	At pre- placement	Periodically	At job exit
a. Standardized medical questionnaire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Physical exam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Blood test	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Urine test.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

55. Have the results of these tests been provided to you?

Yes

No

DEMOGRAPHICS

56. Are you male or female?

Male

Female

57. Which of the following categories describes your race? **Please ✓ all that apply.**

White

Black or African American

Asian

Native Hawaiian or other Pacific Islander

American Indian or Alaskan Native

Other (Please specify): _____

58. Do you consider yourself Latino or of Hispanic origin or descent?

Yes, I am Latino/Hispanic/Spanish

No, not Latino/Hispanic/Spanish

59. In what year were you born?

Year you were born.....19

60. Were you born in this country (USA)?

Yes, born in USA

Skip to Question 62.

No, not born in USA

61. In what year did you first come to the USA?

Year you first came to USA.....

62. What was your first language as a child?
- English
- Another language (Please specify): _____
63. What language do you speak most at home now?
- English
- Another language (Please specify): _____
64. What is the highest education level you have completed?
- Less than grade 12
- Grade 12 (high school grad) or GED
- Vocational certificate
- Associate's degree
- College graduate (Baccalaureate degree)
- Master's degree
- Doctoral or professional degree (MD, DDS, PhD, etc.)

Please continue on next page.

In the following section, we ask a few questions regarding specific tasks you might perform **on your current job**. Your answers to these questions will determine whether additional sections of the survey apply to you.

65. In your **current** job, do you administer ribavirin (Virazole), pentamidine (Nebupent) or tobramycin (Nebcin, "tobi") in an aerosolized form? Yes No  Please complete Module A
66. In your **current** job, do you prepare or mix antineoplastic agents in a pharmacy or pharmacy-like setting? (Other terms used for antineoplastic agents include antineoplastic drugs, cytotoxic drugs and anticancer drugs.) Yes No  Please complete Module B
67. In your **current** job, do you administer antineoplastic agents to patients? (Other terms used for antineoplastic agents include antineoplastic drugs, cytotoxic drugs and anticancer drugs.) Yes No  Please complete Module C
68. In your **current** job, do you chemically sterilize medical devices, instruments, or supplies using ethylene oxide or hydrogen peroxide plasma? Yes No  Please complete Module D
69. In your **current** job, do you use high level disinfectants containing **glutaraldehyde** (e.g., Cidex[®], ColdSport[®], Endocide[®], Glutacide[®], Hospex[®], Metricide[®], Sporicidin[®], Wavicide[®]), **ortho-phthalaldehyde** (e.g., Cidex OPA[®]), **peracetic acid** (e.g., Steris[®] system), or **hydrogen peroxide** (e.g., Accell[®], Optim[®]) to disinfect medical instruments, devices or supplies (such as endoscopes, thermometers or other items which cannot be sterilized) by either manual or automatic methods? Yes No  Please complete Module E
70. In your **current** job, do you work in areas where lasers or electro-surgical devices are being used for surgical procedures? Yes No  Please complete Module F
71. In your **current** job, do you **administer** anesthetics as a gas? Yes No  Please complete Module G

72. In your **current** job, do you work in areas where anesthetic gases are being administered?

- Yes
 No



**Please complete
Module H**

73. In your **current** job, do you work in a Post Anesthesia Care Unit (PACU) or Surgical Recovery Unit (SRU)?

- Yes
 No



**Please complete
Module I**

74. In your **current** job, do your primary duties involve:

- Cleaning floors, countertops, sinks, toilets, etc.,
- Handling soiled linens, or bedpans,
- Cleaning up spills of anti-cancer drugs, chemicals, or cleaning products, and/or
- Emptying/cleaning containers or trash bins that have items contaminated with blood, urine, feces, vomit, anti-cancer drugs, or chemicals in them?

- Yes
 No



**Please complete
Module J**

Thank you for completing the core module. Please review the boxes above to determine which, if any, additional modules you may need to complete. If your survey packet is missing any of the applicable modules, please call our toll-free number at 1-866-215-6616 to request them, and they will be mailed to you. We are open from 7:00 a.m. to 8:00 p.m. PST Monday through Friday, and from 10:00 a.m. to 6:00 p.m. PST on the weekend. A staff member will be happy to assist you.

RESPONDENT FEEDBACK SECTION

Please take a few moments to answer the following questions regarding your experience with this survey. We appreciate your cooperation.

75. How long did it take you to complete the core section of the survey?

Please ✓ only one answer.

- Less than 10 minutes
 11-20 minutes
 21 – 30 minutes
 31 – 45 minutes
 More than 45 minutes

76. How did you learn about the survey?
Please ✓ all that apply.
- I received a letter
 - I received an email message
 - A co-worker told me about the survey
 - A supervisor or manager told me about the survey
 - I read a flyer or poster about the survey
 - Other (Please specify): _____
-
77. Where did you complete the survey?
Please ✓ all that apply.
- Work
 - Home
 - Other (Please specify): _____
-
78. Why did you choose to complete the paper version of the survey rather than the web version? Please ✓ all that apply.
- 1. I don't have access to a computer
 - 2. I don't have access to the internet
 - 3. I feel more comfortable completing the paper version
 - 4. I was concerned about the privacy/security of the web version
 - 5. The paper version was more convenient
 - 6. I didn't know a web survey was available
 - 7. Other (Please specify): _____
-
- 78A. From the reason(s) checked above, please write the number of the most important reason you chose to complete the paper survey rather than the web version.
- Most important reason.....
79. Would you ever consider completing a web version of this type of survey in the future?
- Yes
 - No
 - Possibly

80. Please use the space below to record any other comments you have about the survey.

**Thank you for your time and contribution to the National Exposures at Work Survey.
Please continue to the appropriate hazard module, if applicable.**

MODULE**A**

This module is directed toward respiratory therapists, or others who administer ribavirin (Virazole), pentamidine (Nebupent) or tobramycin (Nebcin, "tobi") in an aerosolized form.

1. During your career (including all jobs at this and other facilities), how long have you been administering aerosolized ribavirin, pentamidine or tobramycin?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received training on procedures for the safe handling of aerosolized medications at this facility? **Please ✓ all that apply.**
 - At time hired at this facility
 - During orientation for your current job or task
 - At least annually (i.e., one or more times every 12 months)
 - Other (Please specify): _____
 - Never received training

3. Have you seen written policies or standard procedures for administering aerosolized medications at this facility?
 - Yes
 - No

4. Do you ever wear or take home any clothing (protective clothing or street clothes) which were worn when administering ribavirin, pentamidine or tobramycin at this facility?
 - Yes
 - No

The term "past week" in the following questions refers to the past 7 calendar days.

5. At any time in the **past week** (7 calendar days) did you administer aerosolized ribavirin, pentamidine or tobramycin?
 - Yes
 - No 

Thank you for completing this module.

6. At any time in the **past week** (7 calendar days) did you administer **aerosolized ribavirin (Virazole)**?
 - Yes
 - No 

Skip to Question 14.

7. During the past week, how many days did you administer aerosolized ribavirin? Number of days.....
(Please write a number from 1-7)
8. During the past week, how much time did you typically spend **within 5 feet** of a patient during a single administration of ribavirin? *(Include only the time you spent actually handling ribavirin, were present in the area during administration, and in clean-up. Do **not** include set-up time or time the patient was receiving the drug while you were not present.)*
- Less than 5 minutes
 5-9 minutes
 10-14 minutes
 15-19 minutes
 20-24 minutes
 More than 24 minutes
9. During the past week, what was the total number of times you administered aerosolized ribavirin? *(If you administered ribavirin several times to the same patient, count each administration separately.)*
- 1 time
 2-3 times
 4-5 times
 6-10 times
 More than 10 times
10. How does the total amount of time you administered aerosolized ribavirin during the past week compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal
11. During the past week, in which of the following areas did you **ever** administer aerosolized ribavirin? **Please all that apply.**
- a Patient's hospital room
 b. Clinic/department treatment room or area
 c. Patient's home
 d. Some other location (Please specify):

- 11A. From the location(s) checked above, please write the **letter** (a, b, c, or d) corresponding to the area where you most often administered aerosolized ribavirin during the past week. Area most often administered.....

12. During the past week, how often did you administer aerosolized ribavirin...

	Always	Sometimes	Never
a. Inside a fully enclosed and sealed treatment chamber or booth?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Inside a partially enclosed treatment hood or tent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. When no type of enclosure was being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. During the past week when you administered aerosolized ribavirin, how often did you...

	Always	Sometimes	Never
a. Inspect the aerosol generator for leaks or worn parts prior to use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Use a nebulizer with an automatic shutoff valve?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Administer the medication in an isolation room under negative pressure (i.e., where air flows into the room from adjacent areas)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. At any time in the **past week** (7 calendar days) did you administer **aerosolized pentamidine (Nebupent)**?

Yes
 No  **Skip to Question 22.**

15. During the past week (7 calendar days), how many days did you administer aerosolized pentamidine?

Number of days:.....
 (Please write a number from 1-7)

16. During the past week, how much time did you typically spend **within 5 feet** of a patient during a single administration of pentamidine? *(Include only the time you spent actually handling pentamidine, were present in the area during administration, and in clean-up. Do **not** include set-up time or time the patient was receiving the drug while you were not present.)*

Less than 5 minutes
 5-9 minutes
 10-14 minutes
 15-19 minutes
 20-24 minutes
 More than 24 minutes

17. During the past week, what was the total number of times you administered aerosolized pentamidine? *(If you administered pentamidine several times to the same patient, count each administration separately.)*
- 1 time
 - 2-3 times
 - 4-5 times
 - 6-10 times
 - More than 10 times
18. How does the amount of time you administered aerosolized pentamidine during the past week compare with most weeks?
- Past week was about normal
 - Past week was less than normal
 - Past week was greater than normal
19. During the past week, in which of the following areas did you **ever** administer aerosolized pentamidine? **Please ✓ all that apply.**
- a. Patient's hospital room
 - b. Clinic/department treatment room or area
 - c. Patient's home
 - d. Some other location (Please specify):

19A. From the location(s) checked above, please write the **letter** (a, b, c, or d) corresponding to the area where you most often administered aerosolized pentamidine during the past week.

Area most often administered

20. During the past week, how often did you administer aerosolized pentamidine...

	Always	Sometimes	Never
a. Inside a fully enclosed and sealed treatment chamber or booth?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Inside a partially enclosed treatment hood or tent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. When no type of enclosure was being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. During the past week when you administered aerosolized pentamidine, how often did you...
- | | Always | Sometimes | Never |
|--|--------------------------|--------------------------|--------------------------|
| a. Inspect the aerosol generator for leaks or worn parts prior to use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Use a nebulizer with an automatic shutoff valve? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Administer the medication in an isolation room under negative pressure (i.e., where air flows into the room from adjacent areas)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
22. At any time in the **past week** (7 calendar days) did you administer **aerosolized tobramycin (Nebcin, "tobi")**?
- Yes
 No  **Skip to Question 30.**
23. During the past week (7 calendar days), how many days did you administer aerosolized tobramycin?
- Number of days.....
(Please write a number from 1-7)
24. During the past week, how much time did you typically spend **within 5 feet** of a patient during a single administration of tobramycin? (*Include only the time you spent actually handling tobramycin, were present in the area during administration, and in clean-up. Do **not** include set-up time or time the patient was receiving the drug while you were not present.*)
- Less than 5 minutes
 5-9 minutes
 10-14 minutes
 15-19 minutes
 20-24 minutes
 More than 24 minutes
25. During the past week, what was the total number of times you administered aerosolized tobramycin? (*If you administered tobramycin several times to the same patient, count each administration separately.*)
- 1 time
 2-3 times
 4-5 times
 6-10 times
 More than 10 times
26. How does the amount of time you administered aerosolized tobramycin during the past week compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal

27. During the past week, in which of the following areas did you **ever** administer aerosolized tobramycin? **Please ✓ all that apply.**

- a. Patient's hospital room
- b. Clinic/department treatment room or area
- c. Patient's home
- d. Some other location (Please specify):

27A. From the location(s) checked above, please write the **letter** (a, b, c, or d) corresponding to the area where you most often administered aerosolized tobramycin during the past week.

Area most often administered

28. During the past week, how often did you administer aerosolized tobramycin...

- a. Inside a fully enclosed and sealed treatment chamber or booth?
- b. Inside a partially enclosed treatment hood or tent?
- c. When no type of enclosure was being used?

	Always	Sometimes	Never
a.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

29. During the past week when you administered aerosolized tobramycin, how often did you...

- a. Inspect the aerosol generator for leaks or worn parts prior to use?
- b. Use a nebulizer with an automatic shutoff valve?
- c. Administer the medication in an isolation room under negative pressure (i.e., where air flows into the room from adjacent areas)?

	Always	Sometimes	Never
a.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following questions pertain to the use of personal protective equipment (PPE) during the preparation and delivery of aerosolized medications.

30. During the past week, did you wear a **water resistant gown or outer garment** while administering aerosolized ribavirin, pentamidine or tobramycin?
- Always  **Skip to Question 32.**
- Sometimes
- Never
31. What were the reason(s) you did not always wear a **water resistant gown or outer garment** while administering aerosolized ribavirin, pentamidine or tobramycin? **Please ✓ all that apply.**
1. Potential for exposure to aerosolized medications is insignificant
2. Exposure to aerosolized medications is possible but the health hazard is insignificant
3. Not required by employer
4. Not provided by employer
5. Not standard practice
6. Too uncomfortable or difficult to use
7. Not readily available in work area
8. Cross contamination to other areas is not a concern
9. Concerned about raising the patient's anxiety
10. Other (Please specify):
- _____
- 31A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear a **water resistant gown or outer garment** while administering aerosolized ribavirin, pentamidine or tobramycin.
- Most important reason

32. During the past week, did you wear **protective gloves** while handling ribavirin, pentamidine or tobramycin?

- Always
- Sometimes
- Never

Skip to Question 34.

33. What were the reason(s) you did not always wear **protective gloves** while handling ribavirin, pentamidine or tobramycin?
Please **all that apply.**

- 1. Potential for exposure to aerosolized medications is insignificant
- 2. Exposure to aerosolized medications is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily available in work area
- 8. Cross contamination to other areas is not a concern
- 9. Concerned about raising the patient's anxiety
- 10. Other (Please specify): _____

33A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear protective gloves while handling ribavirin, pentamidine or tobramycin.

Most important reason

 **During the past week if you NEVER wore protective gloves while handling ribavirin, pentamidine or tobramycin, skip to question 36.**

34. During the past week, did you perform any of the following activities while wearing **protective gloves** that had been used during the handling of ribavirin, pentamidine or tobramycin?

	Yes	No
a. Answer the phone	<input type="checkbox"/>	<input type="checkbox"/>
b. Use a keyboard or calculator	<input type="checkbox"/>	<input type="checkbox"/>
c. Handle files or record cards	<input type="checkbox"/>	<input type="checkbox"/>
d. Eat or drink.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Smoke	<input type="checkbox"/>	<input type="checkbox"/>

35. During the past week, did you **ever** reuse protective gloves while handling ribavirin, pentamidine or tobramycin (reuse means remove and later put on the same gloves)?

- Yes
- No

36. During the past week, did you wear **eye protection** (safety glasses, goggles, face shield) while administering aerosolized ribavirin, pentamidine or tobramycin?

- Always
- Sometimes
- Never

Skip to Question 38.

37. What were the reason(s) you did not always wear **eye protection** while administering aerosolized ribavirin, pentamidine or tobramycin? **Please ✓ all that apply.**

- 1. Potential for exposure to aerosolized medications is insignificant
- 2. Exposure to aerosolized medications is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily available in work area
- 8. Concerned about raising the patient's anxiety
- 9. Other (Please specify): _____

37A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear **eye protection** while administering aerosolized ribavirin, pentamidine or tobramycin.

Most important reason

38. During the past week, did you wear **respiratory protection**, not including a surgical mask, while administering aerosolized ribavirin, pentamidine or tobramycin?

- Always
- Sometimes
- Never

Skip to Question 40.

39. What type(s) of respirator(s) did you use?
Please ✓ all that apply.

- Disposable particulate respirator (also called filtering face-piece respirator, e.g., N95)
- Half mask or full-face piece respirator with replaceable filters or cartridges
- Powered air-purifying respirator (PAPR)
- Don't know



During the past week, if you ALWAYS wore respiratory protection, not including a surgical mask, while administering aerosolized ribavirin, pentamidine, or tobramycin, skip to Question 41.

40. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while administering aerosolized ribavirin, pentamidine, or tobramycin?
Please ✓ all that apply.

- 1. Potential for exposure to aerosolized medications is insignificant
- 2. Exposure to aerosolized medications is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily available in work area
- 8. Concerned about raising patient's anxiety.
- 9. Other (Please specify): _____

40A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while administering aerosolized ribavirin, pentamidine, or tobramycin.

Most important reason

41. During the past week, did you wear **booties** while administering aerosolized ribavirin, pentamidine or tobramycin?

- Always
- Sometimes
- Never

Skip to Question 43.

42. What are the reason(s) you did not always wear **booties** while administering aerosolized ribavirin, pentamidine or tobramycin? **Please ✓ all that apply.**
- 1. Potential for exposure to aerosolized medications is insignificant
 - 2. Exposure to aerosolized medications is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily available in work area
 - 8. Cross contamination to other areas is not a concern
 - 9. Concerned about raising the patient's anxiety
 - 10. Other (Please specify): _____

42A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **booties** while administering aerosolized ribavirin, pentamidine or tobramycin.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

43. How long did it take you to complete this module of the survey?
Please ✓ only one answer.
- Less than 5 minutes
 - 5-10 minutes
 - 11-15 minutes
 - More than 15 minutes
44. Was the subject matter addressed in this module of interest to you?
Please ✓ only one answer.
- High interest
 - Medium interest
 - Low interest
 - No interest

45. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

46. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE**B**

This module is directed toward individuals, such as pharmacists or pharmacy technicians, who prepare or mix Antineoplastic Agents. Other terms used for antineoplastic agents include antineoplastic drugs, cytotoxic drugs, and anti-cancer drugs.

1. During your career (including all jobs at this and other facilities), how long have you been preparing antineoplastic agents?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received training on procedures for the safe handling of antineoplastic agents at this facility?
Please ✓ all that apply.
 - At time hired at this facility
 - During orientation for your current job or task
 - At least annually (i.e., one or more times every 12 months)
 - Other (Please specify): _____
 - Never received training

3. Have you received any certification for handling antineoplastic agents?
Please ✓ all that apply.
 - Yes, by employer
 - Yes, a "CPhT" by the Pharmacy Technician Certification Board
 - Yes, by another professional society
 - Yes, by a training provider, other than employer
 - Yes, by other (Please specify): _____
 - _____
 - No

4. Have you seen a copy of the OSHA guidelines for handling hazardous drugs at this facility?
 - Yes
 - No

5. Have you seen written policies or standard procedures for working with antineoplastic agents at this facility?
 - Yes
 - No

6. Do you ever wear or take home any clothing (protective clothing or street clothes) which were worn when handling antineoplastic agents at this facility?
 - Yes
 - No

The term “past week” in the following questions refers to the past 7 calendar days.

7. At any time in the **past week** (7 calendar days) did you prepare or mix antineoplastic agents in a pharmacy or pharmacy-like setting?

- Yes
 No



Thank you for completing this module.

8. During the past week (7 calendar days), which of the following antineoplastic agents did you prepare? **Please ✓ all that apply.**

- | | | |
|--|--|---------------------------------------|
| <input type="checkbox"/> Aldesleukin | <input type="checkbox"/> Docetaxel | <input type="checkbox"/> Melphalan |
| <input type="checkbox"/> Alemtuzumab | <input type="checkbox"/> Doxorubicin | <input type="checkbox"/> Methotrexate |
| <input type="checkbox"/> Alitretinoin | <input type="checkbox"/> Epirubicin | <input type="checkbox"/> Mitomycin-C |
| <input type="checkbox"/> Altretamine | <input type="checkbox"/> Estramustine | <input type="checkbox"/> Mitotane |
| <input type="checkbox"/> Aminoglutethimide | <input type="checkbox"/> Etoposide | <input type="checkbox"/> Mitoxantrone |
| <input type="checkbox"/> Amifostine | <input type="checkbox"/> Exemestane | <input type="checkbox"/> Nilutamide |
| <input type="checkbox"/> Anastrozole | <input type="checkbox"/> Floxuridine | <input type="checkbox"/> Paclitaxel |
| <input type="checkbox"/> Arsenic trioxide | <input type="checkbox"/> Fludarabine | <input type="checkbox"/> Pegaspargase |
| <input type="checkbox"/> Asparaginase-E. coli strain | <input type="checkbox"/> Flutamide | <input type="checkbox"/> Pentostatin |
| <input type="checkbox"/> BCG live | <input type="checkbox"/> Fluorouracil | <input type="checkbox"/> Plicamycin |
| <input type="checkbox"/> Bexarotene | <input type="checkbox"/> Gemcitabine | <input type="checkbox"/> Procarbazine |
| <input type="checkbox"/> Bicalutamide | <input type="checkbox"/> Gemtuzumab ozogamicin | <input type="checkbox"/> Rituximab |
| <input type="checkbox"/> Bleomycin | <input type="checkbox"/> Goserelin | <input type="checkbox"/> Streptozocin |
| <input type="checkbox"/> Busulfan | <input type="checkbox"/> Hydroxyurea | <input type="checkbox"/> Tamoxifen |
| <input type="checkbox"/> Capecitabine | <input type="checkbox"/> Idarubicin | <input type="checkbox"/> Temozolomide |
| <input type="checkbox"/> Carboplatin | <input type="checkbox"/> Ifosfamide | <input type="checkbox"/> Teniposide |
| <input type="checkbox"/> Carmustine | <input type="checkbox"/> Imatinib mesylate | <input type="checkbox"/> Thioguanine |
| <input type="checkbox"/> Cisplatin | <input type="checkbox"/> Interferon Alfa-2a | <input type="checkbox"/> Thiotepa |
| <input type="checkbox"/> Chlorambucil | <input type="checkbox"/> Interferon Alfa-2b | <input type="checkbox"/> Topotecan |
| <input type="checkbox"/> Cladribine | <input type="checkbox"/> Irinotecan | <input type="checkbox"/> Toremifene |
| <input type="checkbox"/> Cyclophosphamide | <input type="checkbox"/> Letrozole | <input type="checkbox"/> Trastuzumab |
| <input type="checkbox"/> Cytarabine | <input type="checkbox"/> Leuprolide | <input type="checkbox"/> Tretinoin |
| <input type="checkbox"/> Dacarbazine | <input type="checkbox"/> Lomustine | <input type="checkbox"/> Valrubicin |
| <input type="checkbox"/> Daunorubicin | <input type="checkbox"/> Megestrol | <input type="checkbox"/> Vinblastine |
| <input type="checkbox"/> Dactinomycin | <input type="checkbox"/> Mercaptopurine | <input type="checkbox"/> Vincristine |
| <input type="checkbox"/> Denileukin diftitox | <input type="checkbox"/> Merchlorethamine | <input type="checkbox"/> Vincorelbine |

Other (Please specify up to 2 more antineoplastic agents):

1. _____

2. _____

9. During the past week, how many days did you prepare or mix antineoplastic agents?

Number of days.....
 (Please write a number from 1-7)

10. During the past week, what was the total number of dosages of antineoplastic agents you prepared?

- 1-5 dosages
- 6-10 dosages
- 11-20 dosages
- 21-40 dosages
- More than 40 dosages

11. How does the number of dosages of antineoplastic agents you prepared during the past week compare with most weeks?

- Past week was about normal
- Past week was less than normal
- Past week was greater than normal

12. During the past week, in which of the following areas did you **ever** prepare antineoplastic agents? **Please ✓ all that apply.**

- a. Main inpatient pharmacy
- b. Secondary inpatient pharmacy
- c. Outpatient pharmacy
- d. Treatment room
- e. Private physician's office
- f. Some other location (Please specify):

12A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often prepared antineoplastic agents during the past week.

Area most often prepared

13. During the past week, how often did you prepare antineoplastic agents in...

	Always	Sometimes	Never
a. A separate room dedicated to the preparation of this agent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Close proximity (~5 ft) to where food/drinks are consumed by employees?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. An operating ventilated cabinet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. During the past week, how often did you prime IV tubing either with antineoplastic drugs or with diluent (i.e. a liquid other than the antineoplastic agent)?
- Always
 Sometimes
 Never 
- Skip to Question 17.
-
15. During the past week, how often did you prime the IV tubing inside an operating ventilated cabinet?
- Always
 Sometimes
 Never
-
16. During the past week, how often did you prime the IV tubing with diluent?
- Always
 Sometimes
 Never
-
17. During the past week when **preparing** anti-neoplastic agents, how often did you use a...
- | | Always | Sometimes | Never |
|---|--------------------------|--------------------------|--------------------------|
| a. System with Luer-lock (or other similar type) fittings? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Needle-less system? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Closed-system technology (e.g., PhaSeal [®]) when transferring drugs from vials? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Plastic-backed absorbent pad under the open drug vials and other preparation materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
-
18. During the past week, how many times did you puncture your skin with a sharp while **preparing** antineoplastic agents?
- None
 One time
 2-3 times
 4-5 times
 more than 5 times
-
19. During the past week when **packaging** antineoplastic agents for delivery to the area(s) where they are administered, how often did you...
- | | Always | Sometimes | Never |
|---|--------------------------|--------------------------|--------------------------|
| a. Package antineoplastic agent dosages in sealed bags? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Attach a "hazardous" warning label to packages of antineoplastic agents? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Store prepared antineoplastic agents in a designated area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

20. During the past week, how many spills (even a drop or two) occurred outside of a ventilated cabinet while you were **preparing** antineoplastic drugs?

	No spills	1-2 spills	3-5 spills	More than 5
a. Spills less than 5ml	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Spills more than 5ml.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. During the past week, did any of the following areas of your skin come into direct contact with antineoplastic agents (i.e., became wet) while **preparing** them?

	Yes	No
a. Face	<input type="checkbox"/>	<input type="checkbox"/>
b. Neck	<input type="checkbox"/>	<input type="checkbox"/>
c. Hands	<input type="checkbox"/>	<input type="checkbox"/>
d. Wrist or forearm	<input type="checkbox"/>	<input type="checkbox"/>
e. Torso, legs or feet	<input type="checkbox"/>	<input type="checkbox"/>

The following questions pertain to the use of personal protective equipment (PPE) during the preparation of antineoplastic agents.

22. During the past week, did you wear a **water resistant gown or outer garment with closed front and tight cuffs** while preparing antineoplastic agents?

Always  **Skip to Question 24.**
 Sometimes
 Never

23. What were the reason(s) you did not always wear a **water resistant gown or outer garment with closed front and tight cuffs** while preparing antineoplastic agents? **Please ✓ all that apply.**
- 1. Potential for exposure to antineoplastic agents is insignificant
 - 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily available in work area
 - 8. Cross contamination to other areas is not a concern
 - 9. Concerned about raising the patient's anxiety
 - 10. Other (Please specify):

23A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear a **water resistant gown or outer garment with closed front and tight cuffs** while preparing antineoplastic agents.

Most important reason

24. During the past week, did you wear **latex or chemo gloves** while preparing antineoplastic agents?

- Always
- Sometimes
- Never

Skip to Question 26.

25. What were the reason(s) you did not always wear **latex or chemo gloves** while preparing antineoplastic agents?
Please ✓ all that apply.
- 1. Potential for exposure to antineoplastic agents is insignificant
 - 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily available in work area
 - 8. Cross contamination to other areas is not a concern
 - 9. Concerned about raising the patient's anxiety
 - 10. Other (Please specify): _____

25A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear **latex or chemo gloves** while preparing antineoplastic agents.

Most important reason



During the past week if you NEVER wore latex or chemo gloves when preparing antineoplastic agents, skip to question 28.

26. During the past week, did you perform any of the following activities while wearing **latex or chemo gloves** that had been used to prepare antineoplastic agents?

	Yes	No
a. Answer the phone	<input type="checkbox"/>	<input type="checkbox"/>
b. Use a keyboard or calculator	<input type="checkbox"/>	<input type="checkbox"/>
c. Handle files or record cards	<input type="checkbox"/>	<input type="checkbox"/>
d. Eat or drink	<input type="checkbox"/>	<input type="checkbox"/>
e. Smoke	<input type="checkbox"/>	<input type="checkbox"/>

27. During the past week, did you **ever** reuse **latex or chemo gloves** while preparing antineoplastic agents (reuse means remove and later put on the same gloves)?
- Yes
 No
28. During the past week, did you wear **eye protection** (*safety glasses, goggles, face shield*) while preparing antineoplastic agents?
- Always  **Skip to Question 30.**
 Sometimes
 Never
29. What were the reason(s) you did not always wear **eye protection** while preparing antineoplastic agents?
Please ✓ all that apply.
1. Potential for exposure to antineoplastic agents is insignificant
 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 3. Not required by employer
 4. Not provided by employer
 5. Not standard practice
 6. Too uncomfortable or difficult to use
 7. Not readily available in work area
 8. Concerned about raising the patient's anxiety
 9. Other (Please specify): _____

- 29A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear **eye protection** while preparing antineoplastic agents.
- Most important reason

30. During the past week, did you wear **respiratory protection**, not including a surgical mask, while preparing antineoplastic agents?
- Always
 Sometimes
 Never 
- Skip to Question 32.**
31. What type(s) of respirator(s) did you use?
Please ✓ all that apply.
- Disposable particulate respirator (also called filtering face-piece respirator, e.g., N95)
 Half mask or full-face piece respirator with replaceable filters or cartridges
 Powered air-purifying respirator (PAPR)
 Don't know



During the past week if you ALWAYS wore respiratory protection, not including a surgical mask, while preparing antineoplastic agents, skip to Question 33.

32. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while preparing antineoplastic agents?
Please ✓ all that apply.
1. Potential for exposure to antineoplastic agents is insignificant
 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 3. Not required by employer
 4. Not provided by employer
 5. Not standard practice
 6. Too uncomfortable or difficult to use
 7. Not readily available in work area
 8. Other (Please specify): _____

32A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear **respiratory protection** while preparing antineoplastic agents.

Most important reason

33. During the past week, did you wear **booties** while preparing antineoplastic agents?
- Always  **Skip to Question 35.**
- Sometimes
- Never
34. What are the reason(s) you did not always wear **booties** while preparing antineoplastic agents? **Please ✓ all that apply.**
1. Potential for exposure to antineoplastic agents is insignificant
2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
3. Not required by employer
4. Not provided by employer
5. Not standard practice
6. Too uncomfortable or difficult to use
7. Not readily available in work area
8. Cross contamination to other areas is not a concern
9. Concerned about raising the patient's anxiety
10. Other (Please specify): _____
- _____
- 34A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **booties** while preparing antineoplastic agents.
- Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

35. How long did it take you to complete this module of the survey?
Please ✓ only one answer.
- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes
36. Was the subject matter addressed in this module of interest to you?
Please ✓ only one answer.
- High interest
- Medium interest
- Low interest
- No interest

37. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

38. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE**C**

This module is directed toward oncology nurses or other individuals who administer Antineoplastic Agents to patients. Other terms used for antineoplastic agents include antineoplastic drugs, cytotoxic drugs, and anti-cancer drugs.

1. During your career (including all jobs at this and other facilities), how long have you been administering antineoplastic agents to patients?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received training on procedures for the safe handling of antineoplastic agents at this facility?
Please ✓ all that apply.
 - At time hired at this facility
 - During orientation for your current job or task
 - At least annually (i.e., one or more times every 12 months)
 - Other (Please specify): _____
 - Never received training

3. Have you received any certification for handling antineoplastic agents?
Please ✓ all that apply.
 - Yes, by employer
 - Yes, an "OCN"
 - Yes, other certification (Please specify): _____
 - No

4. Have you seen a copy of the OSHA guidelines for handling hazardous drugs at this facility?
 - Yes
 - No

5. Have you seen written policies or standard procedures for working with antineoplastic agents at this facility?
 - Yes
 - No

6. Do you ever wear or take home any clothing (protective clothing or street clothes) which were worn when handling antineoplastic agents at this facility?
 - Yes
 - No

The term “past week” in the following questions refers to the past 7 calendar days.

7. At any time in the **past week** (7 calendar days) did you administer antineoplastic agents to patients?

- Yes
 No



**Thank you for
completing this module.**

8. During the past week (7 calendar days), which of the following antineoplastic agents did you administer to patients? **Please ✓ all that apply.**

- | | | |
|--|--|---------------------------------------|
| <input type="checkbox"/> Aldesleukin | <input type="checkbox"/> Docetaxel | <input type="checkbox"/> Melphalan |
| <input type="checkbox"/> Alemtuzumab | <input type="checkbox"/> Doxorubicin | <input type="checkbox"/> Methotrexate |
| <input type="checkbox"/> Alitretinoin | <input type="checkbox"/> Epirubicin | <input type="checkbox"/> Mitomycin-C |
| <input type="checkbox"/> Altretamine | <input type="checkbox"/> Estramustine | <input type="checkbox"/> Mitotane |
| <input type="checkbox"/> Aminoglutethimide | <input type="checkbox"/> Etoposide | <input type="checkbox"/> Mitoxantrone |
| <input type="checkbox"/> Amifostine | <input type="checkbox"/> Exemestane | <input type="checkbox"/> Nilutamide |
| <input type="checkbox"/> Anastrozole | <input type="checkbox"/> Floxuridine | <input type="checkbox"/> Paclitaxel |
| <input type="checkbox"/> Arsenic trioxide | <input type="checkbox"/> Fludarabine | <input type="checkbox"/> Pegaspargase |
| <input type="checkbox"/> Asparaginase- <i>E. coli</i> strain | <input type="checkbox"/> Flutamide | <input type="checkbox"/> Pentostatin |
| <input type="checkbox"/> BCG live | <input type="checkbox"/> Fluorouracil | <input type="checkbox"/> Plicamycin |
| <input type="checkbox"/> Bexarotene | <input type="checkbox"/> Gemcitabine | <input type="checkbox"/> Procarbazine |
| <input type="checkbox"/> Bicalutamide | <input type="checkbox"/> Gemtuzumab ozogamicin | <input type="checkbox"/> Rituximab |
| <input type="checkbox"/> Bleomycin | <input type="checkbox"/> Goserelin | <input type="checkbox"/> Streptozocin |
| <input type="checkbox"/> Busulfan | <input type="checkbox"/> Hydroxyurea | <input type="checkbox"/> Tamoxifen |
| <input type="checkbox"/> Capecitabine | <input type="checkbox"/> Idarubicin | <input type="checkbox"/> Temozolomide |
| <input type="checkbox"/> Carboplatin | <input type="checkbox"/> Ifosfamide | <input type="checkbox"/> Teniposide |
| <input type="checkbox"/> Carmustine | <input type="checkbox"/> Imatinib mesylate | <input type="checkbox"/> Thioguanine |
| <input type="checkbox"/> Cisplatin | <input type="checkbox"/> Interferon Alfa-2a | <input type="checkbox"/> Thiotepa |
| <input type="checkbox"/> Chlorambucil | <input type="checkbox"/> Interferon Alfa-2b | <input type="checkbox"/> Topotecan |
| <input type="checkbox"/> Cladribine | <input type="checkbox"/> Irinotecan | <input type="checkbox"/> Toremifene |
| <input type="checkbox"/> Cyclophosphamide | <input type="checkbox"/> Letrozole | <input type="checkbox"/> Trastuzumab |
| <input type="checkbox"/> Cytarabine | <input type="checkbox"/> Leuprolide | <input type="checkbox"/> Tretinoin |
| <input type="checkbox"/> Dacarbazine | <input type="checkbox"/> Lomustine | <input type="checkbox"/> Valrubicin |
| <input type="checkbox"/> Daunorubicin | <input type="checkbox"/> Megestrol | <input type="checkbox"/> Vinblastine |
| <input type="checkbox"/> Dactinomycin | <input type="checkbox"/> Mercaptopurine | <input type="checkbox"/> Vincristine |
| <input type="checkbox"/> Denileukin diftitox | <input type="checkbox"/> Merchlorethamine | <input type="checkbox"/> Vincorelbine |

- Other (Please specify up to 2 more antineoplastic agents):

1. _____

2. _____

9. During the past week, how many days did you administer antineoplastic agents to patients? Number of days.....
(Please write a number from 1-7)
10. During the past week, what was the total number of treatments of antineoplastic agents you administered to patients? (*One treatment equals all drugs administered to one patient during one visit.*)
- 1-2 treatments
 3-4 treatments
 5-9 treatments
 10-20 treatments
 21-40 treatments
 More than 40 treatments
11. How does the number of treatments of antineoplastic agents you administered during the past week compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal
12. During the past week, in which of the following areas did you **ever** administer antineoplastic agents to patients? **Please ✓ all that apply.**
- a. Patient's hospital room
 b. Treatment room (e.g., for infusion therapy)
 c. Specialty area (e.g., X-ray)
 d. Private physician's office
 e. Patient's home
 f. Some other location (Please specify):

- 12A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often administered antineoplastic agents. Most often administered.....

13. During the past week while administering antineoplastic agents to patients, how often did you use a...
- | | Always | Sometimes | Never |
|--|--------------------------|--------------------------|--------------------------|
| a. Designated room or area?..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Drug delivery system with Luer-lock (or other similar type) fittings? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Needle-less system? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Plastic-backed absorbent pad under the patient's arm?..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
14. During the past week, how often did you store prepared antineoplastic agents in a designated and restricted area before administering to patients?
- Always
 Sometimes
 Never
15. During the past week, which of the following best describes how antineoplastic agents were most commonly received from the pharmacy (or drug preparation area)?
Please ✓ only one.
- Primed with antineoplastic agent
 Primed with diluent (i.e., a liquid other than antineoplastic agent)
 Primed, unsure of the solution used
 IV tubing is not primed
16. During the past week, how often did you prime the IV tubing before administering antineoplastic agents to patients?
- Always
 Sometimes
 Never
17. During the past week, how many times did you puncture your skin with a sharp while administering antineoplastic agents?
- None
 One time
 2-3 times
 4-5 times
 More than 5 times
18. During the past week while you were handling or administering antineoplastic agents, did a leak or spill of any amount (even a few drops) ever occur?
- Yes
 No  **Skip to Question 22.**

19.	During the past week, did any of the following factors cause a leak of antineoplastic agents during handling or administration?	Yes	No		
	a. Leak from syringe while attaching, injecting, or detaching from IV line	<input type="checkbox"/>	<input type="checkbox"/>		
	b. Leak while drawing up or expelling air from syringe	<input type="checkbox"/>	<input type="checkbox"/>		
	c. Leak due to a bad connection	<input type="checkbox"/>	<input type="checkbox"/>		
	d. Leak due to excessive pressure in vial	<input type="checkbox"/>	<input type="checkbox"/>		
	e. Other (Please specify): _____ _____	<input type="checkbox"/>	<input type="checkbox"/>		
20.	During the past week, how many spills (even a drop or two) of antineoplastic agents occurred during handling or administration?	No spills	1-2 spills	3-5 spills	More than 5
	a. Spills less than 5ml	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Spills more than 5ml.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.	During the past week, did any of the following areas of your skin come into direct contact with antineoplastic agents (i.e., became wet) during handling or administration?	Yes	No		
	a. Face	<input type="checkbox"/>	<input type="checkbox"/>		
	b. Neck	<input type="checkbox"/>	<input type="checkbox"/>		
	c. Hands	<input type="checkbox"/>	<input type="checkbox"/>		
	d. Wrist or forearm	<input type="checkbox"/>	<input type="checkbox"/>		
	e. Torso, legs or feet	<input type="checkbox"/>	<input type="checkbox"/>		

The following questions pertain to your use of personal protective equipment (PPE) while handling and administering antineoplastic agents.

22. During the past week, did you wear a **water resistant gown or outer garment with closed front and tight cuffs** while administering antineoplastic agents to patients?
- Always  **Skip to Question 24.**
- Sometimes
- Never
23. What were the reason(s) you did not always wear a **water resistant gown or outer garment with closed front and tight cuffs** while administering antineoplastic agents? Please all that apply.
1. Potential for exposure to antineoplastic agents is insignificant
2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
3. Not required by employer
4. Not provided by employer
5. Not standard practice
6. Too uncomfortable or difficult to use
7. Not readily available in work area
8. Cross contamination to other areas is not a concern
9. Concerned about raising the patient's anxiety
10. Other (Please specify): _____
- _____
- 23A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear a **water resistant gown or outer garment with closed front and tight cuffs** while administering antineoplastic agents.
- Most important reason
24. During the past week, did you wear **latex or chemo gloves** while administering antineoplastic agents to patients?
- Always  **Skip to Question 26.**
- Sometimes
- Never

25. What were the reason(s) you did not always wear **latex or chemo gloves** while administering antineoplastic agents? **Please ✓ all that apply.**
- 1. Potential for exposure to antineoplastic agents is insignificant
 - 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily available in work area
 - 8. Cross contamination to other areas is not a concern
 - 9. Concerned about raising the patient's anxiety
 - 10. Other (Please specify): _____

25A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **latex or chemo gloves** while administering antineoplastic agents.

Most important reason



During the past week if you NEVER wore latex or chemo gloves when administering antineoplastic agents, skip to question 28.

26. During the past week, did you perform any of the following activities while wearing **latex or chemo gloves** that had been used to administer antineoplastic agents?

	Yes	No
a. Answer the phone	<input type="checkbox"/>	<input type="checkbox"/>
b. Use a keyboard or calculator	<input type="checkbox"/>	<input type="checkbox"/>
c. Handle files or record cards	<input type="checkbox"/>	<input type="checkbox"/>
d. Eat or drink	<input type="checkbox"/>	<input type="checkbox"/>
e. Smoke	<input type="checkbox"/>	<input type="checkbox"/>

27. During the past week, did you **ever** reuse **protective gloves** while administering antineoplastic agents (reuse means remove and later put on the same gloves)?
- Yes
 No
28. During the past week, did you wear **eye protection** (safety glasses, goggles, face shield) while administering antineoplastic agents to patients?
- Always  **Skip to Question 30.**
 Sometimes
 Never
29. What were the reason(s) you did not always wear **eye protection** while administering antineoplastic agents?
Please ✓ all that apply.
1. Potential for exposure to antineoplastic agents is insignificant
 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 3. Not required by employer
 4. Not provided by employer
 5. Not standard practice
 6. Too uncomfortable or difficult to use
 7. Not readily available in work area
 8. Concerned about raising the patient's anxiety
 9. Other (Please specify): _____
- 29A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **eye protection** while administering antineoplastic agents.
- Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

30. How long did it take you to complete this module of the survey?
Please ✓ only one answer.
- Less than 5 minutes
 5-10 minutes
 11-15 minutes
 More than 15 minutes

31. Was the subject matter addressed in this module of interest to you?

Please ✓ only one answer.

- High interest
- Medium interest
- Low interest
- No interest

32. Are there any other hazards that you think we should address with similar modules?

Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

33. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE

D

This module is directed toward workers in central processing (sterile processing, central supply/distribution) or others who chemically sterilize medical devices, instruments or supplies using either ethylene oxide or hydrogen peroxide gas plasma.

1. During your career (including all jobs at this and other facilities), how long have you been chemically sterilizing medical instruments or supplies using ethylene oxide or hydrogen peroxide gas plasma?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received training on the safe handling of chemical sterilants at this facility? **Please ✓ all that apply.**
 - At time hired at this facility
 - During orientation for your current job or task
 - At least annually (i.e., one or more times every 12 months)
 - Other (Please specify): _____
 - Never received training

3. Have you received any certification for sterile processing of medical instruments and supplies? **Please ✓ all that apply.**
 - Yes, by employer
 - Yes, a "CSPDT" by the Certification Board for Sterile Processing and Distribution (CBSPD)
 - Yes, by another professional society
 - Yes, by a training provider, other than employer
 - Yes, by other (Please specify): _____
 - No

4. Have you seen a copy of the OSHA guidelines for workplace exposure to ethylene oxide at this facility?
 - Yes
 - No

5. Have you seen written policies or standard procedures for working with chemical sterilants at this facility?
 - Yes
 - No

The term “past week” in the following questions refers to the past 7 calendar days.

6. At any time in the **past week** (7 calendar days) did you sterilize medical instruments or supplies using ethylene oxide or hydrogen peroxide gas plasma?

Yes
 No



Thank you for
completing this module.

Questions 7-26 pertain to the use of ethylene oxide and questions 27-32 pertain to the use of hydrogen peroxide gas plasma for chemical sterilization of medical instruments or supplies.

7. At any time during the **past week** (7 calendar days) did you sterilize medical instruments or supplies using ethylene oxide?

Yes
 No



Skip to Question 27.

8. During the past week (7 calendar days), in which of the following areas did you load or unload ethylene oxide sterilizers? **Please** ✓ **all that apply.**

a. Central processing/supply/distribution
 b. Outpatient surgery clinic
 c. Cardiac catheterization lab
 d. Dental clinic or lab
 e. Autopsy lab
 f. Some other location (Please specify):

- 8A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often loaded or unloaded ethylene oxide sterilizers during the past week.

Most often loaded or unloaded.....

9. During the **past week**, how many days did you sterilize medical instruments or supplies with a sterilizer using ethylene oxide as the sterilant?

Number of days.....
(Please write a number from 1-7)

10. During the past week, did you sterilize medical instruments or supplies using an **automated sterilizer** supplied by compressed-gas cylinders or single-dose cartridges of ethylene oxide?

Yes
 No



Skip to Question 22.

11. During the past week, did you sterilize medical instruments or supplies using an automated ethylene oxide sterilizer **with in-chamber aeration** (i.e., load does **not** need to be transferred after sterilization to a separate aerator)? (Check "Not applicable" if your facility does not have this type of ethylene oxide sterilizer.)
- Yes, continue
 No
 Not applicable } **Skip to Question 17.**
12. How much time do you typically spend transferring a single load from an ethylene oxide sterilizer? (Include only the time spent transferring instruments or supplies from the sterilizer.)
- Less than 1 minute
 1-2 minutes
 3-4 minutes
 5-6 minutes
 More than 6 minutes
13. During the past week, what was the total number of loads you processed using an ethylene oxide sterilizer **with in-chamber aeration**?
- 1 load
 2-3 loads
 4-5 loads
 6-10 loads
 More than 10 loads
14. How does the number of loads you processed during the past week using an ethylene oxide sterilizer **with in-chamber aeration** compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal
15. Which best describes the location of the ethylene oxide cylinder(s) for the sterilizer **with in-chamber aeration** you used most often during the past week? **Please ✓ only one.**
- Gas cylinder is located in a **different room** than the sterilizer.
 Gas cylinder is located in the **same room** as the sterilizer loading area.
 Gas cylinder (cartridge) is located **inside the sterilizer** (i.e., requires the cartridge to be inside chamber with door closed before it is punctured).
 Other (Please specify): _____
-

- | | | Yes | No |
|-----|--|---|--------------------------|
| 16. | Considering the sterilizer with in-chamber aeration you used most often during the past week: | | |
| | a. Was operational local exhaust ventilation provided above the door of the sterilizer? .. | <input type="checkbox"/> | <input type="checkbox"/> |
| | b. Was a visual display of the ethylene oxide level (i.e., concentration of ethylene oxide in the room) present near the ethylene oxide sterilizer? | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. | During the past week, did you use an automated ethylene oxide sterilizer with a separate aeration chamber (i.e., load needs to be transferred after sterilization to a separate aerator)? (<i>Check "Not applicable" if your facility does not have this type of ethylene oxide sterilizer.</i>) | <input type="checkbox"/> Yes, continue
<input type="checkbox"/> No
<input type="checkbox"/> Not applicable | |
| | | } Skip to Question 22. | |
| 18. | During the past week, how much time did you typically spend transferring a single load from a sterilizer to the aeration chamber? (<i>Include only the time spent transferring the load from the sterilizer to the aeration chamber.</i>) | <input type="checkbox"/> Less than 1 minute
<input type="checkbox"/> 1-2 minutes
<input type="checkbox"/> 3-4 minutes
<input type="checkbox"/> 5-6 minutes
<input type="checkbox"/> More than 6 minutes | |
| 19. | During the past week, what was the total number of loads transferred from the sterilizer to the aeration chamber? | <input type="checkbox"/> 1 load
<input type="checkbox"/> 2-3 loads
<input type="checkbox"/> 4-5 loads
<input type="checkbox"/> 6-10 loads
<input type="checkbox"/> More than 10 loads | |
| 20. | How does the number of loads you transferred from the sterilizer for aeration during the past week compare with most weeks? | <input type="checkbox"/> Past week was about normal
<input type="checkbox"/> Past week was less than normal
<input type="checkbox"/> Past week was greater than normal | |

21. Considering the sterilizer with a **separate aeration chamber** that you used most often during the past week:
- | | Yes | No |
|---|--------------------------|--------------------------|
| a. Was operational local exhaust ventilation provided above the door of the sterilizer? .. | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Was a visual display of the ethylene oxide level (i.e., concentration of ethylene oxide in the room) present near the ethylene oxide sterilizer? | <input type="checkbox"/> | <input type="checkbox"/> |
22. During the past week (7 calendar days), did you sterilize medical instruments or supplies with a **sterilizer that uses glass ampoules containing liquid ethylene oxide?** (Check "Not applicable" if your facility does not have this type of ethylene oxide sterilizer.)
- Yes, continue
 No
 Not applicable
- Skip to Question 27.**
23. During the past week (7 calendar days), what was the total number of loads you processed with a sterilizer that uses glass ampoules of liquid ethylene oxide?
- 1 load
 2-3 loads
 4-5 loads
 6-10 loads
 More than 10 loads
24. How does the number of loads you processed during the past week with a sterilizer that uses glass ampoules of liquid ethylene oxide compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal
25. When using sterilizers that use glass ampoules of liquid ethylene oxide during the past week, was the sterilizer you used most often located within an operating ventilated enclosure (hood)?
- Yes
 No
 Don't know
26. In regards to that same sterilizer, was a visual display of the ethylene oxide level (i.e., concentration of ethylene oxide in the room) present in the work area?
- Yes
 No

The following questions pertain to the use of hydrogen peroxide gas plasma (such as the STERRAD[®] system) for sterilizing medical instruments or supplies.

27. At any time during the **past week** (7 calendar days) did you sterilize medical instruments or supplies using **hydrogen peroxide gas plasma** (such as the STERRAD[®] system)?
- Yes
 No  **Skip to Question 33.**
28. During the past week (7 calendar days), how many days did you sterilize medical instruments or supplies using **hydrogen peroxide gas plasma**?
- Number of days.....
(Please write a number from 1-7)
29. During the past week, how much time did you typically spend transferring a single load from a sterilizer using hydrogen peroxide gas plasma? (*Include only the time spent transferring instruments/supplies to or from the sterilizing machine*).
- Less than 1 minute
 1-2 minutes
 3-4 minutes
 5-6 minutes
 More than 6 minutes
30. During the past week, what was the total number of loads you sterilized using **hydrogen peroxide gas plasma**?
- 1 load
 2-3 loads
 4-5 loads
 6-10 loads
 More than 10 loads
31. How does the number of loads you sterilized using **hydrogen peroxide gas plasma** during the past week compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal

32. During the past week, in which of the following areas did you sterilize medical instruments or supplies using **hydrogen peroxide gas plasma**? Please all that apply.
- a. Central processing/supply/distribution
 - b. Outpatient surgery clinic
 - c. Cardiac catheterization lab
 - d. Dental clinic or lab
 - e. Autopsy lab
 - f. Some other location (Please specify):

32A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often used a **hydrogen peroxide gas plasma** sterilizer during the past week.

Area most often used

The following questions pertain to the use of personal protective equipment (PPE) while chemically sterilizing medical instruments.

33. During the past week, did you wear **respiratory protection**, not including a surgical mask, while chemically sterilizing medical instruments?
- Always
 - Sometimes
 - Never 
- Skip to Question 35.**
34. What type(s) of respirator(s) did you use? Please all that apply.
- Half mask or full-face piece respirator with replaceable filters or cartridges
 - Powered air-purifying respirator (PAPR)
 - Supplied-air respirator
 - Don't know



During the past week if you ALWAYS wore respiratory protection, not including a surgical mask, while chemically sterilizing medical instruments, skip to Question 36.

35. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while chemically sterilizing medical instruments?
Please ✓ all that apply.
- 1. Potential for exposure to chemical sterilants is insignificant
 - 2. Exposure to chemical sterilants is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily available in work area
 - 8. Other (Please specify): _____

35A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while chemically sterilizing medical instruments

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

36. How long did it take you to complete this module of the survey?
Please ✓ only one answer.
- Less than 5 minutes
 - 5-10 minutes
 - 11-15 minutes
 - More than 15 minutes
37. Was the subject matter addressed in this module of interest to you?
Please ✓ only one answer.
- High interest
 - Medium interest
 - Low interest
 - No interest
38. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.
- Specify hazard: _____
- Specify hazard: _____
- Specify hazard: _____

39. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

<p>MODULE</p> <p>E</p>	<p><i>This module is directed towards anyone who disinfects medical instruments, devices, or supplies (such as endoscopes, thermometers, and other items which cannot be sterilized) using disinfectants containing the following:</i></p> <ul style="list-style-type: none"> ● Glutaraldehyde (e.g., Cidex[®], ColdSport[®], Endocide[®], Glutacide[®], Hospex[®], Metricide[®], Sporocidin[®], Wavicide[®]), ● Ortho-phthalaldehyde (e.g., Cidex OPA[®]), ● Peracetic acid (e.g., Steris[®] system), or ● Hydrogen peroxide (e.g., Accell[®], Optim[®]).
--------------------------------------	---

1. During your career (including all jobs at this and other facilities), how long have you been disinfecting medical instruments?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received training on the safe handling of high level disinfectants, including glutaraldehyde at this facility?
Please ✓ all that apply.
 - At time hired at this facility
 - During orientation for your current job or task
 - At least annually (i.e., one or more times every 12 months)
 - Other (Please specify): _____
 - Never received training

3. Have you seen written policies or standard procedures for using high level disinfectants, including glutaraldehyde at this facility?
 - Yes
 - No

The term “past week” in the following questions refers to the past 7 calendar days.

4. At any time in the **past week** (7 calendar days) did you disinfect medical instruments by immersion in high level disinfectants (either manually or automatically)?
- Yes
 No 
- Thank you for completing this module.**
5. During the past week (7 calendar days), how many days did you disinfect medical instruments by immersion in high level disinfectants?
- Number of days.....
(Please write a number from 1-7)
6. During the past week, how much total time did you spend handling or working with high level disinfectants? (*Include only the time you spent actually loading and unloading the processing unit; testing, adding and replacing the disinfectant solution; and cleaning the disinfecting process units.*)
- Less than 1 hour
 1-5 hours
 6-20 hours
 21-40 hours
 More than 40 hours
7. How does the total amount of time spent handling disinfectants during the past week compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal
8. During the past week, how many devices or instruments (including endoscopes, probes, tips, etc.) did you disinfect by immersion in high level disinfectants?
- 1-2 instruments
 3-4 instruments
 5-9 instruments
 10-19 instruments
 20-39 instruments
 40 or more instruments

9. During the past week, which high level disinfectants did you use for disinfecting medical instruments? **Please ✓ all that apply.**

- a. Glutaraldehyde (e.g., Cidex[®], ColdSport[®], Endocide[®], Glutacide[®], Hospex[®], Metricide[®], Sporicidin[®], Wavicide[®])
- b. Ortho-phthalaldehyde (e.g., Cidex OPA[®])
- c. Peracetic acid (e.g., Steris[®] system)
- d. Hydrogen peroxide (e.g., Accell[®], Optim[®])
- e. Other high level disinfectant (Please specify) _____

9A. From the high level disinfectant(s) checked above, please write the **letter** (a, b, c, d, or e) corresponding to the disinfectant **most often used** to disinfect medical instruments during the past week.

Most often used.....

10. Which of the following disinfection method(s) did you use during the past week? **Please ✓ all that apply.**

- a. Automated
- b. Manual

10A. From the system(s) checked above, please write the **letter** (a or b) corresponding to the one you **most often used** during the past week.

Most often used.....

11. Which of the following statements best describes the ventilation for the disinfection system(s) you used during the past week? **Please ✓ all that apply.**

1. A system with effective local exhaust ventilation.
2. A non-ventilated or poorly ventilated system.

12. Did the disinfection system you used most often in the past week have dedicated ventilation (overhead hood, exhaust fan)?

- Yes
- No
- Don't know

13. During the past week, did you **ever** manually pour fresh or new disinfectant into a reservoir or chamber of the processing unit(s)?

Yes
 No 

Skip to Question 15.

14. During the past week, what was the total amount of high level disinfectant you manually poured into the processing unit(s)?

Less than one gallon
 1-2 gallons
 3-5 gallons
 More than 5 gallons

15. During the past week, did you **ever** manually drain spent high level disinfectant from a processing unit(s)?

Yes
 No

16. During the past week, how many spills of disinfectant(s) used for disinfecting medical equipment did you **personally** clean up?

	No spills	1-2 spills	3-5 spills	More than 5 spills
a. Spills less than two cups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Spills more than two cups.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. During the past week, did any of the following areas of your skin come into direct contact with high level disinfectant(s)?

	Yes	No
a. Face.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Neck	<input type="checkbox"/>	<input type="checkbox"/>
c. Hands	<input type="checkbox"/>	<input type="checkbox"/>
d. Wrist or forearm.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Torso, legs or feet.....	<input type="checkbox"/>	<input type="checkbox"/>

The following questions pertain to the use of personal protective equipment (PPE) during the handling of high level disinfectants.

18. During the past week, did you wear a **water resistant gown or outer garment** while handling or working with high level disinfectants?
- Always  **Skip to Question 20.**
- Sometimes
- Never
19. What were the reason(s) you did not always wear a **water resistant gown or outer garment** while handling high level disinfectants?
Please ✓ all that apply.
1. Potential for exposure to high level disinfectants is insignificant
2. Exposure to high level disinfectants is possible but the health hazard is insignificant
3. Not required by employer
4. Not provided by employer
5. Not standard practice
6. Too uncomfortable or difficult to use
7. Not readily available in work area
8. Cross-contamination to other areas is not a concern
9. Other (Please specify): _____
- _____
- 19A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear a **water resistant gown or outer garment** while handling high level disinfectants.
- Most important reason

20. During the past week, did you wear **protective gloves** while handling high level disinfectants?
- Always  **Skip to Question 22.**
- Sometimes
- Never
21. What were the reason(s) you did not always wear **protective gloves** while handling high level disinfectants?
Please ✓ all that apply.
1. Potential for exposure to high level disinfectants is insignificant
2. Exposure to high level disinfectants is possible but the health hazard is insignificant
3. Not required by employer
4. Not provided by employer
5. Not standard practice
6. Too uncomfortable or difficult to use
7. Not readily available in work area
8. Cross-contamination to other areas is not a concern
9. Other (Please specify): _____
- _____
- 21A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear protective gloves while handling high level disinfectants?
- Most important reason
22. During the past week, did you wear **eye protection** (safety glasses, goggles, face shield) while handling high level disinfectants?
- Always  **Skip to Question 24.**
- Sometimes
- Never

23. What were the reason(s) you did not always wear **eye protection** while handling high level disinfectants?
Please ✓ **all that apply.**
- 1. Potential for exposure to high level disinfectants is insignificant
 - 2. Exposure to high level disinfectants is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily available in work area
 - 8. Other (Please specify): _____

23A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **eye protection** while handling high level disinfectants.

Most important reason

24. During the past week, did you wear **respiratory protection**, not including a surgical mask, while handling high level disinfectants?
- Always
 - Sometimes
 - Never 
- Skip to Question 26.**
25. What type(s) of respirator(s), not including a surgical mask, did you use?
Please ✓ **all that apply.**
- Disposable particulate respirator (also called filtering face-piece respirator, e.g., N95)
 - Half mask or full-face piece respirator with replaceable filters or cartridges
 - Powered air-purifying respirator (PAPR)
 - Don't know



During the past week if you ALWAYS wore respiratory protection when handling high level disinfectants, skip to Question 27.

26. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while handling high level disinfectants?
Please ✓ all that apply.

- 1. Potential for exposure to high level disinfectants is insignificant
- 2. Exposure to high level disinfectants is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily available in work area
- 8. Other (Please specify): _____

26A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while handling high level disinfectants.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

27. How long did it take you to complete this module of the survey?
Please ✓ only one answer.

- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes

28. Was the subject matter addressed in this module of interest to you?
Please ✓ only one answer.

- High interest
- Medium interest
- Low interest
- No interest

29. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

- None
- Specify hazard: _____
- Specify hazard: _____
- Specify hazard: _____
- _____
- _____

30. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE**F**

This module is for individuals who work in areas (i.e., in the actual operating room, same day surgery room, or doctor's office) while lasers or electrosurgery devices are being used. This module should be completed by all employees who work in these areas, whether you perform the procedures or assist in areas where these devices are used.

1. During your career (including all jobs at this and other facilities), how long have you been working in areas (operating room, same day surgery room, doctor's office, etc.) where lasers or electrosurgery devices were being used?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received training that addresses the hazards of surgical smoke at this facility?
Please all that apply.
 - At time hired at this facility
 - During orientation for your current job or task
 - At least annually (i.e., one or more times every 12 months)
 - Other (Please specify): _____
 - Never received training

3. Have you seen written policies or standard procedures that address potential hazards of surgical smoke at this facility?
 - Yes
 - No

4. Do you ever wear or take home any clothing (protective clothing or street clothes) which were worn when lasers or electrosurgery devices were being used?
 - Yes
 - No

The term “past week” in the following questions refers to the past 7 calendar days.

5. At any time in the **past week** (7 calendar days), did you work in a room (operating room, same day surgery room, doctor’s office, etc.) **within 5 feet** of the patient while a laser or electrosurgery device was being used?

- Yes
 No

**Thank you for
 completing this module.**

6. During the past week (7 calendar days), how many days did you work in rooms where lasers or electrosurgery devices were being used?

Number of days.....
 (Please write a number from 1-7)

7. During the past week, how much total time did you spend **within 5 feet** of a patient while a laser or electrosurgery device was being used?

- Less than 1 hour
 1-5 hours
 6-20 hours
 21-40 hours
 More than 40 hours

8. How does the total amount of time spent in rooms where lasers or electrosurgical devices were being used during the past week compare with most weeks?

- Past week was about normal
 Past week was less than normal
 Past week was greater than normal

9. During the past week, what was the total number of procedures involving lasers or electrosurgery devices that you performed or were **within 5 feet** of the procedure?

- 1 procedure
 2-5 procedures
 6-10 procedures
 11-25 procedures
 More than 25 procedures

10. During the past week, in which of the following areas did you **ever** work where a laser or electrosurgery device was being used? **Please ✓ all that apply.**
- a. Operating room
 - b. Specialty suite or lab
 - c. Outpatient clinic
 - d. Medical office
 - e. Dental office
 - f. Some other location (Please specify):

- 10A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often worked where a laser or electrosurgery device was being used .
- Most often worked.....

The following questions relate to the control of surgical smoke through the use of ventilation in the area in which you worked most often during the past week (i.e., the same area as indicated in question 10A).

11. Was a smoke evacuation system/device being used? Yes, continue
 No
 Don't know } **Skip to Question 13.**
12. Was the surgical smoke exhausted outside the room? Yes
 No
 Don't know
13. During the past week, when working in rooms in which lasers or electrosurgical devices were being used, how often was surgical smoke detectable (visually or by smell)? Never
 Rarely
 About half the time
 Most of the time
 All the time

The following questions pertain to your use of personal protective equipment (PPE) while working in rooms in which lasers or electrosurgical devices are being used.

14. During the past week, did you wear a **protective gown or outer garment** while working in areas in which lasers or electrosurgical devices were being used?

- Always 
- Sometimes
- Never

Skip to Question 16.

15. What were the reason(s) you did not always wear a **protective gown or outer garment** while working in areas in which lasers or electrosurgical devices are being used? **Please ✓ all that apply.**

1. Potential for exposure to surgical smoke is insignificant
2. Exposure to surgical smoke is possible but the health hazard is insignificant
3. Not required by employer
4. Not provided by employer
5. Not standard practice
6. Too uncomfortable or difficult to use
7. Not readily available in work area
8. Cross contamination to other areas is not a concern
9. Concerned about raising the patient's anxiety
10. Other (Please specify): _____

15A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear a **protective gown or outer garment** while working in areas in which lasers or electrosurgical devices are being used.

Most important reason

16. During the past week, did you wear **protective gloves** while working where a laser or electrosurgery device was being used?

- Always 
- Sometimes
- Never

Skip to Question 18.

17. What were the reason(s) you did not always wear **protective gloves** while working in an area where a laser or electrosurgery device was being used? **Please ✓ all that apply.**

- 1. Potential for exposure to surgical smoke is insignificant
- 2. Exposure to surgical smoke is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily available in work area
- 8. Cross contamination to other areas is not a concern
- 9. Concerned about raising the patient's anxiety
- 10. Other (Please specify): _____

17A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **protective gloves** while working in an area where a laser or electrosurgery device was being used.

Most important reason

18. During the past week, did you wear **eye protection** (safety glasses, goggles, face shield) while working in an area where a laser or electrosurgery device was being used?

- Always
- Sometimes
- Never

Skip to Question 20.

19. What are the reason(s) you did not always wear **eye protection** while working in an area where a laser or electrosurgery device was being used? **Please ✓ all that apply.**

- 1. Potential for exposure to surgical smoke is insignificant
- 2. Exposure to surgical smoke is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily available in work area
- 8. Concerned about raising the patient's anxiety
- 9. Other (Please specify): _____

19A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **eye protection** while working in an area where a laser or electrosurgery device was being used.

Most important reason

20. During the past week, did you wear **respiratory protection**, not including a surgical mask, while working in an area where a laser or electrosurgery device was being used?

- Always
- Sometimes
- Never

Skip to Question 22.

21. What type(s) of respirator(s), not including a surgical mask, did you use? **Please ✓ all that apply.**
- Disposable particulate respirator (also called filtering face-piece respirator, e.g., N95)
 - Half mask or full-face piece respirator with replaceable filters or cartridges
 - Powered air-purifying respirator (PAPR)
 - Don't know



During the past week if you ALWAYS wore respiratory protection, not including a surgical mask, while working in an area where a laser or electrosurgery device was being used, skip to Question 23.

22. What are the reason(s) you did not always wear a **respirator** while working in an area where a laser or electrosurgery device was being used? **Please ✓ all that apply.**
- 1. Potential for exposure to surgical smoke is insignificant
 - 2. Exposure to surgical smoke is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Too time consuming
 - 6. Not standard practice
 - 7. Too uncomfortable or difficult to use
 - 8. Not readily available in work area
 - 9. Concerned about raising the patient's anxiety
 - 10. Other (Please specify): _____

- 22A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear a **respirator** while working in an area where a laser or electrosurgery device was being used.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

23. How long did it take you to complete this module of the survey?

Please ✓ only one answer.

- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes

24. Was the subject matter addressed in this module of interest to you?

Please ✓ only one answer.

- High interest
- Medium interest
- Low interest
- No interest

25. Are there any other hazards that you think we should address with similar modules?

Please ✓ all that apply.

- None
- Specify hazard: _____
- Specify hazard: _____
- Specify hazard: _____

26. Please use the space below to record any other comments you have about the survey.

You have now completed this module.

Thank you.

MODULE G	<i>This module is directed toward anesthesiologists, nurse anesthetists, and others who administer anesthesia as a gas.</i>
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1. During your career (including all jobs at this and other facilities), how long have you been administering anesthesia as a gas?
 Less than 6 months
 At least 6 months but less than a year
 1-5 years
 6-10 years
 11-20 years
 More than 20 years

2. When have you received training on procedures for the safe handling of anesthetic gases at this facility? **Please ✓ all that apply.**
 At time hired at this facility
 During orientation for your current job or task
 At least annually (i.e., one or more times every 12 months)
 Other (Please specify): _____
 Never received training

3. Have you seen written policies or standard procedures for working with anesthetic gases at this facility?
 Yes
 No

The term “past week” in the following questions refers to the past 7 calendar days.

4. At any time in the **past week** (7 calendar days) did you administer anesthesia as a gas?
 Yes
 No 

Thank you for completing this module.
--

5. During the past week, which of the following anesthetic gases did you administer? **Please ✓ all that apply.**
 Desflurane
 Enflurane
 Halothane
 Isoflurane
 Nitrous oxide
 Sevoflurane
 Other anesthetic gases (Please specify):
1. _____
2. _____

6. During the past week (7 calendar days), how many days did you administer anesthesia as a gas? Number of days.....
(Please write a number from 1-7)
7. During the past week, how much total time did you spend administering anesthesia as a gas? *(Include only the time these gases were actually being administered.)*
- Less than 1 hour
 - 1-10 hours
 - 11-20 hours
 - 21-30 hours
 - 31-40 hours
 - More than 40 hours
8. How does the total amount of time you spent administering anesthesia as a gas during the past week compare with most weeks?
- Past week was about normal
 - Past week was less than normal
 - Past week was greater than normal
9. During the past week, what was the total number of times you administered anesthesia as a gas?
- 1 time
 - 2-3 times
 - 4-5 times
 - 6-10 times
 - More than 10 times
10. During the past week, in which of the following areas did you **ever** administer anesthesia as a gas? **Please** **all that apply.**
- a. Operating room
 - b. Specialty suite or lab
 - c. Outpatient clinic
 - d. Medical office
 - e. Dental office
 - f. Some other location (Please specify):

- 10A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often administered anesthesia as a gas during the past week. Area most often administered

11. During the past week, did you administer anesthesia as a gas to **adult** patients? (*We consider adult patients to be 13 years of age or older.*)
- Yes
 No  **Skip to Question 15.**
12. During the past week, to how many **adult** patients did you administer anesthesia as a gas **starting with a face mask and then switching to an airway device** (i.e., endotracheal tube, tracheostomy tube or laryngeal mask)?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
13. During the past week, to how many **adult** patients did you administer anesthesia as a gas **using only a face mask** throughout the entire period?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
14. During the past week, to how many **adult** patients did you administer anesthesia as a gas **using only an airway device** throughout the entire period (i.e., endotracheal tube, tracheostomy tube or laryngeal mask)?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
15. During the past week, did you administer anesthesia as a gas to **pediatric** patients? (*We consider pediatric patients to be 12 years of age or younger.*)
- Yes
 No  **Skip to Question 19.**
16. During the past week, to how many **pediatric** patients did you administer anesthesia as a gas **starting with a face mask and then switching to an airway device** (i.e., endotracheal tube, tracheostomy tube or laryngeal mask)?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children

17. During the past week, to how many **pediatric** patients did you administer anesthesia as a gas **using only a face mask** throughout the entire period?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children
18. During the past week, to how many **pediatric** patients did you administer anesthesia as a gas **using only an airway device** throughout the entire period (i.e., endotracheal tube, tracheostomy tube or laryngeal mask)?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children
19. During the past week, how often was a scavenging system used when you administered anesthesia as a gas?
- Always
 Sometimes
 Never
 System not available
20. During the past week, did you **personally** fill the vaporizer?
- Yes
 No  **Skip to Question 23.**
21. During the past week, how often did you fill the vaporizer by pouring directly from the bottle?
- Always
 Sometimes
 Never
 System not available
22. During the past week, how often did you fill the vaporizer using a specialized "key-fill" spout?
- Always
 Sometimes
 Never
 System not available
23. During the past week, did you administer anesthesia as a gas in a **dental clinic or operatory**?
- Yes
 No  **Skip to Question 26.**

24. During the past week while administering anesthetic gases in a dental clinic or operator, how often did you use a patient nasal hood?
- Always
 Sometimes
 Never
 System not available
25. During the past week, while administering anesthetic gases in a dental clinic or operator, how often did you use a free standing auxiliary local exhaust system in conjunction with the scavenging system?
- Always
 Sometimes
 Never
 System not available
26. During the past week, what was the typical amount of time you spent **each day** working with patients in a Post Anesthesia Care Unit (PACU) or Surgical Recovery Unit (SRU)?
- None
 Less than 30 minutes
 30-60 minutes
 1-4 hours
 5-8 hours
 More than 8 hours

The following questions pertain to the use of personal protective equipment (PPE) during the administration of anesthetic gases.

27. During the past week, how often did you wear **respiratory protection**, not including a surgical mask, while administering anesthetic gases?
- Always
 Sometimes
 Never  **Skip to Question 29.**
28. What type(s) of respirator(s), not including a surgical mask, did you use?
Please ✓ all that apply.
- Half mask or full-face piece respirator with replaceable cartridges
 Powered air-purifying respirator (PAPR)
 Supplied-air respirator
 Don't know



During the past week if you ALWAYS wore respiratory protection, not including a surgical mask, skip to Question 30.

29. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while administering anesthetic gases?
Please ✓ all that apply.

- 1. Potential for exposure to anesthetic gases is insignificant
- 2. Exposure to anesthetic gases is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily available in work area
- 8. Concerned about raising the patient's anxiety.
- 9. Other (Please specify): _____

29A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while administering anesthetic gases.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

30. How long did it take you to complete this module of the survey?
Please ✓ only one answer.

- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes

31. Was the subject matter addressed in this module of interest to you?
Please ✓ only one answer.

- High interest
- Medium interest
- Low interest
- No interest

32. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

- None
- Specify hazard: _____
- Specify hazard: _____
- Specify hazard: _____

33. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE

H

This module is directed toward individuals who work in area(s) where anesthetic gases are being administered, but who are not administering the gases themselves. You are considered to be in the area if you are in the same room and within five (5) feet of where anesthetic gases are being administered.

Note: Do not complete this section if you actually administer the anesthetic gases.

1. During your career (including all jobs at this and other facilities), how long have you been working in areas while anesthetic gases were being administered in that area?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received training on the hazards of exposure to waste anesthetic gases at this facility? **Please ✓ all that apply.**
 - At time hired at this facility
 - During orientation for your current job or task
 - At least annually (i.e., one or more times every 12 months)
 - Other (Please specify): _____
 - Never received training

3. Have you seen written policies or standard procedures for working with anesthetic gases at this facility?
 - Yes
 - No

The term “past week” in the following questions refers to the past 7 calendar days.

4. At any time in the **past week** (7 calendar days) did you work in an area while anesthetic gases were being administered in that area?

- Yes
- No

Thank you for completing this module.

5. During the past week (7 calendar days), how many days did you work in an area while anesthetic gases were being administered?

Number of days.....
(Please write a number from 1-7)

6. During the past week, how much total time did you spend working in an area while anesthetic gases were being administered? *(Include only the time these gases were actually being administered.)*
- Less than 1 hour
 1-10 hours
 11-20 hours
 21-30 hours
 31-40 hours
 More than 40 hours
7. How does the total amount of time you spent in an area while anesthetic gases were being administered during the past week compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal
8. During the past week, what was the total number of times you worked in an area while anesthetic gases were being administered?
- 1 time
 2-3 times
 4-5 times
 6-10 times
 More than 10 times
9. During the past week, in which of the following areas did you **ever** work while anesthetic gases were being administered? **Please** ✓ **all that apply.**
- a. Operating room
 b. Specialty suite or lab
 c. Outpatient clinic
 d. Medical office
 e. Dental office
 f. Some other location (Please specify):

- 9A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often worked while anesthetic gases were being administered during the past week.
- Area most often worked
10. During the past week, did you work in an area while anesthetic gases were administered to **adult** patients? *(We consider adult patients to be 13 years of age or older.)*
- Yes
 No  **Skip to Question 14.**

11. During the past week, how many **adult** patients received anesthetic gases **starting with a face mask and then switched to an airway device** (i.e., endotracheal tube, tracheostomy tube or laryngeal mask) while you were in the area?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
 Don't know
12. During the past week, how many **adult** patients received anesthetic gases **using only a face mask** while you were in the area?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
 Don't know
13. During the past week, how many **adult** patients received anesthetic gases **using only an airway device** (i.e., endotracheal tube, tracheostomy tube or laryngeal mask) while you were in the area?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
 Don't know
14. During the past week, did you work in an area while anesthetic gases were administered to **pediatric** patients? (We consider pediatric patients to be 12 years of age or younger.)
- Yes
 No  **Skip to Question 18.**
15. During the past week, how many **pediatric** patients received anesthetic gases **starting with a face mask and then switched to an airway device** (i.e., endotracheal tube, tracheostomy tube or laryngeal mask) while you were in the area?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children
 Don't know

16. During the past week, how many **pediatric** patients received anesthetic gases **using only a face mask** while you were in the area?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children
 Don't know
17. During the past week, how many **pediatric** patients received anesthetic gases **using only an airway device** (i.e. endotracheal tube, tracheostomy tube or laryngeal mask) while you were in the area?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children
 Don't know
18. During the past week, what was the typical amount of time you spent **each day** working with patients in a Post Anesthesia Care Unit (PACU) or Surgical Recovery Unit (SRU)?
- None
 Less than 30 minutes
 30-60 minutes
 1-4 hours
 5-8 hours
 More than 8 hours

The following questions pertain to the use of personal protective equipment (PPE) while working in areas where anesthetic gases are administered.

19. During the past week, how often did you wear **respiratory protection**, not including a surgical mask, while working in areas where anesthetic gases were being administered?
- Always
 Sometimes
 Never  **Skip to Question 21.**
20. What type(s) of respirator(s), not including a surgical mask, did you use?
Please all that apply.
- Half mask or full-face piece respirator with replaceable cartridges
 Powered air-purifying respirator (PAPR)
 Supplied-air respirator
 Don't know



During the past week if you ALWAYS wore respiratory protection, not including a surgical mask, while working in areas where anesthetic gases were being administered, skip to Question 22.

21. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while working in areas where anesthetic gases were being administered?

Please ✓ **all that apply.**

1. Potential for exposure to anesthetic gases is insignificant
2. Exposure to anesthetic gases is possible but the health hazard is insignificant
3. Not required by employer
4. Not provided by employer
5. Not standard practice
6. Too uncomfortable or difficult to use
7. Not readily available in work area
8. Concerned about raising the patient's anxiety.
9. Other (Please specify): _____
- _____

- 21A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while working in areas where anesthetic gases were being administered.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

22. How long did it take you to complete this module of the survey?

Please ✓ **only one answer.**

- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes

23. Was the subject matter addressed in this module of interest to you?

Please ✓ **only one answer.**

- High interest
- Medium interest
- Low interest
- No interest

24. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

25. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

<p>MODULE</p> <p>I</p>	<p><i>This module is directed toward individuals who work in Post Anesthesia Care Units (PACUs) or Surgical Recovery Units (SRUs).</i></p> <p><i>Note – do <u>not</u> complete this section, if you:</i></p> <ul style="list-style-type: none"> • <i>Administer the anesthetic gases, or</i> • <i>Work in areas while anesthetic gases are being administered. You are considered to be in the area if you are in the same room and within five (5) feet of where anesthetic gases are being administered.</i>
--------------------------------------	--

1. During your career (including all jobs at this and other facilities), how long have you been working in Post Anesthesia Care Units (PACUs) or Surgical Recovery Units (SRUs)?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received training on the hazards of exposure to waste anesthetic gases at this facility? **Please ✓ all that apply.**
 - At time hired at this facility
 - During orientation for your current job or task
 - At least annually (i.e., one or more times every 12 months)
 - Other (Please specify): _____
 - Never received training

3. Have you seen written policies or standard procedures for working around waste anesthetic gases?
 - Yes
 - No

The term “past week” in the following questions refers to the past 7 calendar days.

4. At any time in the **past week** (7 calendar days) did you work in a Post Anesthesia Care Unit (PACU) or Surgical Recovery Unit (SRU)?
 - Yes
 - No

Thank you for completing this module.

5. During the past week (7 calendar days), how many days did you work in a PACU or SRU?

Number of days.....

(Please write a number from 1-7)

6. During the past week, how much time did you spend working in a PACU or SRU?
- Less than 1 hour
 1-10 hours
 11-20 hours
 21-30 hours
 31-40 hours
 More than 40 hours
7. During the past week, how much time did you spend working **within five feet** of patients in the PACU or SRU?
- Less than 1 hour
 1-10 hours
 11-20 hours
 21-30 hours
 31-40 hours
 More than 40 hours
8. During the past week, how many total patients in the PACU/SRU were you assigned?
- None
 1-2 patients
 3-4 patients
 5-9 patients
 10-20 patients
 21-40 patients
 More than 40 patients
9. How does the total amount of time you spent working within five feet of patients in the PACU or SRU during the past week compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal

The following questions pertain to the use of personal protective equipment (PPE) while working in the PACU or SRU.

10. During the past week, how often did you wear **respiratory protection**, not including a surgical mask, while working in the PACU or SRU?
- Always
 Sometimes
 Never  **Skip to Question 12.**
11. What type(s) of respirator(s), not including a surgical mask, did you use?
Please ✓ all that apply.
- Half mask or full-face piece respirator with replaceable cartridges
 Powered air-purifying respirator (PAPR)
 Supplied-air respirator
 Don't know



During the past week if you ALWAYS wore respiratory protection, not including a surgical mask, while working in the PACU or SRU, skip to Question 13.

12. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while working in the PACU or SRU?
Please ✓ **all that apply.**
- 1. Potential for exposure to anesthetic gases is insignificant
 - 2. Exposure to anesthetic gases is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily available in work area
 - 8. Concerned about raising the patient's anxiety.
 - 9. Other (Please specify): _____

- 12A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while working in the PACU or SRU.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

13. How long did it take you to complete this module of the survey?
Please ✓ **only one answer.**
- Less than 5 minutes
 - 5-10 minutes
 - 11-15 minutes
 - More than 15 minutes
14. Was the subject matter addressed in this module of interest to you?
Please ✓ **only one answer.**
- High interest
 - Medium interest
 - Low interest
 - No interest
15. Are there any other hazards that you think we should address with similar modules?
Please ✓ **all that apply.**
- Specify hazard: _____
- Specify hazard: _____
- Specify hazard: _____

16. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE J	<p><i>This module is directed toward housekeeping or environmental services staff and others (such as janitors, orderlies, nursing assistants, etc.) who perform any of the following:</i></p> <ul style="list-style-type: none"> • <i>Clean floors, countertops, sinks, toilets, etc.,</i> • <i>Handle soiled linens or bedpans,</i> • <i>Clean up spills of anti-cancer drugs, chemicals, or cleaning products, or</i> • <i>Empty/clean containers or trash bins that have items contaminated with blood, urine, feces, vomit, anti-cancer drugs, or chemicals in them.</i>
-------------------------------	--

1. During your career (including all jobs at this and other facilities), how long have you been performing any of the activities as described above?
- Less than 6 months
 At least 6 months but less than a year
 1-5 years
 6-10 years
 11-20 years
 More than 20 years
2. Have you ever received training on health and safety procedures related to your work at this facility?
- Yes
 No  **Skip to Question 5.**
3. When did you receive this health and safety training at this facility? **Please ✓ all that apply.**
- At time hired at this facility
 During orientation for your current job or new tasks
 One or more times every 12 months
 Other (Please specify): _____

4. Which of the following topics were covered during this health and safety training:
- a. Safe handling of bed pans, sheets, clothing, or other materials that may be soiled with blood, urine, feces, or vomit?
- Yes
 No
- b. Safe mixing and use of cleaning products?
- Yes
 No
- c. Safe clean-up procedures for spills of anti-cancer drugs, chemicals, or cleaning products?
- Yes
 No
- d. Safe handling of containers or trash bins containing items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals?
- Yes
 No

5. Have you ever seen written policies or standard procedures at this facility that address:
- a. Safe handling of bed pans, sheets, clothing, or other materials that may be soiled with blood, urine, feces, or vomit? Yes No
 - b. Safe mixing and use of cleaning products? Yes No
 - c. Safe clean-up procedures for spills of anti-cancer drugs, chemicals, or cleaning products? Yes No
 - d. Safe handling of containers or trash bins containing items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals? Yes No

The term “past week” in the following questions refers to the past 7 calendar days.

6. During the **past week** (7 calendar days) how many days did you perform any of the housekeeping or environmental services activities described above? Number of days.....
(Please write a number from 1-7)

7. At any time in the **past week** (7 calendar days) did you clean floors, countertops, sinks, toilets, etc. at this facility? Yes No  **Skip to Question 12.**

8. During the past week, which of the following cleaning products did you use at this facility? **Please** ✓ **all that apply.**

- | | |
|---|--|
| <input type="checkbox"/> Ammonia
<input type="checkbox"/> Chlorine bleach
<input type="checkbox"/> Strong detergent
<input type="checkbox"/> Wax stripper
<input type="checkbox"/> Toilet bowl cleaner
<input type="checkbox"/> Quaternary ammonium compounds (e.g. Oasis [®] , Staphene [®] , BTC100 [®] , BioQuat [®] , Sentinel [®])
<input type="checkbox"/> Phenols (e.g. WexCide [®] , MicroBakII [®] , Megacide [®] , Novigard [®] , Sporicidin [®]) | <input type="checkbox"/> Alcohols (e.g. ethanol, isopropanol)
<input type="checkbox"/> Aldehydes (e.g. glutaraldehyde, formaldehyde)
<input type="checkbox"/> Iodine (e.g. Povidone [®] , BacFlush [®] , Dusan Foam [®])
<input type="checkbox"/> Oxidizers such as hydrogen peroxide (e.g. H ₂ Orange [®] , Actril [®] , B-Cap [®] , Bioside HS [®]) or peracetic acid (Peraclean [®])
<input type="checkbox"/> Other:
1. _____
2. _____
<input type="checkbox"/> Don't Know |
|---|--|

9. During the past week, what was the total number of times you **mixed** these cleaning products with water (i.e., diluted the concentrate) at this facility?

-
- 1-5 times
-
-
- 6-10 times
-
-
- 11-20 times
-
-
- 21-50 times
-
-
- More than 50 times

10. During the past week, what was the total amount of time you spent actually using cleaning products?

-
- Less than 1 hour
-
-
- 1-5 hours
-
-
- 6-10 hours
-
-
- 11-20 hours
-
-
- 20 or more hours

11. How does the total amount of time you spent actually using cleaning products during the past week compare with most weeks?

-
- Past week was about normal
-
-
- Past week was less than normal
-
-
- Past week was greater than normal

12. At any time during the **past week** (7 calendar days), did you handle bed pans, sheets, clothing or other materials visibly soiled with blood, urine, feces, or vomit?

-
- Yes
-
-
- No

Skip to Question 15.

13. During the past week, what was the total number of times you handled bed pans, sheets, clothing or other materials visibly soiled with blood, urine, feces, or vomit?
- 1 time
 2-5 times
 6-10 times
 11-20 times
 21-50 times
 More than 50 times
14. How does the number of times you handled bed pans, sheets, clothing or other materials visibly soiled with blood, urine, feces, or vomit during the past week compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal
15. At any time during the **past week** (7 calendar days), did you clean up spills of blood, urine, feces, vomit, anti-cancer drugs, chemicals or cleaning products at this facility?
- Yes
 No  **Skip to Question 18.**
16. During the past week, what was the total number of times you cleaned-up of spills of anti-cancer drugs, chemicals or cleaning products at this facility?
- 1 time
 2-3 times
 4-5 times
 6-10 times
 More than 10 times
17. How does the number of times you cleaned-up these spills during the past week compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal
18. At any time during the **past week** (7 calendar days), did you empty/clean containers or trash bins that had items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals in them?
- Yes
 No  **Skip to Question 21.**
19. During the past week, what was the total number of times you emptied/cleaned containers that had items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals in them?
- 1 time
 2-5 times
 6-10 times
 11-20 times
 21-50 times
 More than 50 times

20. How does the number of times you emptied/cleaned containers that had items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals in them during the past week compare with most weeks?
- Past week was about normal
 Past week was less than normal
 Past week was greater than normal

The following questions pertain to the use of personal protective equipment (PPE) in your job at this facility during the past week.

21. During the past week, did you **ever** wear **respiratory protection**, other than a surgical mask?
- Yes
 No  **Skip to Question 23.**

22. During the past week, did you wear **respiratory protection**, not including a surgical mask, while:
- a. Mixing cleaning products?
- Yes, always
 Yes, sometimes
 No
- b. Cleaning up spills of anti-cancer drugs or chemicals?
- Yes, always
 Yes, sometimes
 No



During the past week if you ALWAYS wore respiratory protection, not including a surgical mask, while mixing cleaning products and cleaning up spills, skip to Question 24.

23. What were your reasons for **not always** wearing **respiratory protection**?

Please ✓ **all that apply**.

- 1. Potential for exposure to biological or chemical agents is insignificant
- 2. Exposure to biological or chemical agents is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily available in work area
- 8. Other (Please specify): _____

23A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection**.

Most important reason

24. During the past week, did you **ever** wear a **water resistant protective gown or outer garment**?

- Yes
- No



Skip to Question 26.

25. During the past week, did you wear a **water resistant protective gown or outer garment** while:

- a. Handling bed pans, sheets, clothing, or other materials that may have been soiled with blood, urine, feces, or vomit?
- b. Mixing cleaning products?
- c. Cleaning up spills of anti-cancer drugs or chemicals?
- d. Handling containers or trash bins that had items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals in them?

	Always	Sometimes	Never
a.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



During the past week, if you ALWAYS wore a water resistant gown or outer garment while performing all 4 above activities, skip to Question 27.

26. What were your reasons for **not always** wearing a **water resistant protective gown or outer garment**?

Please ✓ **all that apply**.

- 1. Potential for exposure to biological or chemical agents is insignificant
- 2. Exposure to biological or chemical agents is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily available in work area
- 8. Other (Please specify): _____

26A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear a **water resistant protective gown or garment**.

Most important reason

27. During the past week, did you **ever** wear **water resistant protective gloves** (e.g., latex or nitrile)?

- Yes
- No



Skip to Question 29.

28. During the past week, did you wear **water resistant protective gloves** while:

- a. Handling bed pans, sheets, clothing, or other materials that may have been soiled with blood, urine, feces, or vomit?
- b. Mixing cleaning products?
- c. Cleaning up spills of anti-cancer drugs or chemicals?
- d. Handling containers or trash bins that had items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals in them?

	Always	Sometimes	Never
a.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



During the past week, if you ALWAYS wore water resistant protective gloves while performing all 4 above activities, skip to Question 30.

29. What were your reasons for **not always** wearing **water resistant protective gloves**?

Please ✓ **all that apply**.

- 1. Potential for exposure to biological or chemical agents is insignificant
- 2. Exposure to biological or chemical agents is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily available in work area
- 8. Other (Please specify): _____

29A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **water resistant protective gloves**.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

30. How long did it take you to complete this module of the survey?

Please ✓ **only one answer**.

- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes

31. Was the subject matter addressed in this module of interest to you?

Please ✓ **only one answer**.

- High interest
- Medium interest
- Low interest
- No interest

32. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

33. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

Appendix C
Pre-Survey Letter

Pre-Survey Letter – Groups 1, 2, and 3

To be sent to all sample members one week prior to survey

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

A few days from now you will receive a request to complete a questionnaire for an important project being conducted by the Battelle Centers for Public Health Research and Evaluation. I am writing in advance because we have found many people like to know ahead of time that they will be contacted.

This questionnaire is part of an evaluation of the National Exposures at Work Survey (NEWS) being developed by the National Institute for Occupational Safety and Health (NIOSH) which is part of the Centers for Disease Control and Prevention.

This project is important since it will help to assess and reduce exposures to chemicals, safety hazards, stress, and other occupational hazards among health care workers. The VHA Puget Sound Health Care System has agreed to participate and provide an opportunity for you to complete the questionnaire at work in a confidential manner.

Thank you in advance for your time and consideration. Your generous participation will help to make this project successful. If you have any questions, or do not wish to be contacted further about this study, please feel free to contact Betsy Payn at 1-866-215-6616. If we do not hear otherwise from you, we will be sending the survey invitation in a few days.

Sincerely,

Gordon Starkebaum, M.D.
Principal Investigator
Chief of Staff
VA Puget Sound Health Care System

Ron Kaplan, LPN
Employee Health Nurse
VA Puget Sound Health Care System

Email message from hospital administration – Groups 1, 2, and 3
To be sent to all sample members one week prior to survey

The VHA Puget Sound Health Care System is happy to announce that we are participating in an important study about worker safety and health. Specifically, this study, involving employee and management questionnaires, is designed to assess potential exposures to select chemical agents, safety hazards, stress, and other occupational hazards among health care workers. The project is being conducted by Battelle Centers for Public Health Research and Evaluation for the National Institute for Occupational Safety and Health/Centers for Disease Control and Prevention. We encourage you to participate. Your manager will allow you time during your work day to complete the questionnaire. Please watch for more information about this important study.

Appendix D
Management Letter

Pre-Survey Letter to Department Managers

To be sent to all Department Managers one week prior to survey

{Date}

{First Name} {Last Name}
{Department}

Dear: *{First Name} {Last Name}*

The VHA Puget Sound Health Care System, Seattle Medical Center has agreed to participate in helping evaluate the National Exposures at Work Survey (NEWS) being developed by the National Institute for Occupational Safety and Health (NIOSH). A number of your employees have been selected to participate in this important process.

Battelle Centers for Public Health Research and Evaluation is evaluating the feasibility of collecting occupational health and safety information through employee questionnaires. The focus of these questionnaires is on workplace exposures to physical and emotional stress, and chemical agents. An additional goal of our project is to provide feedback to the VHA Puget Sound Health Care System to assist in improving health and safety conditions for all workers. Approximately 800 employees at the Seattle facility are being invited to participate by completing a survey questionnaire.

In about a week we will be sending questionnaires to your employees who we have selected for participation. They will be given two options for participating; they can either complete the survey on the internet or fill-out a paper version of the survey. Voluntary participation is important for the success of this project.

We would appreciate your help in this effort. Please encourage your staff to participate in the survey and allow work time for them to do so. We anticipate most employees will be able to complete the survey in thirty minutes. We want to emphasize that participation is voluntarily and private. All of the answers provided will remain confidential, and employers will not be informed about who participates and who does not. The VHA Puget Sound will receive a report(s) based on aggregate data compiled from all returned surveys.

If you have any questions about this research effort, please call me personally at 206-528-3128.

Please accept our thanks in advance for your assistance in this important effort.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Appendix E
Survey Invitation Letter

Invitation letter – Groups 1 and 2
To be sent to all members of Groups 1 and 2 with survey

{Date}

{First Name} {Last Name}
{Job Title}
{Department}

Dear: *{First Name} {Last Name}*

I'm writing to ask your help in a survey of health care workers being conducted by the Battelle Centers for Public Health Research and Evaluation on behalf of National Institute for Occupational Safety and Health (NIOSH). This survey is part of the National Exposures at Work Survey (NEWS) which is intended to learn about health and safety practices in the healthcare industry.

You are one of approximately 800 employees at the VHA Puget Sound Health Care System who are being invited to complete a survey questionnaire. The Seattle facility has agreed to support this project and to provide an opportunity to complete this questionnaire at work. It will take about 30 minutes to complete the survey.

You will be asked about your job, your work practices, and your opinions about working conditions at the VHA Puget Sound Health Care System. Knowing more about your job and your work environment will enable healthcare employers, unions, and public agencies to help improve health and safety conditions for healthcare workers such as yourself.

You have two options for completing the survey questionnaire. First, you may complete the survey on the internet by accessing Battelle's secure web site through your internet browser. The web address is www.surveyname.org. If you choose the web-based survey, please see the enclosed instruction sheet for more information. You will need to use the following username and password to access the site:

Username: *{userid}* Password: *{password}*

Or, you may complete the enclosed paper copy. Once completed, simply mail it directly back to Battelle using the enclosed postage-paid envelope. Also, based upon your answers, you may be asked to call our toll-free survey line to request one or more short questionnaires about particular work hazards pertaining to your job. This questionnaire will then be sent to you.

None of the information you provide will be shared with your employer or anyone outside of Battelle and NIOSH. Your employer will not be told whether you participated in the study and will never know your survey answers. A summary report based upon responses from all survey participants will be provided to the Seattle facility. This report will summarize health and safety practices so that working conditions might be improved, if necessary.

While your participation is very important for the success of this effort, your choice to participate is completely voluntary. However you can help us very much by taking a few minutes to share your opinions and experiences about your job. There are no 'right' or 'wrong' answers.

If you have any questions or comments about this survey, you may call me personally at 206-528-3128. If you have questions about your privacy and rights as a participant in this study, you may call Dr. Margaret Pennybacker, Chairperson of Battelle's Institutional Review Board, toll-free at 1-877-810-9530 ext 500.

Please accept our thanks in advance for helping in this important survey.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Enclosure

Invitation letter – Group 3

To be sent to all members of Group 3 with survey

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

I'm writing to ask your help in a survey of health care workers being conducted by the Battelle Centers for Public Health Research and Evaluation on behalf of National Institute for Occupational Safety and Health (NIOSH). This survey is part of the National Exposures at Work Survey (NEWS) which is intended to learn about health and safety practices in the healthcare industry.

You are one of approximately 800 employees at the VHA Puget Sound Health Care System being invited to complete a survey questionnaire. The Seattle facility has agreed to support this project and to provide an opportunity to complete this questionnaire at work. It will take about 30 minutes to complete the survey.

You will be asked about your job, your work practices, and your opinions about working conditions the VHA Puget Sound Health Care System. Knowing more about your job and your work environment will enable healthcare employers, unions, and public agencies to help improve health and safety conditions for healthcare workers such as yourself.

You have two options for completing the survey questionnaire. First, you may complete the survey on the internet by accessing Battelle's secure web site through your internet browser. The web address is www.surveyname.org. If you choose the web-based survey, please see the enclosed instruction sheet for more information. You will need to use the following username and password to access the site:

Username: *{userid}* Password: *{password}*

If you choose to complete a pencil and paper survey, please call our toll-free survey line at 1-866-215-6616 to request a copy to be mailed to you. Phone lines are available from 7am to 8 pm PST Monday through Friday and from 10am – 6 pm on the weekends. A staff member will help you by asking a few questions to determine which parts of the survey apply to you. Then we will send you a survey in the mail with a postage-paid return envelope.

None of the information you provide will be shared with your employer or anyone outside of Battelle and NIOSH. Your employer will not be told whether you participated in the study and will never know your survey answers. A summary report based upon responses from all survey participants will be provided to the Seattle facility. This report will summarize health and safety practices so that working conditions might be improved, if necessary.

While your participation is very important for the success of this effort, your choice to participate is completely voluntary. However you can help us very much by taking a few minutes to share your opinions and experiences about your job. There are no 'right' or 'wrong' answers.

If you have any questions or comments about this survey, you may call me personally at 206-528-3128. If you have questions about your privacy and rights as a participant in this study, you may call Dr. Margaret Pennybacker, Chairperson of Battelle's Institutional Review Board, toll-free at 1-877-810-9530 ext 500.

Please accept our thanks in advance for helping in this important survey.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Enclosure

University of Washington

Information Statement

National Exposures at Work Survey (NEWS)

RESEARCHERS: **Gordon A. Starkebaum, M.D., Principal Investigator**
Chief Medical Officer
VA Puget Sound Health Care System
206-764-2260

James D. Catalano, CIH, Project Director
Battelle Centers for Public Health Research and Evaluation
206-528-3128

James M. Boiano, CIH, Project Manager
National Institute for Occupational Safety and Health
513-841-4246

24-HOUR PHONE: 1-866-215-6616

We are asking you to be in a research study. The purpose of this statement is to give you the information you will need to help you decide whether to be in the study or not. Please read the information statement carefully. You may ask questions about the purpose of the research, what we would ask you to do, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear. When we have answered all your questions, you can decide if you want to be in the study or not.

STUDY PURPOSE

The purpose of this study is to evaluate the feasibility of doing a **National Exposures at Work Survey** (or **NEWS**). The **NEWS** collects information about healthcare employees' health and safety practices, activities and work organization; and assesses possible occupational exposures to selected workplace hazards. This study provides an opportunity for selected individuals to participate in a voluntary employee survey. We will use the information we collect to evaluate the survey questions and the data collection methods.

The National Institute for Occupational Safety and Health (NIOSH) has contracted with Battelle Memorial Institute to conduct this study. As part of the Centers for Disease Control and Prevention (CDC) in the Department of Health and Human Services, NIOSH is responsible for conducting research and making recommendations for the prevention of work-related injury and illness. Battelle Memorial Institute, headquartered in Columbus, Ohio, is the largest non-profit research organization in the world. The survey is being conducted by a unit of Battelle located in Seattle, Washington that specializes in public health research, occupational safety and health, and the social and behavioral sciences.

BENEFITS

If you agree to take part in this study, there will be no direct benefits to you. It is our hope that this study results in a useful and workable national survey of occupational health and safety hazards faced by healthcare workers. The results of such a national survey may ultimately lead to improved working conditions for healthcare workers in the United States.

PROCEDURES

We are asking for you to complete a questionnaire, and you will have the option to do so on a secure internet web site or on paper version sent directly to you. The questionnaire is designed to collect information on hazard exposures, job practices, and personal opinions. The most sensitive questions ask about your personal use of certain safety equipment, such as gloves, gowns and respirators (face masks). You will also see questions that relate to working conditions, interactions with supervisors and coworkers, and opinions about your job. The questionnaire is divided into modules. All participants should complete the “core” module. Depending on their job activities, some participants will be instructed to also fill out one or more “hazard” modules. These hazard modules ask questions about working with specific hazardous materials, such as anti-cancer drugs, anesthetic gases, or glutaraldehyde. It is possible but unlikely that any participant will need to complete more than two hazard modules.

While your participation is very important for the success of this effort, your choice to participate is completely voluntary. You will help us very much by taking a few minutes to share your opinions and experiences about your job. There are no ‘right’ or ‘wrong’ answers.

Based on extensive pre-testing, it should take about 20-30 minutes to complete the core module and 5-10 minutes to complete each hazard module. Most individuals will need to complete only the core module, and very few will be expected to complete more than two hazard modules. We expect that it will take 20-40 minutes to complete this survey, with the average being 25 minutes.

RISK, STRESS, OR DISCOMFORT

You may be uncomfortable with some of the questions asked and the potential loss of privacy. There may be other risks that we cannot predict. If you have any questions about risks, please ask one of the researchers.

OTHER INFORMATION

WHAT ARE MY RIGHTS AS A PARTICIPANT?

Your decision to take part in this study is voluntary. You are the one who decides whether or not to take part. You may decide to stop taking part in this study at any time, for any reason, without notice. You may also choose to skip any questions that you are not comfortable answering. There is no risk to you in any way if you choose not to participate or if you refuse to answer any questions.

HOW WILL MY CONFIDENTIALITY BE MAINTAINED?

Although your name will be obtained for purposes of sending the survey materials, it will not appear on the actual questionnaire. Rather, a unique ID code known only to Battelle will be used on survey forms. Your name will **never** be in the same database as the questionnaire data and we will erase your name from the database once we have received your questionnaire. When your completed survey is received by Battelle, we will prepare a thank-you letter addressed to you. Immediately after generating this letter, your name will be deleted from our database that links your unique identification number with your name. **Your name will be removed from our database on the same day that we receive your completed questionnaire.** None of the information you provide will be shared with your employer or anyone outside of Battelle and NIOSH. Your employer will not be told whether you participated in the study and will never know your survey answers.

HOW WILL THE DATA BE USED?

The current NEWS is part of a pilot study to determine the feasibility of conducting the NEWS nationally. To protect participants' anonymity, the results from this pilot study will be analyzed by only NIOSH and Battelle researchers and will not be available in a format which identifies survey participants. Our primary interests are employee cooperation and participation rates, preference for a web-based or paper survey, and the thoughts and opinions of employees volunteering to participate in the NEWS.

WHAT ARE THE COSTS?

Taking part in this study is not expected to cost you anything. The Puget Sound VA Medical Center has agreed to participate in this pilot study and has generally agreed to permit you, to the extent practical, to complete the survey on work time.

WHO DO I CALL IF I HAVE QUESTIONS OR PROBLEMS?

If you have questions about your rights as a research subject, call the Human Subjects Division for the University of Washington at 206-543-0098. You may also call Dr. Margaret Pennybacker, Chair of the Battelle Institutional Review Board (IRB) at 1-887-810-9530, extension 500.

If you have questions about the study procedures, or if you do not understand any of the information presented in this description, we want to make sure that we answer all of your questions before you decide to participate. If you have any questions, please do not hesitate to call one of the researchers listed at the top of this document or Betsy Payn, the data collection manager, at 206-528-3138, or the study information line at 1-866-6616.

Appendix F
Survey Instructions

Instructions for Completing the National Exposures to Work Survey on the Internet (Web)

Thank you for participating in the survey. Please review these instructions for accessing the web survey before you begin the on-line questionnaire. If you have any questions about accessing the web survey please call Betsy Payn at 1-866-215-6616. She will be happy to help you.

Access to the Web Survey:

- Using your internet browser, go to the survey home page by using this link:
www.battelle.org/xxxsurvey/home
- When you are ready to start the survey, click on the button at the bottom of the home page labeled "Go to Survey Questions"
- To ensure confidentiality and limit access to the survey you must login in by entering your user id and password. Your user id is: <CASEID> and your password is: <PASSWORD>. Click on the button to START.

Navigation:

- To navigate from question to question please use the "Last Question" and "Next Question" buttons that appear on each screen. **Please do not use the Back or Forward buttons in your browser software.**
- Use the "Next Question" button after you have entered your response to continue to the next question. To review your previous answers or change your answers, use the "Last Question" button.
- The "Quit for Now" button is provided if you want to exit the survey before you complete it. To return to the survey, go to www.battelle.org/xxxsurvey/home and follow the instructions as you did when you began the survey for the first time (See "Access to the Web Survey" above). When you log back in, the survey will start where you left off. All of your answers will be available for review.
- Please note if you select "Quit for Now" there will be **about a five minute delay** before the survey application will allow you to log back in, so if you exit and try to get right back in, you will encounter an error. Just wait a few minutes and try again.
- If you encounter a problem with the survey please send an email **(GIVE EMAIL ADDRESS)** to **our webmaster at** to let us know you have encountered a problem and we will help you.

When you Answer the Last Question:

- When you reach the end of the survey, you will have an opportunity to review your answers by clicking on the "Last Question" navigation buttons to go backwards through the survey. When you are satisfied with your answers, please press the SUBMIT button. This action will send the survey to a secure database. Once you have submitted the survey, you will not be able to get back into the survey.

Thank you for your important contribution!

**Instructions for Completing the National Exposures to Work Survey on the Internet (Paper)
Located on inside front cover of all survey booklets**

Completing the Questionnaire

The questionnaire is divided into modules with a core module that all employees should complete and ten hazard-specific modules. We have tried to send you the appropriate hazard module(s) based on your job title, but there is a way to request additional modules, if necessary. Each module is in a separate booklet.

Throughout the survey there are instructions to skip questions or sections. These skip instructions are contained in “stop sign” boxes or follow specific responses to questions with an arrow directing you to the next appropriate question number. Please read the instructions carefully as they are designed to help you efficiently move through the survey answering only those items that apply to your situation.

Some instructions ask that you select only one of a number of possible responses, while instructions for other questions ask that you choose all answers that apply.

Returning the Questionnaire

Please return all pieces of the questionnaire in the postage-paid envelope provided to:

National Exposures at Work Survey
Battelle CPHRE
4500 Sand Point Way NE, Suite 100
Seattle, WA 98105

If you have misplaced your envelope, please call us at 1-866-215-6616 and we will be happy to send a replacement.

Appendix G
Telephone Center Protocol

Telephone Center Protocol

There are three types of calls that potentially will be made to the Telephone Service Center (TSC):

- Employees from the targeted sample (receives the employee core module and applicable hazard modules) may call the telephone center to request additional modules.
- Non-targeted employees who only receive the employee core module may call the TSC to request one or more hazard modules.
- Non-targeted employees who only receive an invitation letter may call to request a paper survey. They will need to receive both the employee core module and any applicable hazard modules.

Callers from each of these groups will receive a different script. The interviewer will ask the caller for their case id or their name. They will enter that information into the tracking system, and the appropriate scripts will load.

SCRIPT FOR FINDING R IN TRACKING SYSTEM

Thank you for calling today. We appreciate your interest in this study. Before we start, I need to find your record in my computer. Do you have the letter we sent to you?

IF YES, SAY: What is the username? It is located near the middle of the letter in bold print.

IF NO, SAY: That's okay. I can look you up by your last name. What is your last name? Please spell that for me.

IF R (respondent) IS IN TARGETED SAMPLE

Do you have your survey handy?

IF YES, SAY: Please turn to the last page of the "core module" booklet. Which additional modules do you need? ENTER MODULES AND GO TO **GETTING ADDRESS**

IF NO, SAY: That's okay. I'll just ask you a few questions, so we can send you the parts of the questionnaire that apply to you. GO TO **SCREENING QUESTIONS**.

IF R IS IN NON-TARGETED GROUP THAT RECEIVES CORE MODULE

Do you have your survey handy?

IF YES, SAY: Please turn to the last page of the "core module" booklet. Which modules do you need? ENTER MODULES AND GO TO **GETTING ADDRESS**

IF NO, SAY: That's okay. I'll just ask you a few questions, so we can send you the parts of the questionnaire that apply to you. GO TO **SCREENING QUESTIONS**.

IF R IS IN NON-TARGETED GROUP THAT RECEIVES ONLY AN INVITATION

I just have a few questions so that I can send you the sections of the survey that apply to you. The questions are about the tasks that you do in your current job. First, I need to know if you read the letter that we sent about this study and your rights as a study participant?

IF YES, GO TO SCREENING QUESTIONS

IF NO, READ: Before we begin, let me go over a few points to make sure you understand your rights as a study participant. This study is designed to examine the feasibility of collecting information about health care workers' potential exposure to physical and emotional stress and to certain hazardous chemicals while at work. We also will provide summary information to the VHA Seattle to improve health and safety conditions for all workers. You are one of approximately 800 employees at the Seattle Medical Center invited to participate. Your participation is completely voluntary and your answers will be completely confidential. It takes about 5 minutes to finish this phone call and about 30 minutes to complete the survey that we will send to you in the mail.

We are interested in your opinions and experiences, and there are no 'right' or 'wrong' answers to the survey questionnaire. You may skip any question you do not wish to answer. All information you provide will be used only for this study and will not be shared in any way that will identify you. Your employer will not be told whether you participate or not and will never have access to your survey answers. If you have any questions about this study, you may call Jim Catalano at 206-528-3128. If you have questions about your rights as a participant in this study you may call Dr. Margaret Pennybacker, Chairperson of Battelle's Institutional Review Board, toll-free at 1-877-810-5930 ext 500. Can we proceed?

IF YES, GO TO SCREENING QUESTIONS

IF NO, GO TO FAQ TO ADDRESS CONCERNS

SCREENING QUESTIONS

Now, I'm going to ask you ten questions about your job. The questions will ask whether you perform **specific tasks** in your **current** job. We've found that it takes just a few minutes to get through these questions.

1. In your **current** job, do you administer aerosolized ribavirin, pentamidine, or tobramycin?
PROBE: Some brand names that you might recognize are Virazole, Nebupent, Nebcin, or tobi.
2. In your **current** job, do you prepare or mix antineoplastic agents in a pharmacy or pharmacy-like setting?
PROBE: Other terms for antineoplastic agents include antineoplastic drugs, cytotoxic drugs, and anti-cancer drugs.

3. In your **current** job, do you administer antineoplastic agents to patients?
PROBE: Other terms for antineoplastic agents include antineoplastic drugs, cytotoxic drugs, and anti-cancer drugs.
4. In your **current** job, do you chemically sterilize medical instruments or supplies using ethylene oxide or hydrogen peroxide plasma?
5. In your **current** job, do you use high level disinfectants to disinfect medical instruments, devices, or supplies by either manual or automatic methods? For example, do you use products that contain **glutaraldehyde, ortho-phthalaldehyde, peracetic acid, or hydrogen peroxide**?
PROBE: Some brand names that you might recognize are Cidex®, ColdSport®, Endocide®, Glutacide®, Hospex®, Metricide®, Sporicidin®, Wavicide®, OPA, Steris system, Accell, Optim.

We're nearly done with this section, and then I just need to get your address so we know where to mail the survey.

6. In your **current** job, do you work in areas in which lasers or electro-surgical devices are being used for surgical procedures?
7. In your **current** job, do you **administer** anesthetics as a gas?
8. In your **current** job, do you work in the same room where anesthetic gases are being administered?
9. In your **current** job, do you work in a Post Anesthesia Care Unit (PACU) or Surgical Recovery Unit (SRU)?
10. In your **current** job, do your primary duties involve cleaning surfaces like floors, countertops, sinks, or toilets? Do you handle soiled linens? Clean up spills of chemicals? Or do you handle receptacles like trash cans or bedpans that contain human or chemical wastes?

GETTING ADDRESS

Now, I just need to get some additional information, so we can send you the survey questions in the mail.

What is the address where you would like us to send the survey?

Thanks so much for taking the time to call us. We will send the survey out to you in the next few days. We will provide a postage-paid envelope for you to send it back to us. Again, your input is valuable to us, and we really appreciate you taking the time to do the survey.

FAQ (available for all three groups)

Who is conducting this study?

The National Institute for Occupational Safety and Health (NIOSH)/Centers for Disease Control and Prevention (CDC) is sponsoring this project. NIOSH asked Battelle Centers for Public Health Research and Evaluation to conduct this study. Battelle is the oldest non-profit research institute in the U.S., and our group specializes in research on public health and health services.

What is the survey about?

The proposed survey will cover questions about your job, job hazards, and health and safety perceptions. Based on your job responsibilities it might also cover information about specific hazardous chemicals that you might come into contact with on your job. Results from this voluntary survey will be used to obtain information about worker exposure to potential occupational hazards, the use of exposure controls, and health and safety practices at your facility.

I want to do the survey on the internet, but I lost my userid and password.

I will be happy to get that information to you. Please tell me your name, and I will put in a request to send you the information in the mail. Where would you like that information mailed? (Need functionality, to enter request for userid and password, and to enter address).
IF PRESSED FOR INFORMATION OVER THE PHONE, SAY I'm sorry, but I do not have access to that information. It is stored in our database, so I can only request that it be mailed to you.

I don't think this applies to me.

We are interested in the opinions and perceptions of all hospital employees. The answers you provide will help us to understand more about all employees who are like you.

Are my answers to the survey confidential?

Yes. Protecting confidentiality is important to us. We have data collection policies and procedures to ensure that your answers are kept private and confidential. Your name is stored in a computer database that is separate from the database that stores the answers to our questions. All of our computer files are password protected and stored on secure servers. In addition, all of our staff sign a confidentiality agreement as a condition of their employment. After the study is completed, the contact information that you give us will be deleted. Your answers are only used for research purposes and will be presented in grouped or summary data. Your answers will not be linked back to your name and no individuals are identified in summaries or reports.

Will my employer have access to the data?

Your employer will not have access to your answers or whether or not you choose to complete the questionnaire. They will only be given aggregate information about the health and safety practices for all employees who volunteered to participate.

What is Battelle?

Battelle Centers for Public Health Research and Evaluation (CPHRE) is a unit of the Battelle Memorial Institute, a non-profit research organization. We conduct research and data collection activities for governmental and non-governmental public health projects. Battelle was selected by the National Institutes for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC) to conduct this study.

Who do I call if I have further questions about the research?

Please call Jim Catalano at 206-528-3128. He is the project director and he will be happy to answer your questions.

Who do I call if I have questions about my rights as a survey participant?

Please call Dr. Margaret Pennybacker, Chairperson of Battelle's Institutional Review Board, toll-free at 1-877-810-9530 ext 500. She is Battelle's Institutional Review Board Chairperson and will be happy to answer your questions.

Appendix H
Thank You/Reminder Letter

Thank You/Reminder Letter – Groups 1 and 2
To be sent one week after survey to all Group 1 and 2 members

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

About a week ago, a questionnaire concerning your job at the VHA Puget Sound Health Care System in Seattle was mailed to you. This questionnaire is part of the National Exposures at Work Survey (NEWS) which is intended to learn about health and safety practices in the healthcare industry.

If you have already completed and returned the questionnaire either by mail or over the internet, please accept our sincere thanks for your help in this important project. If not, please do so today. Your participation is valued and important for the success of this survey.

As a reminder, you may complete the survey on the internet or fill out a paper questionnaire. If you need help in accessing the web or if you would like another paper copy of the survey, please call our survey line at 1-866-215-6616 and a staff member will be happy to help.

If you have any questions about this project, you may call me directly at 206-528-3128. If you have questions about your rights as a survey participant you may call Dr. Margaret Pennybacker, Chairperson of Battelle's Institutional Review Board, toll-free at 1-877-810-9530 ext 500.

Please accept our thanks in advance for participating in this important survey project.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Thank You/Reminder Letter – Group 3
To be sent one week after survey to all Group 3 members

{Date}

{First Name} {Last Name}
{Job Title}
{Department}

Dear: *{First Name} {Last Name}*

About a week ago, we sent you a letter asking you to participate in a questionnaire concerning your job at the VHA Puget Sound Health Care System in Seattle. This questionnaire is part of the National Exposures at Work Survey (NEWS) which is intended to learn about health and safety practices in the healthcare industry.

If you have already completed and returned the questionnaire either by mail or over the internet, please accept our sincere thanks for your help in this important project. If not, please do so today. Your participation is valued and important for the success of this survey.

As a reminder, you may complete the survey on the internet or fill out a paper questionnaire. If you need help in accessing the web or if you would like obtain a paper copy of the survey, please call our survey line at 1-866-215-6616 and a staff member will be happy to help.

If you have any questions about this project, you may call me directly at 206-528-3128. If you have questions about your rights as a survey participant you may call Dr. Margaret Pennybacker, Chairperson of Battelle's Institutional Review Board, toll-free at 1-877-810-9530 ext 500.

Please accept our thanks in advance for participating in this important survey project.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Appendix I
Reminder Letter 2

Reminder Letter – Groups 1 and 2

To be sent to non-responders from Groups 1 and 2 three weeks after survey

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

About three weeks ago, I sent an important questionnaire concerning health and safety conditions and your job at the Veterans Affairs Puget Sound Health Care System in Seattle. To the best of our knowledge, it's not yet been returned. If you have already returned your completed questionnaire, we thank you again for your help and ask that you simply disregard this letter.

Otherwise, we ask that you complete the enclosed copy of the survey today. Or, you may complete the survey on the internet by accessing www.surveyname.org. You will need to use the following username and password to access the site:

Username: *{userid}* Password: *{password}*

We've already heard from many of your co-workers who have described their experiences and opinions about working conditions at the VHA Puget Sound Medical Center. These results are going to be very useful for improving health and safety practices in the healthcare industry.

We are writing again because of the importance that your completed questionnaire has for this project. Your response helps to ensure that results are truly representative of your profession, your department, your facility, and the healthcare industry.

As a reminder, your name will never be connected to the survey results in any way. Protecting the confidentiality of each person's answers is very important to us, as well as the VHA Medical Center. We hope that you fill out and return the questionnaire by either mail or over the internet soon. If you need help in accessing the web or have any questions, please call our survey line at 1-866-215-6616.

If you have any questions about this survey, call me directly at 206-528-3128. Please accept our thanks in advance for participating in this important survey project.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Enclosure

9/5/2006

Reminder Letter – Group 3

To be sent to non-responders from Group 3 three weeks after survey

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

About three weeks ago, I sent a letter about an important questionnaire concerning health and safety conditions and your job at the VHA Puget Sound Health Care System in Seattle. To the best of our knowledge, it's not yet been returned. If you have already returned your completed questionnaire, we thank you again for your help and ask that you simply disregard this letter.

Otherwise, we ask that you complete the survey today. You may complete the survey on the internet by accessing www.surveyname.org. You will need to use the following username and password to access the site:

Username: *{userid}* Password: *{password}*

If you would prefer to complete the survey on paper, please call our toll-free survey line at 1-1-866-215-6616. Phone lines are available from 7am to 8 pm PST Monday through Friday and from 10am – 6 pm on the weekends. A staff member will help you by asking a few questions to determine which parts of the survey apply to you. Then we will send you a survey in the mail with a postage-paid return envelope.

We've already heard from many of your co-workers who have described their experiences and opinions about working conditions at the VHA Puget Sound Medical Center. These results are going to be very useful for improving health and safety practices in the healthcare industry.

We are writing again because of the importance that your completed questionnaire has for this project. Your response helps to ensure that results are truly representative of your profession, your department, your facility, and the healthcare industry.

As a reminder, your name will never be connected to the survey results in any way. Protecting the confidentiality of each person's answers is very important to us, as well as the VHA Medical Center.

We hope that you fill out and return the questionnaire by either mail or over the internet soon. If you need help in accessing the web or have any questions, please call our survey line at 1-866-215-6616

If you have any questions about this survey, call me directly at 206-528-3128. Please accept our thanks in advance for participating in this important survey project.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Appendix J
Thank You Letter

Thank You Letter – All Responders within one week of response

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

We would like to thank you for your recent participation in the National Exposures at Work Survey (NEWS) conducted by the Battelle Centers for Public Health Research and Evaluation on behalf of the National Institute for Occupational Safety and Health (NIOSH).

Your participation has been invaluable in providing important information about your job, your work practices, and your opinions about working conditions. Knowing more about your job and your work environment will enable healthcare employers, unions, and public agencies to help improve health and safety conditions for healthcare workers such as yourself.

Some information from this survey will be summarized and provided to your employer and to union representatives at the Seattle Medical Center. We wish to assure you that Battelle has strict guidelines on how summary information is presented to assure individual confidentiality.

If you have any additional questions about this project, you may call me personally at 206-528-3128. If you have questions about your rights as a participant in this study, you may call Dr. Margaret Pennybacker, Chairperson of Battelle's Institutional Review Board, toll-free at 1-877-810-9530 ext 500.

Please accept our sincere thanks for participating in this important survey project.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Appendix K
Follow-up Question for Non-Responders

Non-responder Letter

To be sent to a random sample of 50% or a maximum of 200 non-responders five weeks after survey

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

Several weeks ago, you were invited to participate in the National Exposures at Work Survey (NEWS) conducted by Battelle Centers for Public Health Research and Evaluation on behalf of the National Institute for Occupational Safety and Health (NIOSH).

We did not receive a response from you. We understand that people do not to participate in surveys for many different reasons. We're writing you today because we are particularly interested in learning why you did not participate in this survey.

Please take a moment to answer the question on the next page. Your participation, which is completely voluntary and anonymous, will provide useful information for conducting better surveys in the future.

If you have any questions about this request, you may call me personally at 206-528-3128. If you have questions about your rights as a participant in this brief survey, you may call Dr. Margaret Pennybacker, Chairperson of Battelle's Institutional Review Board, toll-free at 1-877-810-9530 ext 500.

Please accept our thanks in advance for participating in this survey.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Enclosure

People choose not to participate in surveys for many reasons. We would appreciate you telling us why you chose not to participate in the National Exposures at Work Survey (NEWS) recently conducted at this facility. **Choose all options that apply to you.**

- 1. I did complete it but I didn't have a chance to mail it back. (Please return it as soon as possible).
- 2. I didn't have time.
- 3. I felt the survey was too long.
- 4. I was not adequately told about the purpose of the survey.
- 5. I did not feel I could complete the survey in a confidential and private manner.
- 6. I was not given the opportunity to complete the survey at work.
- 7. I am not interested in health and safety issues at work.
- 8. I wanted to complete the paper version, but I didn't get one.
- 9. I didn't have access to a computer.
- 10. I was concerned that if I completed the survey there would be adverse consequences for me or for my facility.
- 11. I felt the survey was not worthwhile.
- 12. I never participate in surveys.

From the reasons checked above, please write the number of the most important reason you chose not to participate in this survey: _____

Please use the space below to record any other comments you have about the survey.

Thank you for helping us with this study. Please return this to Battelle in the postage-paid envelope provided at your earliest convenience.

**Protocol for the National Exposures at Work Survey
(NEWS) Pilot Test at the
Portland Veterans Administration Medical Center (PVAMC)**

**The National Institute for Occupational Safety and Health (NIOSH)
Centers for Disease Control and Prevention
Cincinnati, Ohio**

**Battelle Centers for Public Health Research and Evaluation
Seattle, Washington**

April 29, 2005

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Abstract

Objective- This pilot study is intended to help determine feasible methods for collecting surveillance information on health and safety hazards in the healthcare industry. Specifically, a survey of employees at the Portland Veterans Administration Medical Center (PVAMC) is being proposed during which NIOSH (and its contractor, the Battelle Research Center in Seattle WA) will evaluate different methods for: 1) selection of survey participants; 2) recruitment of survey participants; and 3) completion a self-administered questionnaires by participants.

Plan- The National Exposures at Work Survey (NEWS) is intended to collect descriptive data from employees regarding occupational health and safety practices and perceptions, potential exposures, and interventions. Prior to implementing the NEWS nationally, pilot studies will be conducted at two to three healthcare facilities to evaluate the feasibility of collecting this information using different strategies for the selection and recruitment of participants and for completing a self-administered questionnaire using different modes. The questionnaire consists of a core module addressing general issues (e.g., violence, stress, sharps) and ten hazard-specific modules (e.g., hazardous drugs, anesthetic gases, sterilants). The questionnaire can be completed using either a multi-module paper version or a seamless web-based version.

Methods- A sample of approximately 1000 employees at the PVAMC will be randomly divided into two groups. Group 1 will receive a letter of invitation with the paper version of the core module; these workers will be given instructions on how to request hazard modules (if necessary, based on their jobs) and how to complete the web-based version, if preferred. Group 2 will only receive a letter of invitation with instructions on how to request a paper questionnaire and how to access the web-based version, depending on their preference. In the initial letter to both groups, a magnet which provides the toll free survey hotline number and website address will be included to promote participation. In addition, recruitment posters will be placed in strategic locations within the PVAMC, particularly in areas where occupations addressed in the hazard modules are likely to work. Furthermore, during the survey data collection period, posters displaying a 'survey meter' will be posted at weekly intervals at the same locations as the recruitment posters as a means of visually reporting participation rates to employees. Examples of both the magnet and the posters are included in Appendix M. Following completion of the survey, a sample of respondents ($n \leq 40$) will be solicited to participate in a brief interview to obtain qualitative feedback regarding the questionnaire (clarity, relevance, and validity).

Findings to date- Results (e.g., response rates) from this facility will be compared to results from a different regional VHA Medical Center in which: 1) different methods were used to select and recruit participants (i.e. non-random selection of workers determined *a priori* to be "likely" exposed to targeted hazards), and 2) workers were not provided any monetary incentive to participate. Using this design, 53% of sampled employees completed the survey at the initial facility. When provided, an employee was more likely to complete the paper version rather than accessing the web version (76% versus 24%). However, 89% of employees who received only a letter chose the web-based questionnaire. Data are now needed from additional facilities for comparison to these findings to determine the most feasible methods (in terms of efficiency, cost-effectiveness, and worker acceptance) for a large-scale survey of workers.

Keywords: Health and Safety Hazards, Surveillance, Healthcare

Background

The purpose of the NIOSH's National Exposures at Work Survey (NEWS) is to collect descriptive data from employees regarding health and safety practices and perceptions, potential exposures and exposure controls in a representative sample of healthcare establishments across the U.S. Facility health and safety management policies and practices will also be collected during this survey. These data will be collected by means of self-administered questionnaires. While the NEWS is conceived to encompass the broad spectrum of American industry, NIOSH currently plans to implement the survey on a sector-by-sector basis beginning with the healthcare industry.

In order to help clarify the scope and focus of the survey of the healthcare sector, NIOSH convened two stakeholder meetings in February 2002. Participants represented a diverse mix of individuals including nurses, physicians, researchers and academicians, managers of healthcare facilities, representatives of professional organizations, unions, regulators and consultants. These stakeholders identified the importance of designing a survey that would accommodate the capture of information on the diversity of health and safety hazards in the healthcare industry. They recommended that data collection specifically include input from employees involved in providing direct patient care, and suggested that separate survey questionnaires be designed for different occupational groups and for health and safety management in order to obtain more relevant and specific information.

The information obtained from the stakeholder meetings was used to develop employee and management questionnaires as the primary tools to be used for the NEWS. The employee questionnaire is designed to elicit information regarding specific work practices, hazards, and the use of personal protective equipment, as well as to identify organizational factors that may contribute to or impede the implementation of effective health and safety practices in the workplace. The focus of the management questionnaire (one survey questionnaire per facility) is on safety and health policies and programs, and on the procedures and equipment in place to minimize employee exposures to safety and health hazards. This questionnaire is intended to be completed primarily by the person who is responsible for occupational health and safety at the facility.

Consistent with stakeholders' recommendations, the employee questionnaire has been modularly designed and consists of a core module (to be completed by all employees selected to participate), and ten individual hazard modules focused on specific chemical hazards and/or occupational groups. The core module focuses on organizational factors related to health and safety and is envisioned to be used (with appropriate modification) in all industry sectors within scope of the NEWS. The hazard modules will be completed by those employees who indicate, via a series of screening questions, that they perform certain activities demonstrating a potential for exposure to one or more of the specific hazards of concern. This modular format is designed to minimize the length of the questionnaire presented to individual employees thereby reducing the burden associated with their participation in the survey.

Feasibility Evaluation

Prior to implementing the NEWS, a feasibility evaluation to pilot test employee and management questionnaires will be conducted in several federal hospitals. The goal of the feasibility evaluation is to evaluate the survey process as well as to assess quality of the information obtained by the questionnaire surveys. The specific aims of the pilot tests are to:

- 1) evaluate recruitment methods including incentives intended to maximize response rate;
- 2) determine whether the questionnaires effectively elicit desired information and to evaluate two modes of administration (i.e., paper and web-based) and distribution of the employee questionnaires within this facility; and
- 3) evaluate questionnaire administration methods that could be replicated on a national level. Administration on a national level (i.e., implementation of the NEWS) is expected to require minimal burden on healthcare management and employees.

The feasibility evaluation is being conducted by the Battelle Centers for Public Health Research and Evaluation, Seattle, Washington, under contract to NIOSH, Centers for Disease Control and Prevention (CDC). The Battelle Project Director is Mr. James D. Catalano, CIH. The NIOSH Technical Monitor is Mr. James M. Boiano, MS, CIH.

The first pilot test was recently completed at the VA Puget Sound Medical Center, Seattle, Washington where a targeted approach was used for selection of employees determined *a priori* to be likely exposed to selected hazards, as defined in Section I below. Also, monetary incentives were not provided to employees selected to participate at the Seattle facility. A second pilot test is now planned to evaluate different methods for comparison to results from the initial pilot test.

In the remainder of this document, we detail the steps involved in implementing a second pilot test of the employee and management survey at the Portland Veterans Administration Medical Center (PVAMC). This pilot test is tentatively scheduled to start March 14, 2005. This document is divided into the following nine sections:

- I.** Sampling Plan
- II.** Sample Selection
- III.** Questionnaire Distribution
- IV.** Post-Survey Evaluation
- V.** Pilot Test Timeline
- VI.** Reporting of Results
- VII.** Confidentiality
- VIII.** Summary of Survey Requirements for PVAMC
- IX.** Summary of Benefits of Participation

I. Sampling Plan

A single management survey questionnaire is to be completed by this facility. This questionnaire solicits information about facility-wide occupational health and safety practices and policies. The person responsible for employee health and safety (i.e., Safety Manager) should complete this questionnaire, and may seek input from others to complete some of the questions. The management survey is included in Appendix A.

An employee survey questionnaire will then be distributed to a sample of PVAMC employees not to exceed 1000 employees. The employee questionnaire consists of a core module (to be completed by all employees) and ten hazard specific modules (to be completed depending on responses to screening questions). The employee survey is included in Appendix B. The hazard modules address: aerosolized medications (specifically, ribavirin, pentamidine and tobramycin), anti-neoplastic drugs, chemical sterilants, high-level disinfectants, surgical smoke and waste anesthetic gases. In addition, the anticipated exposures experienced by housekeeping and environmental services staff (cleaning chemicals, and potential exposures to many of the other hazards of concern while handling soiled bedding or clothing, or during clean-up of spills) are also addressed by a hazard module. Specifically, the ten modules are defined as follows:

1. Module A - Respiratory therapists or others who administer ribavirin (virazoleTM), pentamidine (nebupentTM) or tobramycin (nebcinTM or “tobi”) in an aerosolized form.
2. Module B – Pharmacists, pharmacy assistants, or others who prepare or mix anti-neoplastic agents.
3. Module C – Oncology nurses or others who administer anti-neoplastic agents to patients.
4. Module D - Employees in the central processing (sterile processing, central supply/distribution) who chemically sterilize medical devices, instruments or supplies using either ethylene oxide or hydrogen peroxide gas plasma.
5. Module E - Employees who disinfect medical instruments, devices, or supplies (such as endoscopes, thermometers, and other items which cannot be sterilized) using disinfectants containing glutaraldehyde (e.g., Cidex), ortho-phthaldehyde (e.g., Cidex OPA), peracetic acid (e.g., Steris system), or hydrogen peroxide (e.g., Accell, optim).
6. Module F - Employees who work in areas (e.g., actual operating room, same day surgery room, or doctor’s office) while lasers or electrosurgery devices are being used.
7. Module G – Anesthesiologists, nurse anesthetists and others who administer anesthesia as a gas.
8. Module H – Employees who work in areas where anesthetic gases are being administered, but are not administering the gases themselves.
9. Module I – Employees who work in Post Anesthesia Care Units (PACUs) or Surgical Recovery Units (SRUs) who are potentially exposed to exhaled anesthetic gases from post-operative patients.

10. Module J - Housekeeping or environmental services staff and others including janitors, orderlies, nursing assistants, who perform any of the following: 1) cleaning of floors, countertops, sinks, toilets, etc.; 2) cleaning-up spills of anti-cancer drugs, chemicals or cleaning products; and 3) empty/clean containers or trash bins that have items contaminated with blood, urine, feces, vomit, anti-cancer drugs, or chemicals in them.

II. Sample Selection

In order to select participants for the employee survey, PVAMC will need to provide Battelle with a complete list of current PVAMC employees, preferably in electronic format (Excel, Access, ASCII, etc.). This list should include name, job title, mail stop, department, unit of assignment, gender, date of birth, and date of hire for all current non-research staff at the PVAMC. This list will only be used by NIOSH/Battelle to identify employees for inclusion in the sample and will be maintained in a confidential manner. We will use the demographic information only to determine whether respondents are representative of the sample and whether the sample is representative of the entire staff.

Battelle will be responsible for enumeration of the survey participants and assigning them to one of two experimental groups (see Section III below). Battelle will then assign a unique identification (ID) number to each sampled employee to identify and track respondents and non-respondents. Each paper survey questionnaire will have an ID label. **Employees will not be asked to put their names on the questionnaire.** This linkage is necessary in order to enable the distribution of initial survey materials (i.e., introductory letter, survey questionnaire) directly to all sampled employees in a confidential manner. This is standard survey methodological practice and is necessary to maximize cooperation and response rate. The linkage is also necessary so that we can confidentially send follow-up letters to non-respondents as well as thank you letters and recruitment notice to respondents asking them to participate in a post-survey interview for purposes of validating questionnaire responses (see Section V b.) This ID will also be used by employees to access the internet version of the survey in a confidential manner, and also allow Battelle to track respondents using this survey mode.

When a completed survey is returned to Battelle, a thank you letter will be sent which will also ask those who completed at least one hazard module to participate in a post-survey interview for the purpose of validating survey responses. Once these follow-up materials are produced, we will delete the name of the respondent from the standalone database. For those participants who express willingness to participate in a short post-survey interview (i.e., by providing their contact information), the link between their name and Case ID will be re-established after Battelle receives the respondent's form indicating a willingness to participate in the post-survey interview. We will run a daily electronic program that removes and permanently deletes names from the database for all ID's with an "event status" indicating that a thank you letter (and/or interview recruitment letter) has been produced. For analytical purposes, we will retain only ID, job title and department in the database.

III. Questionnaire Distribution

Seven days prior to initial mailing of the surveys to selected participants, employees in the sample will receive a brief email notice from PVAMC management indicating that the hospital has agreed to participate in the study, promotes employee participation, and that work time will

be provided for employees to complete the survey. One week in advance of the initial mailings, each employee in the sample will be sent via US Mail to their hospital address, a letter alerting them to the fact that they have been selected to participate in the survey. The letter to all sampled employees will include a magnet advertisement containing the toll-free survey telephone hotline number and website address as a means of promoting the survey and as a reminder to complete the questionnaire. If email addresses are available, we will send the same letter via email, to make sure that we reach as many selected participants as possible. The email notice and letter are provided in Appendix C.

Concurrent with mailing invitation letters to employees included in the survey sample (n~1000 selected from the employee roster), recruitment posters which publicize the survey will be posted throughout the PVAMC facility, particularly in areas where occupations addressed in the hazard modules are likely to work. Since these posters may be seen by any employee, we feel there should be no restriction on any interested employee from participating in this survey. Therefore, participation in the survey will be open to all PVAMC employees (rather than to only those employees who receive a personalized letter of invitation). Based on information in the poster, any worker will be able to request a paper copy of the survey questionnaire(s) or to request a password for accessing the web-version of the survey. While only those original workers in the survey sample will be included in follow-up reminders (as discussed in the following paragraph) and in the enumeration of response rates, all survey responses will be compiled, analyzed, and reported.

Once the survey period begins, each participant will receive, at minimum, a personalized letter enclosed in an envelope and addressed to them by name, through their hospital mail inviting them to participate in the survey (Appendix D). This letter will describe the purpose of the study, why they are being asked to participate, what participation entails, what rights they have as a study participant, and how to participate in the survey (including instructions about how to complete the survey either in paper form or on the internet), as well as telephone numbers to call for additional information. The instructions for completing the survey on the web are included in Appendix E.

In order to promote high response rates, participants will be offered two options to respond to the survey -- either by a paper questionnaire returned to Battelle via a pre-addressed, postage-paid envelope (provided) or by a web-based survey on the internet (via a secure website maintained by Battelle). Furthermore, during the survey data collection period, posters displaying a 'survey meter' will be posted at weekly intervals at the same locations as the recruitment posters as a means of visually reporting participation rates to employees (Appendix M).

During this pilot test, two distribution protocols will be evaluated in terms of response rate and level of administrative effort required on both the participating hospital and Battelle. The two protocols are described below in Table 1.

Table 1: Description of Two Questionnaire Distribution Protocols

Population	Distribution Mode	Paper Questionnaire	Web Survey
Group 1: One-half (50%) of sampled employees	Personalized letter with paper survey (core module only)	Employee core module only with instructions on how to request hazard modules, if applicable.	Instructions on how to access web-based survey
Group 2: One-half (50%) of sampled employees	Personalized letter only	Instructions on how to request a paper questionnaire, including appropriate hazard modules	Instructions on how to access web-based survey

Group 1 --The first distribution protocol is for one-half (50%) of the employees in the sample. These employees will receive an invitation letter, along with a paper survey that includes only the employee core module (Appendix D). They will be given the option of either completing the paper survey, or going on-line to compete the web-based survey. The web-based version of the survey, by means of a series of screening questions, presents applicable hazard modules to respondents automatically and, from their perspective, seamlessly. A pre-paid addressed envelope will also be provided in the packet for returning the paper survey. This envelope will be addressed directly to Battelle to assure that their responses are not seen by any PVAMC personnel. These packets will be prepared by Battelle and organized by department. Battelle will deliver these packets to our Mail Room Contact at the PVAMC for distribution through their in-house mailing system.

Those who decide to complete the paper questionnaire will be asked ‘screening’ questions at the end of the core module. Their responses will indicate whether or not they work with any of the hazards of concern addressed in any of the ten hazard modules. If they do, they will be instructed to call a toll-free number to request the applicable hazard modules be mailed to them. Those who call between 7 am and 8 pm PST on weekdays or between 10 am and 6 pm on weekends will be able to speak to a Battelle research staff member. They will be asked for their mailing address and which modules they need to receive, or if necessary, re-screened to determine the appropriate hazard modules to send to them. These employees will then be mailed a packet (containing the additional modules and another pre-paid return envelope). Appendix F provides the telephone center scripts to be used when employees call to request additional modules to the survey.

Group 2 -- The second distribution protocol is for the remaining one-half (50%) of the employees in the sample. These employees will receive an invitation letter only (Appendix D). Battelle will deliver the letters to the Mail Room Contact at the PVAMC for distribution through the in-house mailing system. The letter will provide instructions (Appendix E) on how to access the survey on the web, and provide a toll-free number to request a paper survey. Those who call (i.e., for the paper survey) will be able to speak to a live operator from 7 am to 8 pm PST on weekdays and from 10 am to 6 pm on weekends. They will be asked a series of ‘screening’ questions (Appendix F) to determine the appropriate hazard-specific modules to be included,

along with the core module, in their survey packet. They will be asked for contact information for mailing purposes only. These employees will then be mailed a packet (containing the customized survey, instructions and a pre-paid return envelope) via US Postal Service to either their home or place of employment, depending upon their preference. Telephone center scripts as described above will be used (Appendix F).

IV. Post-Survey Evaluation

a. Survey Procedures

Respondents -- All employee respondents will be asked questions regarding their experience with the survey. These questions are incorporated into both the paper and web versions, and will seek opinions regarding the length of the survey, why they chose the mode they used, and where they completed the survey. These questions are included at the end of each module for the paper version of the survey, and at the end of the questionnaire for the web version of the survey.

Non-respondents --After the seven-week survey period has ended, a stratified random sample of 50% or a maximum of 200 non-respondents will be sent a short survey (Appendix G) to obtain information regarding why they chose not to complete the employee questionnaire. This survey will be structured to allow respondents to choose the reasons that apply to them (i.e., survey length, mode of distribution, lack of access to a computer, lack of time at work, etc.).

Survey response rates will be tracked over time to evaluate the effect of the various follow-up letters. Response rates will be individually tracked for each distribution mode and for each hazard specific module. In addition, we will track the mode of response by these groups. This information will be integrated into our evaluation of the overall acceptance of the survey and the modes offered among the various sectors of the hospital employee population.

b. Questionnaire Validation

The goal of this validation effort is to verify whether or not employees are able to provide accurate information with regard to the determinants of exposure to health and safety hazards associated with their jobs. Battelle will select a sample of 40 volunteer respondents who have completed at least one hazard module to participate in a short (about 10 minute) interview. The primary focus will be on the information provided in the hazard-specific modules of the survey questionnaire. The focus of the interview with the respondents will be on how they arrived at the responses to certain items on the survey questionnaire. We may also inquire about specific job duties and clothing or protective equipment used. We may ask the employee to show us equipment used or to demonstrate how they perform specific job tasks referenced in the survey. Each interviewee will receive \$5 in PVAMC “canteen bucks” as a token incentive to participate in the validation process.

Our goal is to complete approximately 4 interviews for each of the ten hazard modules. These interviewees will be invited through their thank-you letters and will be selected based upon:

- The specific hazard module(s) completed,

- Consistency of their responses with other employees from the same department or work unit (to evaluate reasons for inconsistencies in the data collected with this survey method), and
- Unexpected exposures disclosed (to further evaluate the circumstances of these exposures).

A Battelle analyst will choose the follow-up participants using the above criteria. This person will not be involved in conducting any of the follow-up interviews.

The specific process for conducting employee survey validation is as follows:

1. Overall Concept

- Validation questions will be based ONLY on information that can be (at least partially) confirmed objectively through observation by the interviewer. Thus, when an employee claims that they use a particular type of Personal Protective Equipment (PPE), the interviewer will ask him or her to show where these PPE are stored. Similarly, safety equipment and ventilation used by individual employees will be inspected.
- This validation is designed to understand any discrepancies between individual employee Survey responses and those responses obtained through the validation interview. Thus, the interviewer must know the individual employee's relevant Survey responses.

2. Supervisor Interviews:

- Supervisors will NOT be asked any questions specific to any individual employee, or be given any information on who has participated in the survey. Thus, supervisor responses will not be directly compared (at the time of the interview) to specific responses by any individual employee.
- Supervisor interviews will be conducted independently of employee interviews.
- Supervisor participation is limited to two questions – 1) the existence of Standard Operating Procedures (SOP's) and 2) what types of PPE are required.
- Any supervisor for a given department can answer these questions – it does not need to be the supervisor for the shift of the participating employee. Thus, we will obtain ONLY general permission from the hospital to ask these two questions from supervisors on an “as available” basis. We will NOT recruit specific supervisors for this purpose, nor will we compensate them for their participation. We will not obtain any personal or sensitive information from the supervisors.
- If this approach is not acceptable, we should consider eliminating the supervisors from the validation process altogether. Both of these questions are addressed directly with individual employee participants.

3. Individual Employee Interviews:

- Validation will be based primarily on the employee's ability to identify or demonstrate the specific practice in question. Most of the relevant survey questions to be validated will be accomplished based on interviewer observation (e.g. whether “street” clothes are worn by the employee while performing certain procedures).

- The form used by the validation interviewer will contain the individual employee participant's Survey answers (only those that are directly relevant). These responses will be recorded on the validation interview form (under the heading "Survey").
- The interviewer will ask the employee participant the questions on the validation interview form and will record their initial response (under "Validation"). AFTER recording this response, the interviewer will note whether this response corresponds to the response given on the Survey.
- If there is a discrepancy, the interview will probe for an explanation of the difference in a non-confrontational manner.
- The interviewer will determine if the explanation:
 - Required the Survey response to be changed (by checking "Changed"), or
 - Showed that the Survey response was correct (by checking "Explained"),
 - Involved some other determination
- The interviewer will briefly describe the circumstances and their decision in the "Comment" box. They will focus on whether:
 - The employee misunderstood the question
 - The employee had insufficient knowledge to answer the question
 - Circumstances during the Survey period were different in some way from current circumstances.

Similar to our interviews with individual respondents, for those questions best verified by Human Resources, Safety or Security departments or the employee supervisor, we will gather at the same time, all information regarding those employees who have agreed to participate.

Upon completion of the validation data collection, we will compare the responses to individual survey questionnaire items obtained from the participant on the original questionnaire with those obtained through independent sources. We will generate measures of agreement (such as the Kappa statistic) for each item and these results will be reported to NIOSH as per the original protocol.

V. Pilot Test Timeline

The employee survey response period will be seven weeks. At one week post-distribution of the survey, Battelle will send all survey participants a letter reminding them of the survey they received and thanking them if they have already responded (Appendix I). This letter will be sent via hospital mail, and via email if addresses are available from PVAMC. At three weeks post-distribution, Battelle will send a second reminder letter to participants from whom we have not yet received a response (by mail or web). This personalized letter will stress the importance of their participation (Appendix J). Non-responders who had originally received a paper version of the questionnaire (Group 1 in Table 1), will receive a second copy of the questionnaire with the reminder letter. At six weeks post-distribution, PVAMC will send a final reminder via email to all employees in the sample thanking them for their participation and encouraging those who have not yet completed the survey to do so (Appendix K). Throughout the study period, Battelle will send batches of thank-you letters to those who have responded (Appendix L). For those respondents who completed one or more of the hazard modules, the thank-you letter will also

invite them to participate in a post-survey validation interview. Furthermore, these thank-you letters are particularly important for those who use the web-based survey to confirm that their responses were received. These letters will be delivered to our contact in the PVAMC mail room. Battelle will use letters rather than post-cards to preserve the privacy of participants and prevent disclosure of participation status. At the conclusion of the seven week survey response period, a sample of non-responders will be sent a short survey to obtain information why they chose not to complete the questionnaire, as previously described in Section IV. The validation process is scheduled to begin three to four weeks after the questionnaire data collection period.

Table 2 provides a timeline for the pilot test activities, showing the approximate dates for the notification letters, survey mailing, survey period, follow-up notices, and post-survey validation.

VI. Reporting of Results

The primary emphasis of this project is the efficacy of the survey itself, and the ability to gain useful information regarding health and safety practices, and potential employee exposure to chemical and physical stressors by means of employee questionnaires. However, we expect to be gathering information through this process that will be useful to the PVAMC in improving the health and safety of employees. This information will be provided to PVAMC in appreciation for their cooperation in this effort.

Our plan is to share aggregate data with the PVAMC so long as the data are of reasonable quality and can be aggregated in such a way as to protect the confidentiality of individual employees. Our goal is to provide the PVAMC with information regarding the work practices of employees and their perceptions about health and safety at this facility while maintaining individual confidentiality.

Table 2: Pilot Test Timeline

	June				July				August				Sept			
Activity	6	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19
Battelle obtains list of employees	■															
Battelle/NIOSH select sample frame	■	■														
PVAMC sends pre-survey email notice			■													
Battelle sends introductory mailing distributes recruitment posters			■													
Battelle sends survey questionnaires				s	s	s	s	s	s	s						
Battelle sends reminder to non-respondents					■		■									
Battelle sends thank-you to respondents and distributes survey participation posters				■	■	■	■	■	■	■	■					
Battelle sends reminder with survey to non-respondents							■									
PVAMC sends final reminder notice									■							
Battelle sends non-responder survey											■					
NIOSH/Battelle conducts questionnaire validation															■	
Battelle provides summary report of survey results																■

s = survey response period

Battelle will provide this summary to our primary contact, (e.g., PVAMC’s Safety Manager), in a written report. In addition, as an ancillary component of this project, Battelle and NIOSH have developed website (<http://www.cphre.battelle.org/news/>) through which institutions participating in the future NEWS effort will be able to obtain summary statistics and will be able to compare their facility with other facilities.

VII. Confidentiality

Battelle has strict policies in place to maintain confidentiality. Specifically, web-based surveys will be maintained on secure Battelle computer servers, which have extensive firewall and privacy protections. Completed paper surveys will be mailed directly to Battelle and then entered by Battelle staff into the same secure system as the web-based surveys. Completed paper copies of the survey will be maintained in locked file cabinets until the end of the project when they will be provided to NIOSH where all personal information will be maintained in accordance with the Federal Privacy Act. All identifying information will be maintained separately from the survey data, and will be destroyed as soon as possible. All research staff, including staff from the

telephone center who will handle calls from employees, are required to sign a pledge of confidentiality and are trained in the protection of human subjects. No personal information, including whether or not an individual participated in the survey, will be released to the PVAMC or anyone outside of the NIOSH/Battelle research team.

VIII. Summary of Survey Requirements for PVAMC:

1. Management support and promotion of employee participation
2. Employee roster (name, job title, department, mail address and the demographic information including gender, date of birth, and year hired) provided in electronic format
3. Distribution of survey materials through PVAMC mail center (and email, if feasible)
4. On-site access to survey website (if this mode is preferred by employee)
5. On-site time allowed for completing survey (average 30 minutes per employee)
6. On-site post-survey walkthrough (est. 3 days) of selected areas by NIOSH/Battelle personnel (includes validation interviews)

VIII. Summary of Benefits of Participation:

1. Receive Occupational Health and Safety (OHS) information (including exposures, stress, violence, work practices) for PVAMC.
2. Receive OHS data useful for targeting intervention and training needs at PVAMC.
3. Receive survey questionnaires and baseline OHS data for future tracking of trends at PVAMC.
4. Develop a collaborative relationship with CDC's National Institute for Occupational Safety and Health (NIOSH).
5. Contribution to research with National significance for the healthcare industry.

Appendix A
Management Questionnaire

SECTION A: CORE QUESTIONS

A1. What are the functions/activities of this facility? **Please ✓ all that apply.**

- General Medical/Surgical Hospital
- Home Health Care
- Medical/Diagnostic Lab
- Nursing Care Facility
- Other Health Practitioners
- Outpatient Care Center
- Physician's Office
- Psychiatric/Substance Abuse Hospital
- Specialty(ies) Hospital
- Dentist's Office
- Other (Please specify): _____

A2. Which of the following characterizes this facility? **Please ✓ all that apply.**

- For profit (individual, partnership, or corporation)
- Private non-profit (e.g., religious group, charity, etc.) or not-for-profit corporation
- City, county, district, or state government (including public university-based)
- Federal government (e.g., military or VHA)
- Other (Please specify): _____

A3. Is this facility currently part of a managed care or health maintenance organization (HMO)?

- Yes
- No

A4. Is this facility currently accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO)?

- Yes
- No
- Not applicable

- A5. What is the average daily inpatient census over the past calendar year? Average Inpatient Census
 NA, This facility does not provide inpatient services
- A6. What is the average number of **daily** outpatient appointments at this facility over the past calendar year?
 1-50
 51-100
 101-200
 201-500
 501-1000
 Greater than 1000
 This facility does not provide outpatient services
- A7. How many full-time equivalent (FTE) employees are currently on your payroll?
 Less than 10
 10-50
 51-250
 251-1000
 1001-5000
 More than 5000
- A8. How many workers who provide services at this facility are **not** on your payroll? (*Please include physicians, nurses, maintenance, housekeeping, laundry and food service.*)
 Less than 10
 10-50
 51-250
 251-1000
 More than 1000
- A9. What is the turnover percentage rate among all employees on the payroll at this facility in the past 12 months? Turnover rate %
 NA
- A10. What is the turnover percentage rate among nurses on the payroll at this facility in the past 12 months? Turnover rate %
 NA

A11. Are any employees on your payroll represented by unions? Yes No

A12. Is there a policy for working overtime at this facility? *Note: Overtime may be defined as any hours worked in excess of the hours of a normal work shift, whether paid or unpaid for those excess hours. Please ✓ all that apply.* Yes, established by management Yes, mandated by union contract No specific policy

Skip to Question A13.

A12A. Which of the following elements does the policy contain? **Please ✓ all that apply.**

- Mandatory overtime may be required
- Restrict the maximum number of overtime hours that can be worked per pay period
- Restrict the personnel that can be paid overtime
- Other (Please specify): _____

A13. Is there a policy for taking rest breaks at this facility? **Please ✓ all that apply.** Yes, established by management Yes, mandated by union contract No specific policy

A14. How many of the following professionals are on your payroll to provide health and safety services to employees at this facility on a full-time equivalency (FTE) basis?

	FTEs
a. Occupational Physician.....	□□□ . □
b. Occupational Health Nurse	□□□ . □
c. Industrial Hygienist (occupational health specialist)	□□□ . □
d. Safety Professional	□□□ . □
e. Professional Ergonomist	□□□ . □
f. Infection Control Specialist.....	□□□ . □
g. Radiation Safety Officer	□□□ . □

- A15. Is there an individual on the payroll of this facility whose **primary** responsibilities involve managing the occupational safety and health program?
- Yes
 No  **Skip to Question A18.**
- A16. What proportion of the occupational safety and health program manager's time is spent **specifically** on occupational safety and health?
- 0-25%
 26-50%
 51-75%
 76-100%
- A17. To whom does the occupational safety and health program manager report?
- Chief Executive Officer
 Vice President
 Human Resources Director
 Facility Director
 Other (Please specify): _____

- A18. During the past 12 months, which of the following occupational health and safety services have been provided at this facility by an **outside source**, (e.g., Insurance carrier, private consultant, federal [NIOSH or OSHA] or state government, etc.)? **Please ✓ all that apply.**
- Exposure Monitoring
 Employee Safety
 Ergonomics
 Occupational Health
 Other (Please specify): _____

- None
- A19. Does this facility have specially trained staff to respond to individuals potentially affected by chemical, biological, radiological, or nuclear agents as a result of a natural disaster or terrorist action?
- Yes
 No

The next few questions deal with health and safety programs

A20. Is there a **written** employee safety and health program in place at this facility?

Yes

No



Skip to Question A23.

A21. Which of the following elements are specifically included in the written employee health and safety (H&S) program at this facility? **Please** ✓ **all that apply.**

- Management leadership (top level management setting H&S policies and goals, active in H&S committees, etc.)
- Employee involvement (workers participating in H&S program planning and goal setting, H&S inspections, H&S committees, etc.)
- Safety Incentive Program (employees or work groups are rewarded for reducing accidents, offering safety suggestions, reporting hazards and near misses, and/or attending safety meeting)
- Job hazard analysis (identification of health and safety hazards associated with each job)
- Task analysis for proper selection of personal protective equipment
- Use of engineering, administrative, and personal protective equipment controls to eliminate or reduce occupational H&S hazards
- Regularly scheduled inspection and maintenance of engineering controls and personal protective equipment
- Providing H&S training to employees prior to assignment of job duties
- Procedures for employees to report health and safety problems without fear of reprisal
- Monitoring of workers for exposure to chemical, biological, and/or physical agents
- Medical surveillance of employees in high hazard jobs
- Routine worker notification of medical surveillance results
- Routine worker notification of exposure monitoring results
- Evaluation of H&S program effectiveness on periodic basis
- Policies to provide site-specific health and safety information for contractors' employees prior to their beginning work at this facility
- Evaluation of contractors' health and safety training provided to their employees prior to their assignment at this facility

- A22. What data are used to evaluate the effectiveness of the employee health and safety program at this facility? **Please ✓ all that apply.**
- Injury and illness data
 - Number of lost work-days
 - Workers' compensation data
 - Number of "near-miss" accidents or incidents
 - Number of employees who have completed mandatory training
 - Average number of days to complete corrective action requests
 - Training logs
 - Knowledge tests
 - Attitude scales
 - Symptom surveys
 - Observations from walk through inspections
 - Cost-benefit data
 - Other (Please specify): _____
- _____
- None, we do not evaluate our health and safety program

The next few questions pertain to occupational stress among employees.

- A23. Have there been any employee complaints related to occupational stress reported in the past 12 months at this facility?
- Yes
 - No complaints reported
 - No formal reporting system is used
- A24. Is stress management training available to all employees at this facility?
- Yes
 - No
- A25. Are employee assistance programs available to all employees at this facility?
- Yes
 - No

The next few questions pertain to types of programs sometimes used to reduce the occurrence of acute or cumulative trauma resulting in back, shoulder, or other types of musculoskeletal injury.

- A26. Has a written ergonomics program been implemented?
- Yes, in all areas
 Yes, in some areas
 No
- A27. Have teams of management and workers been formed at this facility to identify ergonomic risk factors?
- Yes, in all areas
 Yes, in some areas
 No
- A28. Has a job hazard analysis been conducted?
- Yes, in all areas
 Yes, in some areas
 No
- A29. Has an ergonomic training program been implemented at this facility?
- Yes, in all areas
 Yes, in some areas
 No
- A30. Are back belts provided for lifting tasks?
- Yes, in all areas
 Yes, in some areas
 No

The next questions deal with devices and policies designed to help safeguard workers in performing physical tasks.

- A31. Have adjustable work stations (tables, chairs, foot stands, etc.), been provided for employees performing stationary tasks?
- Yes, in all areas
 Yes, in some areas
 No
 Task not performed
- A32. Are wrist braces for repetitive upper extremity tasks, such as typing, pipetting, sonography, etc., provided to affected employees?
- Yes, in all areas
 Yes, in some areas
 No
 Task not performed

- A33. Are anti-fatigue mats or sit/stand bars for tasks requiring prolonged standing provided to affected employees?
- Yes, in all areas
 Yes, in some areas
 No
 Task not performed

- A34. At this facility, do employees **ever** lift or move patients weighing 50 or more pounds?

Yes

No

Skip to Question A40.

- A35. Have transport carts and lift tables or other assistive devices been provided where necessary?

Yes, in all areas

Yes, in some areas

No

- A36. Have mechanical lifting devices (e.g., Hoyer[®] lift) been provided in areas where patients are moved?

Yes, in all areas

Yes, in some areas

No

- A37. Has a “zero lift” policy been implemented at this facility, i.e., are mechanical lifting devices used exclusively for patient lifting?

Yes, in all areas

Yes, in some areas

No

- A38. Are organized lift teams used for lifting or transferring patients?

Yes, in all areas

Yes, in some areas

No

- A39. Are gait belts (or transfer belts) used for lifting or transferring patients?

Yes, in all areas

Yes, in some areas

No

The following questions pertain to the issue of workplace violence at this facility.

- A40. Are employees at this facility provided training in the skills necessary to defuse a potentially violent confrontation with patients, co-workers, supervisors, clients, family members, strangers, etc.?

Yes, all workers

Yes, only high risk workers

No

- A41. Do you have a formal program or policy in place at this facility for workers to report incidents of workplace violence?

Yes

No

Don't Know

Skip to Question A43.

- A42. How many incidents of workplace violence (physical attacks or assaults, verbal abuse, or confrontations) have been reported by employees at this facility during the last 12 calendar months?
- None
 - 1-10
 - 11-50
 - 51-100
 - More than 100 incidents
 - Don't know

These next six questions ask about the use of natural rubber latex at your facility.

- A43. Are any latex (natural rubber) products used anywhere in this facility?
- Yes
 - No 
- Skip to Question A49.**
- A44. Are latex (natural rubber) **gloves** currently used anywhere in this facility?
- Yes, powdered latex gloves
 - Yes, powder-free latex gloves
 - Yes, both powdered latex and powder-free latex gloves
 - No
- A45. Is there a written policy in place at this facility to restrict unnecessary use of latex products?
- Yes
 - No
- A46. Are prevention strategies at this facility re-evaluated whenever a worker is diagnosed with latex allergy?
- Yes
 - No
- A47. Are employees provided training about latex allergies?
- Yes
 - No
- A48. Are high-risk workers (e.g., surgical staff) periodically screened for symptoms of latex allergy?
- Yes
 - No

The next three questions ask about respirator usage at this facility.

A49. Are any employees at this facility required to wear respiratory protection for any reason? (Note: surgical masks are not considered respiratory protection for the user.)

Yes

No

Skip to Section B on Page 11.

A50. Is training on respirator usage and maintenance provided to all employees who are required to wear respirators at this facility?

Yes

No

A51. Is fit testing required for all employees who are required to wear tight-fitting respiratory protection at this facility (exclude surgical masks and Powered Air-Purifying Respirators [PAPRs])??

Yes

No

The final question in this section asks about needlestick injuries.

A52. In the past calendar year, how many percutaneous needlestick injuries have been reported by employees at this facility?

No. of needlestick injuries reported:

**Thank you for completing Section A.
Please continue to Section B: Antineoplastic Agents on Page 11.**

SECTION B: ANTINEOPLASTIC AGENTS

This section focuses on antineoplastic agents. The focus is on policies and procedures that apply to employees who prepare or mix these agents, such as pharmacists and pharmacy technicians, and employees who administer these drugs, including infusion nurses working with cancer, rheumatoid arthritis, and obstetrics patients. Other terms used for antineoplastic agents may include: antineoplastic drugs, cytotoxic drugs, and anti-cancer drugs.

B1. Are antineoplastic agents used at this facility?

Yes

No

Skip to Section C on page 21.

B2. During the **past week**, how many doses of the following drugs were administered at this facility?

Drug Name:	NUMBER OF DOSES					Drug Name:	NUMBER OF DOSES				
	0	1-10	11-25	26-50	>50		0	1-10	11-25	26-50	>50
a. Aldesleukin	<input type="checkbox"/>	o. Busulfan	<input type="checkbox"/>								
b. Alemtuzumab.....	<input type="checkbox"/>	p. Capecitabine	<input type="checkbox"/>								
c. Alitretinoin.....	<input type="checkbox"/>	q. Carboplatin.....	<input type="checkbox"/>								
d. Altretamine	<input type="checkbox"/>	r. Chloambucil (Leukeran®).....	<input type="checkbox"/>								
e. Aminoglutethimide.....	<input type="checkbox"/>	s. Cisplatin	<input type="checkbox"/>								
f. Amifostine.....	<input type="checkbox"/>	t. CPT-11.....	<input type="checkbox"/>								
g. Anastrozole	<input type="checkbox"/>	u. Cladribine	<input type="checkbox"/>								
h. Arsenic trioxide	<input type="checkbox"/>	v. Cyclophosphamide (Cytoxan®).....	<input type="checkbox"/>								
i. Asparaginase- E.coli strain.....	<input type="checkbox"/>	w. Cytarabine (Cytosar®).....	<input type="checkbox"/>								
j. BCG live	<input type="checkbox"/>	x. Daunorubicin (Cerubidin®).....	<input type="checkbox"/>								
k. Bexarotene	<input type="checkbox"/>	y. Dacarbazine (DTIC)	<input type="checkbox"/>								
l. Bicalutamide	<input type="checkbox"/>	z. Dactinomycin.....	<input type="checkbox"/>								
m. Bleomycin (Bleo®).....	<input type="checkbox"/>	aa. Denileukin diftitox ...	<input type="checkbox"/>								
n. BNCU (Carmustine®).....	<input type="checkbox"/>	bb. Docetaxel	<input type="checkbox"/>								

Drug Name:	NUMBER OF DOSES					Drug Name:	NUMBER OF DOSES				
	0	1-10	11-25	26-50	>50		0	1-10	11-25	26-50	>50
cc. Doxorubicin (Adriamycin®).....	<input type="checkbox"/>	bbb. Metho-trexate (Amethopterin®).....	<input type="checkbox"/>								
dd. Epirubicin.....	<input type="checkbox"/>	ccc. Mitomycin-C.....	<input type="checkbox"/>								
ee. Estramustine.....	<input type="checkbox"/>	ddd. Mitotane.....	<input type="checkbox"/>								
ff. Etoposide.....	<input type="checkbox"/>	eee. Mitoxantrone.....	<input type="checkbox"/>								
gg. Exemestane.....	<input type="checkbox"/>	fff. Nilutamide.....	<input type="checkbox"/>								
hh. Floxuridine.....	<input type="checkbox"/>	ggg. Paclitaxel.....	<input type="checkbox"/>								
ii. Fludarabine.....	<input type="checkbox"/>	hhh. Pegaspargase ...	<input type="checkbox"/>								
jj. Flutamide.....	<input type="checkbox"/>	iii. Pentostatin.....	<input type="checkbox"/>								
kk. Fluorouracil (5-FU®).....	<input type="checkbox"/>	jjj. Plicamycin.....	<input type="checkbox"/>								
ll. Gemcitabine (Gemzar®).....	<input type="checkbox"/>	kkk. Procarbazine.....	<input type="checkbox"/>								
mm. Gemtuzumab ozogamicin.....	<input type="checkbox"/>	lll. Rituximab.....	<input type="checkbox"/>								
nn. Goserelin.....	<input type="checkbox"/>	mmm. Streptozocin.....	<input type="checkbox"/>								
oo. Hydroxyurea.....	<input type="checkbox"/>	nnn. Tamoxifen.....	<input type="checkbox"/>								
pp. Idarubicin.....	<input type="checkbox"/>	ooo. Temozolomide...	<input type="checkbox"/>								
qq. Iphosphamide.....	<input type="checkbox"/>	ppp. Teniposide.....	<input type="checkbox"/>								
rr. Imatinib mesylate..	<input type="checkbox"/>	qqq. Thioguanine.....	<input type="checkbox"/>								
ss. Interferon Alfa-2a.....	<input type="checkbox"/>	rrr. Thiotepa.....	<input type="checkbox"/>								
tt. Interferon Alfa-2b.....	<input type="checkbox"/>	sss. Topotecan.....	<input type="checkbox"/>								
uu. Irenotecan.....	<input type="checkbox"/>	ttt. Toremifene.....	<input type="checkbox"/>								
vv. Letrozole.....	<input type="checkbox"/>	uuu. Trastuzumab.....	<input type="checkbox"/>								
ww. Leuprolide.....	<input type="checkbox"/>	vvv. Tretinoin.....	<input type="checkbox"/>								
xx. Megestrol.....	<input type="checkbox"/>	www. Valrubicin.....	<input type="checkbox"/>								
yy. Mercaptopurine (Leupurin®).....	<input type="checkbox"/>	xxx. Vinblastine (Velban®).....	<input type="checkbox"/>								
zz. Merchlorethamine.....	<input type="checkbox"/>	yyy. Vincristine (Oncovin®).....	<input type="checkbox"/>								
aaa. Melphalan.....	<input type="checkbox"/>	zzz. Vincorelbine.....	<input type="checkbox"/>								
						Other (Please specify):	<input type="checkbox"/>				

The next two questions pertain to the number of male and female workers at this facility currently performing activities involving the handling of antineoplastic agents. If a worker performs more than one of the activities listed, please count this individual in each applicable category. Enter "0" for none.

- B3. How many workers mix or prepare doses of antineoplastic agents? (These workers are usually pharmacists or pharmacy technicians.)
- | | 0 | 1 | 2-5 | 6-10 | 11-20 | > 20 |
|------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Males..... | <input type="checkbox"/> |
| b. Females | <input type="checkbox"/> |
- B4. How many workers administer antineoplastic agents? (These workers are usually oncology/infusion nurses, or may also work in areas where patients are being treated for rheumatoid arthritis or ectopic pregnancies.)
- | | 0 | 1 | 2-5 | 6-10 | 11-20 | > 20 |
|------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Males..... | <input type="checkbox"/> |
| b. Females | <input type="checkbox"/> |
- B5. Are there **written** standard procedures (SOPs) for any of the following activities? **Please ✓ all that apply.**
- Receipt and unpacking antineoplastic agents
 - Mixing or preparing antineoplastic agents
 - Administering antineoplastic agents
 - Cleanup of spills of antineoplastic agents
 - Handling bodily fluids (e.g., urine, stool, vomit, etc.) of patients receiving antineoplastic agents
 - Disposal of AN-contaminated waste (empty vials, syringes, IV bags, absorbent pads, tubing, etc.)

B6. When do workers who perform the following activities receive training which addresses the safe handling and hazards of antineoplastic agents? **Please ✓ all that apply.**

	Never	At job or task orientation	At least annually, i.e., one or more times every 12 months	Other (Please specify)
a. Preparing antineoplastic agents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ _____
b. Administering antineoplastic agents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ _____
c. Any other activities with potential exposure to antineoplastic agents (e.g. cleaning-up spills, handling waste)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____ _____

 **If training is never provided to any employee who handles antineoplastic agents, skip to Question B8.**

B7. Is this training mandatory or voluntary?

Mandatory
 Voluntary

B8. Has exposure monitoring (e.g., air sampling, surface wipe sampling, etc.) been performed in the past 12 months to assess workers' potential exposure to **any** antineoplastic agents at this facility?

Yes
 No  **Skip to Question B9.**

B8A. What type(s) of samples were collected? **Please ✓ all that apply.**

Skin wipes
 Surface wipes
 Air samples

} **Skip to Question B10.**

B9. What are the reasons exposure monitoring has **not** been performed in the past 12 months at this facility to assess workers' exposure to any antineoplastic agents? **Please ✓ all that apply.**

- 1. Exposure to antineoplastic agents is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings.
- 2. Exposure to antineoplastic agents is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
- 3. Exposure to antineoplastic agents is felt to be insignificant based on the use of engineering controls.
- 4. Not required by OSHA.
- 5. Unaware of appropriate sampling methods for antineoplastic agents.
- 6. Lack of health and safety personnel.
- 7. Too costly.
- 8. Other (Please specify): _____

B9A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** exposure monitoring **has not** been collected at this facility to assess workers' exposure to any antineoplastic agents

Most important reason.....

B10. Is medical surveillance (such as medical questionnaire, physical exam, blood test, urine test) currently conducted for workers who handle, work with or are otherwise potentially exposed to antineoplastic agents?

- Yes
- No

Skip to Question B13.

B11. When are the following medical surveillance tests or exams provided to employees potentially exposed to antineoplastic agents? *(For each type of exam, enter a ✓ for each applicable time of administration).*

	Never	At pre-placement	Periodically	Following a needlestick	At job exit
a. Standardized medical questionnaire.....	<input type="checkbox"/>				
b. Physical exam	<input type="checkbox"/>				
c. Blood test	<input type="checkbox"/>				
d. Urine test.....	<input type="checkbox"/>				

B12. Are the results of these tests provided to affected employees? Yes No



If medical surveillance is conducted for all workers potentially exposed to antineoplastic agents, skip to Question B14.

B13. What are the reasons medical surveillance is not currently conducted for workers exposed to antineoplastic agents at this facility? **Please ✓ all that apply.**

- 1. Exposure to antineoplastic agents is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings.
- 2. Exposure to antineoplastic agents is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
- 3. Exposure to antineoplastic agents is felt to be insignificant based on the use of engineering controls.
- 4. Not required by OSHA.
- 5. Lack of health and safety personnel.
- 6. Too costly.
- 7. Other (Please specify): _____

B13A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** medical surveillance **has not** been conducted for workers' exposed to antineoplastic agents at this facility

Most important reason.....

- B14. Does this facility have a policy or procedures to identify/screen employees about pregnancy (planning or currently pregnant) and potential exposure to antineoplastic agents?
- Yes
 No

Policies for Preparing Antineoplastic Agents

- B15. Are antineoplastic agents prepared at this facility?
- Yes
 No

Skip to Question B24.

- B16. Are antineoplastic agents required to be prepared in a restricted area, accessible only to personnel trained in the specific requirements associated with preparing these agents?
- Yes
 No

- B17. Is consumption of food and beverages by employees prohibited in areas where antineoplastic agents are prepared?
- Yes
 No

- B18. Are antineoplastic agents required to be mixed or prepared in either a Class II, Type B, or Class III Biological Safety Cabinet?
- Yes
 No

- B19. Are antineoplastic agents required to be mixed using a closed drug transfer system?
- Yes
 No

- B20. Are antineoplastic agents required to be mixed using a needle-less drug transfer system?
- Yes
 No

- B21. Is the IV tubing used for delivering antineoplastic agents always required to be primed in a biological safety cabinet?
- Yes
 No

- B22. Is the IV tubing used for delivery of antineoplastic agents always required to be primed with diluent (i.e., a liquid other than AN agent)?
- Yes
 No

- B23. After mixing, are antineoplastic agents required to be packaged for delivery to remote units in sealed and properly labeled bags?
- Yes
 No

Policies for Administering Antineoplastic Agents

B24. Are antineoplastic agents administered at this facility?

Yes

No

Skip to Question B28.

B25. Are antineoplastic agents required to be administered using a drug delivery system with Luer lock-type fittings?

Yes

No

B26. Are antineoplastic agents required to be administered using a needle-less drug transfer system?

Yes

No

B27. Is the consumption of food and beverages by employees prohibited in areas in which antineoplastic agents are administered?

Yes

No

Policies for Designated Spill Clean-up Teams

B28. Which of the following spills of antineoplastic agents are cleaned up by specially trained clean-up personnel?
Please ✓ all that apply

None, do not use special spill team

Small-sized spills (< 5cc)

Medium-sized spills (5-25cc)

Large spills (> 25cc)

B29. Please check the types of personal protective equipment/clothing (PPE) that are **required** for workers potentially exposed to antineoplastic agents in this facility. Please answer this for the following two activities for each of the types of PPE.

Personal Protective Equipment (PPE) Type	Preparing antineoplastic agents	Administering antineoplastic agents
a. Activity not performed at this facility	<input type="checkbox"/>	<input type="checkbox"/>
b. None are required.....	<input type="checkbox"/>	<input type="checkbox"/>
c. Single-use, disposable gown with closed front and tight cuffs.....	<input type="checkbox"/>	<input type="checkbox"/>
d. Laundered protective garment (e.g., lab coat, scrubs, apron, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
e. Chemotherapy “chemo” gloves (of any type of material)	<input type="checkbox"/>	<input type="checkbox"/>
f. Natural rubber latex gloves, excluding “chemo” gloves	<input type="checkbox"/>	<input type="checkbox"/>
g. Non-latex gloves, excluding “chemo” gloves	<input type="checkbox"/>	<input type="checkbox"/>
h. Two pairs of gloves (“double glove”).....	<input type="checkbox"/>	<input type="checkbox"/>
i. Eye protection (e.g., face shield, splash goggles, or safety glasses)	<input type="checkbox"/>	<input type="checkbox"/>
j. Disposable particulate respirator (also called filtering facepiece respirator, e.g., N95)	<input type="checkbox"/>	<input type="checkbox"/>
k. Elastomeric half-mask or full-facepiece respirator with replaceable cartridges.....	<input type="checkbox"/>	<input type="checkbox"/>
l. Powered air purifying respirator (PAPR)	<input type="checkbox"/>	<input type="checkbox"/>
m. Supplied air respirator.....	<input type="checkbox"/>	<input type="checkbox"/>
n. Other respirator (excluding surgical mask)	<input type="checkbox"/>	<input type="checkbox"/>
o. Disposable booties	<input type="checkbox"/>	<input type="checkbox"/>
p. Other PPE (Please specify)	<input type="checkbox"/>	<input type="checkbox"/>

B30. Does this facility have a policy which prohibits taking home any clothing (protective clothing or street clothes) which were worn when...	Yes	No
	<hr/>	
a. Preparing antineoplastic agents?	<input type="checkbox"/>	<input type="checkbox"/>
b. Administering antineoplastic agents? ...	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for completing Section B.
Please continue to Section C: Aerosolized Medications on Page 21.

SECTION C: AEROSOLIZED MEDICATIONS

This section focuses on aerosolized ribavirin (Virazole®), pentamidine (Nebupent®), and tobramycin (Nebcin®). The focus is on policies and procedures that apply to respiratory therapists and others who administer or otherwise handle these medications.

C1. Is aerosolized ribavirin, pentamidine, or tobramycin used at this facility? Yes No **Skip to Section D on Page 26.**

C2. During the **past month**, how many doses of the following drugs were administered at this facility? **Check "0" for none.**

Drug Name:	Number of Doses				
	0	1-10	11-25	26-50	>50
a. Aerosolized Ribavirin	<input type="checkbox"/>				
b. Aerosolized Pentamidine	<input type="checkbox"/>				
c. Aerosolized Tobramycin	<input type="checkbox"/>				

The next questions pertain to the number of male and female workers at this facility currently administering aerosolized ribavirin, pentamidine or tobramycin.

C3. How many workers at this facility currently administer aerosolized ribavirin, pentamidine and/or tobramycin?

	0	1	2-5	6-10	11-20	> 20
a. Males	<input type="checkbox"/>					
b. Females	<input type="checkbox"/>					

C4. When do workers who administer ribavirin, pentamidine and/or tobramycin receive training which addresses the hazards and safe handling of any of these aerosolized medications? **Please ✓ all that apply.**

Never **Skip to Question C6.**

At job or task orientation

At least annually, i.e. one or more times every 12 months

Other (Please specify): _____

C5. Is this training mandatory or voluntary?

Mandatory

Voluntary

C6. Has exposure monitoring (e.g., air sampling, surface wipe sampling, etc.) been performed in the past 12 months to assess workers' potential exposure to ribavirin, pentamidine or tobramycin (any or all) at this facility?

Yes **Skip to Question C8.**

No

C7. What are the reason(s) exposure monitoring has **not** been performed in the past 12 months at this facility to assess workers' exposure to any of these aerosolized medications? **Please ✓ all that apply.**

- 1. Exposure to aerosolized medications is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings.
- 2. Exposure to aerosolized medications is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
- 3. Exposure to aerosolized medications is felt to be insignificant based on the use of engineering controls.
- 4. Not required by OSHA.
- 5. Unaware of appropriate sampling methods for aerosolized medications.
- 6. Lack of health and safety personnel.
- 7. Too costly.
- 8. Other (Please specify): _____

C7A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** exposure monitoring **has not** been performed at this facility to assess workers' exposure to any aerosolized medications.

Most important reason.....

C8. Is medical surveillance (such as medical questionnaire, physical exam, blood test, urine test, pulmonary function test) currently conducted for workers potentially exposed to ribavirin, pentamidine or tobramycin?

- Yes
- No



C9. When are the following medical surveillance tests or exams provided to employees potentially exposed to aerosolized ribavirin, pentamidine or tobramycin (any or all)?

	Never	At Pre-placement	Periodically	At Job exit
a. Standardized medical questionnaire.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Physical exam.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Blood tests.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Urine tests.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Pulmonary function test.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- C10. Are the results of these medical surveillance tests provided to affected employees?
- Yes
 No



If medical surveillance is currently conducted for all employees exposed to aerosolized medications, Skip to Question C12.

- C11. What are the reasons medical surveillance is not currently conducted for all workers exposed to these aerosolized medications at this facility?
Please ✓ all that apply.
1. Exposure to aerosolized medications is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings.
2. Exposure to aerosolized medications is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
3. Exposure to aerosolized medications is felt to be insignificant based on the use of engineering controls.
4. Not required by OSHA.
5. Lack of health and safety personnel.
6. Too costly.
7. Other (Please specify): _____

C11A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** medical surveillance **has not** been conducted for all workers exposed to these aerosolized medications at this facility.

Most important reason.....

- C12. Does this facility have a policy or procedures to identify/screen employees about pregnancy (planning or currently pregnant) and potential exposure to these aerosolized medications?
- Yes
 No
- C13. In this facility, which of the following work practices or engineering controls **are required** during administration of these aerosolized medications? **Please ✓ all that apply.**
- Oxygen tent.
- Double containment system (i.e., HEPA filtered oxygen tent over oxygen hood).
- Mechanical ventilator equipped with exhalation filter.
- Nebulizer or aerosol generator equipped with exhalation filter.
- HEPA-filtered isolation chamber/booth/hood.
- Negative pressure isolation rooms with ventilation system equipped with HEPA filters or direct exhaust to the outdoors.
- Restrict non-essential employee access during and immediately following (within 30 minutes) administration of aerosolized medications.
- Clean the surfaces of the nebulizer prior to moving it to another location.
- Special procedures for cleaning rooms after administration of aerosolized medications.
- Other (Please specify): _____

- None

- C14. Which types of Personal Protective Equipment (PPE) are **required** for employees while they are administering ribavirin, pentamidine and/or tobramycin at this facility? **Please ✓ all that apply.** (Please do not include surgical masks as respiratory protection.)
- Protective gown or garment
 - Protective gloves
 - Eye protection (e.g., face shield, splash goggles, or safety glasses)
 - Disposable particulate respirator (also called filtering face-piece respirator, e.g., N95)
 - Elastomeric half-mask or full-face-piece respirator with replaceable filters or cartridges
 - Powered air purifying respirator (PAPR)
 - Disposable booties
 - Other (Please specify): _____

- C15. Does this facility have a **policy** which prohibits taking home any clothing (protective clothing or street clothes) which were worn while administering ribavirin, pentamidine and/or tobramycin?
- Yes
 - No

Thank you for completing Section C.
Please continue to Section D: Glutaraldehyde and Other High Level Disinfectants (HLDs) on page 26.

SECTION D: GLUTARALDEHYDE AND OTHER HIGH LEVEL DISINFECTANTS (HLDs)

*This module is directed towards anyone who disinfects medical instruments, devices, or supplies (such as endoscopes, thermometers, and other items which cannot be sterilized) using **disinfectants** containing the following:*

- **Glutaraldehyde** (e.g., Cidex[®], ColdSport[®], Endocide[®], Glutacide[®], Hospex[®], Metricide[®], Sporidicin[®], Wavicide[®]),
- **Ortho-phthalaldehyde** (e.g., Cidex OPA[®]),
- **Peracetic acid** (e.g., Steris[®] system), or
- **Hydrogen peroxide** (e.g., Accell[®], Optim[®]).

- D1. Are HLDs used at this facility? Yes No  **Skip to Section E on Page 33.**
- D2. Are **HLDs** used to disinfect endoscopes or other medical instruments and devices at this facility? Yes No  **Skip to Question D28.**
- D3. Is **glutaraldehyde** used to disinfect endoscopes or other medical instruments and devices at this facility? Yes No  **Skip to Question D13.**
- D4. How many workers at this facility currently use glutaraldehyde to disinfect medical instruments? 1 2-5 6-10 11-20 > 20
- D5. Are there written standard procedures for the safe handling of glutaraldehyde for disinfection at this facility? Yes No
- D6. When do workers who use **glutaraldehyde** to disinfect medical instruments receive training from this employer which addresses the hazards and safe handling of this HLD? **Please ✓ all that apply.** Never At job or task orientation At least annually (i.e., one or more times in 12 months) Other (Please specify): _____
- D7. Have air samples been collected in the past 12 months to assess worker exposure to glutaraldehyde at this facility? Yes No  **Skip to Question D9.**

D8. What are the reasons air samples **have not** been collected in the past 12 months at this facility to assess workers' exposure to glutaraldehyde? **Please ✓ all that apply.**

- 1. Exposure to glutaraldehyde is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings.
- 2. Exposure to glutaraldehyde is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
- 3. Exposure to glutaraldehyde is felt to be insignificant based on the use of engineering controls.
- 4. Not required by OSHA.
- 5. Unaware of appropriate sampling methods for glutaraldehyde.
- 6. Lack of health and safety personnel.
- 7. Too costly.
- 8. Other (Please specify): _____

D8A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** air samples **have not** been collected at this facility to assess workers' exposure to glutaraldehyde.

Most important reason.....

D9. Is medical surveillance (such as medical questionnaire, physical exam, pulmonary function test, allergy/sensitization test) currently conducted for workers who use **glutaraldehyde** to disinfect medical instruments?

- Yes
- No



Skip to Question D12.

D10. When are the following medical surveillance tests or exams provided to employees potentially exposed to **glutaraldehyde**? **Please ✓ all that apply.**

	Never	At pre-placement	Periodically	Following an acute exposure (e.g., a spill)	At job exit
a. Standardized medical questionnaire.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Physical exam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Pulmonary function test.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Allergy/sensitization test.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- D11. Are results of these medical surveillance tests provided to affected employees? Yes
 No



If medical surveillance is conducted for all workers potentially exposed to glutaraldehyde, Skip to Question D13.

- D12. What are the reasons medical surveillance is not currently conducted at this facility for workers exposed to **glutaraldehyde**? Please ✓ all that apply.
1. Exposure to glutaraldehyde is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings.
2. Exposure to glutaraldehyde is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
3. Exposure to glutaraldehyde is felt to be insignificant based on the use of engineering controls.
4. Not required by OSHA.
5. Lack of health and safety personnel.
6. Too costly.
7. Other (Please specify): _____

D12A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** medical surveillance **has not** been conducted for workers exposed to glutaraldehyde at this facility.

Most important reason.....

- D13. Has ortho-phthalaldehyde, peracetic acid or hydrogen peroxide been **substituted** for glutaraldehyde as a high level disinfectant? (i.e., switch to *Cidex OPA*[®], *Steris*[®] system, *Accel*[®], or *Optim*[®] from *Cidex*[®], *ColdSport*[®], *Endocide*[®], *Glutacide*[®], *Hopsex*[®], *MetriCide*[®], *Sporicindin*[®], *Wavicide*[®])
- Yes, in all cases
- Yes, in some cases
- No  **Skip to Question D14.**

D13A. What was the **primary** reason for the substitution? Please ✓ **only one**.

- Recommendation from supplier
- Improve worker health and safety conditions
- Reduce regulatory concerns
- Reduce cost
- Other (Please specify): _____

- D14. Is **ortho-phthalaldehyde** used to disinfect medical instruments at this facility?
- Yes
 No  **Skip to Question D18.**
- D15. How many workers at this facility currently use **ortho-phthalaldehyde** to disinfect medical instruments?
- 1
 2-5
 6-10
 11-20
 21-50
 >50
- D16. Are there written standard procedures for the safe handling of ortho-phthalaldehyde for disinfection at this facility?
- Yes
 No
- D17. When do workers who use **ortho-phthalaldehyde** to disinfect medical instruments receive training from this employer which addresses the hazards and safe handling of this HLD? **Please ✓ all that apply.**
- Never
 At job or task orientation
 At least annually (i.e., one or more times in 12 months)
 Other (Please specify): _____

- D18. Is **peracetic acid** used to disinfect medical instruments at this facility?
- Yes
 No  **Skip to Question D22.**
- D19. How many workers at this facility currently use **peracetic acid** to disinfect medical instruments via immersion processing techniques?
- 1
 2-5
 6-10
 11-20
 21-50
 >50
- D20. Are there written standard procedures for the safe handling of peracetic acid for disinfection at this facility?
- Yes
 No
- D21. When do workers who use **peracetic acid** to disinfect medical instruments receive training from this employer which addresses the hazards and safe handling of this HLD? **Please ✓ all that apply.**
- Never
 At job or task orientation
 At least annually (i.e., one or more times in 12 months)
 Other (Please specify): _____

- D22. Is **hydrogen peroxide** used to disinfect medical instruments via immersion processing techniques at this facility?
- Yes
 No  **Skip to Question D26.**
- D23. How many workers at this facility currently use **hydrogen peroxide** to disinfect medical instruments via immersion processing techniques?
- 1
 2-5
 6-10
 11-20
 > 20
- D24. Are there written standard procedures for the safe handling of hydrogen peroxide for disinfection at this facility?
- Yes
 No
- D25. When do workers who use **hydrogen peroxide** to disinfect medical instruments receive training from this employer which addresses the hazards and safe handling of this HLD? **Please ✓ all that apply.**
- Never
 At job orientation
 At least annually (i.e., one or more times in 12 months)
 Other (Please specify): _____

The next few questions refer to any of the four specific high level disinfectants (i.e., glutaraldehyde, ortho-phthalaldehyde, paracetic acid, and hydrogen peroxide) previously addressed in this module.

- D26. Have any equipment modifications or procedural changes been made for the primary purpose of reducing worker exposure to high level disinfectants?
- Yes
 No  **Skip to Question D27.**
- D26A. What was the nature of these equipment modifications or procedural changes? **Please ✓ all that apply.**
- Use of automated, enclosed disinfection systems which are ventilated
 Use of covered or ventilated disinfection trays/bins
 Centralize high level disinfectants stations into fewer locations
 Use of a closed system for transferring high level disinfectants
 Other (Please specify): _____

- D27. Please check the types of personal protective equipment/clothing that **are required** for workers potentially exposed to high level disinfectants in this facility. Please answer for the following four high level disinfectants and for each of the types of PPE. (Check the boxes in part "a" if the particular product is not used, and check the boxes in part "b" if no personal protective equipment is required for employees working with a particular disinfectant.)

Personal Protective Equipment (PPE) Type	Glutaraldehyde for disinfection	Ortho-phthalaldehyde for disinfection	Peracetic acid for disinfection	Hydrogen peroxide for disinfection
a. This HLD is not used at this facility.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. None are required.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Protective gown or garment.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Protective gloves (non-fabric)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Eye protection (e.g., face shield, splash goggles, or safety glasses)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Elastomeric half-mask or full-facepiece respirator with replaceable cartridges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Powered air purifying respirator (PAPR).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Other respirator (excluding surgical mask).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Other PPE (Please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- D28. Are **glutaraldehyde**-containing solutions used for **tissue fixation** processes at this facility?

Yes

No

 **Skip to Question D30.**

- D29. How many workers at this facility currently use glutaraldehyde for **tissue fixation** processes?

1

2-5

6-10

11-20

> 20

D30. Are **glutaraldehyde**-containing solutions used for **X-ray processing** at this facility?

Yes

No

Skip to Section E on Page 33.

D31. How many workers at this facility currently use glutaraldehyde for X-ray processing?

1

2-5

6-10

11-20

> 20

**Thank you for completing Section D.
Please continue to Section E: Chemical Sterilants on page 33.**

SECTION E: CHEMICAL STERILANTS

This section focuses only on **ethylene oxide and hydrogen peroxide gas plasma (e.g., the STERRAD® system)**. It excludes steam sterilizers and autoclaves. The focus of this section is on policies and procedures that apply to central processing employees or others who sterilize medical instruments or supplies using chemical sterilants.

- E1. Are chemical sterilants (either ethylene oxide or hydrogen peroxide gas plasma) used at this facility? Yes No Skip to Section F on Page 39.
- E2. Are there written standard procedures (for the safe handling of chemical sterilants at this facility)? Yes No
- E3. When do workers who work with chemical sterilants receive training from this employer which addresses the hazards and safe handling of these materials? **Please ✓ all that apply.**
- Never
 At job or task orientation
 At least annually (i.e., one or more times in 12 months)
 Other (Please specify): _____

- E4. Does this facility currently use **ethylene oxide** to sterilize medical instruments or supplies? Yes No Skip to Question E14.
- E5. During the **past week**, what was the approximate number of loads sterilized using ethylene oxide at this facility?
- 0
 1-10
 11-20
 21-50
 >50
- E6. How many workers at this facility currently sterilize medical instruments or supplies using ethylene oxide?
- | | 0 | 1 | 2-5 | 6-10 | 11-20 | > 20 |
|-----------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Males..... | <input type="checkbox"/> |
| b. Females..... | <input type="checkbox"/> |

E7. Have air samples (personal samples or fixed location area samples) been collected in the past 12 months to assess worker exposure to ethylene oxide?

- Yes, only personal samples  **Skip to Question E9.**
- Yes, only fixed location monitors
- Yes, both personal samples and fixed location monitors
- No  **Skip to Question E8.**

E7A. Where are the fixed location monitors located? **Please ✓ all that apply.**

- Adjacent to sterilizer loading door
- In immediate area where in-service ethylene oxide tanks are located
- Other (Please specify): _____
- _____

E8. What are the reasons air samples **have not** been collected in the past 12 months to assess workers' exposure to ethylene oxide? **Please ✓ all that apply.**

1. Exposure to ethylene oxide is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings.
2. Exposure to ethylene oxide is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
3. Exposure to ethylene oxide is felt to be insignificant based on the use of engineering controls.
4. Not required by OSHA.
5. Lack of appropriate sampling methods for ethylene oxide.
6. Lack of health and safety personnel.
7. Too costly
8. Other (Please specify): _____
- _____

E8A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** air samples **have not** been collected at this facility to assess workers' exposure to ethylene oxide.

Most important reason.....

E9. Is medical surveillance (such as medical questionnaire, physical exam, blood test) currently conducted for all workers who use **ethylene oxide** to disinfect medical instruments?

- Yes
- No



Skip to Question E12.

E10. When are the following medical surveillance tests or exams provided to employees at this facility who are potentially exposed to **ethylene oxide**? Please **✓ all that apply or never**.

	Never	At pre-placement	Periodically	After an acute exposure (i.e., a release)	At job exit
a. Standardized medical questionnaire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Physical exam.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Blood tests	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

E11. Are results of these tests provided to employees?

- Yes
- No

Skip to Question E13.

E12. What are the reasons medical surveillance is not currently conducted for all workers exposed to ethylene oxide at this facility? Please **✓ all that apply**.

- 1. Exposure to ethylene oxide is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings.
- 2. Exposure to ethylene oxide is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
- 3. Exposure to ethylene oxide is felt to be insignificant based on the use of engineering controls.
- 4. Not required by OSHA.
- 5. Lack of health and safety personnel.
- 6. Too costly.
- 7. Other (Please specify): _____

E12A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** medical surveillance **has not** been conducted for all workers' exposed to ethylene oxide at this facility.

Most important reason.....

- E13. Are any of the following engineering controls or work practices **required** when ethylene oxide is used for sterilization at this facility?
- | | Yes | No |
|--|--------------------------|--------------------------|
| a. Use a combination sterilizer/aerator unit (i.e., where manual transfer of load between sterilizer and aerator is unnecessary) | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Sterilizer located in a separately enclosed room | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Aerator located in a separately enclosed room | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Other (Please specify): _____ | <input type="checkbox"/> | <input type="checkbox"/> |
- E14. Does this facility currently use **hydrogen peroxide gas plasma (e.g. STERRAD[®] system)** to sterilize medical instruments or supplies?
- Yes
 No  **Skip to Question E20.**
- E15. During the **past week**, what was the approximate number of loads sterilized using hydrogen peroxide gas plasma at this facility?
- 0
 1-10
 11-20
 21-50
 >50
- E16. How many workers at this facility currently sterilize medical instruments or supplies using hydrogen peroxide gas plasma?
- 0
 1
 2-5
 6-10
 11-20
 > 20
- E17. Is the hydrogen peroxide gas plasma sterilizer(s) located in a separately enclosed room?
- Yes, in all areas
 Yes, in some areas
 No
- E18. Is hydrogen peroxide gas plasma (e.g., the STERRAD[®] system) used in place of ethylene oxide for chemical sterilization at this facility?
- Yes
 No  **Skip to Question E20.**

E19. What are the reasons you have chosen to use hydrogen peroxide gas plasma instead of ethylene oxide for chemical sterilization? **Please** ✓ **all that apply.**

- 1. Employee health and safety
- 2. Reduced sterilization cycle time
- 3. Reduced regulatory burden
- 4. Recommendation from vendor
- 5. Company mandate
- 6. Cost factors
- 7. Other (Please specify): _____

E19A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** that you have decided to use hydrogen peroxide gas plasma instead of ethylene oxide for chemical sterilization.

Most important reason.....

E20. Please check the types of personal protective equipment/clothing that **are required** for workers potentially exposed to chemical sterilants in this facility. Please answer this for the following two types of sterilants for each of the types of PPE.

Personal Protective Equipment (PPE) Type	Using ethylene oxide	Using hydrogen peroxide plasma
a. Sterilant not used at this facility	<input type="checkbox"/>	<input type="checkbox"/>
b. None are required (SKIP TO Question E21)	<input type="checkbox"/>	<input type="checkbox"/>
c. Single-use, disposable gown	<input type="checkbox"/>	<input type="checkbox"/>
d. Laundered protective garment (e.g., lab coat, scrubs, apron, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
e. Protective gloves, non fabric.....	<input type="checkbox"/>	<input type="checkbox"/>
f. Eye protection (e.g., face shield, splash goggles, or safety glasses).....	<input type="checkbox"/>	<input type="checkbox"/>
g. Respiratory protection (e.g., half or full face piece respirator with replaceable filters or cartridges, powered air-purifying respirator, or supplied air respirator—do not include surgical masks as respiratory protection).....	<input type="checkbox"/>	<input type="checkbox"/>
i. Other PPE (Please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>

- E21. Does this facility currently use gamma radiation to sterilize medical instruments/supplies? Yes
 No
- E22. How many workers at this facility currently sterilize medical instruments or supplies using gamma radiation? 0
 1
 2-5
 6-10
 11-20
 > 20

**Thank you for completing Section E.
Please continue to Section F: Waste Anesthetic Gases on page 39.**

SECTION F: WASTE ANESTHETIC GASES

This section focuses on the use and control of anesthetic gases. The focus is on policies and procedures that apply to employees working in areas such as operating rooms, PACU, emergency rooms, labor and delivery rooms, dental clinics and other areas where exposure to waste anesthetic gases is possible. Anesthetic gases include nitrous oxide, enflurane, desflurane, halothane, isoflurane, sevoflurane, and others.

F1. Are anesthetic gases used at this facility?

Yes

No

Skip to Section G on Page 44.

F2. Have any of the following anesthetic agents been used at this facility during the **past week** (i.e., the past 7 calendar days)?

Name of Anesthetic Agent:	Yes	No
a. Nitrous Oxide	<input type="checkbox"/>	<input type="checkbox"/>
b. Enflurane	<input type="checkbox"/>	<input type="checkbox"/>
c. Desflurane	<input type="checkbox"/>	<input type="checkbox"/>
d. Halothane	<input type="checkbox"/>	<input type="checkbox"/>
e. Isoflurane	<input type="checkbox"/>	<input type="checkbox"/>
f. Sevoflurane	<input type="checkbox"/>	<input type="checkbox"/>
g. Other (Please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>

F3. In the **past week**, what was the approximate amount of the following anesthetic agents used at this facility?

	Amount Used (in liters)			
	None	1-50	51-250	> 250
a. Nitrous Oxide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Enflurane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Desflurane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Halothane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Isoflurane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Sevoflurane	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Other (Please specify): _____ _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F4. What is the approximate number of male and female workers at this facility who routinely work in each of the following areas?

	Males	Females
a. Operating rooms or induction rooms.....	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40
b. Recovery areas, including the PACU and labor and delivery rooms	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40
c. Emergency rooms.....	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40
d. All other areas where anesthetic gases may be administered	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40	<input type="checkbox"/> 0 <input type="checkbox"/> 1-10 <input type="checkbox"/> 11-20 <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> >40

F5. Are there written standard procedures for the safe handling of anesthetic agents at this facility?

- Yes
 No

F6. When do workers with the following responsibilities receive training which addresses the safe handling of anesthetic agents? **Please ✓ all that apply.**

	Never	At job or task orientation	At least annually, i.e., one or more times every 12 months	Other (Please specify)
a. Administer anesthetic agents to patients	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____
b. Work in areas where exposure to waste anesthetic agents is possible (e.g., areas where agents are being administered or in post anesthesia care areas).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> _____

F7. Have air samples been collected in the past 12 months to assess worker exposure to any waste anesthetic gases at this facility?

Yes  **Skip to Question F9.**

No

F8. What are the reasons air samples **have not** been collected in the past 12 months at this facility to assess workers' exposure to any waste anesthetic gases? **Please ✓ all that apply.**

- 1. Exposure to waste anesthetic gases is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings
- 2. Exposure to waste anesthetic gases is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
- 3. Exposure to waste anesthetic gases is felt to be insignificant based on the use of engineering controls.
- 4. Not required by OSHA.
- 5. Unaware of appropriate sampling methods for waste anesthetic gases.
- 6. Lack of health and safety personnel.
- 7. Too costly.
- 8. Sampling is too difficult in sterile areas.
- 9. Other (Please specify): _____

F8A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** air samples **have not** been collected at this facility to assess workers' exposure to waste anesthetic gases

Most important reason

- F9. Is medical surveillance (such as medical questionnaire or physical exam) currently conducted for workers who perform the following activities involving waste anesthetic gases?
- | | Yes | No |
|---|--------------------------|--------------------------|
| a. Administering anesthetic gases..... | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Work in areas where exposure to waste anesthetic gases is possible | <input type="checkbox"/> | <input type="checkbox"/> |



If medical surveillance is not conducted on any employees with potential exposure to waste anesthetic gases, skip to Question F12.

- F10. When are the following medical surveillance tests or exams provided to employees potentially exposed to waste anesthetic gases?
Please ✓ all that apply.
- | | Never | At pre-
placement | Periodically | At job
exit |
|---|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Standardized medical questionnaire | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Physical exam | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Blood tests | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- F11. Are results of these tests provided to affected employees?
- Yes
 No



If medical surveillance is conducted for all workers potentially exposed to waste anesthetic gases, skip to Question F13.

F12. What are the reasons medical surveillance is not currently conducted for workers exposed to waste anesthetic gases at this facility? **Please** ✓ **all that apply.**

1. Exposure to waste anesthetic gases is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings.
2. Exposure to waste anesthetic gases is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
- Exposure to waste anesthetic gases is felt to be insignificant based on the use of engineering controls.
3. Not required by OSHA.
4. Lack of health and safety personnel.
5. Too costly.
6. Other (Please specify): _____

F12A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** medical surveillance **has not** been conducted for workers' exposed to waste anesthetic gases at this facility.

Most important reason

F13. In this facility, is a gas scavenging system always **required** during administration of anesthetic gases?

- Yes
- No

F14. Please check the types of personal protective equipment/clothing that are required for workers potentially exposed to waste anesthetic gases at this facility. **Please** ✓ **all that apply.**

- None are required
- Single-use disposable gown
- Laundered protective garment (e.g., lab coat, scrubs, apron, etc.)
- Protective gloves, non-fabric
- Eye protection (e.g., face shield, splash goggles, or safety glasses)
- Respiratory protection (e.g., half or full face-piece respirator with replaceable cartridges, powered air-purifying respirator, or supplied-air respirator-do not include surgical masks as respiratory protection)
- Other PPE (Please specify): _____

Thank you for completing Section F.
Please continue to Section G: Surgical Smoke from Lasers or Electrosurgery Devices on page 44.

SECTION G: SURGICAL SMOKE FROM LASERS OR ELECTROSURGERY DEVICES

This section focuses on surgical smoke. Surgical smoke refers to emissions created by thermal destruction of tissue using lasers or electrosurgery devices. The focus is on policies and procedures applying to employees who work in operating rooms, emergency rooms, dermatology clinics, dental operatories or other areas where laser or electrosurgery devices are used.

G1. Are lasers or electrosurgical devices used at this facility?

Yes

No

Skip to Section H on Page 47.

G2. How many workers at this facility currently use lasers or electrosurgical devices in surgical procedures or work in proximity (i.e., within 5 feet) to where these devices are being used by others?

1

2-10

11-25

26-50

> 50

G3. When do workers who use lasers or electrosurgery devices in surgical procedures receive training which addresses the hazards of surgical smoke?
Please ✓ all that apply.

Never

At job or task orientation

At least annually (i.e., one or more times every 12 months)

Other (Please specify): _____

G4. Have air samples been collected in the past 12 months to assess workers' exposure to surgical smoke?

Yes

No

Skip to Question G6.

- G5. What are the reasons air samples **have not** been collected in the past 12 months at this facility to assess workers' exposure to surgical smoke? **Please** ✓ **all that apply**.
- 1. Exposure to surgical smoke is felt to be insignificant based on historical and/or objective data from industry studies for similar work settings.
 - 2. Exposure to surgical smoke is felt to be insignificant based on previous sampling (more than 12 months ago) at this facility.
 - 3. Exposure to surgical smoke is felt to be insignificant based on the use of engineering controls.
 - 4. Not required by OSHA.
 - 5. Unaware of appropriate sampling methods for surgical smoke.
 - 6. Lack of health and safety personnel.
 - 7. Too costly.
 - 8. Sampling is too difficult in sterile areas.
 - 9. Other (Please specify): _____

G5A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** air samples **have not** been collected at this facility to assess workers' exposure to surgical smoke.

Most important reason.....

- G6. Is local exhaust ventilation (e.g., smoke evacuator/filtration device, room suction system) designed to remove the smoke plume at the surgical site required at this facility when lasers or electrosurgical devices are being used?
- Yes, always
 - Yes, sometimes
 - No 

Skip To Question G9.

- G7. How often is the smoke evacuation system required to be inspected to prevent possible leaks?
- As determined by the operator
 - Before each procedure
 - Once a week
 - Once a month
 - Other (Please specify): _____

G8. How often are new filters required to be installed in the smoke evacuation system?

- As determined by the operator
 Per manufacturer's instructions
 Before each procedure
 Once a week
 Once a month
 Other (Please specify): _____

G9. Please check the type(s) of personal protective equipment/clothing that **are always required** for employees exposed to surgical smoke in this facility. *(This includes employees operating lasers or electrosurgery devices and all others working in the same room within 5 feet of the operation. Please do not include a surgical mask as respiratory protection.)*

	Yes	No
a. Personal protective equipment is not required.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Disposable particulate respirator (also called filtering face piece respirator, e.g., N95).....	<input type="checkbox"/>	<input type="checkbox"/>
c. Elastomeric half-mask or full-facepiece respirator with replaceable cartridges.....	<input type="checkbox"/>	<input type="checkbox"/>
d. Powered air purifying respirator (PAPR).....	<input type="checkbox"/>	<input type="checkbox"/>
e. Supplied air respirator.....	<input type="checkbox"/>	<input type="checkbox"/>
f. Other respirator (excluding surgical mask).....	<input type="checkbox"/>	<input type="checkbox"/>
g. Other PPE (Please specify): _____	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for completing Section G.

Please continue to Section H: Spill Response Teams and Housekeeping on page 47.

SECTION H: SPILL RESPONSE TEAMS AND HOUSEKEEPING

- H1. Are there special "spill teams" designated at this facility to respond to spills of hazardous materials?
- Yes
 No  **Skip to Section I on Page 49.**
- H2. Which of the following types of hazardous materials would be cleaned-up by specially-designated spill teams? **(Please ✓ all that apply).**
- Antineoplastic agents
 Other hazardous drugs including ribavirin, pentamidine, and tobramycin
 High level disinfectants such as glutaraldehyde, ortho-phthalaldehyde, peracetic acid, or hydrogen peroxide
 Chemical sterilants such as ethylene oxide or hydrogen peroxide
 Volatile anesthetic agents
 Other (Please specify): _____

- H3. Are there written standard procedures for the clean-up of spills of hazardous materials at this facility?
- Yes
 No
- H4. How many workers at this facility are currently assigned to the hazardous materials spill team(s)?
- 1
 2-5
 6-10
 11-20
 > 20
- H5. When do workers at this facility who clean-up spills of hazardous materials receive training on the hazards of the materials they may encounter? **Please ✓ all that apply.**
- Never  **Skip to Question H7.**
 At job orientation
 At least annually (i.e., one or more times every 12 months)
 Other (Please specify): _____

- H6 Which of the following elements are included in the training program for individuals assigned to the spill team? **Please ✓ all that apply.**
- Hazard assessment
 - Personal Protective Equipment selection
 - Emergency communication procedures
 - First aid procedures
 - Chemical neutralizing techniques
 - Proper clean-up procedures
 - Packaging for disposal
 - Critiquing of incidents
 - Other: Please specify: _____

- H7. Please check the types of personal protective equipment/clothing that **are required** for workers when cleaning up spills of hazardous materials at this facility. Please answer for the following four hazardous materials and for each of the types of PPE. *(Check the boxes in part "a" if the particular material is not cleaned-up by the spill team or not used at this facility, and check the boxes in part "b" if no personal protective equipment is required for employees cleaning-up a particular type of hazardous material.)*

Personal Protective Equipment (PPE) Type	Hazardous drugs including antineoplastic agents and aerosolized medications	High Level Disinfectants	Chemical sterilants	Volatile anesthetic agents
a. This material is not used at this facility.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. None are required.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Water resistant gown or garment.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Water resistant gloves	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Eye protection (e.g., face shield, splash goggles, or safety glasses)...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Elastomeric half-mask or full-facepiece respirator with replaceable cartridges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Powered air purifying respirator (PAPR).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Other respirator (excluding surgical mask).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Other PPE (Please specify):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Thank you for completing Section H.
Please continue to Section I: Closing on page 49.**

SECTION I: CLOSING

11. Please select the positions or titles of the people who have worked on responding to this questionnaire. **Please ✓ all that apply.**

- Director of Nursing
- Health and Safety Director
- Human Resource manager
- Medical Director
- Oncology Department Manager
- Operating Room Director
- Pharmacy Manager
- Sterile Processing Manager
- Other (Please specify): _____

12. What is the name, title, and telephone number of the individual who coordinated the completion of this survey?

Name: _____

Title: _____

Telephone Number: _____

Thank you.

Appendix B
Employee Questionnaire

HEALTH AND SAFETY HAZARD CONCERNS

1. Please indicate the level to which you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. The health and safety of workers is a major priority with top management at this facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I feel safe from work-related injury or illness in my current work environment.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I usually have enough time to take safety precautions while completing my duties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I feel free to express my concerns about health and safety conditions to management.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Proper personal protective equipment is made readily available by my employer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. I know how to reduce the risk of accidents and incidents in the workplace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. I am often required to do a task that makes me feel like I might be at risk of getting hurt.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. People working in my department or unit are frequently exposed to dangerous or risky situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Employees have sufficient access to workplace health and safety training programs.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. The safety procedures and practices in this organization are useful and effective	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Managers and supervisors set proper examples by following safety rules and work practices.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. I know how to use safety equipment and standard work procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Work areas are periodically inspected to identify potential health and safety hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
n. Unsafe working conditions are corrected in a reasonable time period	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. I have received adequate training from my current employer to recognize health and safety hazards in my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. I have been trained by my current employer in how to recognize and deal with potential incidents of workplace violence.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. I could talk to my employer if I had a problem with violence or aggression in my workplace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r. My work area is adequately staffed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. I can report injuries to my manager without worrying about how it will affect my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. I can report injuries to my manager without worrying about how it will affect my department's safety record.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
u. I worry about reporting injuries to my manager because I may have to take a drug test.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Please estimate the level of risk (where "1" is no risk and "5" is high risk) to **you** from the following health and safety hazards specifically as they relate to your **job** or workplace.

	No Risk				High Risk
	1	2	3	4	5
a. Chemical agents in general (e.g., acids, caustics, solvents).....	<input type="checkbox"/>				
b. Anesthetic gases	<input type="checkbox"/>				
c. Hazardous drugs (including antineoplastic agents).....	<input type="checkbox"/>				
d. High level disinfectants (e.g., glutaraldehyde)	<input type="checkbox"/>				
e. Sterilants (e.g., ethylene oxide, hydrogen peroxide).....	<input type="checkbox"/>				
f. Ionizing radiation (e.g., X-rays, gamma rays, etc.)	<input type="checkbox"/>				

	No Risk				High Risk
	1	2	3	4	5
g. Machine safety hazards (e.g., exposed moving parts, etc.).....	<input type="checkbox"/>				
h. Non-ionizing radiation (e.g., UV, microwaves, radio-frequency, magnetic/electric fields, etc.)	<input type="checkbox"/>				
i. Smoke from lasers and electrosurgery devices.....	<input type="checkbox"/>				
j. Infectious disease agents (e.g., tuberculosis)	<input type="checkbox"/>				
k. Blood-borne pathogens (e.g., HIV or hepatitis).....	<input type="checkbox"/>				
l. Latex allergens (e.g., from gloves)	<input type="checkbox"/>				
m. Needlesticks and other sharps	<input type="checkbox"/>				
n. Temperature extremes	<input type="checkbox"/>				
o. Noise level	<input type="checkbox"/>				
p. Poor indoor air quality (e.g., molds, cigarette smoke, vehicle exhaust, etc.)	<input type="checkbox"/>				
q. Workplace stress	<input type="checkbox"/>				
r. Repetitive hand, wrist, arm or shoulder motions	<input type="checkbox"/>				
s. Slips, trips, and falls.....	<input type="checkbox"/>				
t. Prolonged standing.....	<input type="checkbox"/>				
u. Lifting/repositioning heavy objects (including patients)	<input type="checkbox"/>				
v. Violence at work (e.g., assaults, threats, etc.).....	<input type="checkbox"/>				
w. Acts of bioterrorism at work	<input type="checkbox"/>				
x. Other health and safety issues (Please specify)	<input type="checkbox"/>				
Specify: _____					

JOB AND FACILITY DESCRIPTION

3. Which of the following best describes your current occupation? **Please ✓ only one.**

Health Services**Physicians and Special Practitioners:**

- Anesthesiologist
- Chiropractor
- Dietician
- Family or General Practitioner
- General Dentist
- Internist
- Nutritionist
- Obstetrician/Gynecologist
- Optometrist
- Oral or Maxillofacial Surgeon
- Orthodontist
- Pediatrician
- Pharmacist
- Physician Assistant
- Podiatrist
- Prosthodontist
- Psychiatrist
- Psychologist
- Radiologist
- Surgeon
- Other (Specify): _____

Nurses and Nursing Support Staff

- Home Health Aide
- Licensed Practical Nurse
- Nurse Anesthetist
- Nurse Practitioner
- Nurses' Aide
- Orderly/Attendant
- Psychiatric Aide
- Registered Nurse
- Other (Specify): _____

Therapists

- Audiologist
- Occupational Therapist
- Physical Therapist
- Radiation Therapist
- Recreational Therapist
- Respiratory Therapist
- Social Worker
- Speech-Language Pathologist
- Other (Specify): _____

Technologists & Technicians

- Anesthesia Technician
- Cardiovascular Technologist or Technician
- Central Processing Technician
- Dental Assistant
- Dental Hygienist
- Dental Technician
- Dietetic Technician
- Emergency Medical Technician
- Medical and Clinical Laboratory Technician
- Medical and Clinical Laboratory Technologist
- Medical Assistant
- Medical Records and Health Information Technician
- Medical Sonographer
- Nuclear Medical Technologist
- Occupational Health and Safety Specialist
- Optician
- Orthotist
- Paramedic
- Pharmacy Technician
- Prosthetist
- Psychiatric Technician

- Radiologic Technologist or Technician
- Respiratory Therapy Technician
- Surgical Technologist
- Other (Specify): _____

Support Services**Administration:**

- Administrator
- Clerical
- Human resources
- Legal
- Security
- Other (Specify): _____

Cleaning, Maintenance and Food Service

- Building Engineer/Mechanical Systems Technician
- Chef or Head Cook
- Cook
- Dishwasher
- Fast Food/Counter Worker
- First Line Supervisor/Manager
- First Line Supervisor/Manager of House-keeping/Janitorial Workers
- Food Preparation Worker
- Housekeeper
- Janitor
- Landscaping/Grounds-keeping Worker
- Pest Control Worker
- Other (Specify): _____

4. How long have you worked in this occupation **over your entire career** (including other facilities)?
- Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years
5. How long have you worked at this facility?
- Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

Please continue on next page.

6. In which department(s) or specialty area(s) did you spend any substantial amount of time working (i.e., greater than 60 minutes) during the **past week** (i.e., 7 calendar days) at this facility? **Please** ✓ **all that apply**.

ADMINISTRATIVE:

HEALTHCARE:

<input type="checkbox"/> 1. Administration	<input type="checkbox"/> 10. Adult Primary Care	<input type="checkbox"/> 29. Infusion Therapy	<input type="checkbox"/> 48. Psychiatry
<input type="checkbox"/> 2. Engineering Services	<input type="checkbox"/> 11. Anesthesiology	<input type="checkbox"/> 30. Intensive Care	<input type="checkbox"/> 49. Podiatry
<input type="checkbox"/> 3. Food Service	<input type="checkbox"/> 12. Audiology	<input type="checkbox"/> 31. Laboratory	<input type="checkbox"/> 50. Post Anesthesia Care Unit
<input type="checkbox"/> 4. Housekeeping	<input type="checkbox"/> 13. Cardiology	<input type="checkbox"/> 32. Long-term care Mental Health.	<input type="checkbox"/> 51. Prosthetics
<input type="checkbox"/> 5. Human Resources	<input type="checkbox"/> 14. Central Processing	<input type="checkbox"/> 33. Nephrology	<input type="checkbox"/> 52. Pulmonary
<input type="checkbox"/> 6. Laundry Service	<input type="checkbox"/> 15. Dental Services	<input type="checkbox"/> 34. Neurology	<input type="checkbox"/> 53. Radiology
<input type="checkbox"/> 7. Security	<input type="checkbox"/> 16. Dermatology	<input type="checkbox"/> 35. Nuclear Medicine	<input type="checkbox"/> 54. Research
<input type="checkbox"/> 8. Safety and Health	<input type="checkbox"/> 17. Ear, Nose & Throat	<input type="checkbox"/> 36. Nutrition	<input type="checkbox"/> 55. Respiratory Care
<input type="checkbox"/> 9. Supply/Distribution	<input type="checkbox"/> 18. Emergency	<input type="checkbox"/> 37. Obstetrics/Gynecology	<input type="checkbox"/> 56. Rheumatology
	<input type="checkbox"/> 19. Endocrinology	<input type="checkbox"/> 38. Occupational Medicine	<input type="checkbox"/> 57. Sleep Disorders
	<input type="checkbox"/> 20. Family Practice	<input type="checkbox"/> 39. Oncology/Cancer Care	<input type="checkbox"/> 58. Social Work
	<input type="checkbox"/> 21. Gastroenterology	<input type="checkbox"/> 40. Ophthalmology	<input type="checkbox"/> 59. Spinal Cord Injury
	<input type="checkbox"/> 22. Geriatrics	<input type="checkbox"/> 41. Optometry	<input type="checkbox"/> 60. Substance Abuse Counselor
	<input type="checkbox"/> 23. Hematology	<input type="checkbox"/> 42. Orthopedics/Sports Medicine	<input type="checkbox"/> 61. Surgery
	<input type="checkbox"/> 24. HIV/AIDS Clinic	<input type="checkbox"/> 43. Outpatient/Ambulatory Care	<input type="checkbox"/> 62. Urology
	<input type="checkbox"/> 25. Home Healthcare	<input type="checkbox"/> 44. Pathology	<input type="checkbox"/> 63. Other (Specify): _____
	<input type="checkbox"/> 26. Hospice Care	<input type="checkbox"/> 45. Pediatrics	_____
	<input type="checkbox"/> 27. Immunology	<input type="checkbox"/> 46. Pharmacy	
	<input type="checkbox"/> 28. Infectious Disease	<input type="checkbox"/> 47. Physical Therapy/Rehabilitation	

6A. From the department(s) and specialty area(s) checked above, please write the number (1, 2, 3, etc.) of the department or specialty area in which you spent **most of the time** during the **past 7 calendar days**. Most time.....

7. Which of the following best describes your **current** employment status?
- Full-time employee of this facility (35 or more hours per week)
 - Part-time employee of this facility (less than 35 hours per week)
 - Per diem employee of this facility
 - Fee for service
 - Work for a professional services agency providing services to this facility
 - Work for a temporary job agency
 - Work for a company contracted by this facility
 - Non-paid worker (e.g. volunteer, student, etc.)
 - Other (Please specify): _____
8. Are you currently employed by this facility on a permanent or temporary basis? (*A temporary basis is employment for a **specific project** or for a **specified period of time.***)
- Permanent basis
 - Temporary basis
9. Do you currently supervise other employees? (*For the purpose of this question, a supervisor is someone who directs others' activities and performs such duties as conducting performance evaluations, approving leave requests, etc.*)
- Yes
 - No  **Skip to Question 11.**
10. How many people do you directly supervise?
- 1 employee
 - 2-5 employees
 - 6-10 employees
 - 11-25 employees
 - More than 25 employees
11. Do you currently provide direct patient care?
- Yes, less than 50% of the time
 - Yes, 50% of the time or more
 - No

12. Which of the following descriptions comes closest to describing your **current** work shift in the past 7 calendar days? (**Do not include "on call" duties**)
Please ✓ **only one**.
- Day only
- Evening/swing only
- Nights only
- A mix of day, evening or night shifts
- Split shift
- Other (Please specify): _____
- 12b. Does your job include "on call" duties?
- Yes
- No
13. In the past 7 calendar days, how many days did you work at this facility?
- Number of days worked
(Please write a number from 0-7)
14. During the past 7 calendar days, how many total hours were you scheduled to work?
- Number of total hours scheduled
15. During the past 7 calendar days, how many hours did you actually work?
- Number of hours actually worked.....
16. During the past 7 calendar days, were you paid overtime?
- Yes
- No
17. Compared to most weeks, were the past 7 calendar days typical in terms of total hours worked?
- Yes, the past 7 days were typical
- No, I worked more hours in the past 7 days
- No, I worked fewer hours in the past 7 days
18. Were you ever "on call" whether or not you were actually called during the past 7 calendar days?
- Yes
- No  **Skip to Question 20.**
19. How many days were you "on call" during the past 7 calendar days?
- Number of days "on call"
(Please write a number from 1-7)
20. How many hours in the past 7 calendar days did you work on any **other** paid job?
(Do not include hours worked at this facility)
- Number of hours
- Did not have another paid job

JOB DEMANDS

21. Now we would like to know more about your current job in this health care facility. Please tell us your general level of agreement with each of the following statements as they describe your current job.

	Strongly Disagree	Disagree	Agree	Strongly Agree
a. My job requires that I learn new things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. My job involves a lot of repetitive work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. My job requires me to be creative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. My job requires a high level of skill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I get to do a variety of different things on my job.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. I have an opportunity to develop my own special abilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. My job allows me to make a lot of decisions on my own.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. On my job, I have very little freedom to decide how I do my work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. I have a lot of say about what happens on my job.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. My job requires working very fast.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. My job requires working very hard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. I am not asked to do an excessive amount of work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. I have enough time to get the job done	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. Some demands I face at work are in conflict with other demands at work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. My job requires a great deal of concentration.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. My supervisor is concerned about the welfare of those under his or her supervision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. My supervisor pays attention to what I am saying.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r. My supervisor is helpful in getting the job done	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. My supervisor is successful in getting people to work together.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. People I work with are competent in doing their jobs.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
u. People I work with take a personal interest in me.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. People I work with are friendly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
w. People I work with are helpful in getting the job done	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
22. I have a lot of say about...				
a. Whether or not I work overtime	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Whether I work day, afternoon, or evening shifts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Whether or not I work weekends.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. At what time of the day I take a break	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. When I take leave or vacation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly Disagree	Disagree	Agree	Strongly Agree
23. Please indicate the level to which you agree or disagree with the following statements.				
a. Over the past few years my job has become more and more demanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I experience adequate support in difficult situations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. I am treated unfairly at work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I have good opportunities for promotion, increase in income, or professional development.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I have experienced or I expect to experience an undesirable change in my work situation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. My job security is good.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. My current occupational position adequately reflects my education and training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Considering all my efforts and achievements, I receive the respect that I deserve at work.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Considering all my efforts and achievements, my salary/income is adequate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- | | | Strongly
Disagree | Disagree | Agree | Strongly
Agree |
|-----|--|--|--------------------------|--------------------------|--------------------------|
| 24. | Please indicate the level to which you agree or disagree with the following statements. | | | | |
| | a. After work I come home too tired to do some of the things I'd like to do..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | b. On the job, I have so much work to do that it takes away from my personal interests..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | c. My family and/or friends dislike how often I am preoccupied with my work while I am at home..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | d. My work takes up time that I'd like to spend with family/friends..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25. | How do your skills and training compare with the tasks you are asked to perform on your job? | <input type="checkbox"/> I am asked to do more than I am trained for
<input type="checkbox"/> My tasks are a good match for my skills and training
<input type="checkbox"/> My skills and training are more than I can use in my job | | | |
| 26. | How much stress would you say you experienced at work the past 7 calendar days? | <input type="checkbox"/> Almost no stress at all
<input type="checkbox"/> A moderate amount of stress
<input type="checkbox"/> A lot of stress | | | |
| 27. | How likely is it that you will make a genuine effort to find a new job (with another employer) within the next year? | <input type="checkbox"/> Not at all likely
<input type="checkbox"/> Somewhat likely
<input type="checkbox"/> Very likely | | | |
| 28. | If a good friend of yours said that he or she was interested in working in a job like yours for your same employer what would you say? | <input type="checkbox"/> I would recommend this job
<input type="checkbox"/> I would have doubts about recommending this job
<input type="checkbox"/> I would advise my friend against taking this job | | | |

SAFE NEEDLE DEVICES, NEEDLESTICK INJURIES AND UNIVERSAL PRECAUTIONS

29. Do you use or handle syringes, scalpels, or other sharp instruments which may puncture your skin when performing your job at this facility?
- Yes
 No  **Skip to Question 37.**
30. Do you perform injections, IV insertions, or phlebotomy in performing your job at this facility?
- Yes
 No  **Skip to Question 34.**
31. When performing injections, IV insertions, or phlebotomy, do you ever use safe needle devices?
- Yes
 No  **Skip to Question 33.**
32. How often do you use safe needle devices when performing injections, IV insertions, or phlebotomy? **Please ✓ only one.**
- Occasionally
 Frequently
 Usually
 Always  **Skip to Question 34.**
33. What are the reasons you do not always use safe needle devices? **Please ✓ all that apply.**
- Potential for exposure to hazards is insignificant
 Exposure is possible but the health hazard is insignificant
 Not required by employer
 Not provided by employer
 Too time consuming
 Too awkward or difficult to use
 Too uncomfortable
 Not readily accepted by patients
 Not readily or always available in work area
 Device not commercially available
 Other (Please specify): _____

34. Over the past 12 months, how many needlestick or other sharps-related injuries (i.e., punctured your skin with a **non-sterile needle** device or sharp) did you **receive** while working at this facility?
- 0  **Skip Question 37.**
 1
 2
 3
 4
 5
 More than 5
35. Over the past 12 months, how many needlestick or other sharps-related injuries (i.e., punctured your skin with a **non-sterile needle** device or sharp) did you **report** to your employer at this facility (i.e., to employee health, your supervisor, or someone else in authority at work)?
- All  **Skip to Question 37.**
 Some, but not all
 None
36. For your most recent needlestick injury that you **did not** report, please select the reasons which best describe why you did not file a report? **Please ✓ all that apply.**
1. I did not think the injury was significant enough to report
 2. I thought the needle was sterile
 3. I was too busy and did not have time to report the injury
 4. I was concerned about being blamed for unsafe work practices
 5. There was no one to cover my job while I went to report the injury
 6. There are no procedures at work for reporting needlestick injuries
 7. Other (Please specify): _____
- 36A. From the all the reasons checked above, please write the **number** (1, 2, 3, etc.) corresponding to the one most important reason you did not report your most recent needlestick injury.
- Most important reason

37. In your job at this facility, do you handle bed pans, sheets, clothing or other materials that are visibly soiled with blood, urine, feces, or vomit?
- Yes
 No 
38. Have you been formally trained at this facility to follow **universal precautions** when handling bed pans, sheets, clothing or other materials that are visibly soiled with blood, urine, feces, or vomit?
- Yes
 No
39. During the past 7 calendar days, what was the total number of times you handled bed pans, sheets, clothing or other materials visibly soiled with blood, urine, feces, or vomit?
- 1 time
 2-5 times
 6-10 times
 11-20 times
 21-50 times
 More than 50 times
40. How does the number of times you handled bed pans, sheets, clothing or other materials visibly soiled with blood, urine, feces, or vomit during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal
41. During the past 7 calendar days, did you **always** wear the following personal protective equipment while handling bed pans, sheets, clothing, or other materials that may be soiled with blood, urine, feces, or vomit:
- a. water-resistant protective gown or garment?
- Yes
 No
- b. water-resistant protective gloves?
- Yes
 No

Skip to Question 42.

VIOLENCE IN THE WORKPLACE

The next few questions describe events which may occur from many sources at work, including **patients, family members, visitors, coworkers** or **supervisors**. For each item please indicate how often you have experienced the events **at work** during **the past year**.

In the past 12 months, how many times...		Never	1 time	2-3 times	4 or more times
42.	Have you been hit, kicked, grabbed, shoved, bitten, or had an object thrown at you while you've been at work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43.	Have you witnessed another person being hit, kicked, grabbed, shoved, bitten, or having an object thrown at them while you've been at work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44.	Have you been threatened with physical violence or with a weapon (like a gun, knife, club, sharp object) while you've been at work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45.	Have you been shouted at, sworn at, called names, or verbally confronted while you've been at work?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46.	Have you been fearful that someone in your current workplace would physically harm you?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47.	Have you reported an incident of violence to your employer at this facility?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please continue on next page.

PHYSICAL DEMANDS/ERGONOMIC ISSUES

48. Please tell us your general level of agreement with the following statements:	Strongly Disagree	Disagree	Agree	Strongly Agree
a. My job requires lots of physical effort.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. I am often required to move or lift very heavy loads (objects or people) on my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. My work requires rapid and continuous physical activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. I am often required to work for long periods with my body in physically awkward positions.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. I am often required to work for long periods with my head or arms in physically awkward positions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. I am often required to repeatedly reach above chest height.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. My work requires repeated and strenuous pushing, pulling, or bending	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. I am often required to squat or kneel to do my job.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. I am often required to bend or twist my wrists to do my job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. I am often required to use a lot of force with my fingers to do my job.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. I am often required to make repeated precision movements with my fingers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. I am often required to work continuously for long periods at a computer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

49. During the past 7 calendar days, how many times did you lift or move **patients** weighing 50 lbs or more?

0  **Skip to Question 51.**

1-5 times

6-10 times

11-20 times

21-50 times

More than 50 times

50. In the past 7 calendar days, how often did you use any of the following when lifting or transferring **patients** weighing 50 lbs or more? (Check "Not Available" to indicate that the specified device or team was not available at your work facility.)

	Never	Rarely	About half the time	Most of the time	All of the time	Not Available
a. Lift or move by hand (unassisted).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
b. Mechanical lifting devices (e.g., ceiling lifts, Arjo™ lift, Hoyer™ lift).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Slip or friction reduction sheets.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Gait belts (also called transfer belts).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Back belts.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Lifting assistance from one or more co-workers (including designated lift teams).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Roller or slider boards.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Any other assistive device (Please specify).....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specify: _____						

51. During the past 7 calendar days, how many times did you lift or move **objects**, other than patients, weighing 50 lbs or more?

- 0  **Skip to Question 53.**
- 1-5 times
- 6-10 times
- 11-20 times
- 21-50 times
- More than 50 times

52. In the past 7 calendar days, how often did you use any of the following when lifting or moving **objects**, other than patients, weighing 50 lbs or more? (Check "Not Available" to indicate that the specified device or team was not available at your work facility.)

	Never	Occasionally	Frequently	Usually	Always	Not Available
a. Lift or move by hand	<input type="checkbox"/>					
b. Mechanical lifting devices (e.g., winch, dolly, forklift, etc.).....	<input type="checkbox"/>					
c. Roller or slider boards	<input type="checkbox"/>					
d. Back belts	<input type="checkbox"/>					
e. Lifting assistance from one or more co-workers....	<input type="checkbox"/>					
f. Any other assistive device (Please specify).....	<input type="checkbox"/>					

Specify: _____

53. Has your employer evaluated your job or workstation for ergonomic hazards in the past year?
- Yes
- No
- Don't know

Please continue on next page.

PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING

54. Which of the following personal protective devices or equipment are you **required by your employer to wear** on your job? Please ✓ **all that apply**.
- None
 - Respirators (does not include surgical mask)
 - Surgical mask
 - Eye protection (e.g., safety glasses, goggles, etc.)
 - Face protection (e.g., face shield, welding helmets, etc.)
 - Foot protection (e.g., steel toed shoes, chemical resistant boots, etc.)
 - Shoe covers/booties
 - Protective clothing which is reusable (e.g., aprons, X-ray gowns, lab coats, scrubs, etc.)
 - Protective clothing which is disposable (e.g., isolation gowns, coveralls, etc.)
 - Ear protection (ear plugs or muffs)
 - Hand protection (e.g., gloves, hand pads, barrier creams, etc.)
 - Knee protectors
 - Back belts or lumbar support
 - Other (Please specify): _____

Please continue on next page.

55. On which of the following personal protective devices has your employer provided training to you in the proper selection, use, care, maintenance and replacement? **Please** ✓ **all that apply.**
- None
 - Respirators (does not include surgical mask)
 - Surgical mask
 - Eye protection (e.g., safety glasses, goggles, etc.)
 - Face protection (e.g., face shield, welding helmets, etc.)
 - Foot protection (e.g., steel toed shoes, chemical resistant boots, etc.)
 - Shoe covers/booties
 - Protective clothing which is reusable (e.g., aprons, X-Ray gowns, lab coats, scrubs, etc.)
 - Protective clothing which is disposable (e.g., isolation gowns, coveralls, etc.)
 - Ear protection (ear plugs or muffs)
 - Hand protection (e.g., gloves, hand pads, barrier creams, etc.)
 - Knee protectors
 - Back belts or lumbar support
 - Other (Please specify): _____
56. Have you been formally fit-tested by an occupational health and safety specialist for the respirator you wear on your present job?
- Yes, I have been fit-tested
 - No, I wear a respirator on my present job but I have not been fit-tested
 - Not Applicable, I do not wear a respirator that requires fit-testing on my present job (e.g., PAPR or surgical mask).
57. During the past 7 calendar days, did you wear natural rubber latex gloves while at work? **Please** ✓ **all that apply.**
- Yes, powder-free
 - Yes, powdered
 - Yes, don't know if powdered or powder-free
 - No

MEDICAL EVALUATION

58. Within the past year, have you received a medical evaluation from this employer (such an evaluation may include a medical questionnaire, physical examination, blood tests, and/or urine test)?

Yes

No



Skip to Question 61.

59. Were the following medical tests or exams included as a part of the medical evaluation provided by this employer?

- a. Standardized medical questionnaire
- b. Physical exam
- c. Blood test
- d. Urine test.....

Yes

No

60. Have the results of all tests included in your medical evaluation been provided to you by this employer?

Yes

No

DEMOGRAPHICS

Now we would like to ask you some questions about yourself.

61. Are you male or female? Male
 Female
62. Which of the following categories describes your race? **Please ✓ all that apply.** White
 Black or African American
 Asian
 Native Hawaiian or other Pacific Islander
 American Indian or Alaskan Native
 Other (Please specify): _____
63. Do you consider yourself Latino or of Hispanic origin or descent? Yes, I am Latino/Hispanic/Spanish
 No, not Latino/Hispanic/Spanish
64. In what year were you born? Year you were born.....19
65. Were you born in this country (USA)? Yes, born in USA  **Skip to Question 67.**
 No, not born in USA
66. In what year did you first come to the USA? Year you first came to USA.....

67. What was your first language as a child?
- English
 - Chinese
 - Japanese
 - Korean
 - Russian
 - Spanish
 - Tagalog
 - Vietnamese
 - Another language (Please specify): _____
68. What language do you speak most at home now?
- English
 - Chinese
 - Japanese
 - Korean
 - Russian
 - Spanish
 - Tagalog
 - Vietnamese
 - Another language (Please specify): _____
69. What is the highest education level you have completed?
- Less than grade 12
 - Grade 12 (high school grad) or GED
 - Vocational certificate
 - Associate's degree
 - College graduate (Baccalaureate degree)
 - Master's degree
 - Doctoral or professional degree (MD, DDS, PhD, etc.)

Please continue on next page.

In the following section, we ask a few questions regarding specific tasks you might perform **on your current job**. Your answers to these questions will determine whether additional modules of the survey apply to you.

70. In your **current** job, do you administer ribavirin (Virazole), pentamidine (Nebupent) or tobramycin (Nebcin, "tobi") in an aerosolized form? Yes No  **Please call toll free 1-866-215-6616 to request Module A**
71. In your **current** job, do you prepare or mix antineoplastic agents in a pharmacy or pharmacy-like setting? (Other terms used for antineoplastic agents include chemo-therapeutic drugs, cytotoxic drugs and anticancer drugs.) Yes No  **Please call toll free 1-866-215-6616 to request Module B**
72. In your **current** job, do you administer antineoplastic agents to patients? (Other terms used for antineoplastic agents include chemo-therapeutic drugs, cytotoxic drugs and anticancer drugs.) Yes No  **Please call toll free 1-866-215-6616 to request Module C**
73. In your **current** job, do you use ethylene oxide or hydrogen peroxide plasma to chemically sterilize medical devices, instruments, or supplies? Yes No  **Please call toll free 1-866-215-6616 to request Module D**
74. In your **current** job, do you use high level disinfectants containing
- **glutaraldehyde** (e.g., Cidex[®], ColdSport[®], Endocide[®], Glutacide[®], Hospex[®], Metricide[®], Sporicidin[®], Wavicide[®]);
 - **ortho-phthalaldehyde** (e.g., Cidex OPA[®]);
 - **peracetic acid** (e.g., Steris[®] system) or;
 - **hydrogen peroxide** (e.g., Accell[®], Optim[®])
- to disinfect medical instruments, devices or supplies (such as endoscopes, thermometers or other items which cannot be sterilized) by either manual or automatic methods? (**This does not include the cleaning of countertops or other surfaces**) Yes No  **Please call toll free 1-866-215-6616 to request Module E**

75. In your **current** job, do you work in areas while lasers or electrosurgical devices are being used for surgical procedures?

- Yes
 No



Please call toll free
1-866-215-6616 to
request Module F

76. In your **current** job, do you **administer** anesthetics as a gas?

- Yes
 No



Please call toll free
1-866-215-6616 to
request Module G

77. In your **current** job, do you work in areas while anesthetic gases are being administered by others?

- Yes
 No



Please call toll free
1-866-215-6616 to
request Module H

78. In your **current** job, do you work with patients in a Post Anesthesia Care Unit (PACU) or a primary Surgical Recovery Unit (SRU) [i.e., areas where anesthetized patients recover immediately following surgery]?

- Yes
 No



Please call toll free
1-866-215-6616 to
request Module I

79. In your **current** job, are your primary duties housekeeping, cleaning or spill response?

- Yes
 No



Please call toll free
1-866-215-6616 to
request Module J

If you answered “yes” to any of the questions in the section above (Questions 70-79), please call our toll-free number at 1-866-215-6616 and our survey staff will send you additional questionnaire modules you may need to complete. We are open from 7:00 a.m. to 8:00 p.m. PST Monday through Friday, and from 10:00 a.m. to 6:00 p.m. PST on the weekend.

RESPONDENT FEEDBACK SECTION

Please take a few moments to answer the following questions regarding your experience with this survey. We appreciate your cooperation.

80. How long did it take you to complete the core section of the survey?

Please ✓ only one answer.

- Less than 10 minutes
 11-20 minutes
 21 – 30 minutes
 31 – 45 minutes
 More than 45 minutes

81. How did you learn about the survey?
Please ✓ all that apply.
- I received a letter
 - I received an email message
 - A co-worker told me about the survey
 - A supervisor or manager told me about the survey
 - I read a flyer or poster about the survey
 - Other (Please specify): _____
82. Where did you complete the survey?
Please ✓ all that apply.
- Work
 - Home
 - While commuting to or from work
 - Other (Please specify): _____
83. Why did you choose to complete the paper version of the survey rather than the web version? Please ✓ all that apply.
- 1. I don't have access to a computer
 - 2. I don't have access to the internet
 - 3. I had difficulty finding or entering the website
 - 4. I feel more comfortable completing the paper version
 - 5. I was concerned about the privacy/security of the web version
 - 6. I felt the paper version would take less time
 - 7. I felt the paper version was more convenient or flexible
 - 8. I didn't know a web version was available
 - 9. Other (Please specify): _____
- 83A. From the reason(s) checked above, please write the number of the most important reason you chose to complete the paper survey rather than the web version.
- Most important reason.....
84. Would you ever consider completing a web version of this type of survey in the future?
- Yes
 - No
 - Possibly

85. Please use the space below to record any other comments you have about the survey.

**Thank you for your time and contribution to the National Exposures at Work Survey.
Please continue to the appropriate hazard module, if applicable.**

MODULE**A**

This module is directed toward respiratory therapists, or others who administer ribavirin (Virazole), pentamidine (Nebupent) or tobramycin (Nebcin, "tobi") in an aerosolized form.

1. During your career (including all jobs at this and other facilities), how long have you been administering aerosolized ribavirin, pentamidine or tobramycin?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received formal training at this facility on procedures for the safe handling of aerosolized medications?
Please ✓ all that apply.
 - During orientation for your current job or task
 - Once, but not at orientation
 - Periodically, but less than once per year
 - At least annually (i.e., one or more times every year)
 - Other (Please specify): _____
 - Never received training at this facility

3. Have you seen written policies or standard procedures at this facility for administering aerosolized medications?
 - Yes
 - No

4. Do you ever wear or take home any clothing (protective clothing or street clothes) which were worn when administering ribavirin, pentamidine or tobramycin at this facility?
 - Yes
 - No

5. At any time in the **past 7 calendar days** did you administer aerosolized ribavirin, pentamidine or tobramycin?
 - Yes
 - No  **Skip to Question 43**

6. At any time in the **past 7 calendar days** did you administer **aerosolized ribavirin (Virazole)**?
 - Yes
 - No  **Skip to Question 14.**

7. During the past 7 calendar days, how many days did you administer aerosolized ribavirin? Number of days.....
(Please write a number from 1-7)
8. During the past 7 calendar days, how much time did you typically spend **within 5 feet** of a patient during a single administration of ribavirin? *(Include only the time you spent actually handling ribavirin, were present in the area during administration, and in clean-up. Do **not** include set-up time or time the patient was receiving the drug while you were not present.)*
- Less than 5 minutes
 5-9 minutes
 10-14 minutes
 15-19 minutes
 20-24 minutes
 More than 24 minutes
9. During the past 7 calendar days, what was the total number of times you administered aerosolized ribavirin? *(If you administered ribavirin several times to the same patient, count each administration separately.)*
- 1 time
 2-3 times
 4-5 times
 6-10 times
 More than 10 times
10. How does the total amount of time you administered aerosolized ribavirin during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal
11. During the past 7 calendar days, in which of the following areas did you **ever** administer aerosolized ribavirin? **Please ✓ all that apply.**
- a. Patient's hospital room
 b. Clinic/department treatment room or area
 c. Patient's home
 d. Some other location (Please specify):

- 11A. From the location(s) checked above, please write the **letter** (a, b, c, or d) corresponding to the area where you most often administered aerosolized ribavirin during the past 7 calendar days. Area most often administered.....

12. During the past 7 calendar days, how often did you administer aerosolized ribavirin...
- | | Always | Sometimes | Never |
|---|--------------------------|--------------------------|--------------------------|
| a. Inside a fully enclosed and sealed treatment chamber or booth? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Inside a partially enclosed treatment hood or tent? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. When no type of enclosure was being used? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
13. During the past 7 calendar days when you administered aerosolized ribavirin, how often did you...
- | | Always | Sometimes | Never |
|--|--------------------------|--------------------------|--------------------------|
| a. Inspect the aerosol generator for leaks or worn parts prior to use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Use a nebulizer with an automatic shutoff valve? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Administer the medication in an isolation room under negative pressure (i.e., where air flows into the room from adjacent areas)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
14. At any time in the **past 7 calendar days** did you administer **aerosolized pentamidine (Nebupent)**?
- Yes
 No  **Skip to Question 22.**
15. During the past 7 calendar days, how many days did you administer aerosolized pentamidine?
- Number of days:
(Please write a number from 1-7)
16. During the past 7 calendar days, how much time did you typically spend **within 5 feet** of a patient during a single administration of pentamidine? *(Include only the time you spent actually handling pentamidine, were present in the area during administration, and in clean-up. Do **not** include set-up time or time the patient was receiving the drug while you were not present.)*
- Less than 5 minutes
 5-9 minutes
 10-14 minutes
 15-19 minutes
 20-24 minutes
 More than 24 minutes

17. During the past 7 calendar days, what was the total number of times you administered aerosolized pentamidine? *(If you administered pentamidine several times to the same patient, count each administration separately.)*
- 1 time
 - 2-3 times
 - 4-5 times
 - 6-10 times
 - More than 10 times
18. How does the amount of time you administered aerosolized pentamidine during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 - Past 7 days were less than normal
 - Past 7 days were greater than normal
19. During the past 7 calendar days, in which of the following areas did you **ever** administer aerosolized pentamidine? **Please ✓ all that apply.**
- a. Patient's hospital room
 - b. Clinic/department treatment room or area
 - c. Patient's home
 - d. Some other location (Please specify):

19A. From the location(s) checked above, please write the **letter** (a, b, c, or d) corresponding to the area where you most often administered aerosolized pentamidine during the past 7 calendar days.

Area most often administered

	Always	Sometimes	Never
20. During the past 7 calendar days, how often did you administer aerosolized pentamidine...			
a. Inside a fully enclosed and sealed treatment chamber or booth?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Inside a partially enclosed treatment hood or tent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. When no type of enclosure was being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. During the past 7 calendar days when you administered aerosolized pentamidine, how often did you...
- | | Always | Sometimes | Never |
|--|--------------------------|--------------------------|--------------------------|
| a. Inspect the aerosol generator for leaks or worn parts prior to use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Use a nebulizer with an automatic shutoff valve? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Administer the medication in an isolation room under negative pressure (i.e., where air flows into the room from adjacent areas)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
22. At any time in the **past 7 calendar days** did you administer **aerosolized tobramycin (Nebcin, "tobi")**?
- Yes
 No  **Skip to Question 30.**
23. During the past 7 calendar days, how many days did you administer aerosolized tobramycin?
- Number of days.....
(Please write a number from 1-7)
24. During the past 7 calendar days, how much time did you typically spend **within 5 feet** of a patient during a single administration of tobramycin? (*Include only the time you spent actually handling tobramycin, were present in the area during administration, and in clean-up. Do **not** include set-up time or time the patient was receiving the drug while you were not present.*)
- Less than 5 minutes
 5-9 minutes
 10-14 minutes
 15-19 minutes
 20-24 minutes
 More than 24 minutes
25. During the past 7 calendar days, what was the total number of times you administered aerosolized tobramycin? (*If you administered tobramycin several times to the same patient, count each administration separately.*)
- 1 time
 2-3 times
 4-5 times
 6-10 times
 More than 10 times
26. How does the amount of time you administered aerosolized tobramycin during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal

27. During the past 7 calendar days, in which of the following areas did you **ever** administer aerosolized tobramycin? **Please ✓ all that apply.**
- a. Patient's hospital room
 - b. Clinic/department treatment room or area
 - c. Patient's home
 - d. Some other location (Please specify):

27A. From the location(s) checked above, please write the **letter** (a, b, c, or d) corresponding to the area where you most often administered aerosolized tobramycin during the past 7 calendar days.

Area most often administered

28. During the past 7 calendar days, how often did you administer aerosolized tobramycin...

	Always	Sometimes	Never
a. Inside a fully enclosed and sealed treatment chamber or booth?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Inside a partially enclosed treatment hood or tent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. When no type of enclosure was being used?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

29. During the past 7 calendar days when you administered aerosolized tobramycin, how often did you...

	Always	Sometimes	Never
a. Inspect the aerosol generator for leaks or worn parts prior to use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Use a nebulizer with an automatic shutoff valve?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Administer the medication in an isolation room under negative pressure (i.e., where air flows into the room from adjacent areas)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following questions pertain to the use of personal protective equipment (PPE) during the preparation and delivery of aerosolized medications.

30. During the past 7 calendar days, did you wear a **water resistant gown or outer garment** while administering aerosolized ribavirin, pentamidine or tobramycin?

Always

Sometimes

Never

Skip to Question 32.

31. What were the reason(s) you did not always wear a **water resistant gown or outer garment** while administering aerosolized ribavirin, pentamidine or tobramycin?
Please ✓ all that apply.

1. Potential for exposure to aerosolized medications is insignificant

2. Exposure to aerosolized medications is possible but the health hazard is insignificant

3. Not required by employer

4. Not provided by employer

5. Not standard practice

6. Too uncomfortable or difficult to use

7. Not readily or always available in work area

8. Cross contamination to other areas is not a concern

9. Concerned about raising the patient's anxiety

10. Other (Please specify):

31A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear a **water resistant gown or outer garment** while administering aerosolized ribavirin, pentamidine or tobramycin.

Most important reason

32. During the past 7 calendar days, did you wear **protective gloves** while handling ribavirin, pentamidine or tobramycin?

Always

Sometimes

Never

Skip to Question 34.

33. What were the reason(s) you did not always wear **protective gloves** while handling ribavirin, pentamidine or tobramycin?
Please ✓ **all that apply.**
- 1. Potential for exposure to aerosolized medications is insignificant
 - 2. Exposure to aerosolized medications is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily or always available in work area
 - 8. Cross contamination to other areas is not a concern
 - 9. Concerned about raising the patient's anxiety
 - 10. Other (Please specify): _____

33A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear protective gloves while handling ribavirin, pentamidine or tobramycin.

Most important reason



During the past 7 calendar days if you NEVER wore protective gloves while handling ribavirin, pentamidine or tobramycin, skip to question 36.

34. During the past 7 calendar days, did you perform any of the following activities while wearing **protective gloves** that had been used during the handling of ribavirin, pentamidine or tobramycin?
- a. Answer the phone
 - b. Use a keyboard or calculator
 - c. Handle files or record cards
 - d. Eat or drink.....
 - e. Smoke

	Yes	No
a. Answer the phone	<input type="checkbox"/>	<input type="checkbox"/>
b. Use a keyboard or calculator	<input type="checkbox"/>	<input type="checkbox"/>
c. Handle files or record cards	<input type="checkbox"/>	<input type="checkbox"/>
d. Eat or drink.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Smoke	<input type="checkbox"/>	<input type="checkbox"/>

35. During the past 7 calendar days, did you **ever** reuse protective gloves while handling ribavirin, pentamidine or tobramycin (reuse means remove and later put on the same gloves)?
- Yes
 No
36. During the past 7 calendar days, did you wear **eye protection** (safety glasses, goggles, face shield) while administering aerosolized ribavirin, pentamidine or tobramycin?
- Always  **Skip to Question 38.**
 Sometimes
 Never
37. What were the reason(s) you did not always wear **eye protection** while administering aerosolized ribavirin, pentamidine or tobramycin? **Please ✓ all that apply.**
1. Potential for exposure to aerosolized medications is insignificant
 2. Exposure to aerosolized medications is possible but the health hazard is insignificant
 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
 4. Not required by employer
 5. Not provided by employer
 6. Not standard practice
 7. Too uncomfortable or difficult to use
 8. Not readily or always available in work area
 9. Concerned about raising the patient's anxiety
 10. Other (Please specify): _____

- 37A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear **eye protection** while administering aerosolized ribavirin, pentamidine or tobramycin.
- Most important reason

38. During the past 7 calendar days, did you wear **respiratory protection, not including a surgical mask**, while administering aerosolized ribavirin, pentamidine or tobramycin?
- Always
 Sometimes
 Never  **Skip to Question 40.**
39. What type(s) of respirator(s) did you use?
Please ✓ all that apply.
- Disposable particulate respirator (also called filtering face-piece respirator, e.g., N95)
 Half mask or full-face piece respirator with replaceable filters or cartridges
 Powered air-purifying respirator (PAPR)
 Don't know



During the past 7 calendar days, if you ALWAYS wore respiratory protection, not including a surgical mask, while administering aerosolized ribavirin, pentamidine, or tobramycin, skip to Question 41.

40. What were the reason(s) you did not always wear **respiratory protection, not including a surgical mask**, while administering aerosolized ribavirin, pentamidine, or tobramycin?
Please ✓ all that apply.
1. Potential for exposure to aerosolized medications is insignificant
 2. Exposure to aerosolized medications is possible but the health hazard is insignificant
 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
 4. Not required by employer
 5. Not provided by employer
 6. Not standard practice
 7. Too uncomfortable or difficult to use
 8. Not readily or always available in work area
 9. Concerned about raising patient's anxiety.
 10. Other (Please specify): _____
-

40A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while administering aerosolized ribavirin, pentamidine, or tobramycin.

Most important reason

41. During the past 7 calendar days, did you wear **booties** while administering aerosolized ribavirin, pentamidine or tobramycin?

- Always
- Sometimes
- Never

Skip to Question 43.

42. What are the reason(s) you did not always wear **booties** while administering aerosolized ribavirin, pentamidine or tobramycin? **Please ✓ all that apply.**

- 1. Potential for exposure to aerosolized medications is insignificant
- 2. Exposure to aerosolized medications is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily or always available in work area
- 8. Cross contamination to other areas is not a concern
- 9. Concerned about raising the patient's anxiety
- 10. Other (Please specify): _____

42A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **booties** while administering aerosolized ribavirin, pentamidine or tobramycin.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

43. How long did it take you to complete this module of the survey?

Please ✓ only one answer.

- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes

44. Was the subject matter addressed in this module of interest to you?

Please ✓ only one answer.

- High interest
- Medium interest
- Low interest
- No interest

45. Are there any other hazards that you think we should address with similar modules?

Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

46. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE**B**

This module is directed toward individuals, such as pharmacists or pharmacy technicians, who prepare or mix Antineoplastic Agents. Other terms used for antineoplastic agents include chemo-therapeutic drugs, cytotoxic drugs, and anti-cancer drugs.

1. During your career (including all jobs at this and other facilities), how long have you been preparing antineoplastic agents?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received formal training at this facility on procedures for the safe handling of antineoplastic agents?
Please ✓ all that apply.
 - During orientation for your current job or task
 - Once, but not at orientation
 - Periodically, but less than once per year
 - At least annually (i.e., one or more times every year)
 - Other (Please specify): _____
 - Never received training at this facility

3. Have you received any certification for handling antineoplastic agents?
Please ✓ all that apply.
 - Yes, by employer
 - Yes, a "CPhT" by the Pharmacy Technician Certification Board
 - Yes, by another professional society
 - Yes, by a training provider, other than employer
 - Yes, by other (Please specify): _____
 - _____
 - No

4. Have you seen a copy of the OSHA guidelines for handling hazardous drugs at this facility?
 - Yes
 - No

5. Have you seen written policies or standard procedures at this facility for working with antineoplastic agents?
 - Yes
 - No

6. Do you ever wear or take home any clothing (protective clothing or street clothes) which were worn when handling antineoplastic agents at this facility? Yes No
7. At any time in the **past 7 calendar days** did you prepare or mix antineoplastic agents in a pharmacy or pharmacy-like setting? Yes No  **Skip to Question 35**
8. During the past 7 calendar days, which of the following antineoplastic agents did you prepare? **Please ✓ all that apply.**
- | | | |
|--|--|---------------------------------------|
| <input type="checkbox"/> Aldesleukin | <input type="checkbox"/> Docetaxel | <input type="checkbox"/> Melphalan |
| <input type="checkbox"/> Alemtuzumab | <input type="checkbox"/> Doxorubicin | <input type="checkbox"/> Methotrexate |
| <input type="checkbox"/> Alitretinoin | <input type="checkbox"/> Epirubicin | <input type="checkbox"/> Mitomycin-C |
| <input type="checkbox"/> Altretamine | <input type="checkbox"/> Estramustine | <input type="checkbox"/> Mitotane |
| <input type="checkbox"/> Aminoglutethimide | <input type="checkbox"/> Etoposide | <input type="checkbox"/> Mitoxantrone |
| <input type="checkbox"/> Amifostine | <input type="checkbox"/> Exemestane | <input type="checkbox"/> Nilutamide |
| <input type="checkbox"/> Anastrozole | <input type="checkbox"/> Floxuridine | <input type="checkbox"/> Oxaliplatin |
| <input type="checkbox"/> Arsenic trioxide | <input type="checkbox"/> Fludarabine | <input type="checkbox"/> Paclitaxel |
| <input type="checkbox"/> Asparaginase- <i>E. coli</i> strain | <input type="checkbox"/> Flutamide | <input type="checkbox"/> Pegaspargase |
| <input type="checkbox"/> BCG live | <input type="checkbox"/> Fluorouracil | <input type="checkbox"/> Pentostatin |
| <input type="checkbox"/> Bexarotene | <input type="checkbox"/> Gemcitabine | <input type="checkbox"/> Plicamycin |
| <input type="checkbox"/> Bicalutamide | <input type="checkbox"/> Gemtuzumab ozogamicin | <input type="checkbox"/> Procarbazine |
| <input type="checkbox"/> Bleomycin | <input type="checkbox"/> Goserelin | <input type="checkbox"/> Rituximab |
| <input type="checkbox"/> Busulfan | <input type="checkbox"/> Hydroxyurea | <input type="checkbox"/> Streptozocin |
| <input type="checkbox"/> Capecitabine | <input type="checkbox"/> Idarubicin | <input type="checkbox"/> Tamoxifen |
| <input type="checkbox"/> Carboplatin | <input type="checkbox"/> Ifosfamide | <input type="checkbox"/> Temozolomide |
| <input type="checkbox"/> Carmustine | <input type="checkbox"/> Imatinib mesylate | <input type="checkbox"/> Teniposide |
| <input type="checkbox"/> Cetuximab | <input type="checkbox"/> Interferon Alfa-2a | <input type="checkbox"/> Thioguanine |
| <input type="checkbox"/> Cisplatin | <input type="checkbox"/> Interferon Alfa-2b | <input type="checkbox"/> Thiotepa |
| <input type="checkbox"/> Chlorambucil | <input type="checkbox"/> Irinotecan | <input type="checkbox"/> Topotecan |
| <input type="checkbox"/> Cladribine | <input type="checkbox"/> Letrozole | <input type="checkbox"/> Toremifene |
| <input type="checkbox"/> Cyclophosphamide | <input type="checkbox"/> Leuprolide | <input type="checkbox"/> Trastuzumab |
| <input type="checkbox"/> Cytarabine | <input type="checkbox"/> Lomustine | <input type="checkbox"/> Tretinoin |
| <input type="checkbox"/> Dacarbazine | <input type="checkbox"/> Megestrol | <input type="checkbox"/> Valrubicin |
| <input type="checkbox"/> Daunorubicin | <input type="checkbox"/> Mercaptopurine | <input type="checkbox"/> Vinblastine |
| <input type="checkbox"/> Dactinomycin | <input type="checkbox"/> Merchlorethamine | <input type="checkbox"/> Vincristine |
| <input type="checkbox"/> Denileukin diftitox | | <input type="checkbox"/> Vincorelbine |

Other (Please specify up to 2 more antineoplastic agents):

1. _____

2. _____

9. During the past 7 calendar days, how many days did you prepare or mix antineoplastic agents? Number of days.....
(Please write a number from 1-7)
10. During the past 7 calendar days, what was the total number of dosages of antineoplastic agents you prepared?
 1-5 dosages
 6-10 dosages
 11-20 dosages
 21-40 dosages
 More than 40 dosages
11. How does the number of dosages of antineoplastic agents you prepared during the past 7 calendar days compare with most weeks?
 Past 7 days were about normal
 Past 7 days were less than normal
 Past days were greater than normal
12. During the past 7 calendar days, in which of the following areas of this facility did you **ever** prepare antineoplastic agents? **Please ✓ all that apply.**
 a. Main inpatient pharmacy
 b. Secondary inpatient pharmacy
 c. Outpatient pharmacy
 d. Treatment room
 e. Private physician's office
 f. Some other location (Please specify):

- 12A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often prepared antineoplastic agents during the past 7 days. Area most often prepared
13. During the past 7 calendar days, how often did you prepare antineoplastic agents in...
- | | Always | Sometimes | Never | Don't Know |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. A separate room dedicated to the preparation of only antineoplastic agents?. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Close proximity (~5 ft) to where food/drinks are consumed by you or any other employees?..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. An operating ventilated cabinet dedicated to the preparation of antineoplastic agents? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

14. During the past 7 calendar days, how often did you prime IV tubing either with antineoplastic drugs or with diluent (i.e. a liquid other than the antineoplastic agent)?

Always
 Sometimes
 Never

Skip to Question 17.

15. During the past 7 calendar days, how often did you prime the IV tubing inside an operating ventilated cabinet?

Always
 Sometimes
 Never

16. During the past 7 calendar days, how often did you prime the IV tubing with diluent?

Always
 Sometimes
 Never

17. During the past 7 calendar days when **preparing** antineoplastic agents, how often did you use a...

	Always	Sometimes	Never	Don't Know
a. System with Luer-lock (or other similar type) fittings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Needle-less system?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Closed-system technology (e.g., PhaSeal [®]) when transferring drugs from vials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Plastic-backed absorbent pad under the open drug vials and other preparation materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. During the past 7 calendar days, how many times did you puncture your skin with a sharp while **preparing** antineoplastic agents?

None
 One time
 2-3 times
 4-5 times
 more than 5 times

19. During the past 7 calendar days when **packaging** antineoplastic agents for delivery to the area(s) where they are administered, how often did you...

	Always	Sometimes	Never
a. Package antineoplastic agent dosages in sealed bags?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Attach a "hazardous" warning label to packages of antineoplastic agents?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Store prepared antineoplastic agents in a designated area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. During the past 7 calendar days, how many spills (even a drop or two) occurred outside of a ventilated cabinet while you were **preparing** antineoplastic drugs?
- | | No spills | 1-2 spills | 3-5 spills | More than 5 |
|-------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Spills less than 5ml | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Spills more than 5ml..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
21. During the past 7 calendar days, did any of the following areas of your skin come into direct contact with antineoplastic agents (i.e., became wet) while **preparing** them?
- | | Yes | No |
|------------------------------|--------------------------|--------------------------|
| a. Face | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Neck | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Hands | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Wrist or forearm | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Torso, legs or feet | <input type="checkbox"/> | <input type="checkbox"/> |

The following questions pertain to the use of personal protective equipment (PPE) during the preparation of antineoplastic agents.

22. During the past 7 calendar days, did you wear a **water resistant gown or outer garment with closed front and tight cuffs** while preparing antineoplastic agents?
- Always  **Skip to Question 24.**
 Sometimes
 Never

23. What were the reason(s) you did not always wear a **water resistant gown or outer garment with closed front and tight cuffs** while preparing antineoplastic agents? **Please ✓ all that apply.**
- 1. Potential for exposure to antineoplastic agents is insignificant
 - 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily or always available in work area
 - 8. Cross contamination to other areas is not a concern
 - 9. Other (Please specify):

23A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear a **water resistant gown or outer garment with closed front and tight cuffs** while preparing antineoplastic agents.

Most important reason

24. During the past week, did you wear **latex or chemo gloves** while preparing antineoplastic agents?

- Always
- Sometimes
- Never

Skip to Question 26.

25. What were the reason(s) you did not always wear **latex or chemo gloves** while preparing antineoplastic agents?
Please **all that apply.**
- 1. Potential for exposure to antineoplastic agents is insignificant
 - 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily or always available in work area
 - 8. Cross contamination to other areas is not a concern
 - 9. Other (Please specify): _____

25A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear **latex or chemo gloves** while preparing antineoplastic agents.

Most important reason



During the past 7 calendar days if you NEVER wore latex or chemo gloves when preparing antineoplastic agents, skip to question 28.

26. During the past 7 calendar days, did you perform any of the following activities while wearing **latex or chemo gloves** that had been used to prepare antineoplastic agents?

	Yes	No
a. Answer the phone	<input type="checkbox"/>	<input type="checkbox"/>
b. Use a keyboard or calculator	<input type="checkbox"/>	<input type="checkbox"/>
c. Handle files or record cards	<input type="checkbox"/>	<input type="checkbox"/>
d. Eat or drink.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Smoke.....	<input type="checkbox"/>	<input type="checkbox"/>

27. During the past 7 calendar days, did you **ever** reuse **latex or chemo gloves** while preparing antineoplastic agents (reuse means remove and later put on the same gloves)?

- Yes
- No

28. During the past 7 calendar days, did you wear **eye protection** (*safety glasses, goggles, face shield*) while preparing antineoplastic agents?

- Always
- Sometimes
- Never

Skip to Question 30.

29. What were the reason(s) you did not always wear **eye protection** while preparing antineoplastic agents?
Please ✓ all that apply.

- 1. Potential for exposure to antineoplastic agents is insignificant
- 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
- 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
- 4. Not required by employer
- 5. Not provided by employer
- 6. Not standard practice
- 7. Too uncomfortable or difficult to use
- 8. Not readily or always available in work area
- 9. Other (Please specify):

29A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear **eye protection** while preparing antineoplastic agents.

Most important reason

30. During the past 7 calendar days, did you wear **respiratory protection, not including a surgical mask**, while preparing antineoplastic agents?
- Always
 Sometimes
 Never → **Skip to Question 32.**
31. What type(s) of respirator(s) did you use?
Please ✓ all that apply.
- Disposable particulate respirator (also called filtering face-piece respirator, e.g., N95)
 Half mask or full-face piece respirator with replaceable filters or cartridges
 Powered air-purifying respirator (PAPR)
 Don't know



During the past 7 calendar days if you ALWAYS wore respiratory protection, not including a surgical mask, while preparing antineoplastic agents, skip to Question 33.

32. What were the reason(s) you did not always wear **respiratory protection, not including a surgical mask**, while preparing antineoplastic agents?
Please ✓ all that apply.
1. Potential for exposure to antineoplastic agents is insignificant
 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
 4. Not required by employer
 5. Not provided by employer
 6. Not standard practice
 7. Too uncomfortable or difficult to use
 8. Not readily or always available in work area
 9. Other (Please specify):

32A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not wear **respiratory protection** while preparing antineoplastic agents.

Most important reason

33. During the past 7 calendar days, did you wear **booties** while preparing antineoplastic agents?
- Always  **Skip to Question 35.**
 Sometimes
 Never
34. What are the reason(s) you did not always wear **booties** while preparing antineoplastic agents? **Please ✓ all that apply.**
1. Potential for exposure to antineoplastic agents is insignificant
 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 3. Not required by employer
 4. Not provided by employer
 5. Not standard practice
 6. Too uncomfortable or difficult to use
 7. Not readily or always available in work area
 8. Cross contamination to other areas is not a concern
 9. Other (Please specify): _____

- 34A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **booties** while preparing antineoplastic agents.
- Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

35. How long did it take you to complete this module of the survey?
Please ✓ only one answer.
- Less than 5 minutes
 5-10 minutes
 11-15 minutes
 More than 15 minutes
36. Was the subject matter addressed in this module of interest to you?
Please ✓ only one answer.
- High interest
 Medium interest
 Low interest
 No interest

37. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

38. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE**C**

This module is directed toward oncology nurses or other individuals who administer Antineoplastic Agents to patients. Other terms used for antineoplastic agents include chemo-therapeutic drugs, cytotoxic drugs, and anti-cancer drugs.

1. During your career (including all jobs at this and other facilities), how long have you been administering antineoplastic agents to patients?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received formal training at this facility on procedures for the safe handling of antineoplastic agents?
Please ✓ all that apply.
 - During orientation for your current job or task
 - Once, but not at orientation
 - Periodically, but less than once per year
 - At least annually (i.e., one or more times every year)
 - Other (Please specify): _____
 - Never received training at this facility

3. Have you received any certification for handling antineoplastic agents?
Please ✓ all that apply.
 - Yes, by employer
 - Yes, by the Oncology Nursing Certification Corporation (OCCN). This includes OCN[®], CPON[®], AOCNP, and AOCNS.
 - Yes, other certification (Please specify): _____
 - No

4. Have you seen a copy of the OSHA guidelines for handling hazardous drugs at this facility?
 - Yes
 - No

5. Have you seen written policies or standard procedures at this facility for working with antineoplastic agents?
 - Yes
 - No

6. Do you ever wear or take home any clothing (protective clothing or street clothes) which were worn when handling antineoplastic agents at this facility?
 - Yes
 - No

7. At any time in the **past 7 calendar days** did you administer antineoplastic agents to patients? Yes No  **Skip to Question 30.**

8. During the past 7 calendar days, which of the following antineoplastic agents did you administer to patients? **Please ✓ all that apply.**

- | | | |
|--|--|---------------------------------------|
| <input type="checkbox"/> Aldesleukin | <input type="checkbox"/> Docetaxel | <input type="checkbox"/> Melphalan |
| <input type="checkbox"/> Alemtuzumab | <input type="checkbox"/> Doxorubicin | <input type="checkbox"/> Methotrexate |
| <input type="checkbox"/> Alitretinoin | <input type="checkbox"/> Epirubicin | <input type="checkbox"/> Mitomycin-C |
| <input type="checkbox"/> Altretamine | <input type="checkbox"/> Estramustine | <input type="checkbox"/> Mitotane |
| <input type="checkbox"/> Aminoglutethimide | <input type="checkbox"/> Etoposide | <input type="checkbox"/> Mitoxantrone |
| <input type="checkbox"/> Amifostine | <input type="checkbox"/> Exemestane | <input type="checkbox"/> Nilutamide |
| <input type="checkbox"/> Anastrozole | <input type="checkbox"/> Floxuridine | <input type="checkbox"/> Oxaliplatin |
| <input type="checkbox"/> Arsenic trioxide | <input type="checkbox"/> Fludarabine | <input type="checkbox"/> Paclitaxel |
| <input type="checkbox"/> Asparaginase- <i>E. coli</i> strain | <input type="checkbox"/> Flutamide | <input type="checkbox"/> Pegaspargase |
| <input type="checkbox"/> BCG live | <input type="checkbox"/> Fluorouracil | <input type="checkbox"/> Pentostatin |
| <input type="checkbox"/> Bexarotene | <input type="checkbox"/> Gemcitabine | <input type="checkbox"/> Plicamycin |
| <input type="checkbox"/> Bicalutamide | <input type="checkbox"/> Gemtuzumab ozogamicin | <input type="checkbox"/> Procarbazine |
| <input type="checkbox"/> Bleomycin | <input type="checkbox"/> Goserelin | <input type="checkbox"/> Rituximab |
| <input type="checkbox"/> Busulfan | <input type="checkbox"/> Hydroxyurea | <input type="checkbox"/> Streptozocin |
| <input type="checkbox"/> Capecitabine | <input type="checkbox"/> Idarubicin | <input type="checkbox"/> Tamoxifen |
| <input type="checkbox"/> Carboplatin | <input type="checkbox"/> Ifosfamide | <input type="checkbox"/> Temozolomide |
| <input type="checkbox"/> Carmustine | <input type="checkbox"/> Imatinib mesylate | <input type="checkbox"/> Teniposide |
| <input type="checkbox"/> Cetuximab | <input type="checkbox"/> Interferon Alfa-2a | <input type="checkbox"/> Thioguanine |
| <input type="checkbox"/> Cisplatin | <input type="checkbox"/> Interferon Alfa-2b | <input type="checkbox"/> Thiotepa |
| <input type="checkbox"/> Chlorambucil | <input type="checkbox"/> Irinotecan | <input type="checkbox"/> Topotecan |
| <input type="checkbox"/> Cladribine | <input type="checkbox"/> Letrozole | <input type="checkbox"/> Toremifene |
| <input type="checkbox"/> Cyclophosphamide | <input type="checkbox"/> Leuprolide | <input type="checkbox"/> Trastuzumab |
| <input type="checkbox"/> Cytarabine | <input type="checkbox"/> Lomustine | <input type="checkbox"/> Tretinoin |
| <input type="checkbox"/> Dacarbazine | <input type="checkbox"/> Megestrol | <input type="checkbox"/> Valrubicin |
| <input type="checkbox"/> Daunorubicin | <input type="checkbox"/> Mercaptopurine | <input type="checkbox"/> Vinblastine |
| <input type="checkbox"/> Dactinomycin | <input type="checkbox"/> Merchlorethamine | <input type="checkbox"/> Vincristine |
| <input type="checkbox"/> Denileukin diftitox | | <input type="checkbox"/> Vincorelbine |

- Other (Please specify up to 2 more antineoplastic agents):

1. _____

2. _____

9. During the past 7 calendar days, how many days did you administer antineoplastic agents to patients? Number of days.....
(Please write a number from 1-7)
10. During the past 7 calendar days, what was the total number of treatments of antineoplastic agents you administered to patients? (*One treatment equals all drugs administered to one patient during one visit.*)
- 1-2 treatments
 3-4 treatments
 5-9 treatments
 10-20 treatments
 21-40 treatments
 More than 40 treatments
11. How does the number of treatments of antineoplastic agents you administered during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal
12. During the past 7 calendar days, in which of the following areas of this facility did you **ever** administer antineoplastic agents to patients? **Please ✓ all that apply.**
- a. Patient's hospital room
 b. Treatment room (e.g., for infusion therapy)
 c. Specialty area (e.g., X-ray)
 d. Private physician's office
 e. Patient's home
 f. Some other location (Please specify):

- 12A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often administered antineoplastic agents. Most often administered.....

13. During the past 7 calendar days, while administering antineoplastic agents to patients, how often did you use a...
- | | Always | Sometimes | Never | Don't Know |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Designated room or area?..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Drug delivery system with Luer-lock (or other similar type) fittings? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Needle-less system? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Plastic-backed absorbent pad under the patient's arm?..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
14. During the past 7 calendar days, how often did you store prepared antineoplastic agents in a designated and restricted area before administering to patients?
- Always
 Sometimes
 Never
15. During the past 7 calendar days, which of the following best describes how antineoplastic agents were most commonly received from the pharmacy (or drug preparation area)?
Please ✓ only one.
- Primed with antineoplastic agent
 Primed with diluent (i.e., a liquid other than antineoplastic agent)
 Primed, unsure of the solution used
 IV tubing is not primed
16. During the past 7 calendar days, how often did you prime the IV tubing before administering antineoplastic agents to patients?
- Always
 Sometimes
 Never
17. During the past 7 calendar days, how many times did you puncture your skin with a sharp while administering antineoplastic agents?
- None
 One time
 2-3 times
 4-5 times
 More than 5 times
18. During the past 7 calendar days while you were handling or administering antineoplastic agents, did a leak or spill of any amount (even a few drops) ever occur?
- Yes
 No  **Skip to Question 21.**

19. During the past 7 calendar days, did any of the following factors cause a leak of antineoplastic agents during handling or administration?
- | | Yes | No |
|--|--------------------------|--------------------------|
| a. Leak from syringe while attaching, injecting, or detaching from IV line | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Leak while drawing up or expelling air from syringe | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Leak due to a bad connection | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Leak due to excessive pressure in vial | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Other (Please specify): _____
_____ | <input type="checkbox"/> | <input type="checkbox"/> |
20. During the past 7 calendar days, how many spills (even a drop or two) of antineoplastic agents occurred during handling or administration?
- | | No spills | 1-2 spills | 3-5 spills | More than 5 |
|-------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Spills less than 5ml | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Spills more than 5ml..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
21. During the past 7 calendar days, did any of the following areas of your skin come into direct contact with antineoplastic agents (i.e., became wet) during handling or administration?
- | | Yes | No |
|------------------------------|--------------------------|--------------------------|
| a. Face | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Neck | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Hands | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Wrist or forearm | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Torso, legs or feet | <input type="checkbox"/> | <input type="checkbox"/> |

The following questions pertain to your use of personal protective equipment (PPE) while handling and administering antineoplastic agents.

22. During the past 7 calendar days, did you wear a **water resistant gown or outer garment with closed front and tight cuffs** while administering antineoplastic agents to patients?
- Always  **Skip to Question 24.**
 Sometimes
 Never
23. What were the reason(s) you did not always wear a **water resistant gown or outer garment with closed front and tight cuffs** while administering antineoplastic agents? Please all that apply.
1. Potential for exposure to antineoplastic agents is insignificant
 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 3. Not required by employer
 4. Not provided by employer
 5. Not standard practice
 6. Too uncomfortable or difficult to use
 7. Not readily or always available in work area
 8. Cross contamination to other areas is not a concern
 9. Concerned about raising the patient's anxiety
 10. Other (Please specify): _____

- 23A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear a **water resistant gown or outer garment with closed front and tight cuffs** while administering antineoplastic agents.
- Most important reason
24. During the past 7 calendar days, did you wear **latex or chemo gloves** while administering antineoplastic agents to patients?
- Always  **Skip to Question 26.**
 Sometimes
 Never

25. What were the reason(s) you did not always wear **latex or chemo gloves** while administering antineoplastic agents? **Please ✓ all that apply.**
- 1. Potential for exposure to antineoplastic agents is insignificant
 - 2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily or always available in work area
 - 8. Cross contamination to other areas is not a concern
 - 9. Concerned about raising the patient's anxiety
 - 10. Other (Please specify): _____

25A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **latex or chemo gloves** while administering antineoplastic agents.

Most important reason



During the past 7 calendar days if you NEVER wore latex or chemo gloves when administering antineoplastic agents, skip to question 28.

26. During the past 7 calendar days, did you perform any of the following activities while wearing **latex or chemo gloves** that had been used to administer antineoplastic agents?

	Yes	No
a. Answer the phone	<input type="checkbox"/>	<input type="checkbox"/>
b. Use a keyboard or calculator	<input type="checkbox"/>	<input type="checkbox"/>
c. Handle files or record cards	<input type="checkbox"/>	<input type="checkbox"/>
d. Eat or drink	<input type="checkbox"/>	<input type="checkbox"/>
e. Smoke	<input type="checkbox"/>	<input type="checkbox"/>

27. During the past 7 calendar days, did you **ever reuse protective gloves** while administering antineoplastic agents (reuse means remove and later put on the same gloves)?
- Yes
 No
28. During the past 7 calendar days, did you wear **eye protection** (safety glasses, goggles, face shield) while administering antineoplastic agents to patients?
- Always  **Skip to Question 30.**
 Sometimes
 Never
29. What were the reason(s) you did not always wear **eye protection** while administering antineoplastic agents?
Please ✓ all that apply.
1. Potential for exposure to antineoplastic agents is insignificant
2. Exposure to antineoplastic agents is possible but the health hazard is insignificant
3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
4. Not required by employer
5. Not provided by employer
6. Not standard practice
7. Too uncomfortable or difficult to use
8. Not readily or always available in work area
9. Concerned about raising the patient's anxiety
10. Other (Please specify): _____
-

29A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **eye protection** while administering antineoplastic agents.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

30. How long did it take you to complete this module of the survey?

Please ✓ only one answer.

- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes

31. Was the subject matter addressed in this module of interest to you?

Please ✓ only one answer.

- High interest
- Medium interest
- Low interest
- No interest

32. Are there any other hazards that you think we should address with similar modules?

Please ✓ all that apply.

- None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

33. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE

D

This module is directed toward workers in central processing (sterile processing, central supply/distribution) or others who use either ethylene oxide or hydrogen peroxide gas plasma to chemically sterilize medical devices, instruments or supplies.

1. During your career (including all jobs at this and other facilities), how long have you been chemically sterilizing medical instruments or supplies using ethylene oxide or hydrogen peroxide gas plasma?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received formal training at this facility on the safe handling of chemical sterilants? **Please ✓ all that apply.**
 - During orientation for your current job or task
 - Once, but not at orientation
 - Periodically, but less than once per year
 - At least annually (i.e., one or more times every year)
 - Other (Please specify): _____
 - Never received training at this facility

3. Have you received any certification for sterile processing of medical instruments and supplies? **Please ✓ all that apply.**
 - Yes, by employer
 - Yes, by the Certification Board for Sterile Processing and Distribution (CBSPD) or formerly the NICHSPDP. This includes a CSPDT, CSPDS, CSIT, or CSPDM.
 - Yes, by another professional society
 - Yes, by a training provider, other than employer
 - Yes, by other (Please specify): _____
 - No

4. Have you seen a copy of the OSHA guidelines for workplace exposure to ethylene oxide at this facility?
 - Yes
 - No

5. Have you seen written policies or standard procedures at this facility for working with chemical sterilants?
 - Yes
 - No

6. At any time in the **past 7 calendar days**, did you sterilize medical instruments or supplies using ethylene oxide or hydrogen peroxide gas plasma?
- Yes
 No  **skip to Question 36.**

Questions 7-26 pertain to the use of ethylene oxide and questions 27-32 pertain to the use of hydrogen peroxide gas plasma for chemical sterilization of medical instruments or supplies.

7. At any time during the **past 7 calendar days**, did you sterilize medical instruments or supplies using ethylene oxide?
- Yes
 No  **Skip to Question 27.**
8. During the past 7 calendar days, in which of the following areas of this facility did you load or unload ethylene oxide sterilizers? **Please ✓ all that apply.**
- a. Central processing/supply/distribution
 b. Outpatient surgery clinic
 c. Cardiac catheterization lab
 d. Dental clinic or lab
 e. Autopsy lab
 f. Some other location (Please specify):
-

- 8A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often loaded or unloaded ethylene oxide sterilizers during the past 7 calendar days.
- Most often loaded or unloaded.....

9. During the **past 7 calendar days**, how many days did you sterilize medical instruments or supplies with a sterilizer using ethylene oxide as the sterilant?
- Number of days.....
(Please write a number from 1-7)
10. During the past 7 calendar days, did you sterilize medical instruments or supplies using an **automated sterilizer** supplied by compressed-gas cylinders or single-dose cartridges of ethylene oxide?
- Yes
 No  **Skip to Question 22.**

11. During the past 7 calendar days, did you sterilize medical instruments or supplies using an automated ethylene oxide sterilizer **with in-chamber aeration** (i.e., load does **not** need to be transferred after sterilization to a separate aerator)? (*Check "Not applicable" if your facility does not have this type of ethylene oxide sterilizer.*)
- Yes, continue
 No
 Not applicable } **Skip to Question 17.**
12. How much time do you typically spend transferring a single load from an ethylene oxide sterilizer? (*Include only the time spent transferring instruments or supplies from the sterilizer.*)
- Less than 1 minute
 1-2 minutes
 3-4 minutes
 5-6 minutes
 More than 6 minutes
13. During the past 7 calendar days, what was the total number of loads you processed using an ethylene oxide sterilizer **with in-chamber aeration**?
- 1 load
 2-3 loads
 4-5 loads
 6-10 loads
 More than 10 loads
14. How does the number of loads you processed during the past 7 calendar days using an ethylene oxide sterilizer **with in-chamber aeration** compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal
15. Which best describes the location of the ethylene oxide cylinder(s) for the sterilizer **with in-chamber aeration** you used most often during the past 7 calendar days? **Please ✓ only one.**
- Gas cylinder is located in a **different room** than the sterilizer.
 Gas cylinder is located in the **same room** as the sterilizer loading area.
 Gas cylinder (cartridge) is located **inside the sterilizer** (i.e., requires the cartridge to be inside chamber with door closed before it is punctured).
 Other (Please specify): _____
- _____

16. Considering the sterilizer with **in-chamber aeration** you used most often during the past 7 calendar days:
- | | Yes | No | Don't Know |
|---|--------------------------|--------------------------|--------------------------|
| a. Was operational local exhaust ventilation provided above the door of the sterilizer? .. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Was a visual display of the ethylene oxide level (i.e., concentration of ethylene oxide in the room) present near the ethylene oxide sterilizer? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
17. During the past 7 calendar days, did you use an automated ethylene oxide sterilizer with a **separate** aeration chamber (i.e., load **needs** to be transferred after sterilization to a separate aerator)? (*Check "Not applicable" if your facility does not have this type of ethylene oxide sterilizer.*)
- Yes, continue
 No
 Not applicable
- Skip to Question 22.**
18. During the past 7 calendar days, how much time did you typically spend transferring a single load from a sterilizer to the aeration chamber? (*Include only the time spent transferring the load from the sterilizer to the aeration chamber.*)
- Less than 1 minute
 1-2 minutes
 3-4 minutes
 5-6 minutes
 More than 6 minutes
19. During the past 7 calendar days, what was the total number of loads transferred from the sterilizer to the aeration chamber?
- 1 load
 2-3 loads
 4-5 loads
 6-10 loads
 More than 10 loads
20. How does the number of loads you transferred from the sterilizer for aeration during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal

21. Considering the sterilizer with a **separate aeration chamber** that you used most often during the past 7 calendar days:
- | | Yes | No | Don't Know |
|---|--------------------------|--------------------------|--------------------------|
| a. Was operational local exhaust ventilation provided above the door of the sterilizer? .. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Was a visual display of the ethylene oxide level (i.e., concentration of ethylene oxide in the room) present near the ethylene oxide sterilizer? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
22. During the past 7 calendar days, did you sterilize medical instruments or supplies with a **sterilizer that uses glass ampoules containing liquid ethylene oxide?** (*Check "Not applicable" if your facility does not have this type of ethylene oxide sterilizer.*)
- Yes, continue
 No
 Not applicable } **Skip to Question 27.**
23. During the past 7 calendar days, what was the total number of loads you processed with a sterilizer that uses glass ampoules of liquid ethylene oxide?
- 1 load
 2-3 loads
 4-5 loads
 6-10 loads
 More than 10 loads
24. How does the number of loads you processed during the past 7 calendar days with a sterilizer that uses glass ampoules of liquid ethylene oxide compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal
25. When using sterilizers that use glass ampoules of liquid ethylene oxide during the past 7 calendar days, was the sterilizer you used most often located within an operating ventilated enclosure (hood)?
- Yes
 No
 Don't know
26. In regards to that same sterilizer, was a visual display of the ethylene oxide level (i.e., concentration of ethylene oxide in the room) present in the work area?
- Yes
 No
 Don't know

The following questions pertain to the use of hydrogen peroxide gas plasma (such as the STERRAD[®] system) for sterilizing medical instruments or supplies.

27. At any time during the **past 7 calendar days**, did you sterilize medical instruments or supplies using **hydrogen peroxide gas plasma** (such as the STERRAD[®] system)?
- Yes
 No  **Skip to Question 33.**
28. During the past 7 calendar days, how many days did you sterilize medical instruments or supplies using **hydrogen peroxide gas plasma**?
- Number of days.....
(Please write a number from 1-7)
29. During the past 7 calendar days, how much time did you typically spend transferring a single load from a sterilizer using hydrogen peroxide gas plasma? (*Include only the time spent transferring instruments/supplies to or from the sterilizing machine*).
- Less than 1 minute
 1-2 minutes
 3-4 minutes
 5-6 minutes
 More than 6 minutes
30. During the past 7 calendar days, what was the total number of loads you sterilized using **hydrogen peroxide gas plasma**?
- 1 load
 2-3 loads
 4-5 loads
 6-10 loads
 More than 10 loads
31. How does the number of loads you sterilized using **hydrogen peroxide gas plasma** during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal

32. During the past week, in which of the following areas of this facility did you sterilize medical instruments or supplies using **hydrogen peroxide gas plasma**? Please **✓ all that apply**.
- a. Central processing/supply/distribution
 - b. Outpatient surgery clinic
 - c. Cardiac catheterization lab
 - d. Dental clinic or lab
 - e. Autopsy lab
 - f. Some other location (Please specify):
-

32A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area of this facility where you most often used a **hydrogen peroxide gas plasma** sterilizer during the past week.

Area most often used

The following questions pertain to the use of personal protective equipment (PPE) while chemically sterilizing medical instruments.

33. During the past week, did you wear **respiratory protection**, not including a surgical mask, while chemically sterilizing medical instruments?
- Always
 - Sometimes
 - Never 
- Skip to Question 35.**
34. What type(s) of respirator(s) did you use? Please **✓ all that apply**.
- Half mask or full-face piece respirator with replaceable filters or cartridges
 - Powered air-purifying respirator (PAPR)
 - Supplied-air respirator
 - Don't know



During the past 7 calendar days, if you ALWAYS wore respiratory protection, not including a surgical mask, while chemically sterilizing medical instruments, skip to Question 36.

35. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while chemically sterilizing medical instruments?
Please ✓ **all that apply.**
- 1. Potential for exposure to chemical sterilants is insignificant
 - 2. Exposure to chemical sterilants is possible but the health hazard is insignificant
 - 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
 - 4. Not required by employer
 - 5. Not provided by employer
 - 6. Not standard practice
 - 7. Too uncomfortable or difficult to use
 - 8. Not readily or always available in work area
 - 9. Other (Please specify): _____

35A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while chemically sterilizing medical instruments

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

36. How long did it take you to complete this module of the survey?
Please ✓ **only one answer.**
- Less than 5 minutes
 - 5-10 minutes
 - 11-15 minutes
 - More than 15 minutes
37. Was the subject matter addressed in this module of interest to you?
Please ✓ **only one answer.**
- High interest
 - Medium interest
 - Low interest
 - No interest

38. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

39. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE E	<p><i>This module is directed towards anyone who disinfects medical instruments, devices, or supplies (such as endoscopes, thermometers, and other items which cannot be sterilized) using disinfectants containing the following:</i></p> <ul style="list-style-type: none"> • Glutaraldehyde (e.g., Cidex[®], ColdSport[®], Endocide[®], Glutacide[®], Hospex[®], Metricide[®], Sporicidin[®], Wavicide[®]), • Ortho-phthalaldehyde (e.g., Cidex OPA[®]), • Peracetic acid (e.g., Steris[®] system), or • Hydrogen peroxide (e.g., Accell[®], Optim[®]).
-------------------------------	---

1. During your career (including all jobs at this and other facilities), how long have you been disinfecting medical instruments?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received formal training at this facility on the safe handling of high level disinfectants, including glutaraldehyde?
Please ✓ all that apply.
 - During orientation for your current job or task
 - Once, but not at orientation
 - Periodically, but less than once per year
 - At least annually (i.e., one or more times every year)
 - Other (Please specify): _____
 - Never received training at this facility

3. Have you seen written policies or standard procedures at this facility for using high level disinfectants, including glutaraldehyde?
 - Yes
 - No

4. At any time in the **past 7 calendar days** did you disinfect medical instruments by immersion in high level disinfectants (either manually or automatically)?
- Yes
 No  **Skip to Question 27.**
5. During the past 7 calendar days, how many days did you disinfect medical instruments by immersion in high level disinfectants?
- Number of days.....
(Please write a number from 1-7)
6. During the past 7 calendar days, how much total time did you spend handling or working with high level disinfectants? *(Include only the time you spent actually loading and unloading the processing unit; testing, adding and replacing the disinfectant solution; and cleaning the disinfecting process units.)*
- Less than 1 hour
 1-5 hours
 6-20 hours
 21-40 hours
 More than 40 hours
7. How does the total amount of time spent handling disinfectants during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal
8. During the past 7 calendar days, how many devices or instruments (including endoscopes, probes, tips, etc.) did you disinfect by immersion in high level disinfectants?
- 1-2 instruments
 3-4 instruments
 5-9 instruments
 10-19 instruments
 20-39 instruments
 40 or more instruments

9. During the past 7 calendar days, which high level disinfectants did you use for disinfecting medical instruments? **Please ✓ all that apply.**
- a. Glutaraldehyde (e.g., Cidex[®], ColdSport[®], Endocide[®], Glutacide[®], Hospex[®], Metricide[®], Sporicidin[®], Wavicide[®])
 - b. Ortho-phthalaldehyde (e.g., Cidex OPA[®])
 - c. Peracetic acid (e.g., Steris[®] system)
 - d. Hydrogen peroxide (e.g., Accell[®], Optim[®])
 - e. Other high level disinfectant (Please specify) _____
- 9A. From the high level disinfectant(s) checked above, please write the **letter** (a, b, c, d, or e) corresponding to the disinfectant **most often used** to disinfect medical instruments during the past 7 calendar days. Most often used.....
10. Which of the following disinfection system(s) did you use during the past 7 calendar days? **Please ✓ all that apply.**
- a. Automated
 - b. Manual
- 10A. From the system(s) checked above, please write the **letter** (a or b) corresponding to the one you **most often used** during the past 7 calendar days. Most often used.....
11. Which of the following statements best describes the ventilation for the disinfection system(s) you used during the past 7 calendar days: **Please ✓ all that apply.**
- 1. A system with effective local exhaust ventilation.
 - 2. A non-ventilated or poorly ventilated system.
12. Did the disinfection system you used most often in the past 7 calendar days have dedicated ventilation (overhead hood, exhaust fan)?
- Yes
 - No
 - Don't know

13. During the past 7 calendar days, did you **ever** manually pour fresh or new disinfectant into a reservoir or chamber of the processing unit(s)?

- Yes
- No



Skip to Question 15.

14. During the past 7 calendar days, what was the total amount of high level disinfectant you manually poured into the processing unit(s)?

- Less than one gallon
- 1-2 gallons
- 3-5 gallons
- More than 5 gallons

15. During the past 7 calendar days, did you **ever** manually drain spent high level disinfectant from a processing unit(s)?

- Yes
- No

16. During the past 7 calendar days, how many spills of disinfectant(s) used for disinfecting medical equipment did you **personally** clean up?

	No spills	1-2 spills	3-5 spills	More than 5 spills
a. Spills less than two cups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Spills more than two cups.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

17. During the past week, did any of the following areas of your skin come into direct contact with high level disinfectant(s)?

	Yes	No
a. Face.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Neck	<input type="checkbox"/>	<input type="checkbox"/>
c. Hands	<input type="checkbox"/>	<input type="checkbox"/>
d. Wrist or forearm.....	<input type="checkbox"/>	<input type="checkbox"/>
e. Torso, legs or feet.....	<input type="checkbox"/>	<input type="checkbox"/>

The following questions pertain to the use of personal protective equipment (PPE) during the handling of high level disinfectants.

18. During the past 7 calendar days, did you wear a **water resistant gown or outer garment** while handling or working with high level disinfectants?

- Always 
- Sometimes
- Never

Skip to Question 20.

19. What were the reason(s) you did not always wear a **water resistant gown or outer garment** while handling high level disinfectants?

Please all that apply.

1. Potential for exposure to high level disinfectants is insignificant
2. Exposure to high level disinfectants is possible but the health hazard is insignificant
3. Not required by employer
4. Not provided by employer
5. Not standard practice
6. Too uncomfortable or difficult to use
7. Not readily or always available in work area
8. Cross-contamination to other areas is not a concern
9. Other (Please specify): _____
- _____

19A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear a **water resistant gown or outer garment** while handling high level disinfectants.

Most important reason

20. During the past 7 calendar days, did you wear **protective gloves** while handling high level disinfectants?
- Always  **Skip to Question 22.**
- Sometimes
- Never
21. What were the reason(s) you did not always wear **protective gloves** while handling high level disinfectants?
Please ✓ all that apply.
1. Potential for exposure to high level disinfectants is insignificant
2. Exposure to high level disinfectants is possible but the health hazard is insignificant
3. Not required by employer
4. Not provided by employer
5. Not standard practice
6. Too uncomfortable or difficult to use
7. Not readily or always available in work area
8. Cross-contamination to other areas is not a concern
9. Other (Please specify): _____
- _____
- 21A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear protective gloves while handling high level disinfectants?
- Most important reason
22. During the past 7 calendar days, did you wear **eye protection** (safety glasses, goggles, face shield) while handling high level disinfectants?
- Always  **Skip to Question 24.**
- Sometimes
- Never

23. What were the reason(s) you did not always wear **eye protection** while handling high level disinfectants?
Please ✓ all that apply.
- 1. Potential for exposure to high level disinfectants is insignificant
 - 2. Exposure to high level disinfectants is possible but the health hazard is insignificant
 - 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
 - 4. Not required by employer
 - 5. Not provided by employer
 - 6. Not standard practice
 - 7. Too uncomfortable or difficult to use
 - 8. Not readily or always available in work area
 - 9. Other (Please specify): _____

23A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **eye protection** while handling high level disinfectants.

Most important reason

24. During the past 7 calendar days, did you wear **respiratory protection**, not including a surgical mask, while handling high level disinfectants?
- Always
 - Sometimes
 - Never 
- Skip to Question 26.**
25. What type(s) of respirator(s), not including a surgical mask, did you use?
Please ✓ all that apply.
- Disposable particulate respirator (also called filtering face-piece respirator, e.g., N95)
 - Half mask or full-face piece respirator with replaceable filters or cartridges
 - Powered air-purifying respirator (PAPR)
 - Don't know



During the past 7 calendar days, if you ALWAYS wore respiratory protection when handling high level disinfectants, skip to Question 27.

26. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while handling high level disinfectants?
Please ✓ all that apply.
- 1. Potential for exposure to high level disinfectants is insignificant
 - 2. Exposure to high level disinfectants is possible but the health hazard is insignificant
 - 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
 - 4. Not required by employer
 - 5. Not provided by employer
 - 6. Not standard practice
 - 7. Too uncomfortable or difficult to use
 - 8. Not readily or always available in work area
 - 9. Other (Please specify): _____

26A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while handling high level disinfectants.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

27. How long did it take you to complete this module of the survey?
Please ✓ only one answer.
- Less than 5 minutes
 - 5-10 minutes
 - 11-15 minutes
 - More than 15 minutes
28. Was the subject matter addressed in this module of interest to you?
Please ✓ only one answer.
- High interest
 - Medium interest
 - Low interest
 - No interest

29. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

30. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE**F**

This module is for individuals who work in areas (i.e., in the actual operating room, same day surgery room, or doctor's office) while lasers or electrosurgery devices are being used. This module should be completed by all employees who work in these areas, whether you perform the procedures or assist in areas while these devices are being used.

1. During your career (including all jobs at this and other facilities), how long have you been working in areas (operating room, same day surgery room, doctor's office, etc.) while lasers or electrosurgery devices were being used?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received formal training at this facility that addresses the hazards of surgical smoke?
Please ✓ all that apply.
 - During orientation for your current job or task
 - Once, but not at orientation
 - Periodically, but less than once per year
 - At least annually (i.e., one or more times every year)
 - Other (Please specify): _____
 - Never received training at this facility

3. Have you seen written policies or standard procedures at this facility that address potential hazards of surgical smoke?
 - Yes
 - No

4. Do you ever wear or take home any clothing (protective clothing or street clothes) which were worn when lasers or electrosurgery devices were being used?
 - Yes
 - No

5. At any time in the **past 7 calendar days**, did you work in a room (operating room, same day surgery room, doctor's office, etc.) **within 5 feet** of the patient while a laser or electrosurgery device was being used?
- Yes
 No  **Skip to Question 23.**
6. During the past 7 calendar days, how many days did you work in rooms while lasers or electrosurgery devices were being used?
- Number of days.....
(Please write a number from 1-7)
7. During the past 7 calendar days, how much total time did you spend **within 5 feet** of a patient while a laser or electrosurgery device was being used?
- Less than 1 hour
 1-5 hours
 6-20 hours
 21-40 hours
 More than 40 hours
8. How does the total amount of time spent in rooms while lasers or electrosurgical devices were being used during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal
9. During the past 7 calendar days, what was the total number of procedures involving lasers or electrosurgery devices that you performed or were **within 5 feet** of the procedure?
- 1 procedure
 2-5 procedures
 6-10 procedures
 11-25 procedures
 More than 25 procedures

10. During the past 7 calendar days, in which of the following areas of this facility did you **ever** work while a laser or electrosurgery device was being used? **Please** ✓ **all that apply.**
- a. Operating room
 - b. Specialty suite or lab
 - c. Outpatient clinic
 - d. Medical office
 - e. Dental office
 - f. Some other location (Please specify):
-

- 10A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often worked while a laser or electrosurgery device was being used .
- Most often worked.....

The following questions relate to the control of surgical smoke through the use of ventilation in the area in which you worked most often during the past 7 calendar days (i.e., the same area as indicated in question 10A).

11. Was a smoke evacuation system/device being used? Yes, continue
 No
 Don't know } **Skip to Question 13.**
12. Was the surgical smoke exhausted outside the room? Yes
 No
 Don't know
13. During the past 7 calendar days, when working in rooms in which lasers or electrosurgical devices were being used, how often was surgical smoke detectable (visually or by smell)? Never
 Rarely
 About half the time
 Most of the time
 All the time

The following questions pertain to your use of personal protective equipment (PPE) while working in rooms in which lasers or electrosurgical devices are being used.

14. During the past 7 calendar days, did you wear a **protective gown or outer garment** while working in areas in which lasers or electrosurgical devices were being used?
- Always  **Skip to Question 16.**
 Sometimes
 Never
15. What were the reason(s) you did not always wear a **protective gown or outer garment** while working in areas in which lasers or electrosurgical devices are being used? **Please ✓ all that apply.**
1. Potential for exposure to surgical smoke is insignificant
 2. Exposure to surgical smoke is possible but the health hazard is insignificant
 3. Not required by employer
 4. Not provided by employer
 5. Not standard practice
 6. Too uncomfortable or difficult to use
 7. Not readily or always available in work area
 8. Cross contamination to other areas is not a concern
 9. Concerned about raising the patient's anxiety
 10. Not working within the sterile field
 11. Other (Please specify): _____

- 15A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear a **protective gown or outer garment** while working in areas in which lasers or electrosurgical devices are being used.
- Most important reason
16. During the past 7 calendar days, did you wear **protective gloves** while working in areas in which a laser or electrosurgery device was being used?
- Always  **Skip to Question 18.**
 Sometimes
 Never

17. What were the reason(s) you did not always wear **protective gloves** while working in areas in which a laser or electrosurgery device was being used? **Please ✓ all that apply.**
- 1. Potential for exposure to surgical smoke is insignificant
 - 2. Exposure to surgical smoke is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily or always available in work area
 - 8. Cross contamination to other areas is not a concern
 - 9. Concerned about raising the patient's anxiety
 - 10. Not working within the sterile field
 - 11. Other (Please specify): _____

- 17A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **protective gloves** while working in areas in which a laser or electrosurgery device was being used.

Most important reason

18. During the past 7 calendar days, did you wear **eye protection** (safety glasses, goggles, face shield) while working in areas in which a laser or electrosurgery device was being used?

- Always
- Sometimes
- Never

Skip to Question 20.

19. What are the reason(s) you did not always wear **eye protection** while working in areas in which a laser or electrosurgery device was being used? **Please** ✓ **all that apply.**

- 1. Potential for exposure to surgical smoke is insignificant
- 2. Exposure to surgical smoke is possible but the health hazard is insignificant
- 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
- 4. Not required by employer
- 5. Not provided by employer
- 6. Not standard practice
- 7. Too uncomfortable or difficult to use
- 8. Not readily available in work area
- 9. Concerned about raising the patient's anxiety
- 10. Not working within the sterile field
- 11. Other (Please specify): _____

19A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **eye protection** while working in areas in which a laser or electrosurgery device was being used.

Most important reason

20. During the past 7 calendar days, did you wear **respiratory protection, not including a surgical mask**, while working in areas in which a laser or electrosurgery device was being used?

- Always
- Sometimes
- Never

Skip to Question 22.

21. What type(s) of respirator(s), not including a surgical mask, did you use? **Please ✓ all that apply.**
- Disposable particulate respirator (also called filtering face-piece respirator, e.g., N95)
 - Half mask or full-face piece respirator with replaceable filters or cartridges
 - Powered air-purifying respirator (PAPR)
 - Don't know



During the past 7 calendar days, if you ALWAYS wore respiratory protection, not including a surgical mask, while working in areas in which a laser or electrosurgery device was being used, skip to Question 23.

22. What are the reason(s) you did not always wear a **respirator** while working in areas in which a laser or electrosurgery device was being used? **Please ✓ all that apply.**
- 1. Potential for exposure to surgical smoke is insignificant
 - 2. Exposure to surgical smoke is possible but the health hazard is insignificant
 - 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
 - 4. Not required by employer
 - 5. Not provided by employer
 - 6. Too time consuming
 - 7. Not standard practice
 - 8. Too uncomfortable or difficult to use
 - 9. Not readily or always available in work area
 - 10. Concerned about raising the patient's anxiety
 - 11. Not working within the sterile field
 - 12. Other (Please specify): _____

22A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear a **respirator** while working in areas in which a laser or electrosurgery device was being used.

Most important reason.....

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

23. How long did it take you to complete this module of the survey?

Please ✓ only one answer.

- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes

24. Was the subject matter addressed in this module of interest to you?

Please ✓ only one answer.

- High interest
- Medium interest
- Low interest
- No interest

25. Are there any other hazards that you think we should address with similar modules?

Please ✓ all that apply.

- None
- Specify hazard: _____
- Specify hazard: _____
- Specify hazard: _____

26. Please use the space below to record any other comments you have about the survey.

You have now completed this module.

Thank you.

MODULE G	<i>This module is directed toward anesthesiologists, nurse anesthetists, and others who administer anesthesia as a gas.</i>
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1. During your career (including all jobs at this and other facilities), how long have you been administering anesthesia as a gas?
 Less than 6 months
 At least 6 months but less than a year
 1-5 years
 6-10 years
 11-20 years
 More than 20 years

2. When have you received formal training at this facility on procedures for the safe handling of anesthetic gases?
Please ✓ all that apply.
 During orientation for your current job or task
 Once, but not at orientation
 Periodically, but less than once per year
 At least annually (i.e., one or more times every year)
 Other (Please specify): _____
 Never received training at this facility

3. Have you seen written policies or standard procedures at this facility for working with anesthetic gases?
 Yes
 No

4. At any time in the **past 7 calendar days** did you administer anesthesia as a gas?
 Yes
 No  **Skip to Question 30.**

5. During the past 7 calendar days, which of the following anesthetic gases did you administer? **Please ✓ all that apply.**
 Desflurane
 Enflurane
 Halothane
 Isoflurane
 Nitrous oxide
 Sevoflurane
 Other anesthetic gases (Please specify):
1. _____
2. _____

6. During the past 7 calendar days, how many days did you administer anesthesia as a gas? Number of days.....
(Please write a number from 1-7)
7. During the past 7 calendar days, how much total time did you spend administering anesthesia as a gas? *(Include only the time these gases were actually being administered.)*
- Less than 1 hour
 1-10 hours
 11-20 hours
 21-30 hours
 31-40 hours
 More than 40 hours
8. How does the total amount of time you spent administering anesthesia as a gas during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal
9. During the past 7 calendar days, what was the total number of times you administered anesthesia as a gas?
- 1 time
 2-3 times
 4-5 times
 6-10 times
 More than 10 times
10. During the past 7 calendar days, in which of the following areas of this facility did you **ever** administer anesthesia as a gas? **Please ✓ all that apply.**
- a. Operating room
 b. Specialty suite or lab
 c. Outpatient clinic
 d. Medical office
 e. Dental office
 f. Some other location (Please specify):

- 10A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often administered anesthesia as a gas during the past 7 calendar days. Area most often administered

11. During the past 7 calendar days, did you administer anesthesia as a gas to **adult** patients? (*We consider adult patients to be 13 years of age or older.*)
- Yes
 No  **Skip to Question 15.**
12. During the past 7 calendar days, to how many **adult** patients did you administer anesthesia as a gas **starting with a face mask and then switching to an airway device** (i.e., endotracheal tube, tracheostomy tube or laryngeal mask)?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
13. During the past 7 calendar days, to how many **adult** patients did you administer anesthesia as a gas **using only a face mask** throughout the entire period?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
14. During the past 7 calendar days, to how many **adult** patients did you administer anesthesia as a gas **using only an airway device** throughout the entire period (i.e., endotracheal tube, tracheostomy tube or laryngeal mask)?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
15. During the past 7 calendar days, did you administer anesthesia as a gas to **pediatric** patients? (*We consider pediatric patients to be 12 years of age or younger.*)
- Yes
 No  **Skip to Question 19.**
16. During the past 7 calendar days, to how many **pediatric** patients did you administer anesthesia as a gas **starting with a face mask and then switching to an airway device** (i.e., endotracheal tube, tracheostomy tube or laryngeal mask)?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children

17. During the past 7 calendar days, to how many **pediatric** patients did you administer anesthesia as a gas **using only a face mask** throughout the entire period?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children
18. During the past 7 calendar days, to how many **pediatric** patients did you administer anesthesia as a gas **using only an airway device** throughout the entire period (i.e., endotracheal tube, tracheostomy tube or laryngeal mask)?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children
19. During the past 7 calendar days, how often was a scavenging system used when you administered anesthesia as a gas?
- Always
 Sometimes
 Never
 System not available
20. During the past 7 calendar days, did you **personally** fill the vaporizer?
- Yes
 No  **Skip to Question 23.**
21. During the past 7 calendar days, how often did you fill the vaporizer by pouring directly from the bottle?
- Always
 Sometimes
 Never
 System not available
22. During the past 7 calendar days, how often did you fill the vaporizer using a specialized "key-fill" spout?
- Always
 Sometimes
 Never
 System not available
23. During the past 7 calendar days, did you administer anesthesia as a gas in a **dental clinic or operatory**?
- Yes
 No  **Skip to Question 26.**

24. During the past 7 calendar days while administering anesthetic gases in a dental clinic or operator, how often did you use a patient nasal hood?
- Always
 Sometimes
 Never
 System not available
25. During the past 7 calendar days, while administering anesthetic gases in a dental clinic or operator, how often did you use a free standing auxiliary local exhaust system in conjunction with the scavenging system?
- Always
 Sometimes
 Never
 System not available
26. During the past 7 calendar days, what was the typical amount of time you spent **each day** working with patients in a Post Anesthesia Care Unit (PACU) or primary Surgical Recovery Unit (SRU)?
- None
 Less than 30 minutes
 30-60 minutes
 1-4 hours
 5-8 hours
 More than 8 hours

The following questions pertain to the use of personal protective equipment (PPE) during the administration of anesthetic gases.

27. During the past 7 calendar days, how often did you wear **respiratory protection**, not including a surgical mask, while administering anesthetic gases?
- Always
 Sometimes
 Never 
28. What type(s) of respirator(s), not including a surgical mask, did you use?
Please ✓ all that apply.
- Half mask or full-face piece respirator with replaceable cartridges
 Powered air-purifying respirator (PAPR)
 Supplied-air respirator
 Don't know



During the past 7 calendar days, if you ALWAYS wore respiratory protection, not including a surgical mask while administering anesthetic gases, skip to Question 30.

29. What were the reason(s) you did not always wear **respiratory protection, not including a surgical mask**, while administering anesthetic gases?
Please ✓ all that apply.

- 1. Potential for exposure to anesthetic gases is insignificant
- 2. Exposure to anesthetic gases is possible but the health hazard is insignificant
- 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
- 4. Not required by employer
- 5. Not provided by employer
- 6. Not standard practice
- 7. Too uncomfortable or difficult to use
- 8. Not readily or always available in work area
- 9. Concerned about raising the patient's anxiety.
- 10. Other (Please specify): _____

29A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while administering anesthetic gases.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

30. How long did it take you to complete this module of the survey?
Please ✓ only one answer.

- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes

31. Was the subject matter addressed in this module of interest to you?
Please ✓ only one answer.

- High interest
- Medium interest
- Low interest
- No interest

32. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

33. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE

H

This module is directed toward individuals who work in area(s) while anesthetic gases are being administered, but who are not administering the gases themselves. You are considered to be in the area if you are in the same room and within five (5) feet of where anesthetic gases are being administered.

Note: Do not complete this section if you actually administer the anesthetic gases.

1. During your career (including all jobs at this and other facilities), how long have you been working in areas while anesthetic gases were being administered in that area?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received formal training at this facility on the hazards of exposure to waste anesthetic gases? **Please ✓ all that apply.**
 - During orientation for your current job or task
 - Once, but not at orientation
 - Periodically, but less than once per year
 - At least annually (i.e., one or more times every year)
 - Other (Please specify): _____
 - Never received training at this facility

3. Have you seen written policies or standard procedures at this facility for working with anesthetic gases?
 - Yes
 - No

4. At any time in the **past 7 calendar days**, did you work in an area while anesthetic gases were being administered in that area?
 - Yes
 - No 

Skip to Question 22.

5. During the past 7 calendar days, how many days did you work in an area while anesthetic gases were being administered?

Number of days.....

(Please write a number from 1-7)

6. During the past 7 calendar days, how much total time did you spend working in an area while anesthetic gases were being administered? *(Include only the time these gases were actually being administered.)*
- Less than 1 hour
 1-10 hours
 11-20 hours
 21-30 hours
 31-40 hours
 More than 40 hours
7. How does the total amount of time you spent in an area while anesthetic gases were being administered during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal
8. During the past 7 calendar days, what was the total number of times you worked in an area while anesthetic gases were being administered?
- 1 time
 2-3 times
 4-5 times
 6-10 times
 More than 10 times
9. During the past 7 calendar days, in which of the following areas of this facility did you **ever** work while anesthetic gases were being administered? **Please ✓ all that apply.**
- a. Operating room
 b. Specialty suite or lab
 c. Outpatient clinic
 d. Medical office
 e. Dental office
 f. Some other location (Please specify):

- 9A. From the location(s) checked above, please write the **letter** (a, b, c, etc.) corresponding to the area where you most often worked while anesthetic gases were being administered during the past 7 calendar days..
- Area most often worked
10. During the past 7 calendar days, did you work in an area while anesthetic gases were administered to **adult** patients? *(We consider adult patients to be 13 years of age or older.)*
- Yes
 No  **Skip to Question 14.**

11. During the past 7 calendar days, how many **adult** patients received anesthetic gases **starting with a face mask and then switched to an airway device** (i.e., endotracheal tube, tracheostomy tube or laryngeal mask) while you were in the area?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
 Don't know
12. During the past 7 calendar days, how many **adult** patients received anesthetic gases **using only a face mask** while you were in the area?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
 Don't know
13. During the past 7 calendar days, how many **adult** patients received anesthetic gases **using only an airway device** (i.e., endotracheal tube, tracheostomy tube or laryngeal mask) while you were in the area?
- None
 1-2 adults
 3-4 adults
 5-9 adults
 10-20 adults
 21-40 adults
 More than 40 adults
 Don't know
14. During the past 7 calendar days, did you work in an area while anesthetic gases were administered to **pediatric** patients? (*We consider pediatric patients to be 12 years of age or younger.*)
- Yes
 No  **Skip to Question 18.**
15. During the past 7 calendar days, how many **pediatric** patients received anesthetic gases **starting with a face mask and then switched to an airway device** (i.e., endotracheal tube, tracheostomy tube or laryngeal mask) while you were in the area?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children
 Don't know

16. During the past 7 calendar days, how many **pediatric** patients received anesthetic gases **using only a face mask** while you were in the area?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children
 Don't know
17. During the past 7 calendar days, how many **pediatric** patients received anesthetic gases **using only an airway device** (i.e. endotracheal tube, tracheostomy tube or laryngeal mask) while you were in the area?
- None
 1-2 children
 3-4 children
 5-9 children
 10-20 children
 21-40 children
 More than 40 children
 Don't know
18. During the past 7 calendar days, what was the typical amount of time you spent **each day** working with patients in a Post Anesthesia Care Unit (PACU) or primary Surgical Recovery Unit (SRU)?
- None
 Less than 30 minutes
 30-60 minutes
 1-4 hours
 5-8 hours
 More than 8 hours

The following questions pertain to the use of personal protective equipment (PPE) while working in areas where anesthetic gases are being administered.

19. During the past 7 calendar days, how often did you wear **respiratory protection, not including a surgical mask**, while working in areas where anesthetic gases were being administered?
- Always
 Sometimes
 Never  **Skip to Question 21.**
20. What type(s) of respirator(s), not including a surgical mask, did you use?
Please all that apply.
- Half mask or full-face piece respirator with replaceable cartridges
 Powered air-purifying respirator (PAPR)
 Supplied-air respirator
 Don't know



During the past 7 calendar days, if you ALWAYS wore respiratory protection, not including a surgical mask, while working in areas where anesthetic gases were being administered, skip to Question 22.

21. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while working in areas where anesthetic gases were being administered?
Please ✓ all that apply.
- 1. Potential for exposure to anesthetic gases is insignificant
 - 2. Exposure to anesthetic gases is possible but the health hazard is insignificant
 - 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
 - 4. Not required by employer
 - 5. Not provided by employer
 - 6. Not standard practice
 - 7. Too uncomfortable or difficult to use
 - 8. Not readily or always available in work area
 - 9. Concerned about raising the patient's anxiety.
 - 10. Other (Please specify): _____

21A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while working in areas where anesthetic gases were being administered.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

22. How long did it take you to complete this module of the survey?
Please ✓ only one answer.
- Less than 5 minutes
 - 5-10 minutes
 - 11-15 minutes
 - More than 15 minutes
23. Was the subject matter addressed in this module of interest to you?
Please ✓ only one answer.
- High interest
 - Medium interest
 - Low interest
 - No interest

24. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

25. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE

I

This module is directed toward individuals who work with patients in Post Anesthesia Care Units (PACUs) or primary Surgical Recovery Units (SRUs). These are areas where anesthetized patients recover immediately following surgery.

Note – do not complete this section, if you:

- ***Administer the anesthetic gases, or***
- ***Work in areas while anesthetic gases are being administered. You are considered to be in the area if you are in the same room and within five (5) feet of where anesthetic gases are being administered.***

1. During your career (including all jobs at this and other facilities), how long have you been working with patients in Post Anesthesia Care Units (PACUs) or primary Surgical Recovery Units (SRUs)?
 - Less than 6 months
 - At least 6 months but less than a year
 - 1-5 years
 - 6-10 years
 - 11-20 years
 - More than 20 years

2. When have you received formal training at this facility on the hazards of exposure to waste anesthetic gases? **Please ✓ all that apply.**
 - During orientation for your current job or task
 - Once, but not at orientation
 - Periodically, but less than once per year
 - At least annually (i.e., one or more times every year)
 - Other (Please specify): _____
 - Never received training at this facility

3. Have you seen written policies or standard procedures at this facility for working around waste anesthetic gases?
 - Yes
 - No

4. At any time in the **past 7 calendar days**, did you work with patients in a Post Anesthesia Care Unit (PACU) or primary Surgical Recovery Unit (SRU)?
 - Yes
 - No  **Skip to Question 13.**

5. During the past 7 calendar days, how many days did you work with patients in a PACU or primary SRU?

Number of days.....

(Please write a number from 1-7)

6. During the past 7 calendar days, how much time did you spend working with patients in a PACU or primary SRU?
- Less than 1 hour
 1-10 hours
 11-20 hours
 21-30 hours
 31-40 hours
 More than 40 hours
7. During the past 7 calendar days, how much time did you spend working **within five feet** of patients in the PACU or primary SRU?
- Less than 1 hour
 1-10 hours
 11-20 hours
 21-30 hours
 31-40 hours
 More than 40 hours
8. During the past 7 calendar days, how many total patients in the PACU/SRU were you assigned?
- None
 1-2 patients
 3-4 patients
 5-9 patients
 10-20 patients
 21-40 patients
 More than 40 patients
9. How does the total amount of time you spent working within five feet of patients in the PACU or primary SRU during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal

The following questions pertain to the use of personal protective equipment (PPE) while working in the PACU or primary SRU.

10. During the past 7 calendar days, how often did you wear **respiratory protection, not including a surgical mask**, while working with patients in the PACU or SRU?
- Always
 Sometimes
 Never  **Skip to Question 12.**
11. What type(s) of respirator(s), not including a surgical mask, did you use? Please all that apply.
- Half mask or full-face piece respirator with replaceable cartridges
 Powered air-purifying respirator (PAPR)
 Supplied-air respirator
 Don't know



During the past 7 calendar days, if you ALWAYS wore respiratory protection, not including a surgical mask, while working in the PACU or primary SRU, skip to Question 13.

12. What were the reason(s) you did not always wear **respiratory protection**, not including a surgical mask, while working in the PACU or primary SRU?
Please ✓ all that apply.
- 1. Potential for exposure to anesthetic gases is insignificant
 - 2. Exposure to anesthetic gases is possible but the health hazard is insignificant
 - 3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
 - 4. Not required by employer
 - 5. Not provided by employer
 - 6. Not standard practice
 - 7. Too uncomfortable or difficult to use
 - 8. Not readily or always available in work area
 - 9. Concerned about raising the patient's anxiety.
 - 10. Other (Please specify): _____

- 12A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection** while working in the PACU or SRU.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

13. How long did it take you to complete this module of the survey?
Please ✓ only one answer.
- Less than 5 minutes
 - 5-10 minutes
 - 11-15 minutes
 - More than 15 minutes
14. Was the subject matter addressed in this module of interest to you?
Please ✓ only one answer.
- High interest
 - Medium interest
 - Low interest
 - No interest

15. Are there any other hazards that you think we should address with similar modules?
Please ✓ all that apply.

None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

16. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

MODULE J	<p><i>This module is directed toward housekeeping or environmental services staff who perform any of the following:</i></p> <ul style="list-style-type: none"> • <i>Clean floors, countertops, sinks, toilets, etc.,</i> • <i>Clean up spills of anti-cancer drugs (also known as chemo-therapeutic drugs or antineoplastic agents), chemicals, or cleaning products, or</i> • <i>Empty/clean containers or trash bins that have items contaminated with blood, urine, feces, vomit, anti-cancer drugs, or chemicals in them.</i>
-------------------------------	--

1. During your career (including all jobs at this and other facilities), how long have you been performing any of the housekeeping activities as described above?
- Less than 6 months
 At least 6 months but less than a year
 1-5 years
 6-10 years
 11-20 years
 More than 20 years
2. Have you ever received formal training at this facility on health and safety procedures related to your work?
- Yes
 No  **Skip to Question 5.**
3. When did you receive this health and safety training at this facility? **Please ✓ all that apply.**
- During orientation for your current job or task
 Once, but not at orientation
 Periodically, but less than once per year
 At least annually (i.e., one or more times every year)
 Other (Please specify): _____
 Never received training at this facility
4. Which of the following topics were covered during this health and safety training:
- a. Safe mixing and use of cleaning products?
- Yes
 No
- b. Safe clean-up procedures for spills of anti-cancer drugs, concentrated cleaning products, or other chemicals?
- Yes
 No
- c. Safe handling of containers or trash bins containing items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals?
- Yes
 No

5. Have you ever seen written policies or standard procedures at this facility that address:

- a. Safe mixing and use of cleaning products? Yes No

- b. Safe clean-up procedures for spills of anti-cancer drugs, concentrated cleaning products, or other chemicals? Yes No

- c. Safe handling of containers or trash bins containing items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals? Yes No

6. During the **past 7 calendar days**, how many days did you perform any of the housekeeping or environmental services activities described above?

Number of days.....
(Please write a number from 1-7)

7. At any time in the **past 7 calendar days** did you clean floors, countertops, sinks, toilets, etc. at this facility?

- Yes
- No



Skip to Question 12.

8. During the past 7 calendar days, which of the following cleaning products did you use at this facility? **Please ✓ all that apply.**
- | | |
|--|--|
| <input type="checkbox"/> Ammonia
<input type="checkbox"/> Chlorine bleach (e.g. Clorox®)
<input type="checkbox"/> Strong detergent
<input type="checkbox"/> Wax stripper
<input type="checkbox"/> Toilet bowl cleaner
<input type="checkbox"/> Quaternary ammonium compounds (e.g. Oasis®, Staphene®, BTC100®, BioQuat®, Sentinel®)
<input type="checkbox"/> Phenols (e.g. WexCide®, MicroBakII®, Megacide®, Novigard®, Sporicidin®) | <input type="checkbox"/> Alcohols (e.g. ethanol, isopropanol)
<input type="checkbox"/> Aldehydes (e.g. glutaraldehyde, formaldehyde)
<input type="checkbox"/> Iodine (e.g. Povidone®, BacFlush®, Dusan Foam®)
<input type="checkbox"/> Oxidizers such as hydrogen peroxide (e.g. H ₂ Orange®, Actril®, B-Cap®, Bioside HS®) or peracetic acid (Peraclean®)
<input type="checkbox"/> Other:
1. _____
2. _____
<input type="checkbox"/> Don't Know |
|--|--|
9. During the past 7 calendar days, what was the total number of times you **mixed** these cleaning products with water (i.e., diluted the concentrate) at this facility?
- | |
|--|
| <input type="checkbox"/> 1-5 times
<input type="checkbox"/> 6-10 times
<input type="checkbox"/> 11-20 times
<input type="checkbox"/> 21-50 times
<input type="checkbox"/> More than 50 times |
|--|
10. During the past 7 calendar days, what was the total amount of time you spent actually using cleaning products?
- | |
|---|
| <input type="checkbox"/> Less than 1 hour
<input type="checkbox"/> 1-5 hours
<input type="checkbox"/> 6-10 hours
<input type="checkbox"/> 11-20 hours
<input type="checkbox"/> 20 or more hours |
|---|
11. How does the total amount of time you spent actually using cleaning products during the past 7 calendar days compare with most weeks?
- | |
|---|
| <input type="checkbox"/> Past 7 days were about normal
<input type="checkbox"/> Past 7 days were less than normal
<input type="checkbox"/> Past 7 days were greater than normal |
|---|

12. During the past 7 calendar days, how many spills of the following type did you **personally** clean up?
- | | No spills | 1-2 spills | 3-5 spills | More than 5 spills |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a. Spills of anti-cancer drugs | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Spills of concentrated cleaning products .. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Spills of other chemicals | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Spills of bodily fluids (blood, urine, feces, or vomit) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
13. How does the number of spills you cleaned-up during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal
14. At any time during the **past 7 calendar days**, did you empty/clean containers or trash bins that had items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals in them?
- Yes
 No  **Skip to Question 17.**
15. During the past 7 calendar days, what was the total number of times you emptied/cleaned containers that had items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals in them?
- 1 time
 2-5 times
 6-10 times
 11-20 times
 21-50 times
 More than 50 times
16. How does the number of times you emptied/cleaned containers that had items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals in them during the past 7 calendar days compare with most weeks?
- Past 7 days were about normal
 Past 7 days were less than normal
 Past 7 days were greater than normal

The following questions pertain to the use of personal protective equipment (PPE) in your job at this facility during the past 7 calendar days.

17. During the past 7 calendar days, did you **ever** wear **respiratory protection**, other than a surgical mask?
- Yes
 No  **Skip to Question 19.**

18. During the past week, did you wear **respiratory protection, not including a surgical mask**, while:
- a. Mixing cleaning products? Yes, always
 Yes, sometimes
 No
- b. Cleaning up spills of anti-cancer drugs, concentrated cleaning products or other chemicals? Yes, always
 Yes, sometimes
 No



During the past 7 calendar days, if you ALWAYS wore respiratory protection, not including a surgical mask, while mixing cleaning products and cleaning up spills, skip to Question 20.

19. What were your reasons for **not always** wearing **respiratory protection**?
 Please ✓ all that apply.
1. Potential for exposure to biological or chemical agents is insignificant
2. Exposure to biological or chemical agents is possible but the health hazard is insignificant
3. An engineering control (e.g., exhaust ventilation or an enclosure) is already being used
4. Not required by employer
5. Not provided by employer
6. Not standard practice
7. Too uncomfortable or difficult to use
8. Not readily or always available in work area
9. Other (Please specify): _____

19A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **respiratory protection**.

Most important reason

20. During the past 7 calendar days, did you **ever** wear a **water resistant protective gown or outer garment**? Yes
 No  **Skip to Question 22.**

21. During the past week, did you wear a **water resistant protective gown or outer garment** while:
- | | Always | Sometimes | Never |
|---|--------------------------|--------------------------|--------------------------|
| a. Mixing cleaning products?..... | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Cleaning up spills of anti-cancer drugs, concentrated cleaning products or other chemicals? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Handling containers or trash bins that had items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals in them? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



During the past 7 calendar days, if you ALWAYS wore a water resistant gown or outer garment while performing all 3 of the above activities, skip to Question 23.

22. What were your reasons for **not always** wearing a **water resistant protective gown or outer garment**?
- Please ✓ all that apply.
- 1. Potential for exposure to biological or chemical agents is insignificant
 - 2. Exposure to biological or chemical agents is possible but the health hazard is insignificant
 - 3. Not required by employer
 - 4. Not provided by employer
 - 5. Not standard practice
 - 6. Too uncomfortable or difficult to use
 - 7. Not readily or always available in work area
 - 8. Other (Please specify): _____

- 22A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear a **water resistant protective gown or garment**.

Most important reason

23. During the past week, did you **ever** wear **water resistant protective gloves** (e.g., latex or nitrile)?

- Yes
- No



Skip to Question 25

24. During the past week, did you wear **water resistant protective gloves** while:

- a. Mixing cleaning products?.....
- b. Cleaning up spills of anti-cancer drugs, concentrated cleaning products or other chemicals?
- c. Handling containers or trash bins that had items contaminated with blood, urine, feces, vomit, anti-cancer drugs or chemicals in them?

	Always	Sometimes	Never
a.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

During the past 7 calendar days, if you ALWAYS wore water resistant protective gloves while performing all 3 of the above activities, skip to Question 26.

25. What were your reasons for **not always** wearing **water resistant protective gloves**?

Please ✓ all that apply.

- 1. Potential for exposure to biological or chemical agents is insignificant
- 2. Exposure to biological or chemical agents is possible but the health hazard is insignificant
- 3. Not required by employer
- 4. Not provided by employer
- 5. Not standard practice
- 6. Too uncomfortable or difficult to use
- 7. Not readily or always available in work area
- 8. Other (Please specify): _____

25A. From the reason(s) checked above, please write the number (1, 2, 3, etc.) of the one **most important reason** you did not always wear **water resistant protective gloves**.

Most important reason

RESPONDENT FEEDBACK SECTION

In this next section we would appreciate your feedback about this hazard module.

26. How long did it take you to complete this module of the survey?

Please ✓ only one answer.

- Less than 5 minutes
- 5-10 minutes
- 11-15 minutes
- More than 15 minutes

27. Was the subject matter addressed in this module of interest to you?

Please ✓ only one answer.

- High interest
- Medium interest
- Low interest
- No interest

28. Are there any other hazards that you think we should address with similar modules?

Please ✓ all that apply.

- None

Specify hazard: _____

Specify hazard: _____

Specify hazard: _____

29. Please use the space below to record any other comments you have about the survey.

**You have now completed this module.
Thank you.**

Appendix C
Pre-Survey Letters

Email message from hospital administration – Groups 1 and 2
To be sent to all sample members 7 days prior to survey

The PVAMC is happy to announce that we are participating in an important study about worker safety and health. Specifically, this study, involving employee and management questionnaires, is designed to assess potential exposures to select chemical agents, safety hazards, stress, and other occupational hazards among health care workers. The project is being conducted by Battelle Centers for Public Health Research and Evaluation for the National Institute for Occupational Safety and Health/Centers for Disease Control and Prevention. We encourage you to participate. Your manager will allow you time during your work day to complete the questionnaire. Please watch for more information about this important study.

Pre-Survey Letter – Groups 1 and 2

To be sent to all sample members 5 days prior to survey

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

A few days from now you will receive a request to complete a questionnaire for an important project being conducted by the Battelle Centers for Public Health Research and Evaluation. I am writing in advance because we have found many people like to know ahead of time that they will be contacted.

This questionnaire is part of an evaluation of the National Exposures at Work Survey (NEWS) being developed by the National Institute for Occupational Safety and Health (NIOSH) which is part of the Centers for Disease Control and Prevention.

This project is important since it will help to assess and reduce exposures to chemicals, safety hazards, stress, and other occupational hazards among health care workers. The PVAMC has agreed to participate and provide an opportunity for you to complete the questionnaire at work in a confidential manner.

Thank you in advance for your time and consideration. Your generous participation will help to make this project successful.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Appendix D
Survey Invitation Letter

Invitation letter – To be sent to all members of Group 1

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

I'm writing to ask your help in a survey of health care workers being conducted by the Battelle Centers for Public Health Research and Evaluation on behalf of National Institute for Occupational Safety and Health (NIOSH). This survey is part of the National Exposures at Work Survey (NEWS) which is intended to learn about health and safety practices in the healthcare industry.

You are one of approximately (enter number) employees at the PVAMC being invited to complete a survey questionnaire. This medical center has agreed to support this project and to provide an opportunity to complete this questionnaire at work. It will take 20 to 30 minutes to complete the survey. We have enclosed a magnet which provides the toll free survey hotline number and website address.

You will be asked about your job, your work practices, and your opinions about working conditions at the PVAMC. Knowing more about your job and your work environment will enable healthcare employers, unions, and public agencies to help improve health and safety conditions for healthcare workers such as yourself.

You have two options for completing the survey questionnaire. First, you may complete the survey on the internet by accessing Battelle's secure web site through your internet browser. The web address is www.surveyname.org. If you choose the web-based survey, please see the enclosed instruction sheet for more information. You will need to use the following username and password to access the site:

Username: *{userid}* Password: *{password}*

Or, you may complete the enclosed paper copy. Once completed, simply mail it directly back to Battelle using the enclosed postage-paid envelope. Also, based upon your answers, you may need to call our toll-free survey line (1-866-215-6616) to request one or more questionnaire modules about particular work hazards pertaining to your job. Phone lines are available from 7am to 8 pm PST Monday through Friday and from 10am to 6 pm on the weekends. A staff member will send you the appropriate questionnaire module(s) in the mail with a postage-paid return envelope.

None of the information you provide will be shared with your employer or anyone outside of Battelle and NIOSH. Your employer will not be told whether you participated in the study and will never know your survey answers. A summary report based upon responses from all survey participants will be provided to this facility. This report will summarize health and safety practices so that working conditions might be improved, if necessary.

While your participation is very important for the success of this effort, your choice to participate is completely voluntary. However you can help us very much by taking a few minutes to share your opinions and experiences about your job. There are no 'right' or 'wrong' answers.

If you have any questions or comments about this survey, you may call me personally at 206-528-3128 or toll free at 1-866-215-6616 and ask for Jim Catalano. Please accept our thanks in advance for helping in this important survey.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Enclosures

Invitation letter – To be sent to all members of Group 2

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

I'm writing to ask your help in a survey of health care workers being conducted by the Battelle Centers for Public Health Research and Evaluation on behalf of National Institute for Occupational Safety and Health (NIOSH). This survey is part of the National Exposures at Work Survey (NEWS) which is intended to learn about health and safety practices in the healthcare industry.

You are one of approximately (enter number) employees at the PVAMC being invited to complete a survey questionnaire. This medical center has agreed to support this project and to provide an opportunity to complete this questionnaire at work. It will take 20 to 30 minutes to complete the survey. We have enclosed a magnet which provides the toll free survey hotline number and website address.

You will be asked about your job, your work practices, and your opinions about working conditions the PVAMC. Knowing more about your job and your work environment will enable healthcare employers, unions, and public agencies to help improve health and safety conditions for healthcare workers such as yourself.

You have two options for completing the survey questionnaire. First, you may complete the survey on the internet by accessing Battelle's secure web site through your internet browser. The web address is www.surveyname.org. If you choose the web-based survey, please see the enclosed instruction sheet for more information. You will need to use the following username and password to access the site:

Username: *{userid}* Password: *{password}*

If you choose to complete a pencil and paper survey, please call our toll-free survey line at 1-866-215-6616 to request a copy to be mailed to you. Phone lines are available from 7am to 8 pm PST Monday through Friday and from 10am to 6 pm on the weekends. A staff member will help you by asking a few questions to determine which parts of the survey apply to you. Then we will send you a survey in the mail with a postage-paid return envelope.

None of the information you provide will be shared with your employer or anyone outside of Battelle and NIOSH. Your employer will not be told whether you participated in the study and will never know your survey answers. A summary report based upon responses from all survey participants will be provided to this facility. This report will summarize health and safety practices so that working conditions might be improved, if necessary.

While your participation is very important for the success of this effort, your choice to participate is completely voluntary. However you can help us very much by taking a few minutes to share your opinions and experiences about your job. There are no 'right' or 'wrong' answers.

If you have any questions or comments about this survey, you may call me personally at 206-528-3128 or toll free at 1-866-215-6616 and ask for Jim Catalano.

Please accept our thanks in advance for helping in this important survey.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Enclosures

Appendix E
Web Instructions

Instructions for Completing the National Exposures to Work Survey on the Internet (Web)

Thank you for participating in the survey. Please review these instructions for accessing the web survey before you begin the on-line questionnaire. If you have any questions about accessing the web survey please call Betsy Payn toll free at 1-866-215-6616. She will be happy to help you.

Access to the Web Survey:

- Using your internet browser, go to the survey home page by using this link:
www.battelle.org/xxxsurvey/home
- When you are ready to start the survey, click on the button at the bottom of the home page labeled "Go to Survey Questions"
- To ensure confidentiality and limit access to the survey you must login in by entering your user id and password. Your user id is: <CASEID> and your password is: <PASSWORD>. Click on the button to START.

Navigation:

- To navigate from question to question please use the "Last Question" and "Next Question" buttons that will appear on each screen. **Please do not use the Back or Forward buttons in your browser software.**
- Use the "Next Question" button after you have entered your response to continue to the next question. To review your previous answers or change your answers, use the "Last Question" button.
- The "Quit for Now" button is provided if you want to exit the survey before you complete it. To return to the survey, go to www.battelle.org/xxxsurvey/home and follow the instructions as you did when you began the survey for the first time (See "Access to the Web Survey" above). When you log back in, the survey will start where you left off. All of your answers will be available for review.
- Please note if you select "Quit for Now" there will be **about a five minute delay** before the survey application will allow you to log back in, so if you exit and try to get right back in, you will encounter an error. Just wait a few minutes and try again.
- If you encounter a problem with the survey please send an email (GIVE EMAIL ADDRESS) to our webmaster at to let us know you have encountered a problem and we will help you.

When you Answer the Last Question:

- When you reach the end of the survey, you will have an opportunity to review your answers by clicking on the "Last Question" navigation buttons to go backwards through the survey. When you are satisfied with your answers, please press the SUBMIT button. This action will send the survey to a secure database. Once you have submitted the survey, you will not be able to get back into the survey.

Thank you for your important contribution!

Appendix F
Telephone Center Protocol

Telephone Center Protocol

There are three types of calls that potentially will be made to the Telephone Service Center (TSC):

- Employees who received the employee core module may call the TSC to request one or more hazard modules.
- Employees who only received an invitation letter may call to request a paper survey. They will need to receive both the employee core module and any applicable hazard modules.
- Employees who received no invitation, but who heard about the survey through coworkers and/or posters in the hospital, may request either a username and password or both the employee core module and any applicable hazard modules.

Callers from each of the three groups will receive a different branches of the script based upon their status.

SCRIPT:

FINDING R IN TRACKING SYSTEM

Thank you for calling today. We appreciate your interest in this study. Before we start, I need to find your record in my computer. Do you have a letter of introduction to the study with you?

IF YES, SAY: What is the username? It is located near the middle of the letter in bold print.

IF NO, SAY: That's okay. I can look you up by your last name. What is your last name? Please spell that for me.

SCRIPT BRANCHING 1: The status of R is determined by looking up their name in the Employee Roster.

A: IF R IS IN GROUP THAT RECEIVED THE CORE MODULE

Do you have your survey handy?

IF YES, SAY: Please turn to the last page of the "core module" booklet. Which modules do you need? ENTER MODULES AND GO TO **GETTING ADDRESS**

IF NO, SAY: That's okay. I'll just ask you a few questions, so we can send you the parts of the questionnaire that apply to you. GO TO **SCREENING QUESTIONS**.

B: IF R IS IN GROUP THAT RECEIVED ONLY AN INVITATION

I just have a few questions so that I can send you the sections of the survey that apply to you. The questions are about the tasks that you do in your current job. First, I need to

know if you read the letter that we sent about this study and your rights as a study participant?

IF YES, GO TO SCREENING QUESTIONS

IF NO, READ: Before we begin, let me go over a few points to make sure you understand your rights as a study participant. This study is designed to examine the feasibility of collecting information about health care workers' potential exposure to physical and emotional stress and to certain hazardous chemicals while at work. We also will provide summary information to the PVAMC to improve health and safety conditions for all workers. You are one of approximately (enter number) employees at the PVAMC invited to participate. Your participation is completely voluntary and your answers will be completely confidential. It takes about 5 minutes to finish this phone call and about 20-30 minutes to complete the survey that we will send to you in the mail.

We are interested in your opinions and experiences, and there are no 'right' or 'wrong' answers to the survey questionnaire. You may skip any question you do not wish to answer. All information you provide will be used only for this study and will not be shared in any way that will identify you. Your employer will not be told whether you participate or not and will never have access to your survey answers. If you have any questions about this study, you may call Jim Catalano at 206-528-3128 or toll free at 1-866-215-6616 and ask to speak with Jim Catalano. Can we proceed?

IF NO, GO TO FAQ TO ADDRESS CONCERNS

C: IF R IS IN GROUP THAT RECEIVED NO INVITATION OR NOT IN THE EMPLOYEE ROSTER

Before we begin, let me go over a few points to make sure you understand your rights as a study participant. This study is designed to examine the feasibility of collecting information about health care workers' potential exposure to physical and emotional stress and to certain hazardous chemicals while at work. We also will provide summary information to the PVAMC to improve health and safety conditions for all workers. You are one of approximately (enter number) employees at the PVAMC invited to participate. Your participation is completely voluntary and your answers will be completely confidential. It takes about 5 minutes to finish this phone call and about 20-30 minutes to complete the survey that we will send to you in the mail.

We are interested in your opinions and experiences, and there are no 'right' or 'wrong' answers to the survey questionnaire. You may skip any question you do not wish to answer. All information you provide will be used only for this study and will not be shared in any way that will identify you. Your employer will not be told whether you participate or not and will never have access to your survey answers. If you have any questions about this study, you may call Jim Catalano at 206-528-3128 or toll free at 1-866-215-6616 and ask to speak with Jim Catalano. Can we proceed?

IF NO, **GO TO FAQ** TO ADDRESS CONCERNS

IF YES, CONTINUE

SCRIPT BRANCHING 2:

1: IF R IS FOUND IN THE ROSTER OF EMPLOYEES

Do you wish to take the survey on the WEB or in paper form?

IF ON THE WEB

OK. We will send your username and password to you at your hospital mailing address so that you can log onto the WEB survey. Thank you for calling.

IF A PAPER SURVEY

OK. I'll just ask you a few questions, so we can send you the parts of the questionnaire that apply to you. **GO TO SCREENING QUESTIONS.**

2: IF R IS NOT FOUND IN THE ROSTER OF EMPLOYEES

Now, I just need to get some additional information, so we can send you the information you need to take the survey.

Please confirm the spelling of your name.

What is your hospital mailing address?

Do you wish to take the survey on the WEB or in paper form?

IF ON THE WEB

OK. Thanks so much for taking the time to call us. We will send your username and password to you in the next few days. Again, your input is valuable to us, and we really appreciate you taking the time to do the survey.

IF A PAPER SURVEY

OK. I'll just ask you a few questions, so we can send you the parts of the questionnaire that apply to you. **GO TO SCREENING QUESTIONS.**

Thanks so much for taking the time to call us. We will send the survey out to you in the next few days. We will provide a postage-paid envelope for you to send it back to us. Again, your input is valuable to us, and we really appreciate you taking the time to do the survey.

SCREENING QUESTIONS

Now, I'm going to ask you ten questions about your job. The questions will ask whether you perform **specific tasks** in your **current** job. We've found that it takes just a few minutes to get through these questions.

1. In your **current** job, do you administer aerosolized ribavirin, pentamidine, or tobramycin?
PROBE: Some brand names that you might recognize are Virazole, Nebupent, Nebcin, or tobi.
2. In your **current** job, do you prepare or mix antineoplastic agents in a pharmacy or pharmacy-like setting?
PROBE: Other terms for antineoplastic agents include antineoplastic drugs, cytotoxic drugs, and anti-cancer drugs.
3. In your **current** job, do you administer antineoplastic agents to patients?
PROBE: Other terms for antineoplastic agents include antineoplastic drugs, cytotoxic drugs, and anti-cancer drugs.
4. In your **current** job, do you chemically sterilize medical instruments or supplies using ethylene oxide or hydrogen peroxide plasma?
5. In your **current** job, do you use high level disinfectants to disinfect medical instruments, devices, or supplies by either manual or automatic methods? For example, do you use products that contain **glutaraldehyde, ortho-phthalaldehyde, peracetic acid, or hydrogen peroxide**?
PROBE: Some brand names that you might recognize are Cidex®, ColdSport®, Endocide®, Glutacide®, Hospex®, Metricide®, Sporicidin®, Wavicide®, OPA, Steris system, Accell, Optim.

We're nearly done with this section, and then I just need to get your address so we know where to mail the survey.

6. In your **current** job, do you work in areas in which lasers or electro-surgical devices are being used for surgical procedures?
7. In your **current** job, do you **administer** anesthetics as a gas?

8. In your **current** job, do you work in the same room where anesthetic gases are being administered?
9. In your **current** job, do you work in a Post Anesthesia Care Unit (PACU) or Surgical Recovery Unit (SRU)?
10. In your **current** job, do your primary duties involve cleaning surfaces like floors, countertops, sinks, or toilets? Do you handle soiled linens? Clean up spills of chemicals? Or do you handle receptacles like trash cans or bedpans that contain human or chemical wastes?

GETTING ADDRESS

Now, I just need to get some additional information, so we can send you the survey questions in the mail.

What is the address where you would like us to send the survey?

Thanks so much for taking the time to call us. We will send the survey out to you in the next few days. We will provide a postage-paid envelope for you to send it back to us. Again, your input is valuable to us, and we really appreciate you taking the time to do the survey.

FAQ (available for both groups)

Who is conducting this study?

The National Institute for Occupational Safety and Health (NIOSH)/Centers for Disease Control and Prevention (CDC) is sponsoring this project. NIOSH asked Battelle Centers for Public Health Research and Evaluation to conduct this study. Battelle is the oldest non-profit research institute in the U.S., and our group specializes in research on public health and health services.

What is the survey about?

The proposed survey will cover questions about your job, job hazards, and health and safety perceptions. Based on your job responsibilities it might also cover information about specific hazardous chemicals that you might come into contact with on your job. Results from this voluntary survey will be used to obtain information about worker exposure to potential occupational hazards, the use of exposure controls, and health and safety practices at your facility.

I want to do the survey on the internet, but I lost my userid and password.

I will be happy to get that information to you. Please tell me your name, and I will put in a request to send you the information in the mail. Where would you like that information mailed? (Need functionality, to enter request for userid and password, and to enter address).

IF PRESSED FOR INFORMATION OVER THE PHONE, SAY I'm sorry, but I do not have access to that information. It is stored in our database, so I can only request that it be mailed to you.

I don't think this applies to me.

We are interested in the opinions and perceptions of all hospital employees. The answers you provide will help us to understand more about all employees who are like you.

Are my answers to the survey confidential?

Yes. Protecting confidentiality is important to us. We have data collection policies and procedures to ensure that your answers are kept private and confidential. Your name is stored in a computer database that is separate from the database that stores the answers to our questions. All of our computer files are password protected and stored on secure servers. In addition, all of our staff sign a confidentiality agreement as a condition of their employment. After the study is completed, the contact information that you give us will be deleted. Your answers are only used for research purposes and will be presented in grouped or summary data. Your answers will not be linked back to your name and no individuals are identified in summaries or reports.

Will my employer have access to the data?

Your employer will not have access to your answers or whether or not you choose to complete the questionnaire. They will only be given aggregate information about the health and safety practices for all employees who volunteered to participate.

What is Battelle?

Battelle Centers for Public Health Research and Evaluation (CPHRE) is a unit of the Battelle Memorial Institute, a non-profit research organization. We conduct research and data collection activities for governmental and non-governmental public health projects. Battelle was selected by the National Institutes for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC) to conduct this study.

Who do I call if I have further questions about the research?

Please call Jim Catalano at 206-528-3128 or toll free at 1-866-215-6616 and ask to speak with Jim Catalano. He is the Project Director and he will be happy to answer your questions.

Who do I call if I have questions about my rights as a survey participant?

Please call Dr. Margaret Pennybacker, Chairperson of Battelle's Institutional Review Board, toll-free at 1-877-810-9530 ext 500. She is Battelle's Institutional Review Board Chairperson and will be happy to answer your questions.

Appendix G
Follow-up Questionnaire for Non-Responders

Non-responder Letter

To be sent to a random sample of 50% or a maximum of 200 non-responders four to five weeks after survey

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

Several weeks ago, you were invited to participate in the National Exposures at Work Survey (NEWS) conducted by Battelle Centers for Public Health Research and Evaluation on behalf of the National Institute for Occupational Safety and Health (NIOSH).

We did not receive a response from you. We understand that people do not to participate in surveys for many different reasons. We're writing you today because we are particularly interested in learning why you did not participate in this survey.

Please take a moment to answer the question on the next page. Your participation, which is completely voluntary and anonymous, will provide useful information for conducting better surveys in the future.

If you have any questions about this request, you may call me personally at 206-528-3128 or toll free at 1-866-215-6616 and ask to speak with Jim Catalano.

Please accept our thanks in advance for participating in this survey.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Enclosure

People choose not to participate in surveys for many reasons. We would appreciate you telling us why you chose not to participate in the National Exposures at Work Survey (NEWS) recently conducted at this facility. **Choose all options that apply to you.**

- 1. I did complete it but I didn't have a chance to mail it back. (Please return it as soon as possible).
- 2. I didn't have time.
- 3. I felt the survey was too long.
- 4. I was not adequately told about the purpose of the survey.
- 5. I did not feel I could complete the survey in a confidential and private manner.
- 6. I was not given the opportunity to complete the survey at work.
- 7. I am not interested in health and safety issues at work.
- 8. I wanted to complete the paper version, but I didn't get one.
- 9. I didn't have access to a computer.
- 10. I was concerned that if I completed the survey there would be adverse consequences for me or for my facility.
- 11. I felt the survey was not worthwhile.
- 12. I never participate in surveys.

From the reasons checked above, please write the number of the most important reason you chose not to participate in this survey: _____

Please use the space below to record any other comments you have about the survey.

Thank you for helping us with this study. Please return this to Battelle in the postage-paid envelope provided at your earliest convenience.

Appendix H
Validation Forms

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	Have you seen written policies/SOPs regarding safe handling of AM's? If yes, can you please show us where they are located?	Location shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	Please show us the enclosures you use while administering: Ribavirin.	Fully enclosed Partially enclosed No enclosure Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — —	
Emp	Please show us the equipment used while administering: Ribavirin.	Nebulizer/shutoff valve Isolated room/neg press	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	— —	
Emp	Please show us the enclosures you use while administering: Pentamidine.	Fully enclosed Partially enclosed No enclosure Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — —	
Emp	Please show us the equipment used while administering: Pentamidine.	Nebulizer/shutoff valve Isolated room/neg press	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	— —	
Emp	Please show us the enclosures you use while administering: Tobramycin.	Fully enclosed Partially enclosed No enclosure Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — —	
Emp	Please show us the equipment used while administering: Tobramycin.	Nebulizer/shutoff valve Isolated room/neg press	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	— —	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	What types of personal protection do you wear while administering aerosolized meds? If worn, please show us the protection.	None Water Resistant Gown Protective Gloves Eye protection Disposable Respirator Half/full face cartridge PAPR Respiratory–Don't know Booties	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — — — —	
Obs	IF glove are worn: What ancillary activities were observed while they were being worn?	Answer the phone Use keyboard/calculator Handle files / records Eat or drink Smoke Not able to observe	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — — —	
Obs	IF glove are worn: Are they discarded immediately after use?	Are used gloves observed lying around?	<input type="checkbox"/>	<input type="checkbox"/>	—	
Obs	Are any street clothes worn while administering aerosolized medications? (do not include if covered by protective clothing)	Street clothes observed	<input type="checkbox"/>	<input type="checkbox"/>	—	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	Have you seen written policies/SOPs regarding safe handling of AN's? If yes, can you please show us where they are located?	Location shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	Please show us where Antineoplastic Agents are prepared.	Dedicated room ~5 ft of Emp food/drinks Dedicated vent. cabinet	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — —	
Emp	Please show us how AN tubing is primed in this pharmacy.	<u>Not</u> primed Primed with AN Primed with other diluent Primed – unknown sol. Inside ventilated cabinet	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — —	
Emp	Please show us the equipment used while preparing Antineoplastic Agents.	Luer-lock type fittings Needle-less system Closed-system–PhaSeal Plastic-backed pad	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — —	
Emp	Please show us how prepared ANs are stored in this pharmacy	Put in sealed bags Hazardous warning label Kept in designated area	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — —	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	What types of personal protection do you wear while preparing Antineoplastic Agents? If worn, please show us the protection.	None Water Resistant Gown Latex or Chemo Gloves Eye protection Disposable Respirator Half or full face cartridge PAPR Respiratory–Don't know Booties	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — — — —	
Obs	IF gloves are worn: What ancillary activities were observed while they were being worn?	Answer the phone Use keyboard/calculator Handle files / records Eat or drink Smoke Not able to observe	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — — —	
Obs	IF gloves are worn: Are they discarded immediately after use?	Are used gloves observed lying around?	<input type="checkbox"/>	<input type="checkbox"/>	—	
Obs	Are any street clothes worn while preparing Antineoplastic Agents? (do not include if covered by protective clothing)	Street clothes observed	<input type="checkbox"/>	<input type="checkbox"/>	—	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	Have you seen written policies/SOPs regarding safe handling of AN's? If yes, can you please show us where they are located?	Location shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	If a designated room or area for administering Antineoplastic Agents is used, please show us the room.	Room shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	Please show us the equipment used while administering Antineoplastic Agents.	Luer-lock type fittings Needle-less system Plastic-backed pad	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — —	
Emp	If ANs are stored in a restricted area, please show us the area?	Location shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	Please show us how AN tubing is prepared / received from the pharmacy.	<u>Not</u> primed Primed with AN Primed with other diluent Primed – unknown sol.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — —	
Emp	If you prime the IV tubing before administering ANs to patients, please show us where and how?	Area / procedure shown	<input type="checkbox"/>	<input type="checkbox"/>	—	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	What types of personal protection do you wear while administering Antineoplastic Agents? If worn, please show us the protection.	<input type="checkbox"/> None <input type="checkbox"/> Water Resistant Gown <input type="checkbox"/> Latex or Chemo Gloves <input type="checkbox"/> Eye protection	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — —	
Obs	IF glove are worn: What ancillary activities were observed while they were being worn?	<input type="checkbox"/> Answer the phone <input type="checkbox"/> Use keyboard/calculator <input type="checkbox"/> Handle files / records <input type="checkbox"/> Eat or drink <input type="checkbox"/> Smoke <input type="checkbox"/> Not able to observe	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — — —	
Obs	IF glove are worn: Are they discarded immediately after use?	<input type="checkbox"/> Are used gloves observed lying around?	<input type="checkbox"/>	<input type="checkbox"/>	—	
Obs	Are any street clothes worn while administering Antineoplastic Agents? (do not include if covered by protective clothing)	<input type="checkbox"/> Street clothes observed	<input type="checkbox"/>	<input type="checkbox"/>	—	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	Have you seen written policies/SOPs regarding safe handling of Sterilants? If yes, can you please show us where they are located?	Location shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	Please show us the location(s) where you do sterilization.	<input type="checkbox"/> Central Process/Supply <input type="checkbox"/> Outpatient Surgery <input type="checkbox"/> Cardiac Cath Lab <input type="checkbox"/> Dental Clinic/Lab <input type="checkbox"/> Autopsy Lab <input type="checkbox"/> Other	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	Please show us the type(s) of sterilization units you work with.	<input type="checkbox"/> EtO in-chamber aeration <input type="checkbox"/> EtO Separate aeration <input type="checkbox"/> EtO glass ampoules <input type="checkbox"/> Hydrogen Peroxide	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	If your sterilizer uses EtO cylinders or cartridges, please show us their location.	<input type="checkbox"/> In a separate room <input type="checkbox"/> In the same room <input type="checkbox"/> Inside the sterilizer	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	If you use EtO sterilizer(s), please show us their ventilation and exposure controls.	<input type="checkbox"/> Exhaust above door <input type="checkbox"/> Located within a hood <input type="checkbox"/> EtO level visual display	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	What types of respiratory protection do you wear while using a sterilizer? If worn, please show us the protection.	<input type="checkbox"/> None <input type="checkbox"/> Half or full face cartridge <input type="checkbox"/> PAPR <input type="checkbox"/> Supplied air <input type="checkbox"/> Don't know	<input type="checkbox"/>	<input type="checkbox"/>	—	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	Have you seen written policies/SOPs regarding safe handling of HLDs? If yes, can you please show us where they are located?	Location shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	What types of High Level Disinfectants do you use? Please show them to us.	Glutaraldehyde Ortho-phthalaldehyde Peracetic acid Hydrogen Peroxide Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — —	
Emp	Please show us the machines used for disinfecting with HLDs.	Automated Manual Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — —	
Emp	Please show us the local ventilation for these machines.	Effective local exhaust Poor or Non-ventilated	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	— —	
Emp	Please show us the dedicated ventilation (overhead hood, exhaust fan) for these machines.	Ventilation shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	What types of personal protection do you wear while working with HLDs? If worn, please show us the protection.	None Water Resistant Gown Protective Gloves Eye protection Disposable Respirator Half or full face cartridge PAPR Respiratory—Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — — — — —	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	Have you seen written policies/SOPs regarding safety around Surgical Smoke? If yes, can you please show us where they are located?	Location shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	Please show us the location(s) where you have worked while a laser or electrosurgery device has been used.	Operating room Specialty suite or lab Outpatient clinic Medical office Dental office Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — — —	
Emp	If a smoke evacuation device was used, please show it to us.	Device shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	Device is exhausted outside of the room.	Outside exhaust shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	What types of personal protection do you wear while laser or electrosurgery devices are used? If worn, please show us the protection.	None Protective Gown Protective Gloves Eye protection Disposable Respirator Half or full face cartridge PAPR Respiratory–Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — — — — —	
Obs	Are any street clothes worn while laser or electrosurgery devices are used? (do not include if covered by protective clothing)	Street clothes observed	<input type="checkbox"/>	<input type="checkbox"/>	—	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	Have you seen written policies/SOPs regarding Waste Anesthetic Gases and safety? If yes, can you please show us where they are located?	Location shown <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	Please show us the location(s) where you administer anesthetic gasses.	Operating Room Specialty Suite or Lab Outpatient Clinic Medical Office Dental Office Other <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — — —	
Emp	Are scavenging systems used during the administration of anesthetic gases? If yes, please show us one.	System shown <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	If you fill the vaporizer, please show us how it is filled.	Poured from bottle Use “key-fill” spout <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	— —	
Emp	If you see dental patients, what scavenging and/or auxiliary ventilation systems do you use? Please show us.	Nasal hood Free standing <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	— —	
Emp	What type of respiratory protection do you wear while administering anesthetic gases? If worn, please show us the protection.	None Half or full face cartridge PAPR Supplied-air respirator Respiratory—Don’t know <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — —	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	Have you seen written policies/SOPs regarding Waste Anesthetic Gases and safety? If yes, can you please show us where they are located?	Location shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	Please show us the location(s) where you were working while anesthetic gasses were being administered.	Operating Room Specialty Suite or Lab Outpatient Clinic Medical Office Dental Office Other	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — — —	
Emp	What type of respiratory protection do you wear while working in areas in which anesthetic gases are being administered? If worn, please show us the protection.	None Half or full face cartridge PAPR Supplied-air respirator Respiratory—Don't know	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — — —	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	Have you seen written policies/ SOPs regarding Waste Anesthetic Gases and safety? If yes, can you please show us where they are located?	Location shown	<input type="checkbox"/>	<input type="checkbox"/>	—	
Emp	What type of respiratory protection do you wear while working around waste anesthetic gases? If worn, please show us the protection.	None Half or full face cartridge PAPR Supplied-air respirator Respiratory—Don't know	<input type="checkbox"/>	<input type="checkbox"/>	— — — — —	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	Have you seen written policies/SOPs regarding safety and health for the following? If yes, can you please show us where they are located?	Handling of bedpans Cleaning products Spills of ANs/chemicals Contaminated materials	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — —	
Emp	What types of cleaners do you use? Please show them to us.	Ammonia Chlorine Bleach Strong Detergent Wax Stripper Toilet Bowl Cleaner Quaternary Ammonium Phenols Alcohols Aldehydes Iodine Oxidizers (H2O2) Other	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	— — — — — — — — — — — —	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Study ID:

Source	Info needed	Response	Sur.	FU	Code	Comment
Emp	What types of personal protection do you wear while handling bedpans? If worn, please show us the protection.	None Water Resistant Gown Water Resistant Gloves	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — —	
Emp	What types of personal protection do you wear while mixing cleaning products? If worn, please show us the protection.	None Respiratory Protection Water Resistant Gown Water Resistant Gloves	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — —	
Emp	What types of personal protection do you wear while cleaning spills of ANs or chemicals? If worn, please show us the protection.	None Respiratory Protection Water Resistant Gown Water Resistant Gloves	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — — —	
Emp	What types of personal protection do you wear while handling contaminated materials? If worn, please show us the protection.	None Water Resistant Gown Water Resistant Gloves	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	— — —	

Codes: 0= No discrepancy; 1= Survey wrong, employee misunderstood the question; 2= Survey wrong, employee had insufficient knowledge to answer the question; 3= Survey correct, circumstances during the survey period were unique; 4= Survey correct, circumstances during observation period were unique; 5= Survey correct, standard practices have changed since the survey; 6= Other explanation; Blank= Not applicable

Validation Form: Supervisor Module

Supervisor ID:

Location:

Source	Info needed	Response	FU	Comment
Sup	Do written policies/SOPs exist? If yes, Please show us where they are located.	Location shown	<input type="checkbox"/>	
Sup	What types of personal protection are <u>required</u> for employees while administering aerosolized meds?	<input type="checkbox"/> None <input type="checkbox"/> Regular Gown <input type="checkbox"/> Water Resistant Gown <input type="checkbox"/> Regular Gloves <input type="checkbox"/> Latex Gloves <input type="checkbox"/> Eye protection <input type="checkbox"/> Disposable Respirator <input type="checkbox"/> Half mask/cartridge <input type="checkbox"/> Full-face cartridge <input type="checkbox"/> PAPR <input type="checkbox"/> Booties <input type="checkbox"/> Other	<input type="checkbox"/> <input type="checkbox"/>	
Sup	Additional Questions based upon survey responses (i.e. distribution of assignments, etc..)			

Appendix I
Thank You/Reminder Letter

Thank You/Reminder Letter – To be sent one week after survey to all Group 1 members

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

About a week ago, a questionnaire concerning your job at the PVAMC was mailed to you. This questionnaire is part of the National Exposures at Work Survey (NEWS) which is intended to learn about health and safety practices in the healthcare industry.

If you have already completed and returned the questionnaire either by mail or over the internet, please accept our sincere thanks for your help in this important project. If not, please do so today. Your participation is valued and important for the success of this survey.

As a reminder, you may complete the survey on the internet or fill out a paper questionnaire. If you need help in accessing the web or if you would like another paper copy of the survey, please call our survey line at 1-866-215-6616 and a staff member will be happy to help.

If you have any questions about this project, you may call me directly at 206-528-3128 or toll free at 1-866-215-6616 and ask to speak with Jim Catalano.

Please accept our thanks in advance for participating in this important survey project.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Thank You/Reminder Letter – To be sent one week after survey to all Group 2 members

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

About a week ago, we sent you a letter asking you to participate in a questionnaire concerning your job at the PVAMC. This questionnaire is part of the National Exposures at Work Survey (NEWS) which is intended to learn about health and safety practices in the healthcare industry.

If you have already completed and returned the questionnaire either by mail or over the internet, please accept our sincere thanks for your help in this important project. If not, please do so today. Your participation is valued and important for the success of this survey.

As a reminder, you may complete the survey on the internet or fill out a paper questionnaire. If you need help in accessing the web or if you would like obtain a paper copy of the survey, please call our survey line at 1-866-215-6616 and a staff member will be happy to help.

If you have any questions about this project, you may call me directly at 206-528-3128 or toll free at 1-866-215-6616 and ask to speak with Jim Catalano.

Please accept our thanks in advance for participating in this important survey project.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Appendix J
Reminder Letter 2

Reminder Letter – To be sent to non-responders from Group 1 three weeks after survey

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

About three weeks ago, I sent an important questionnaire concerning health and safety conditions and your job at the PVAMC. To the best of our knowledge, it's not yet been returned. If you have already returned your completed questionnaire, we thank you again for your help and ask that you simply disregard this letter.

Otherwise, we ask that you complete the enclosed copy of the survey today. Or, you may complete the survey on the internet by accessing www.surveyname.org. You will need to use the following username and password to access the site:

Username: *{userid}* Password: *{password}*

We've already heard from many of your co-workers who have described their experiences and opinions about working conditions at the PVAMC. These results are going to be very useful for improving health and safety practices in the healthcare industry.

We are writing again because of the importance that your completed questionnaire has for this project. Your response helps to ensure that results are truly representative of your profession, your department, your facility, and the healthcare industry.

As a reminder, your name will never be connected to the survey results in any way. Protecting the confidentiality of each person's answers is very important to us, as well as the PVAMC. We hope that you fill out and return the questionnaire by either mail or over the internet soon. If you need help in accessing the web or have any questions, please call our survey line at 1-866-215-6616.

If you have any questions about this survey, call me directly at 206-528-3128 or toll free at 1-866-215-6616 and ask to speak with Jim Catalano.

Please accept our thanks in advance for participating in this important survey project.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Enclosure

Reminder Letter – To be sent to non-responders from Group 2 three weeks after survey

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

About three weeks ago, I sent a letter about an important questionnaire concerning health and safety conditions and your job at the PVAMC. To the best of our knowledge, it's not yet been returned. If you have already returned your completed questionnaire, we thank you again for your help and ask that you simply disregard this letter.

Otherwise, we ask that you complete the survey today. You may complete the survey on the internet by accessing www.surveyname.org. You will need to use the following username and password to access the site:

Username: *{userid}* Password: *{password}*

If you would prefer to complete the survey on paper, please call our toll-free survey line at 1-866-215-6616. Phone lines are available from 7am to 8 pm PST Monday through Friday and from 10am to 6 pm on the weekends. A staff member will help you by asking a few questions to determine which parts of the survey apply to you. Then we will send you a survey in the mail with a postage-paid return envelope.

We've already heard from many of your co-workers who have described their experiences and opinions about working conditions at the PVAMC. These results are going to be very useful for improving health and safety practices in the healthcare industry.

We are writing again because of the importance that your completed questionnaire has for this project. Your response helps to ensure that results are truly representative of your profession, your department, your facility, and the healthcare industry.

As a reminder, your name will never be connected to the survey results in any way. Protecting the confidentiality of each person's answers is very important to us, as well as the PVAMC.

We hope that you fill out and return the questionnaire by either mail or over the internet soon. If you need help in accessing the web or have any questions, please call our survey line at 1-866-215-6616.

If you have any questions about this survey, call me directly at 206-528-31281 or toll free at 1-866-215-6616 and ask to speak with Jim Catalano.

Please accept our thanks in advance for participating in this important survey project.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Appendix K
Final Reminder

Reminder E-Mail –

To be sent by PVAMC to all employees in sample six weeks after start of survey

As many of you may know, for the past six weeks PVAMC has been involved in an occupational health and safety survey that is being conducted by the National Institute for Occupational Safety and Health (NIOSH) and the Battelle Centers for Public Health Research and Evaluation. Many of you have been randomly selected to participate in this important survey, and I have been informed that participation has been excellent. I want to thank all of you who have taken the time to complete the questionnaire. I would also like to encourage all selected employees who have not yet completed their surveys to do so as soon as possible. The survey period will end in one week, and we would like to attain as high a response rate as possible. If you have been selected to participate but have not yet done so, please take a few moments to complete the survey and return it to Battelle before (enter date). Once again, for those of you who have already returned your completed questionnaires, I would like to extend my sincere thanks.

Appendix L
Thank You Letter

**Thank You Letter – To be sent to Responders, who completed the core module only,
within one week of response**

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

We would like to thank you for your recent participation in the National Exposures at Work Survey (NEWS) conducted by the Battelle Centers for Public Health Research and Evaluation on behalf of the National Institute for Occupational Safety and Health (NIOSH).

Your participation has been invaluable in providing important information about your job, your work practices, and your opinions about working conditions. Knowing more about your job and your work environment will enable healthcare employers, unions, and public agencies to help improve health and safety conditions for healthcare workers such as yourself.

Some information from this survey will be summarized and provided to your employer and to employee representatives at the PVAMC. We wish to assure you that Battelle has strict guidelines on how summary information is presented to assure individual confidentiality.

If you have any additional questions about this project, you may call me personally at 206-528-3128 or toll free at 1-866-215-6616.

Again, please accept our sincere thanks for participating in this important survey project.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

**Thank You Letter – To be sent to Responders, who completed at least one hazard module,
within one week of response**

{Date}

{First Name} {Last Name}

{Job Title}

{Department}

Dear: *{First Name} {Last Name}*

We would like to thank you for your recent participation in the National Exposures at Work Survey (NEWS) conducted by the Battelle Centers for Public Health Research and Evaluation on behalf of the National Institute for Occupational Safety and Health (NIOSH).

Your participation has been invaluable in providing important information about your job, your work practices, and your opinions about working conditions. Knowing more about your job and your work environment will enable healthcare employers, unions, and public agencies to help improve health and safety conditions for healthcare workers such as yourself.

Some information from this survey will be summarized and provided to your employer and to employee representatives at the PVAMC. We wish to assure you that Battelle has strict guidelines on how summary information is presented to assure individual confidentiality.

The next phase of this study pertains to validation of questionnaire responses. We would like to know whether you would be interested in participating in a short (less than 10 minute) interview with Battelle and NIOSH representatives, to be conducted at the end of the survey. The purpose of the interview is to determine how you arrived at the responses to certain items on the survey questionnaire. We may inquire about specific job duties and clothing or protective equipment used. We may ask you to show us equipment used or to demonstrate how you perform specific job tasks referenced in the survey. We are seeking a limited number of survey respondents to participate in this process. If you are interested in participating in a follow-up interview, please complete the contact information below and then return this contact sheet to Battelle in the enclosed pre-addressed, postage-paid envelope.

The information you provide will be kept strictly confidential, and will be held separately from your survey answers. You will be contacted by (enter month and day, 2005) if you are selected for an interview.

Name: _____

Street: _____

City, State, Zip: _____

Home Phone #: _____

Work Phone #: _____

Email: _____

Supervisor's Name: _____

Do you prefer to be contacted at work or home?

- Work
- Home

If you have any additional questions about this project, you may call me personally at 206-528-3128 or toll free at 1-866-215-6616 and ask to speak with Jim Catalano.

Again, please accept our sincere thanks for completing the survey questionnaire. We look forward to your participation in the validation interview process.

Sincerely,

James D. Catalano, CIH
Project Director
Battelle Centers for Public Health Research and Evaluation

Appendix M

Design for Recruitment Poster and Magnet Ads



Design for Survey Meter Poster

