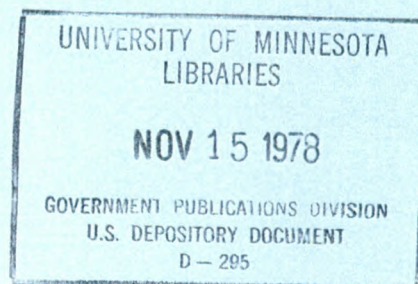


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NIOSH

Occupational Health in Health Service Areas:

HANDBOOK FOR PLANNING



U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Center for Disease Control
National Institute for Occupational Safety and Health

**OCCUPATIONAL HEALTH IN HEALTH SERVICE AREAS:
Handbook for Planning**

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September, 1978**

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DHEW (NIOSH) Publication No. 78-203

Abstract

This handbook discusses a number of issues that are important in developing a health systems plan (HSP) that responds to the occupational health service needs of a community. The material is presented in terms of: (1) The relationship of the HSA review process to the implementation of occupational safety and health services, including the need for review criteria. (2) The approach to planning for occupational safety and health. (3) The scope of a comprehensive occupational safety and health program. (4) The collection and utilization of occupational exposure data. (5) The use of worksheets in organizing pertinent information. The handbook is intended to serve as a starting point for identifying the occupational safety and health program needs in a health planning area.

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ACKNOWLEDGMENTS

The basic information used in this handbook was developed by the Harvard School of Public Health under Contract Number 210-76-0190, for which David H. Wegman, M.D., and Anthony Robbins, M.D., served as the contractor's principal investigators and Marilyn K. Hutchison, M.D., served as NIOSH Project Officer.

The Bureau of Health Planning and Resources Development, Health Resources Administration, DHEW, participated in the review of materials and in the development of plans for utilization of the handbook.

INTRODUCTION

This manual is designed to provide health systems agencies (HSA's) with an approach to understanding and planning for the occupational safety and health needs in their health service areas. In addition, it provides a rationale and approach for integrating preventive, diagnostic, therapeutic, and rehabilitative occupational safety and health services with the non-occupational health services for workers and their families. It contains suggestions on how to deal with occupational safety and health problems within the context of the Health Systems Agency's (HSA's) responsibilities under the law.

Occupational safety and health programs are intimately related to the goals, purposes, and priorities of the Health Planning and Resources Development Act (1), which stresses occupational health as follows: "In providing health planning and resources development for its health service area, a health systems agency shall ...assemble and analyze data concerning ...occupational exposure factors affecting immediate and long term health conditions."

Illness and injury caused by exposure to chemical, biological, or physical agents and psychological risks in the workplace are major factors in determining the health status of a community. The U.S. Public Health Service has estimated that 3.7 million persons required medical treatment during 1976 as a result of work related injuries (2). The National Safety Council reports that in 1975 alone there were 12,600 deaths due to occupational injuries; an estimated 500,000 workers to have developed occupational disease; and 8.7 million sustained injuries, of which 2.2 million resulted in permanent or temporary disability (3). A Federal interdepartmental task force estimated that as many as 100,000 excess deaths occur annually as a result of occupational disease (4). Prevention of such illness and injury, and the coordination of the delivery of occupational health services, can have a significant impact through reduction of health care costs and improvement of the health of residents in the health planning area.

The development and implementation of a comprehensive occupational safety and health plan should address the following program elements:

1. Clinical services, including diagnostic emergency, and rehabilitative services;
2. environmental monitoring and safety services;
3. surveillance system, including disease and injury reporting, and recordkeeping;
4. health education;

5. manpower needs.

This handbook develops a health planning approach to occupational safety and health, and presents suggestions for collection and utilization of data for each of these program elements. Worksheets are provided to aid area health planners in organizing pertinent information.

Strategies are developed for the prevention of adverse health effects, for the control of occupational hazards, and for the evaluation of the impact of occupational health and safety programs in health service areas. The general procedures and strategies outlined in this handbook are illustrative rather than prescriptive. The focus is on development of planning goals and objectives, and implementation and evaluation of effective program responses. It is anticipated that as health planners gain experience in defining occupational safety and health problems and control strategies on an area-wide basis, specific strategies will be developed to meet local needs.

HSA efforts in planning and implementation of occupational safety and health programs and services, which should be an integral part of the health care delivery system, have the potential to produce both system and agency benefits such as:

1. Improvement and maintenance of health status;
2. reduction of health care cost due to inappropriate utilization;
3. identification and clarification (for providers, labor, industry, and the community) of issues and approaches to control hazardous occupational exposures and deliver medical services; and
4. achievement of increased agency visibility, credibility, and support from providers, labor, and industry.

AN HSA PLANNING APPROACH TO OCCUPATIONAL SAFETY AND HEALTH

Under the Act, Health Systems Agencies (HSA'S) will formulate goals, objectives, and recommended actions (1), identify resource requirements and establish priorities for implementation of programs that are effective in injury and illness prevention, diagnosis, treatment, and rehabilitation. This planning process should include consideration of occupational safety and health services. These services are identified as a component of each health-care-system, first-level service categories (5) (community health promotion and protection, prevention and detection, diagnosis and treatment, habilitation and rehabilitation, maintenance, personal health care support, and health system enabling services). As such, they will be subject to the agency review procedures for project reviews, appropriateness reviews, reviews of the use of certain federal funds, and utilization review. Occupational safety and health service delivery, to be effective, also demands the desirable health system characteristics of availability, accessibility, acceptability, continuity, and quality. Therefore, the HSA should include in its Health System Plan (HSP) a policy on the protection of worker health and, through its Annual Implementation Plans (AIP's), should include a plan for the implementation of appropriate health system responses.

This chapter outlines specific occupational safety and health considerations that could be addressed by HSP's and AIP's. Examples of health planning statements, developed by HSA's in the first generation of health system plans, are presented in Appendix A.

CLINICAL SERVICES

Clinical facilities and manpower are needed to provide the following services:

1. Preplacement examinations.
2. Periodic examinations for workers exposed to certain toxic substances or otherwise subject to increased health risks.
3. Diagnostic procedures and follow up examinations.
4. Laboratory services.
5. Worker's compensation evaluations.
6. Emergency and trauma services.
7. Short-term and long-term rehabilitation services for victims of debilitating accidents and diseases.
8. Mental health services to deal with job related stress, and substance abuse.

More detailed information on the range of clinical services that would be responsive to occupational health and safety needs is presented in Appendix B.

Various models for occupational health delivery systems have been developed (6). Mechanisms range from contracts with local physicians to in-plant clinics or comprehensive health maintenance organizations that include occupational health speciality services. Sponsors include corporations, unions, private practitioners, foundations for medical care, independent medical organizations, and local and state governments. Examples of delivery mechanisms are listed in Appendix B.

Occupational health and safety services to small businesses merit special attention since most U.S. businesses employ 25 or fewer workers. Large numbers of these workers are exposed to potentially hazardous physical and chemical agents, and unsafe working conditions. Small businesses rarely provide occupational safety and health services, and employers and workers may not recognize the special health problems created by exposures in the workplace. Emphasis on health system goals that deal with occupational safety and health problems in small businesses can have a significant impact in many planning areas.

ENVIRONMENTAL MONITORING AND SAFETY SERVICES

There is a clear relationship between occupational health and community health. Hazardous substances in the workplace often affect the community by emission of gaseous or solid waste products through venting or dumping, or by workers as hazard carriers e.g. (asbestos in work garments). Since the worker receives the greatest exposures, worker health can serve as an "early warning system" for community health.

Work environments should be monitored to assure that Federal exposure limits are not exceeded, and that safe work practices are followed. This is required by law for the more than 400 substances regulated by the Occupational Safety and Health Administration (OSHA). Employers using many of these materials must monitor the work environment to assure compliance with permissible exposure levels. Should environmental levels exceed the standards, a variety of controls are indicated. These include engineering controls such as isolation or ventilation of sources, administrative controls such as substitution of less hazardous materials or rotation of workers to reduce individual exposure to within acceptable levels, and use of personal protective devices such as respirators for protection from exposure to dusts, vapors, or gases.

Environmental monitoring and safety services are generally provided by industrial hygienists and safety engineers working in plants, or with agencies responsible for environmental protection or occupational safety and health. HSA's should identify resource and manpower needs for these services in their planning areas, and include this information in their planning statements. They can evaluate and encourage existing agencies providing services and promote the delivery of services through facilities that have been established to meet clinical occupational safety and health needs. This could include promotion of a working

relationship between the clinical services providers and local providers of environmental services such as local health departments and local representatives of state and Federal environmental regulatory agencies.

SURVEILLANCE AND DISEASE REPORTING SYSTEM

Surveillance is the key to the control of occupational disease. Many occupational diseases manifest themselves only over a long duration of time. Additionally, chronic symptoms may be incorrectly diagnosed largely due to lack of information about worker exposures to toxic agents. For these reasons, surveillance programs which collect the most accurate medical data available are essential for diagnosing and controlling diseases associated with specific occupational exposures. HSA's should identify the need for such surveillance programs, as well as alert community agencies such as health departments that should be responsible for these programs. By promoting the collection of these data, the HSA can help develop a valuable information base for formulating goals and objectives for their HSP's and AIP's.

A coordinated surveillance system should identify known problems in order to control exposure, permit treatment of those affected, and lead to the prevention of other workers being exposed to the hazard. Surveillance programs may also identify new or previously unsuspected health hazards, so that control measures may be implemented as early as possible (7).

A system should be developed to assist health providers in correctly diagnosing, recording, and reporting all work-related diseases. The program should be designed to develop an awareness within the medical community of the prevention benefits to be derived from a standard reporting system for occupational diseases. The system should consider reportable disease categories, reporting agencies, reporting officials, methods of reporting, and cooperative efforts for standardization.

For example, summary data reported to agencies such as local health departments could be collected and evaluated on a regional basis by HSA's, thus giving a large enough response to identify trends of occupational disease in the region. Reporting agencies could include hospitals, clinics, emergency rooms, nursing homes and extended care facilities, health maintenance organizations, and health departments. Reporting officials may include physicians, nurses, administrators of health care institutions, and OSHA compliance officers. Reporting by management, labor organizations, and employees can also be encouraged.

An important factor in effective control of occupational safety and health problems will be reliable data resulting from surveillance and disease reporting systems. Additionally, the basic measurement of the magnitude and potential impact of problems will better allow for the allocation of resources between occupational health and competing programs. If of sufficient detail, the surveillance and disease

reporting system can provide the foundation for evaluating the success of occupational safety and health control programs (7).

HSA's have an essential role in coordinating data gathering networks relating to surveillance systems. HSA's can be effective in influencing medical care practitioners and institutions which have a major role in the surveillance of occupational disease.

Tools for development and implementation of comprehensive surveillance systems are discussed in greater detail in the following chapter, "Data Collection and Utilization."

HEALTH EDUCATION

Worker health education programs are needed to make employees aware of occupational hazards and ways to avoid illness and injury. Although this is a basic responsibility of employers, HSA's could play a role by promoting these programs and perhaps distributing information and materials throughout their areas. For example, some Region VI HSA's have capitalized on a readily available implementation activity by coordinating employer and employee health education courses available through "Department of Labor (DOL)" funds. This program is coordinated by the American Industrial Hygiene Association (AIHA) under contract with the DOL. The training is provided by selected colleges and universities.

The "New Directions Program", is another DOL funded activity which will provide grants to unions, educational institutions, and others for the development and provision of short term training courses for employees and employers. Such programs conducted through the place of employment also offer the opportunity for broader health education whereby the employee could be informed on such subjects as proper nutrition, exercise, and other healthful changes in lifestyle.

The HSA should encourage involvement of those health education agencies that deal with mental health and substance abuse. The combination of work and personal stresses can lead to a state of mental fatigue, boredom, or some other less than optimal mental condition; and substance abuse (alcohol, drugs, etc) is a recognized problem in the work environment. The HSA can play a role in developing appropriate workplace programs by bringing together industry and local substance abuse and mental health agencies. The present HSA activity with some modification can become compatible with and complementary to health care institution or employer based programs for workers. This is possible without great effort because many of the existing HSP and AIP goals, objectives, and agency activities are already related in varying degrees to a comprehensive and coordinated occupational safety and health program. (See also Appendix B, Organizational Approaches)

MANPOWER NEEDS

The professional force specially trained to address occupational safety and health problems is comprised of occupational physicians, occupational nurses, industrial hygienists, safety engineers, and others. The majority of physicians and nurses in the field are not board certified by their respective professional specialty boards, although many have taken formal post-degree training in occupational health. Industrial hygienists are concerned with assessing and controlling workplace hazards and toxic agents such as dusts, gases, vapors, and fumes; physical agents such as noise, heat, and radiation; biological hazards such as enzymes; and job related stress such as monotony. The major functions of safety engineers include development of accident prevention, loss control procedures, and measurement and evaluation of the effectiveness of accident prevention and loss control systems.

Area health plans should describe available manpower resources in these professional categories, project (health service area) needs for the period covered by the plans, and identify sources for these professional services. NIOSH, a major resource to which HSA's may turn, has begun to address manpower shortages through the development of Educational Resource Centers, with a goal of sponsoring at least one in each of the ten regions of the Department of Health, Education, and Welfare. These centers are designed to help meet both national and regional needs by full-time, part-time, continuing, and other educational programs addressing each of the four professional groups listed above. These centers will attempt to evaluate the needs in their region and create programs designed to fill current gaps and to meet projected needs. HSA's are in an ideal position to call upon, as well as assist, these centers in identifying regional requirements and focusing on special manpower distribution needs. See Appendix E for the name and address of the Educational Resource Centers by region.

An additional problem area is that the family practitioner is generally not trained to correlate disease with the patient's occupation. Through planning activities, programs can be encouraged in cooperation with the NIOSH funded Educational Resource Center, the local medical society, medical schools, etc., to provide seminars and continuing education courses for area physicians.

THE HSA REVIEW FUNCTION

The review of health system changes and existing programs by HSA's can be an effective implementation tool and method of integrating occupational safety and health programs and services into the health care delivery system.

Project review procedures, criteria, and guidance on the development of additional criteria are provided in PL 93-641 (1). This Act 1) states that health services to be offered in or through a health care facility or health maintenance organization are subject to review, 2) requires the adoption of procedures and review criteria prior to review, and 3) requires the utilization, as appropriate, of specific criteria for the reviews.

In conducting reviews of proposed or existing health services, each HSA is mandated to follow procedures and apply criteria developed and published by the agency. Criteria appropriate for the review of occupational safety and health program proposals and existing services are needed. They can be developed using local expertise or be adapted from criteria recommended by others, possibly NIOSH. The criteria should address community medical and environmental health resources that will be needed, especially to provide services to small and medium businesses which lack in-house medical and environmental control capabilities. Appropriate planning is also necessary to assure continuity between occupational and non-occupational health care services. In addition, development of occupational safety and health review criteria will, by itself, stimulate interest in occupational safety and health services that have the potential for significant impact on health status and on the reduction of inappropriate and inefficient health care utilization.

The specific criteria are listed for use by HSA's and the criteria adopted "may vary according to the purpose for which a particular review is being conducted or the type of health service reviewed." (8) The need for proposed services is probably the most critical element in the review process, and predecessors to the HSA's had the most success with criteria for need based on specific services and criteria for desirable standards for level of service (9). The need for a service should also be based on the desirable health system characteristics of accessibility, continuity, acceptability, and quality that were enumerated in the Act.

In addition to assuring that review criteria are based on requirements of PL 93-641, and Section 122, Title 42, CFR, the experience of predecessors (10) to the HSA's should be used to provide a sound basis for developing specific criteria concerning occupational safety and health services.

Two additional developmental aids for establishing review criteria for occupational health services have been suggested by Webb (11) and Ayer (12).

Webb (11) describes a basic model occupational health program and an objective evaluation and scoring scheme. The model is based on guidelines and suggested components proposed by the Council on Occupational Health

of the American Medical Association, the Occupational Health Institute, and by Jean Spencer Felton, M.D.

Ayer et al. (12) discusses improving performance of such programs through the development of standards. Standards, interpretations, and audit criteria for occupational health services, including medical, nursing, industrial hygiene, and health physics, are provided.

Based on the studies made for this report the following is a list of suggested basic occupational safety and health program and service criteria. They may require further development based upon specific data collected by HSA's and local expertise.

1. Provides preventive, diagnostic, treatment, and rehabilitation services.
2. Provides medical and environmental surveillance and control.
3. Provides worker health education.
4. Provides an adequate supply of trained occupational safety and health manpower - nurses, physicians, industrial hygienists, safety engineers, and others.
5. Provides coordination with available services at the workplace and in the community, and with local, state, and Federal activities and programs.
6. Provides medical care at the workplace, including first aid and emergency medical services.
7. Provides services that are mandated by the Occupational Safety and Health Act; e.g., medical, environmental, and educational.
8. Provides auxiliary services to support the occupational safety and health programs such as laboratory services.
9. Provides for input by labor, industry, and medical providers.
10. Provides services that are acceptable, accessible, providing continuity, of high quality, and available at a reasonable cost.

Explicit review criteria for occupational health services, suggested by NIOSH, should address the following items regarding program characteristics and specific services. These are suggested criteria which require further development based upon specific data collected by the HSA's and local expertise.

1. Provides medical and environmental services that conform to existing occupational health and safety laws.
2. Provides the following specific services:

- a. . preplacement and transfer medical examination
- b. periodic examinations as appropriate
- c. health and safety education
- d. care of illness and injury at work
- e. health counseling and appropriate referral
- f. environmental control and surveillance
- g. preventive health services
 - 1. immunizations
 - 2. substance abuse programs
- h. rehabilitation services
- i. coordination of services with other related community and industry programs.

DATA COLLECTION AND UTILIZATION

Information is needed that addresses the following questions:

1. What health problems would be anticipated from industrial exposures in the planning area?
2. Are these health problems indeed present?
3. If so, what health services are available to handle them?
4. In what kinds of activities can the HSA involve itself that would reduce these problems through prevention or early detection, or which would facilitate their treatment?

SOURCES OF INFORMATION

A principal source of evaluated occupational safety and health information and data is the National Institute for Occupational Safety and Health (NIOSH), an applied research organization in the Department of Health, Education, and Welfare. It has offices in each of the ten DHEW regions throughout the country. The NIOSH regional representatives will be able to provide the following information:

1. National Universe Facility File - NIOSH recognizes the need to acquire and utilize accurate and comprehensive demographic information on the full range of American workplaces in order to develop the intelligence necessary to carry out surveillance and field study activities. To this end, the Dun & Bradstreet computer-based listing of the national universe of facilities has been purchased and is currently finding wide application in various NIOSH activities. It is possible to extract facility data by geographic designation, (county, state, SMSA or zip code) by SIC code, (2, 3, or 4-digit), or any other file data element. The file currently contains data on nearly 4 million establishments. The file has been organized to facilitate data retrieval by 4-digit SIC code. Any data requests should therefore specify the 1972 SIC code relevant to the inquiry.

2. The National Occupational Hazard Survey - NIOSH conducted the National Occupational Hazard Survey (NOHS) from 1972 through 1974 to determine the extent of the exposure of the American worker to possibly hazardous chemical and physical agents in the working environment. From the survey's results NIOSH compiled a comprehensive data base, outlining by industry, occupation, and hazard the estimated number and percentage of workers in the United States exposed to such agents. The NOHS data base provides a thorough and reliable study on the potentially hazardous chemical and physical agents found in the U.S. working environment. NIOSH itself uses the survey data to determine research priorities, to measure and forecast occupational health trends, and to develop guides which describe health hazards typically associated with a particular industry or occupation. Moreover, NIOSH furnishes NOHS data to any individuals requesting information on occupational health matters. The

data base lends itself to direct problem solving action by trade associations, plant management personnel, unions, and individual employers. These capabilities make the NOHS a unique and valuable resource for all individuals concerned with occupational health.

3. Recommended Health Standards - NIOSH is responsible for recommending standards for occupational exposure to hazardous agents. Some 80 criteria documents have been transmitted to OSHA for consideration for rulemaking. Subjects of these documents include physical agents, chemical substances, related groups of chemicals, and industrial processes. The criteria documents include recommendations for medical surveillance, environmental limits, engineering controls, and work practices.

4. Occupational Health Guidelines for Chemical Hazards - These Guidelines contain information and recommendations intended to assist small businessmen, union representatives, and employees, as well as occupational safety and health professionals, in designing and implementing an occupational health program. The technical data have been compiled into a readily accessible reference document and training tool which will aid in the assessment and control of hazards under widely varying operating conditions. The data will be published by NIOSH as individual "Guidelines" for each of 380 chemicals. Supplementary guidelines also published by NIOSH will provide specific information on medical surveillance, respiratory protection, personal protection, and sanitation.

5. Health Hazard Evaluations - NIOSH conducts specific evaluations based on reports of health problems at a specific site. These are specific to one plant and are designed to determine whether a health hazard exists. Results of these evaluations should be helpful in planning for other similar plants.

6. Industrywide Studies - These studies are epidemiologic investigations of health hazards associated with selected industries. These studies will show whether or not there is excess injury or ill-health associated with employment in specific industries.

7. Technical Reports - The results of scientific studies supported by NIOSH in the areas of toxicology, industrial hygiene, epidemiology, safety, behavioral science, control technology, and analytical chemistry are published as technical reports. The NIOSH regional office will have lists of available reports, and in most cases copies for distribution.

8. Other Technical Information from Scientific Journals, Textbooks, etc.

OSHA is represented locally by an area office, a state program, or both. The local OSHA office should be able to provide the following information:

1. Special Emphasis Programs - A review of findings under this program should identify the level of progress being made in the planning area on problems in industries which have been designated for special emphasis.

2. Occupational Health Inspections and Enforcement - A review of the results of inspections for compliance with Federal or state standards should identify problems which have been found in the planning area, and should indicate the effectiveness of efforts toward correcting the problems.

Trade unions can also be a useful source of information. The State Labor Council, or the regional organization representing non-AFL-CIO unions, will be able to provide information on the occupational health efforts of the unions in a particular industry.

Contact with area employers may provide information on local programs in occupational safety and health. Questions to employers might include:

1. What kind of occupational health services are available for employees?
2. Where is industrial hygiene advice obtained?
3. Are there any special occupational health problems which they are having difficulty solving and which might benefit from a cooperative effort with the HSA?

A possible source of local data is the hospital discharge summary synopses abstracted for Utilization Review. These provide information on demographic characteristics of the patients and discharge diagnosis. The HSA might explore the possibility for an area-wide or selected subsection review of discharge summary disease patterns to correlate employment or industry with diagnosis. Many examples exist for correlating employment with disease at the state, regional or HSA level for example: 1. HSA's could encourage those selected hospitals which report congenital disorders to the Center for Disease Control to work with agencies such as state health departments to code occupations and work histories for parents and to look for trends. 2. Additionally, local coroner offices may have information on occupationally related death or trauma.

State Workers' Compensation agencies may have data on workplaces that are frequently the source of claims. The State Insurance Commission may be able to provide information on "uninsurable" industries. In addition, third party payers may be able to provide information regarding the utilization rates of industrial subscribers.

A bibliography of pertinent references and data sources is provided in Appendix C.

DEVELOPING AN INDUSTRIAL PROFILE

An industrial profile is a grouping of information which presents area employment patterns, an analysis of hazardous exposures and related diseases associated with industries in the planning area, and an assessment of the manner in which the regulatory environmental control and the medical care system are detecting and treating identified problems. The HSA should develop an industrial profile which identifies both special problems existing in area industries, and industries where hazards are severe or numerous but are potentially controllable. Two data sources are essential for developing an industrial profile for a health service area.

The Standard Industrial Classification (SIC) taxonomy (13) is used to classify places of employment by major type of activity. Statistical data collected by Federal agencies, state agencies, and trade associations are usually assembled using these categories. Any industrial establishment can be classified. The classification is three-tiered. A two-digit classification represents the broadest category, e.g., manufacturing. Within each two-digit classification are three- and four-digit refinements. The three-digit classifications tend to represent specific functional divisions within the broader category. The four-digit classification usually gives a more detailed breakdown of the industrial activity.

A special compilation of data gathered by the U.S. Department of Commerce (14) lists the number of establishments in each SIC, by county, as well as the number of production workers and the total number of employees for each group. Agricultural totals are incomplete in that they are tabulated as agricultural services only. In planning areas where agriculture is an important industry, data should be supplemented with information from the appropriate agricultural extension service unit or from the Division of Employment Security or a similar agency of the state government.

Sample worksheets that may be useful for presentation of pertinent data are provided in Appendix D.

The kinds of information that might be included in an industrial profile are as follows:

1. The number of establishments in a planning area.
2. The total number of people employed in the industry.
3. The type and significance of the hazards associated with the industry, their associated diseases, and available screening methods and controls.
4. Identification of special high risk groups, such as working women of child-bearing age and handicapped workers.
5. The proportion of the employees in an industry who actually hold jobs where the specific hazards are present.
6. Occupational safety and health problems that have occurred.

7. The amount of lost time that occurs, causes of lost time, and identification of groups principally affected (age, sex, race, etc).
8. The nature and extent of occupational safety and health services available to the industry.
9. Identification of an industry by NIOSH, OSHA, employees, or a union as being particularly hazardous.
10. Identification of major employers, trade associations, and others whose relationship to the industry would provide a vehicle for implementation of occupational safety and health strategies.
11. Current occupational safety and health activities in the area.

PROBLEMS IN DEVELOPING A MEANINGFUL INDUSTRIAL PROFILE

Although the industrial profile is based on industrial categories, occupational categories which may cross industry lines determine the type and extent of exposure a worker experiences. What may often seem like minor distinctions can represent an enormous difference in exposure. For example, one would not expect a bookkeeper in a steel mill to be subjected to the same exposures as a coke oven worker in the same plant. However, even among coke oven workers, different disease patterns are discernible according to the type of job activity and the place it is performed (15).

It would not be unlikely for two plants with identical occupational distributions to show very different disease patterns. Not considering the confounding effects caused by demographic differences among workers, there remain intra-industry differences to consider. Industrial processes and materials vary from plant to plant. Likewise, equipment, attention paid to the handling of the materials, the design of the plant, substitution of less hazardous materials, and the availability of protective equipment is not uniform throughout industry.

This discussion of occupational safety and health deals with groups covered by the Occupational Safety and Health Act and OSHA regulations and the industrial SIC's. It should be recognized, however, that in many states public employees, including employees of many hospitals, are not covered by the Act. Hospitals, a workplace with which HSA's are familiar, also need effective employee safety and health services (16). These services should be planned for and implemented.

The industrial profile will help to make it possible to select specific SIC's to be emphasized in the HSP. The number and type of SIC's selected will depend on several important characteristics of the health service area.

The more heavily industrialized an area, the greater the impact of emergency situations and large scale industrial safety and health problems on residents of the area. These same conditions are more likely to be an identifiable component in the status of general community health and therefore should be considered in the organization of a health delivery system. In effect, certain HSA's can benefit from planning around occupational safety and health problems more than others. In all cases, covering occupational safety and health requirements should complement the goals and methods set forth in other sections of the Health Systems Plan and the Annual Implementation Plan.

Another consideration is the special resources in the area. For example, in cases where the private sector is paying sufficient attention to the associated occupational safety and health problems, the HSA might want to develop an approach which emphasizes unattended industries, e.g. small and medium businesses.

In the final analysis, selection of occupational health problems for special attention must be determined within the context of the entire Health Systems Plan. In selecting particular SIC's, certain occupational safety and health problems are chosen also. What remains is the development of a local approach consistent with other aspects of the HSP to control occupational safety and health problems to improve the health of area residents.

SUMMARY AND CONCLUSIONS

This handbook presents issues, problems, approaches, and recommended actions that an HSA should consider in developing HSP and AIP goals, objectives, and recommended actions for meeting the occupational safety and health needs of employees and employers in the health service area. It discusses the range of clinical and environmental services of a comprehensive program. The need for and value of an effective surveillance and disease reporting system that identifies diseases (both acute and those with long latency periods) and the program components of health education and manpower development are presented.

The relationship of the agency review functions to the delivery of occupational health services and the need for developing review criteria are discussed. In addition, data collection and utilization including sources of information, methods of summarizing and displaying the information (the industrial profile), and utilization of the information are presented. The industrial profile is a necessary step for each HSA due to variability of health service areas.

The material, rationale, and method presented in this handbook, as supported by the appendices, should assist HSA's in efforts to develop effective and comprehensive occupational safety and health programs for workers and, at the same time, provide a valuable and needed service to area employers. The HSA has a mandated role, an identified approach, and the opportunity to effectively implement occupational safety and health services for the benefit of workers, their employers, and the community.

Existing implementation efforts are, while not comprehensive and often lacking coordination, impressive. Future efforts that benefit from local experience, expertise, and HSA encouragement and coordination, will achieve greater success in developing occupational safety and health programs that improve worker health status as an integrated component of an improved health care delivery system.

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APPENDIX A

EXAMPLES*OF HEALTH PLANNING STATEMENTS FOR OCCUPATIONAL SAFETY AND HEALTH

The following are examples from the occupational health sections of various Health Systems Plans from around the U.S., as noted. These examples are based on the first generation of HSP's and AIP's.

Example 1. (Based on the HSP and implementation activities of the Health Planning Council, Inc. of Madison, Wisconsin 1978 (1).)

Priority I Goal

Employee Health Promotion Programs implemented by at least 25 percent of all employers with 30 or more employees in Southern Wisconsin. (In 1977, there were no health promotion programs in the area.)

HSP Objective

By 1981, employee health promotion programs implemented at least 5 percent of all employers with 30 or more employees in Southern Wisconsin (30 programs).

AIP Objective

By June, 1979, three working demonstrations of employee health promotion programs in Southern Wisconsin.

HSP Priority I Goals

At least 4 of the 10 largest health insurers offering policies with financial incentives for good health practices.

Prospective medicine (health risk appraisal) incorporated into regular practice of at least eight medical clinics.

More than 95 percent of children immunized against communicable disease (In 1976, 60 percent were fully immunized.)

One hundred percent of school districts providing health education programs meeting minimum requirements of Wisconsin Statutes.

School health programs which meet the Department of Public Instruction's guidelines provided by at least 25 percent of school districts.

*These examples are excerpted from current protocols of various existing organizations as identified; and the opinions, recommendations, and conclusions expressed therein are not necessarily those of the NIOSH.

HSP Priority II Goals

Establishment of at least 1 Wellness Resource Center in Southern Wisconsin.

Example 2 (Based on the Annual Implementation Plan for the People of New York City, 1978.)

OBJECTIVE

To achieve, as rapidly as possible, a quality of environment in the workplace and in the community at large that will protect citizens from disease and disability and promote the enjoyment of good health.

Recommended Action

1. HSA will maintain surveillance and provide comment on proposed Federal, state, and municipal budgets, and will examine funding levels recommended in proposed legislation in order to assure, to the greatest degree practicable, levels of funding that will enable control, planning, and enforcement agencies to achieve environmental and occupational health and safety goals.
2. HSA will meet with legislators, union leaders, public officials, and affected constituents, will evaluate legislation, and testify where appropriate to advocate needed environmental and occupational health and safety legislation and programs.
3. HSA will work to establish common goals and linkages between the environmental community and health leaders as represented on HSA boards, leading to mutually supportive action on programs and legislation.
4. District and central Project Review Committees will be encouraged to examine the relevant activities of institutions coming before them as to their compliance with occupational health and safety standards.
5. HSA will review available research on the relationships between pollution and incidence of disease, and will recommend that additional studies be undertaken by appropriate parties where needed.

Resources Required

No additional resources are required.

OBJECTIVE

To develop a system for the monitoring and effective regulation of toxic substances in the workplace prior to entry into the environment.

Recommended Action

1. HSA will monitor progress under the Occupational Safety and Health Act of 1970 (OSHA) and the Toxic Substances Control Act of 1976 (TOSCA), as well as programs which are the responsibility of the National Institute for Occupational Safety and Health (NIOSH).
2. HSA will advocate adoption by the legislature of a law bringing OSHA coverage to public employees now specifically exempted from coverage.
3. OSHA should commence development of an inventory of workplaces in which known hazardous substances are handled, or in which hazardous conditions are common to the industry. Such workplaces should be inspected at least annually.

Resources Required

1. Appropriate budget levels are required for the Occupational Safety and Health Administration of the U.S. Department of Labor and its regional enforcement personnel, U.S. EPA and its regional offices, and NIOSH within HEW.
2. No additional resources are required for Action 2 until passage of legislation.

OBJECTIVE

To determine significant correlations between occupation and premature mortality and disability as a preface to seeking reduction of relevant exposures.

Recommended Action

1. HSA will work with the State Department of Health to examine the feasibility of amending the State Hospital Code to require reporting of occupational history on medical records.
2. HSA will design and seek or provide funding for the conduct of a study to detect relationships between occupation and premature death and disability.

Resources Required

1. No additional resources are required for examination of the State Health Code.
2. Costs of the study will depend on final determination of its scope.

OBJECTIVE

To assure that all personnel who operate and/or supervise radiological or nuclear medicine devices should be appropriately certified.

(HSP Chapter V, Goal 13, p. 314)

Recommended Action

A recognized board of certification should be identified and standards established so that all personnel who operate or supervise radiological or nuclear medicine devices may be certified by 1980.

Resources Required

No additional resources are required.

Example 3 (Based upon a draft plan by the Southeastern Wisconsin Health Systems Agency, Inc.)

Goal

Adequate services for work environment monitoring and employee health promotion should be available within the area.

Rationale: Based on the analysis of available information and the expertise of professionals involved in the occupational safety and health field in the area, there appears to be a consensus that current practices of work environment monitoring and employee health screening are often inadequate, there are too few programs directed at employee health maintenance and professional resources are insufficient.

Private sector consultative services, which appear to be sufficiently available, are underutilized largely due to the cost of such services to the employer. Financial incentives (e.g. tax breaks) for employers to promote the use of such services are lacking.

In addition, there is general consensus that manpower resources provided through State and local governmental agencies for consultation to private business and industry are insufficient to meet present demand. Deficiencies are perceived to exist regarding the number of industrial hygiene and occupational health nursing personnel available for consultation within local and State governmental agencies -- particularly to the small employer. An in-depth investigation of unmet demands and requirements for additional personnel has not been undertaken.

Objective: By 1979 the characteristics of work environment monitoring and employee health screening practices in the area should be assessed, including the adequacy of professional manpower to provide such services.

Recommended Actions and Resource Requirements

A study of work environment monitoring and employee group health screening practices in the area should be undertaken to determine the nature and the adequacy of existing practices, and to determine the characteristics and the adequacy of the manpower currently providing such services. In addition, the study should determine the need for the further development of industrial hygiene and occupational health nursing consultation services provided in both the private and public sectors. Specific needs for the development of consultative services should be documented and appropriate recommendations made. Barriers to the use of private consultative services should be explored, as well as the use of specific incentives which would promote their use more widely.

Such studies should be undertaken jointly by local area organizations involved in occupational safety and health prevention activities with the assistance of the HSA. Such organizations could include the following:

- State Medical College, Department of Preventive Medicine.
- Local area universities, colleges, and technical schools.
- Local area manufacturing associations.
- Organized labor.
- Appropriate governmental agencies, among which could include: City Health Department, and other local health departments as appropriate; State Division of Health, Occupational Health Section; OSHA.
- Workers' Compensation insurance carriers.
- Local medical societies.

Goal

Adequate resources should be available to meet the needs for occupational safety and health education at all levels in the area.

Rationale: A lack of knowledge exists regarding the nature and scope of existing occupational safety and health educational resources in the area. Such lack of knowledge results in underutilization of programs by professional occupational safety and health personnel, business and industry, labor and the general public.

Objective: By 1979 an analysis of all existing occupational safety and health education resources in the area should be completed.

Recommended Action and Resource Requirements

An inventory of all occupational safety and health educational resources in the area should be conducted in order to accumulate descriptive information regarding the characteristics of current occupational safety and health educational programs. Such resources inventory should include (1) basic and continuing education programs for all occupational safety and health personnel, including program description, entrance requirements, fees, degree(s) granted, and current enrollment and program demand; (2) management seminars/conferences; (3) conferences for plant supervisors and labor representatives; and (4) resources for general public education.

At a minimum, the completed resources inventory should be published and disseminated to all providers of basic and continuing education in the region, professional associations, manufacturing associations, insurance carriers, and labor unions.

Such inventory of educational resources should be conducted under the sponsorship of the HSA. Financing and manpower resources would be sufficient to conduct the resources inventory. Publications and dissemination of the accumulated information would require funding from other sources, which could include local manufacturing associations and labor councils. The amount of funding required would be largely dependent upon the scope of distribution desired.

Sub-Goal: Adequate and quality professional occupational safety and health education should be available in the area.

Rationale: A lack of coordination exists among providers of professional occupational safety and health education in the area.

With limited resources for providing professional occupational safety and health education evident in southeastern Wisconsin, the capabilities for providing high quality, specialized programs for individuals seeking professional careers in the occupational safety and health field could potentially be further strengthened through joint program efforts between educational providers.

Objective: By 1980 an assessment of the need for, and desire to form an educational resource consortium among universities, colleges, and technical schools providing basic education for occupational safety and health professionals in the area should be conducted.

Recommended Action and Resource Requirements

A feasibility study should be conducted to determine the desire among educational institutions in the area to form an occupational safety and health educational resource consortium. Such a study should identify specific

needs for program development, specific functions of a consortium, and financial commitments of interested institutions.

Objective: By 1979 additional needs for occupational health education within schools of nursing in the State should be determined.

Recommended Action and Resource Requirements

The current Statewide Study for Nursing and Nursing Education should include in its investigation the extent of the need for the development of occupational health nursing curricula through the State and particularly within the area.

Objective: By 1979 the State university system should strengthen the development of an occupational health nursing program within the School of Nursing.

Recommended Action and Resource Requirements

While the current Statewide Study for Nursing and Nursing Education is intended to determine the extent of needs for future nursing education program development, the immediate need has been identified in the area and the School of Nursing is prepared to provide a Masters-level occupational health nursing program.

It is recommended that the State university system give immediate consideration to the initiation of such a program in subsequent budget allocations.

Goal

Adequate data should be available to describe the nature and extent of occupational morbidity and mortality occurring in the area.

Rationale: Occupational morbidity and mortality data currently available for the area is inadequate for defining specific occupational health problems. Although the Worker's Compensation reporting system currently provides the best source of information to describe the more obvious occupational morbidity and mortality conditions, it is deficient as a data source to adequately describe the nature and scope of occupational illnesses.

Objective: By 1979 an investigation of the means for improving State reporting of occupational injuries and illnesses should be completed and recommendations made to the appropriate State agencies.

Recommended Action and Resource Requirements

HSA's throughout the State should jointly determine the existing deficiencies in available data in describing the nature of occupational illness and injury occurrences at the local area level and formulate recommendations for changes which should occur in the present Worker's Compensation data collection system. Such investigation should include consideration of the size of industry and the type of occupational illness (ICDA code) as specific data items which should be included in current reporting mechanisms.

The investigation should be carried out by a subcommittee of the State Data Coordination Committee, with representation from local HSA's, the Department of Industry, Labor and Human Relations, expertise in occupational health epidemiology, and other organizations as appropriate.

Objective: By 1979 it should be recommended to each major industry group in the area that joint employee-management studies be made of the morbidity and mortality of the industries in order to identify specific trends, and which would indicate the needs for the development of specific preventive action and health promotion strategies.

Recommended Action and Resource Requirements

The Worker's Compensation Council should investigate the feasibility of industry groups conducting such study efforts and should promote such undertakings, where deemed feasible, in order to more clearly define the nature of occupational illnesses occurring in the area and provide a substantial data base for the allocation of preventive services.

Example 4. (Based upon the approved plan by Northwest Oregon Health Systems Agency, 1978.)

OCCUPATIONAL HEALTH

Introduction

Determinants of occupational health are complex and difficult to define. How can one separate the working individual from the home environment, the recreational environment, and the occupational environment? Individual attitudes and behavior of the worker are other important factors to be considered. For example, smoking, alcohol consumption, and use of drugs are modes of behavior which can adversely affect health, especially of the worker who is exposed to chemicals and toxins in the work environment. The worker is also exposed to chemicals and toxins through air pollution as well as through chemicals used at home such as cleaning and garden products. The exposure to so many different degrees of chemicals and toxins illustrates the problem with defining determinants of occupational health. It also illustrates the futility

of trying to monitor the effects of these substances in the place of employment without monitoring the effects of substances on the worker outside of the place of employment.

Problem Description

There are enough laws in the state to protect the health of the workers. Many date back to 1915. The main problem is that there has never been enough money available from industry or from the taxpayers to implement and enforce laws that exist. There is another problem of ill-prepared manpower to administer and implement these laws. Incentives are lacking to persuade employers to invest money and time in employee health promotion programs. A clean, safe working environment occupied by healthy workers can improve production and cut down on work loss which can keep costs down reflecting good management. It is recognized that the economic status of small employers hampers the ability to provide employee benefits; however, small industry is most likely to have inadequate measures for worker safety.

Assessment of Need for Services

According to the Tri-County Community Council's Regional Priority Needs Survey for 1976, the unmet needs for occupational health and safety programs cannot be quantified at this time. The actual need according to number of individuals is almost impossible to measure.

While cost is not a barrier to individuals to obtain this service, budgetary limitations affect the amount of service which can be provided. There is a shortage of trained personnel in this area, especially occupational specialist and industrial hygienists.

A renewed interest in occupational health and safety was stimulated by the passage of the Occupational Safety and Health Act of 1970. This was also reflected at the state level with the passage of the Safe Employment Act in 1973. As a result of these legislative acts, more money and emphasis was placed on the problems of occupational health and safety. This emphasis should continue.

Given the complex nature of the problem, community resources need to be brought together to develop an occupational health plan. A task force should be organized with representatives from industry, unions, business, public health, health professional groups, Workmen's Compensation, Occupational Safety and Health Administration, Department of Environmental Quality, and others as needed for technical expertise.

Inventory of Existing Services (1)

Occupational Health Concerns is a program designed to promote and maintain community health through provision of a wide variety of occupational health and safety measures geared to the prevention and

control of occupational diseases and injuries. Program elements may include some or all of the following: 1) activities of safety engineers to detect work hazards and to correct them; 2) provision of pre-employment health examination, and, in some instances, annual physical examinations of employees; 3) provision of on-site or off-site medical departments for employee groups for medical examinations, for treatment of work-related injuries, and for detection of incipient health problems of employees; 4) conducting industrial hygiene investigations on a wide variety of industrial and occupational health problems in response to complaints thereto; and 5) conducting routine investigations to determine whether existing occupational health and safety laws are being observed.

(Persons working in this field indicate that this description does not reflect accurately current concepts of this field of service. For example, program elements under 1, i.e., safety programs and accident prevention, are now under Workman's Compensation Board. Program elements 2 and 3 are not new, receiving the emphasis they did in the past years. The activities in general under this field of service are geared to public health rather than the individual. Numbers 4 and 5 in program description more adequately state and present program elements in this field of service.)

The services in this field are provided for this area by the Occupational Health Section of the Health Division. By virtue of Federal and State laws, the State is the authoritative and enforcement agency. It is also the standard-setting and inspection agency. The staff of the Occupational Health Section of the State Health Division consists of a Director, Assistant Director, Occupational Health Nurse Consultant, Chief Chemist, Chemist, and eight field people (five positions filled now).

In 1975, the legislature passed SB 440 which provided that insurance companies must provide consultative services to clients. Most of the education and training of health and safety affairs for industries is done by these companies. The largest company is the State Accident Insurance Fund (SAIF).

Goal

All employers should have an active occupational health program which implements the following areas of concern.*

1. Compliance with State and Federal laws and standards as they pertain to the use of and exposure to toxic materials in places of employment.

*It is realized that employers of less than 100 employees may have difficulty implementing programs as complete as those of larger employers. Nevertheless at least a minimal program is recommended.

2. Enforce prudent measures to safeguard industrial workers from loss of hearing and vision by use of appropriate protection methods in compliance with existing laws.
3. Maintain high standards of air quality within and in the proximity of industrial sites in the interest of the health and well-being of industrial employees.
4. Maintain adequate sanitary facilities and a sanitary working environment within and in the proximity of industrial sites in the interest of the health and well-being of industrial employees.
5. Initiate pre-employment examinations for all new employees to assure that those employees who are at risk seek appropriate care to reduce their at-risk condition.**
6. Maintain an active accident prevention and health education program with emphasis on CPR training, first aid, smoking cessation, and others as needed to promote health and physical fitness in the employee.
7. Provide employees with on the job access to readily available medical care on the job site or through formal arrangements with a medical back-up system.
8. Initiate and maintain a program to educate employees on how to use the health care system appropriately. (See Physical Problems and Health Education Subject Areas.)

**There is a concern with the possibility that such pre-employment risk screening measures may be used punitively to discriminate against workers who themselves are not at risk but whose illness status may be of concern for other non-job related reasons, e.g., insurance rates.

(1) This section is taken from: Tri-County Community Council, Regional Priority Needs Survey, 1976, pp. III-119, 120.

OBJECTIVE

By 1983, a plan to promote the health of the working person should be available for implementation.

Action

1. Experts in the field of occupational health should be identified and form a task force to develop a plan to promote the health of the working persons.

Annual Implementation Plan

Occupational Health

HSP Long Range Objective

OBJECTIVE

By 1983, a plan to promote the health of the working person should be available for implementation.

AIP Short Range Objective

OBJECTIVE

By 1979, an occupational health task force will be established to begin the development of an occupational health plan.

One Year Recommended Actions

1. During 1978 the agency will cooperate with the State Accident Prevention Division, Industrial Physicians Association, Occupational Nurses Association, and Oregon State Health division to identify experts in the field of occupational health and form a voluntary steering committee representative of the six-county area.
2. The steering committee will provide names for the establishment of a task force.
3. By the end of 1978, the task force will convene and develop a plan format and guidelines.
4. Staff assistance will be obtained from public health officers.

Example 5 (Based on "Planning for Occupational Health in the California Inland Counties," 1978 (2).)

Goal

Create and maintain an occupational environment which contributes positively to the health and well being of the workers, their families, and the community at large through elimination of the risks of illness and injury in the work environment and surrounding area.

Objective A

Reduce to the lowest level possible all the ill-health related to the working environment.

Sub-objectives:

- a. Reduce to the lowest level possible the hazards to health due to the use of chemical and material agents in the working environment.
- b. Reduce to the lowest level possible health and safety hazards caused by unsafe mechanical devices in the working environment.

- c. Reduce to the lowest level possible, psychological and environmental factors such as noise, inadequate ventilation, lighting, space, heat, and inadequate sanitary facilities and procedures which contribute to ill health in the working environment.
- d. Encourage a local level program in the area of occupational health of consultation, education, and training for employees and employers which emphasizes prevention measures in the workplace.
- e. Study the occupational health manpower needs of the area.

Objective B

Encourage all interested and affected parties to engage in planning a comprehensive approach designed to eliminate occupational health hazards, to secure a healthy and aesthetically pleasing working environment, and to promote continuing research into occupational health problems.

Objective C

Continue to advise all interested parties in the private, public, and governmental sectors of the presence of an occupational health and safety hazard of considerable magnitude.

Objective D

Promote the development of a comprehensive public policy and program in occupational safety and health through utilization of available resources in the area.

A detailed discussion of the plan follows:

Objective A

Reduce to the lowest level possible all the ill-health related to the working environment.

Implementation

1. Intensify efforts of interested parties to broaden the concept of occupational health, to include not only a greater concern for on-the-job health of the worker, but his or her total health and well being.
2. Work with the Federal Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the State Department of Industrial Safety (DIS), the Bureau of Occupational Health within the State Department of Health, or State Department of Labor, Federal and State legislatures, the local health departments, local health and medical professional associations, and

centers of education and training, representatives from a broad range of labor and industry, and other interested public and private agencies and groups such as the American Public Health Association, The State Environmental Health Association, the local Industrial Hygiene Association, and county medical societies, in developing an occupational health education and research program. This program should specifically aim at the local level that would provide for a better understanding of the nature and extent of occupational health processes, their consequences to the individual worker, the worker's family and the community, and the effectiveness of occupational health controls.

3. Promote the development of a health services delivery system in the area in which the prevention, diagnosis, treatment, and rehabilitation of occupational illness and injury will be coordinated and integrated with all health services provided for the worker and the worker's family.
4. Encourage the development of techniques designed to make the full range of health services available and accessible, including those usually classified as occupational, at all work places. This should include promotion of innovative and experimental programs in the education and use of health personnel.
5. Encourage the federal government to legislate national health insurance with provisions for uniting on-the-job medical and health care with all other services provided the worker and his/her family; emphasize and fund environmental health and preventive health activities to a much greater degree than at present (HEW's new Forward Plan for Health makes it abundantly clear that health legislation must shift emphasis from curative medicine to prevention); and give serious attention to the Hazardous Substances Act.
6. Encourage the State Division of Industrial Safety to work with the Occupational Health Section of the State Health Department or State Labor Department and local environmental health jurisdictions, to train state inspectors in a comprehensive manner regarding both health and safety; and to develop an evaluation mechanism which would emphasize preventive measures now employed by industry as a direct result of the State/OSHA program.
7. Encourage the Occupational Health Section of the State Department of Health or State Department of Labor to increase its capacity for inspection and surveillance of occupational health hazards; to increase its training program efforts for state inspectors, employers, and employees regarding occupational health; to support legislation which would encourage the state to establish a priority for health research in occupational diseases and training for needed medical and scientific personnel; to increase capacity for laboratory analysis and evaluation of both cumulative and synergistic effects of substances and conditions in the workplace; to work with the State Department of Health, local health departments, and other appropriate agencies and citizen groups in

developing criteria for a work related illness history usable as a standard part of a medical history; and develop a system of evaluation which could measure the actual effectiveness of the industrial health program under State/OSHA.

8. Encourage and support environmental health jurisdictions to develop programs for the protection of the health and safety of working people within their respective counties; to expand information of its consultive services to stress a program which emphasizes occupational health, safety education, and preventive measures for voluntary compliance with health and safety standards; to work with the State Department of Health to implement a funding agreement for supportive services on the local level; to provide more training to district sanitarians in the area of occupational health and safety; to provide internships (field study) for students enrolled in degree programs in industrial hygiene, and to increase their manpower and resources to meet the demands of these critically needed services.
9. Encourage industry (management) within the area to accept responsibility for maintaining a healthy workforce as a basic operational cost, to develop, in concert with workers and their representatives, active health and safety committees, educational programs, and training pertinent to the workers' occupational health and safety needs; to recognize the particular problems of small industry and work in concert to develop shared programs in the area of medical services, training, and consultation to reduce costs, prevent duplication of efforts; and to become participants in the efforts of the Health Systems Agency.
10. Encourage labor unions to recognize occupational health and safety as a logical extension of health provisions in the collective bargaining agreement; to utilize the consultative services of environmental health departments or divisions; to increase concern for the health aspects of the work environment and encourage the State/OSHA program to do the same; to support national health insurance which includes provisions for on-the-job health care as a part of all other health care services offered to the employee; and to become participants in the Health Systems Agency.
11. Seek sources of funding for and promote the establishment of an Occupational Safety and Health Consortium. The Consortium would consist of representatives from industry, labor, employee associations, the insurance industry, elected officials, educational institutions, representatives from citizen groups, and the public at large.

Sub-objective a.

Reduce to the lowest possible level the hazards to health in operating mechanical devices in the work environment.

Implementation:

Encourage manufacturers to establish health and safety as a priority in the manufacturing of mechanical devices. This can be done by publicizing the magnitude of the health and safety problems through Chambers of Commerce, trade associations, and various commercial channels.

Sub-objective b.

Reduce to the lowest level possible long and short term hazards to health caused by the use of chemical agents in the work environment.

Implementation:

Strengthen and expand the concept of a registry of sources and users of chemical agents as now conceived by the State Health Department in connection with its support of the State's Occupational Safety and Health Plan. Manufacturers, suppliers, stores, transporters, and users would be required to furnish data on toxicity, carcinogenicity, combustibility, explosive potential, and any hazardous characteristics in the use, singularly or in compound, of such chemical agents. Such a registry would:

- a. Insure that all the locations of such substances would be known.
- b. Insure that proper information on handling, storage, ventilation, personal protective measures, and other safety precautions be available to everyone involved in their use.
- c. Permit newly discovered technical and safety information regarding the substances to be disseminated.

Sub-objective c.

Reduce to the lowest level possible hearing disability in the working environment.

Implementation:

1. Work with management and labor to institute engineering controls to reduce noise at its source.
2. Encourage management to maintain an effective hearing conservation program including the use of suitable acoustics and ear protection.
3. Encourage the vigorous enforcement of standards regulating the noise levels.
4. Press for national and state legislation to require the manufacture of low noise output equipment for use by industry.

Sub-objective d.

To reduce to the lowest level possible the psychological and environmental factors in the work environment that contribute to ill health, including inadequate heat, light, space, and sanitary facilities.

Implementation:

1. Presently there are no enforceable standards of heat, light, and space regarding the working environment. The Federal Occupational Safety and Health Administration, the State Department of Health, the State Division of Industrial Safety, the counties environmental health divisions, and representatives from labor and other citizen groups should thereby work together to formulate enforceable standards for heat, light, and space in the working environment.
2. Encourage more vigorous enforcement of sanitation standards by the state and local agencies.

Sub-objective e:

To study the occupational health manpower needs of the area.

Implementation:

1. Conduct a study in conjunction with other concerned county agencies to project the needs in each professional and paraprofessional category of occupational health.
2. Formulate plans based on results from the proposed Occupational Health Manpower Needs Study.
3. Encourage schools of medicine to include occupational health in their curriculum, and to offer residency training in occupational medicine, thereby increasing the number of physicians in the area who can properly diagnose occupational illness.
4. Conduct a study of educational institutions in the area to determine which institutions offer programs in occupational health and safety, and the nature and extent of their curriculum in occupational health and safety.
5. Encourage local colleges to offer programs and courses in occupational health and safety, and support the further development of those that exist.
6. Identify funds available for research and training of personnel in occupational health and safety.
7. Encourage the State Superintendent of Public Instruction and the

various school districts to expose students in the secondary schools to occupational health and safety -- possibly as part of courses in civics, social studies, the biological sciences, or special courses, -- and engender an awareness of career opportunities in the field.

Objective B

To encourage all interested and affected parties to engage in planning a comprehensive approach designed to eliminate occupational health hazards. To secure a healthy working environment, and to promote continuing research into occupational health problems.

Implementation:

1. Determine the extent to which Federal, State, and county agencies are planning to meet the stated health objective.
2. Determine the resources required to establish occupational safety programs in the area capable of attaining the stated health goal.
3. Determine through expert opinion and employee surveys, what constitutes "lowest rates possible" regarding accidents and illness on an industrywide basis.
4. Provide the public with the information necessary to express their judgment regarding the cost, effectiveness, and desirability of present and proposed occupational health and safety programs.

Objective C

To advise all interested parties in the private, public and governmental sectors of the presence of an occupational safety and health problem of considerable magnitude.

Implementation:

1. Organize or hold forums, meetings, hearings, and workshops for all interested parties, advising them of the results of the HSA inquiries and findings.
2. Identify sources of funding to increase distribution of information, such as surveys, statistical compilations, reports, and similar materials.

Objective D

To promote the development of a comprehensive public policy and program in occupational safety and health through utilization of available resources in the area.

Implementation:

1. Encourage the development of a network or system of coordinated efforts in the form of an "Occupational Health Consortium," to monitor and analyze existing programs and to recommend alternate occupational health policies and programs in the area.
2. Such a consortium is to include all interested and affected parties: industry, labor, educational institutions, insurance agencies, medical and public health personnel, and the public.
- c. In terms of other forms of disabilities and human suffering, the cost of otherwise preventable diseases and injuries is hard to calculate in conventional terms.

Sound occupational health planning can serve as one of the viable mechanisms to reduce needless human suffering and economic loss. Here, the HSA is determined to play, along with other interested parties, a key role in developing preventive measures.

Example 6 (Based on the Health Systems Plan for Los Angeles County, Environmental Health Plan for 1976.)

GOAL

Create and maintain an occupational environment which contributes to the good health and well-being of the workers and their families, and thereby the community.

Sub-Goal:

A working environment in which the risks of illness and injury are eliminated.

OBJECTIVE

To reduce to the lowest level possible all the ill-health related to the working environment.

Sub-objectives:

Reduce to the lowest level possible the long term and short term hazards to health due to the use of chemical and material agents in the working environment.

Reduce to the lowest level possible health and safety hazards caused by unsafe mechanical and engineering devices in the working environment.

Reduce to the lowest level possible psychological and environmental factors such as noise, inadequate ventilation, lighting, space, and

heat, inadequate sanitary facilities and procedures which contribute to ill-health in the working environment.

Encourage a local level program in the area of occupational health of consultation, education, and training for employees and employers which emphasizes preventive measures in the workplace.

OBJECTIVES FOR HEALTH SYSTEMS AGENCY

To continue to advise all interested parties (workers, unions, employers, governmental agencies, medical and public health personnel, insurance companies, and the community) of the presence of an occupational health and safety problem in the area of epidemic proportions.

To continue to engage all interested and affected parties in planning a comprehensive approach in securing a healthy working environment by eliminating occupational health hazards and by promoting continuing research into occupational health problems.

To promote a coherent public policy and program for occupational health and safety and to monitor the functional development of existing public policies and programs in this area.

Given the priority of preventing occupational disease, to expand and nationalize current wage loss compensation provisions for work related illness such that a program would be comprehensive, efficiently administered, timely, and equitable.

RECOMMENDATIONS AND IMPLEMENTATION

The process of planning for any form of social change is incumbent upon a network/system of coordinated effort by a great many agencies, groups, and individuals toward an agreed upon goal or objective. Planning efforts must focus on both immediate and long range goals; and how the implementation of the one will effect the other. The recommendations and implementation strategies which follow will be useful only if the full range of resources called upon are (1) utilized; and (2) if each segment of a given implementation strategy is consciously linked by the participants of that segment to all the others. While a certain number of recommendations are necessarily long range, the emphasis for occupational health and safety in the area is focused in an implementation strategy which will:

Develop a cooperative and comprehensive community policy and program for occupational health by including a broad coalition of representatives from labor, industry, and the general public in both the planning and regulatory process.

OBJECTIVE

To reduce to the lowest level possible, all ill-health related to the

working environment.

IMPLEMENTATION

1. Strengthen the power of interested parties as a catalytic force for a broadened concept of occupational health, to include not only a greater concern for the on-the-job health of the worker, but his or her total health and well-being.
2. Work with the Federal Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the State Department of Industrial Safety (DIS), the Bureau of Occupational Health within the State Department of Health, Federal and State legislatures, the County Department of Health Services, local medical and health professional associations and centers of education and training, representatives from a broad range of labor and industry, and other interested public and private agencies and groups such as the American Public Health Association and the State Environmental Health Association, in developing an occupational health, education, and research program aimed specifically at the local level that would provide for a better understanding of the nature and extent of occupational health processes, their consequences to the individual worker, the worker's family and the community, and the effectiveness of occupational health controls.
3. Promote the development of a health services delivery system in the area in which the prevention, diagnosis, treatment, and rehabilitation of occupational illness and injury will be coordinated and integrated with all health services provided for the worker and the worker's family.
4. Aid in the integration and coordination of the diverse sectors of Federal and State government, and specifically county government, currently responsible for some portion of occupational health and safety, in order to increase the effectiveness of all groups. This would include current control programs (OSHA, the Bureau of Occupational Health and Radiation Management), the county government's Personnel Department program for county employees, the city occupational health and safety programs for employees, and all health care facilities treating persons with work related illness, injury, or disability.
5. Encourage the development of techniques designed to make the full range of health services available and accessible, including those usually classified as occupational, at all work places. This should include promotion of innovative and experimental programs in the education and use of health personnel.
6. Encourage the Federal Government (NIOSH) to:
 - a. Increase its scientific and technical staff in order to

upgrade its research capabilities. Each year should see a substantial decrease in the need to subcontract the research needed to prepare criteria documents for exposure to occupationally used substances.

At the present time, almost the full staff must be pulled away from on going and long range projects whenever a serious single health-related disease is unearthed. Vinyl chloride is an example.

We believe that there should be a single Federal agency charged with standards setting for occupational substances. NIOSH, at the appropriate time, would be most suitable. At present, EPA, for example, is responsible for pesticides. The Department of Energy is responsible for radiation. State OSHA last year spent \$200,000 for its own standards setting board which did nothing except duplicate federally set standards. That is \$100,000 alone which could be allocated to a national federal program and \$100,000 of state funding which could be utilized by other aspects of the State/OSHA program.

- b. Work more closely with OSHA to provide the technical assistance needed for adequately training Federal enforcement officers in industrial health.
 - c. Increase the number of health related materials available for educational and training purposes. Real emphasis should be given to providing materials useful to community and worker education programs.
 - d. Work more closely with other programmatically-related divisions within HEW. Encourage them to follow up on projects begun within NIOSH and have NIOSH do the same. Some efforts have been made in this direction, but more is needed.
 - e. Continue to emphasize the long term effects of chemical substances which eventually can have adverse health effects on the human body even if such is not the case for the short range. NIOSH must continue to support the concept that short and long range effects of exposure to toxic substances cannot be rendered with any final exactitude, and that if error is made it should be on the side of protecting human health.
 - f. Have input regarding proposed program requirements of PL. 93-641 which deals with occupational health.
7. Encourage the Federal Government to:
- a. Legislate National Health Insurance with provisions for uniting on-the-job medical and health care with all other services provided

the worker and his/her family.

At the present time, National Health Insurance legislation is unlikely to pass Congress. The proposal we are making would not only aid in regulating costs, but would shift the emphasis of such insurance towards actually reducing ill health.

The Health Systems Agency: Los Angeles County should, as a part of its occupational health implementation planning, draw up a more extensive statement in this area and present it to appropriate national representatives.

- b. Emphasize and fund environmental health and preventive health activities to a much greater degree than at present. HEW's new Forward Plan for Health makes it abundantly clear that health legislation must shift emphasis from curative medicine to prevention.
- c. Give serious attention to the Hazardous Substances Act which is presently before Congress.
- d. Understand that there is a very real connection between unemployment and ill health. Economic policies must begin to reflect these concerns.

The American Public Health Association, among others, has recently begun efforts to interject into discussions of national occupational and health policy, vital interdependencies such as these. Much more work is needed at all levels of government.

At this point we turn our attention back to the immediate concerns of state and local government and the private sector at these levels. It is of concern that the different branches and levels of government, all charged with some aspect of promoting the health and well-being of working men and women continue to act in an isolated and fragmentary manner, instead of mounting the mutually cooperative effort which is needed. In the matter of occupational health, it is incumbent upon the Health Systems Agency to (1) impress upon Federal program divisions the real need to begin interacting with local level programs directly; and (2) to point out to Federal, State, and local agencies that effective implementation of all occupationally related health legislation requires coordinated efforts on the part of all. It is no real excuse, for example, that the enforcement provisions of State/OSHA are a deterrent to the effective workings of a local level program. No one is, or can, do a very good job alone in this area, but all levels of government are dependent upon each pulling its own weight in terms of program mandate and responsibility.

- 8. Encourage the state government (the Governor and the Legislature) to:
 - a. Carefully reexamine the effectiveness of the State/OSHA program

in order to determine whether it should be continued or returned to Federal OSHA.

The question of primary importance is: has the health and safety of the working people in the state been improved since the implementation of State/OSHA? If it has, how has this improvement been demonstrated? If it has not, why not, and is it possible to implement the necessary changes?

We believe that on the local level there is little which points to an improvement in working conditions as a result of State/OSHA. Program mandates have not been adequately met, monies have been ill-used, local resources have not been utilized, small industry has not been substantially helped to improve working conditions, and working people have not received the help which was mandated under the 1970 OSHA Act.

At this time, we believe that it is, however, impossible to make a quick or final decision to return State/OSHA to the Federal government. For all the apparent problems which State/OSHA has, experience to date indicates that Federal OSHA is not equipped to do a better job.

There is strong evidence to support the concept that implementation of the 1970 OSHA Act can only be achieved in the long-run through a single, comprehensive national program.

What needs to be ascertained at this point is: given the needs of working people at the local level today, what is the most effective short-range program and policy of health and safety available?

- b. Ensure adequate funding levels for State/OSHA and for the training and manpower programs necessary within the state university system to provide physicians, nurses, occupational hygienists, industrial sanitarians, and support personnel for the effective implementation and maintenance of the program.

In 1975, State/OSHA had budgeted only \$70,000 for its training programs. Such an amount is decidedly insufficient.

Additionally, without specific funds for occupational health training, the State university system is not going to increase its attention and resources toward this need.

- c. Support a coherent policy of occupational health which gives priority to both the short and long-range health consequences of the workplace environment.

As with the Federal program, State/OSHA is designed to place

safety far in excess of health considerations. This has resulted in inadequate training of enforcement personnel and a generally inadequate State occupational health program.

9. Encourage the State Division of Industrial Safety to:

- a. Increase its State inspection force to provide the manpower needed to run an adequate enforcement program.

A six-month backlog of answering complaints points to this need.

- b. Work with the Occupational Health Section of the State Health Department to train State inspectors in a comprehensive manner regarding both health and safety. There have been far too many complaints from both employers and employees about inadequate training of inspectors, both technically and administratively.

Penalties for violations of health and safety standards have repeatedly been successfully appealed by employers because proper administrative processes were not followed.

Finally, regardless of the competence of a state inspector, he or she is severely limited by a caseload which is impossible to keep abreast of.

- c. Make all necessary changes in the program as directed by the federal Department of Labor's "On Site Evaluations." If technical assistance is required from the federal level for a given aspect of the program, it should be sought.
- d. Develop an evaluation mechanism which would emphasize preventive measures now employed by industry as a direct result of the State/OSHA program.

What engineering changes have been made?

What changes have been made in the use of materials?

What changes have been made in choice of processes?

An effective industrial health and safety program should emphasize control at the source of hazardous substances.

- e. In line with a. - d. support policies and programs which would make State/OSHA prevention-oriented as opposed to its present "crisis-orientation".

This can be done by:

1. Supporting legislation which would license industries which use toxic substances (known carcinogens, for example). Knowledge in advance of industries which are likely to be

highly hazardous to health and safety of employees should substantially aid the director of program efforts.

2. Supporting a strong contractual program with local government for technical assistance and consultation to employers and employees at the local level.
3. Development of programs which would aid small industries in solving their health and safety programs. (One day "training seminars" are not adequate.)

Federal OSHA has not been successful to date in implementing an adequate program of consultation to small industries.

4. Work closely with organized labor and community agencies to develop materials and programs which would aid the worker in understanding and dealing with health and safety programs.
10. Encourage the Occupational Health Section of the State Department of Health to:
- a. Recommend that its technical advisory functions for establishment of standards regarding the use of workplace substances be returned to the Federal level.
- This task is only duplicative of Federal standards, is time consuming, and is wasteful of actual research needs in occupational health.
- b. Increase its capacity for inspection and surveillance of occupational health hazards.
- It is disturbing to note that State/OSHA reports less health related hazards than national estimates indicate exist. We feel that one reason for this is poor coordination of activities between the Occupational Health Unit and the DIS.
- c. In line with b. increase its training program efforts for State inspectors, employers, and employees regarding occupational health.
 - d. Finalize contractual agreements for technical and consultative assistance with local health departments.
 - e. Support legislation which would encourage the State to establish a priority for medical research in occupational diseases and training for needed medical and scientific personnel.
 - f. Increase capacity for laboratory analysis and evaluation of both cumulative and synergistic effects of substances and conditions

in the workplace.

It seems that to date a sizable portion of funds available to the State/OSHA health program have gone into the purchase of laboratory equipment. There is some question as to the necessity of this equipment in order to effectively implement it.

- g. Work with the State Department of Health, local health departments, and other appropriate agencies and citizen groups in developing criteria for a work related illness history usable as a standard part of a medical history.

If cases of occupational disease were effectively reported, there would be a good foundation (epidemiological) for determining causes of occupational illness.

As previously stated, the State requires physicians to report cases of occupational illness, but lack of training and knowledge about such illnesses keep the system from being of value.

Programs which encourage occupational health units coordinated with hospital emergency rooms are being developed in other parts of the country. Training of hospital staffs to check for work related illness at the point of "in-take" is being stressed.

- h. Develop a system of evaluation similar to that recommended of the DIS which could measure the actual effectiveness of the industrial health program under State/OSHA.
- i. Implement the necessary changes as directed by the Federal Department of Labor's "On-Site Evaluations".

Above all, the State Department of Health must improve coordination of resources and services with the County Department of Health Services.

11. Encourage the County Government (Department of Health Services) to:

- a. Recognize their responsibilities for the protection of health and safety of working people within the County by:

Increasing the amount of funding for a comprehensive occupational health and safety program useful to both employers and employees.

The budget allocation for the Division of Environmental Management should be substantially upgraded; and

the proposed Health Licensing Fee program for selected manufacturing establishments should be passed.

- b. Promote the coordination of resources and services between the Health Department's Bureau of Occupational Health and the occupational health program operated through the County's Personnel Department.

It is astonishing to know that the Personnel Department program is better funded than the Bureau which is responsible for the entire County population.

- c. Recognize their contractual agreements for occupational health and safety services with the majority of cities within the county.
- d. Encourage the Bureau and the Department of Health Services to initiate a program of occupational health services within the county hospitals.

12. Encourage the County Department of Health Services, Bureau of Occupational Health and Radiation Management to:

- a. Act upon its mandate to provide consultative services to both industry and workers throughout the county.

It can be argued that the reason services are not more widely used (provided) is due to the decisive lack of manpower within the Bureau. However, we believe that the Bureau is obligated to actively inform local employers and employees that specific services do exist and can be requested.

If the Bureau could point to a request caseload for assistance from a broad range of industries and workers, then a substantial case could be drawn from the need for more funding.

- b. Expansion and information of its consultive services should stress a program which emphasizes:
 - 1. occupational health and safety education
 - 2. prevention measures for voluntary compliance with health and safety standards.
- c. Upgrade its staff such that it can increase its mandated inspection potential by approximately 20 percent of the present rate per year for five years so that every place of employment could be inspected at least once every five years, with most frequent inspections accorded to places of employment with hazardous types of processes and materials.

The Health Licensing Fee program would substantially aid program efforts made under this recommendation.

This recommendation was made in the 1973 Occupational Health Plan.

We believe that without the increased funding which is necessary to upgrade this program, the increased efforts must be made to train and utilize district sanitarians in such inspection efforts.

Only a program which pursues its mandated responsibilities actively can suffice to encourage industry to voluntarily comply with health and safety standards.

- d. Actively meet its mandate to provide services in health and safety to the cities within the county with which it has contractual agreements for such services.

It is incumbent upon the local city governments, and employers and employees within a given area to request from the Bureau the full amount of services due under the contractual agreements.

- e. In line with 12.d., work with appropriate State and local agencies, including medical associations, to strengthen the reporting requirements of physicians regarding cases of occupational disease.
- f. Work with the State Department of Health to implement a funding agreement for supportive services on the local level.

Although the State did not sign any agreements with local governments in 1974 - 1975, the Bureau did not sufficiently press their proposal to the State. It is understood that the Bureau was aware that the State was not going to implement this vital aspect of State/OSHA, but we feel more energy could have been directed to public awareness of the State's inaction. By not pursuing efforts vigorously from the local level, the State was in a position to simply say that local government had not made a full proposal.

- g. Both State/OSHA and the county would benefit enormously from such a funding agreement:
 - (1) it would strengthen the disease recognition capabilities of both agencies;
 - (2) it would increase the capacity to investigate and conduct epidemiological studies on occupational disease.
- h. Increase its capability to respond to complaints of workers regarding their work environment and aid in referring such complaints to the local branch of the DIS.

Such a cooperative information and referral service could be activated with a minimum of effort if the DIS and the Bureau could work out a basic program of materials and adequate administration of referrals. The Bureau could also inform the party of consultative services which it has available, making clear

that such services do not constitute an authorized inspection.

Employees remain uncertain of their rights under State/OSHA and are primarily concerned that hazardous or potentially hazardous workplace situations be brought under control as quickly as possible. If proper assistance could be provided to them, the necessity for having to file a complaint to State/OSHA could be reduced.

- i. More training must be provided to district sanitarians in the area of occupational health and safety under a program directed by the Bureau and coordinated throughout the Division of Environmental Services.
- j. Additional efforts must be made on the part of the Bureau to encourage the Department of Health Services to (1) at a minimum cooperate much more closely regarding its own personal department occupational health and safety program; and (2) at a maximum to merge these program activities completely under the management of the Bureau.

This is an incredible waste of money and duplication of effort in the sole interests of a special interest group at the expense of the community.

- k. Provide internships (on-the-job training) for students enrolled in degree programs in industrial hygiene.

13. Encourage Industry (Management) within the county to:

- a. Accept responsibility for maintaining a healthy workforce as a basic operational cost.

There must be full realization that all diseases, occupational and non-occupational, are the concern of industry if there is to be a productive environment both for the short and long-range.

- b. Develop, in concert with workers and their representatives, functional health and safety committees, educational programs, and training pertinent to the workers' occupational health and safety needs.

There are a number of international union plans which could be used as a prototype for such a committee, as well as several good company plans.

Additionally, many companies subscribe to some form of occupational health and safety insurance which is supposed to provide consultative services to the company in the area of employee health and safety training.

Too often such insurance is seen by the industry as a protective device against OSHA. If properly utilized, such insurance could become a preventive and diagnostic tool aiding in the process of voluntary compliance.

We believe that employees do have a right to participate fully in decisions which will have an effect on their health and welfare. We believe that it is in the best interests of employers to accept that right of their employees, although the financial costs are the primary responsibility of the employer.

- c. Utilize the consultative services available from the County Department of Health Services.
- d. Support the County's Bureau of Occupational Health in their request for a "Health Licensing Fee."

Certain segments of local industry have expended time and money far in excess of the proposed licensing costs to keep the County from instituting such a program. When such choices are made, we believe that they are at odds with the long-range needs of the industry, the employees, and the community.

- e. In planning for occupational health and safety services, recognition must be given to the interdependence between this form of "pollution" and abatement procedures, and processes called for to bring the industry into compliance with external pollution standards such as air, water, waste, and noise.

It would be ideal if the industrial problems of pollution could be seen as of a piece, instead of continuing to fragment and isolate them. In the long run, we believe that costs could be substantially reduced if this viewpoint were sufficiently implemented.

- f. Recognize the particular problems of small industry and work in concert to develop shared programs in the area of medical services, training, and consultation to reduce costs, and prevent duplication of efforts.

This is an area where the State and the county should be asked to give technical and planning assistance.

As stated in the text, too often a large industry will sub-contract out to a smaller, more marginal company work which may be highly hazardous. Such practices need correction.

- g. Become participants in the efforts of the Health Systems Agency.

14. We believe that it is essential that the worker's knowledge, capabilities, and cooperation be fully utilized for the successful maintenance of a healthful and safe working environment. Labor unions and employee associations are encouraged to:

- a. Make sure that their members are knowledgeable about their rights and responsibilities under Federal OSHA and State/OSHA.
- b. Broaden and strengthen ongoing education programs in occupational health and safety.

There are an increasing number of groups throughout the country, primarily coalitions of labor, science, and medicine, who have developed excellent educational materials and courses for workers.

On the local level there is a small coalition of this nature which has some support from organized labor, but which in order to really aid the worker, community needs much more. The work of this group indicates that rank-and-file workers are eager for assistance.

- c. Recognize occupational health and safety as a logical extension of health provisions in the collective bargaining agreement.

At a minimum, a good collective bargaining agreement should contain provisions for an equalized labor-management health and safety committee which functions to improve the reporting and correction of occupational health and safety deficiencies in the workplace.

- d. Utilize the consultative services which the County Bureau of Occupational Health is mandated to provide.
- e. Increase concern for the health aspects of the work environment and encourage the State/OSHA program to do the same.

Safety problems are but the tip of the iceberg. Not only do Federal and State program efforts devote too few resources to health, but labor also continues to emphasize safety to the neglect of health problems.

- f. Support National Health Insurance which would include provisions for on-the-job health care as a part of all other health care services offered to the employee.

- g. Become participants in the Health Systems Agency.

15. Seek sources of funding for and promote the establishment of an Occupational Safety and Health Consortium. The Consortium would consist of representatives from industry, labor and employee associations, the insurance industry, elected officials, representatives from citizen groups, and the public at large.

The duties of the Consortium would include but not be limited to:

- (1) Review and comment on proposed Occupational Safety and Health Programs relevant to the County.

The evaluation can be implemented through reports presented by the agency submitting the program, followed by an assessment of the presentation by an HSA Occupational Safety and Health Task Force and representatives of community groups.

- (2) Coordinate public education efforts in the area of occupational safety and health.
- (3) Prepare an annual report for publication summarizing its inquiries, findings, and conclusions.

Sub-Objective: Reduce to the lowest level possible the hazards to health in operating mechanical devices in the work environment.

IMPLEMENTATION

1. See 15-1 under the previous Objective.
2. Encourage manufacturers to establish health and safety as a priority in the manufacturing of mechanical devices. This can be done:
 - a. By publicizing the magnitude of the health and safety problem through Chambers of Commerce, trade associations, and various commercial channels.
 - b. By printing instructions for the operation of machinery in more than one language.
 - c. By appealing to the humaneness of the manufacturer.

Sub-Objective: Reduce to the lowest level possible long and short-term hazards to health caused by the use of chemical agents in the work environment.

IMPLEMENTATION

1. Strengthen and expand the concept of a registry of sources and users of chemical agents as now conceived by the State Health Department in connection with its support of the State's Occupational Safety and Health Plan. Manufacturers, suppliers, stores, transporters, and users would be required to furnish data on toxicity, combustibility, and volatility, explosive potential and any hazardous characteristics in the use, singularly or in compound, of such chemical agents.

Such a registry would:

- a. Insure that all the locations of such substances would be known.
 - b. Insure that proper information on handling, storage, ventilation, personal protective measures, and other safety precautions be available to everyone involved in their use.
 - c. Permit newly discovered technical and safety information regarding the substances to be disseminated.
2. Encourage passage of a law requiring the labeling of chemical substances in more than one language.

Sub-Objective: To reduce to the lowest level possible hearing disability in the working environment.

IMPLEMENTATION

1. Work with management and labor to institute engineering controls to reduce noise at its source.
2. Encourage management to maintain an effective hearing conservation program including the use of suitable acoustics and ear protection.
3. Encourage the vigorous enforcement of standards regulating the noise level as contained in the Amendments to the Walsh-Healey Act.
4. Press for National and State legislation to require the manufacture of low noise output equipment for use by industry.
5. Encourage the automation of certain work processes to remove the individual from a high noise level work environment. Certain types of operations are inherently noisy and such noise cannot be eliminated. However, the individual can be removed from the environment by using automation or remote control. Since automation generally replaces the individual worker, a conflict of social values emerges which society must ultimately resolve.
6. Seek to revise current laws relating to standards regulating noise levels.

Sub-Objective: To reduce to the lowest level possible the psychological and environmental factors in the work environment that contribute to ill health, including inadequate heat, light, space, and sanitary facilities.

IMPLEMENTATION

1. Presently there are no enforceable standards of heat, light, and space

regarding the working environment. The Federal Occupational Safety and Health Administration, the State Department of Health, the State Division of Industrial Safety, the County Bureau of Radiation Management, and representatives from labor and other citizen groups should thereby work together to formulate enforceable standards for heat, light, and space in the working environment.

2. Encourage more vigorous enforcement of sanitation standards by the State particularly in workplace locations having a large number of poor, minority, and non-English speaking employees.

Sub-Objective: To study the Occupational Health manpower needs of the County.

IMPLEMENTATION

1. Conduct a study in conjunction with the Department of Human Resources Development to project the needs in each professional and non-professional category of Occupational Health, adequate to provide a reservoir of trained personnel.
2. Formulate plans based on results from the proposed Occupational Health Manpower Needs Study.
3. Encourage Schools of Medicine in the State to:
 - a. Include Occupational Health in their curriculum.
 - b. Offer residency training in Occupational Medicine, thereby increasing the number of physicians in the area who can properly diagnose occupational illness.
4. Conduct a study of educational institutions in the State to determine:
 - a. Which institutions offer programs in occupational health and safety.
 - b. The nature and extent of their curriculum in occupational health and safety.
5. Encourage community colleges to offer courses for plant managers and supervisors designed for certification in occupational health and safety.
6. Identify funds available for research and training of personnel in occupational health and safety.
7. Encourage the State Superintendent of Public Instruction and the various school districts to expose students in the secondary schools to occupational health and safety - possibly as part of courses in civics, social studies, the biological sciences, or special courses, -

and engender an awareness of career opportunities in the field.

OBJECTIVE - HSA

To continue to engage all interested and affected parties in planning a comprehensive approach designed to eliminate occupational health hazards, to secure a healthy working environment, and to promote continuing research into occupational health problems.

IMPLEMENTATION

1. Determine the extent to which Federal, State and county agencies are planning to meet the stated health objective.
2. Determine the resources to establish an occupational safety program in the county capable of attaining the stated health goal.
3. Determine through expert opinion and employee surveys, what constitutes "lowest rates possible" regarding accidents and illness on an industrywide basis.
4. Provide the public with the information necessary to express their judgement regarding the cost, effectiveness, and desirability of present and proposed Occupational Health and Safety programs.

OBJECTIVE - HSA

Continue to advise all interested parties (i.e. workers, employers, governmental agencies, physicians, public health personnel, insurance companies, and the public) of the presence of an occupational safety and health problem of considerable magnitude.

IMPLEMENTATION

1. Continue to hold forums, meetings, hearing, and workshops for all interested parties advising them of the results of our inquiries and findings.
2. Identify sources of funding to increase distribution of information, such as surveys, statistical compilations, reports, and similar materials.

OBJECTIVE - HSA

To promote the development of a coherent (systematic) public policy and program in occupational safety and health.

IMPLEMENTATION

1. In conjunction with the proposed consortium, (see Section 17 above) review and comment on the following:
 - a. The State Occupational Safety and Health Plan and the Federal Occupational Safety and Health Act of 1970.
 - b. The County's proposed Health Licensing Fee Program.

REFERENCES

1. Schramm, Carol Winkler, "Wellness in Wisconsin", American Journal of Health Planning, Vol. 3, No. 3, July, 1978.
2. El-Ahrar, Amer, "Planning for Occupational Health in the California Inland Counties", prepared for the Health Systems Agency, San Bernardino, California, 1978.

APPENDIX B

CLINICAL ASPECTS AND ORGANIZATIONAL APPROACHES TO THE DELIVERY OF OCCUPATIONAL SAFETY AND HEALTH SERVICES

The following two tables are presented to describe the association between general categories of industry and specific occupational safety and health problems, and to introduce the scope of clinical services required for comprehensive occupational disease surveillance. These tables are intended to serve as guides only; they are not fact sheets. They do not consider behavioral and motivational factors which may predispose accidents and illness, nor do they furnish concrete data for an analysis of specific operations vs. exposure. Disease patterns will vary according to the substances and processes used within an industry and with the individuals who use them. Not all workers within a given SIC will be adversely affected, nor will those affected be stricken either in an identical manner or to the same degree. There are also existing service delivery mechanisms, for occupational safety and health that are illustrative of the range of approaches that can be effective. Examples of delivery approaches are provided.

Table 1, SIC - Disease matrix is an attempt to specify several types of occupational health problems which may occur in these major industrial groups. The matrix was constructed by first examining health hazards associated with the materials and processes used within each SIC category. The results of this examination were grouped by organ system. The final outcome identifies disorders of possible occupational origin experienced by workers in the SIC. Only the most common health problems which would arise as a result of usual on-the-job activity are listed. Recognized health problems are signified with an "x"; an "o" represents suggested associations. The health problems may refer to an SIC as a whole or an industry contained within it. Those industries which exceed the U.S. median accident rates in frequency ("F") or severity ("S") are noted. Column titles are two-digit SIC's or subcategories thereof.

Table 2 contains the medical surveillance recommendations from some NIOSH criteria documents. This table should demonstrate the range of clinical services associated with occupational disease surveillance. It should be kept in mind that this is only one facet of the totality of occupational safety and health services, which also include environmental monitoring, safety services, and health education.

APPENDIX B

Table 1. SIC-DISEASE MATRIX

	Agric. Crops	Agric. Livestock	Agric. Services	Forestry	Fishing, Etc.	Metal Mining	Coal	Oil & Gas Extraction	Nonmetal Mining
Blood-Lymphatic Disorders						0			
Cardiovascular Disorders									
Musculo-Skeletal Disorders	X	0	0			0	0	0	0
Neurologic Disorders									
Respiratory Disorders									
Extrin. Allerg. Alveolitis	X		X						
Pneumoconioses & Fibrosis						X	X		X
Chronic Bronchitis					X	X	X		X
Emphysema									
Edema						0			0
Up. Resp. Tract Irrit.	X	X	X	X	X	X	X	X	X
Pneumonitis									
Asthma	X		X	X					
CA of Resp. Tract						X			X
Skin Disorders									
Dermatitis	X	X	X	X	X	X	X	X	X
Skin Cancer	X	X				0	0	0	0
Dis. of Physical Hazards									
Cold Stress	X	X			X	0	0	X	0
Heat Stress (Cramps, stroke, etc.)	X	X				X	X	X	X
Hearing Loss	0	0	0		0	X	X	X	X
Poisoning									
Lead Poisoning									
Metal Fume Fever									
Systemic Poisoning (Miscellaneous)	X	X	X	0		0	0	0	0
Miscellaneous									
Accidents	S	S	FS	FS		S	FS	FS	
Allergy									
Liver or Uro-Gential Disorders						0			

Table 1 - Continued

	Build. Construct.	Other Construct.	Special Contract.	Food Mfg.	Tobacco Mfg.	Textile Mfg.	Clothing Mfg.	Lumber, Wood	Furniture Mfg.
Blood-Lymphatic Disorders			0			0		0	0
Cardiovascular Disorders	0	0	0						
Musculo-Skeletal Disorders	X	X	0						
Neurologic Disorders			0					0	X
Respiratory Disorders									
Extrin. Allerg. Alveolitis				0	X			X	X
Pneumoconioses & Fibrosis		X	0						
Chronic Bronchitis	0	0	0		0	0			
Emphysema						X			
Edema		0	0			0			0
Up. Resp. Tract Irrit.	X	X	X		X	X		X	X
Pneumonitis									
Asthma			0	0		0		0	0
CA of Resp. Tract			0						
Skin Disorders									
Dermatitis	X	X	X	X	X	X	X	X	X
Skin Cancer	X	X	0					X	
Dis. of Physical Hazards									
Cold Stress	X	X	0					X	
Heat Stress (Cramps, stroke, etc.)	X	X	0			X		X	
Hearing Loss	X	X	X	X		X	0	X	X
Poisonings									
Lead Poisoning	0		0						
Metal Fume Fever	0	0	0						
Systemic Poisoning (Miscellaneous)	0	X	0						0
Miscellaneous									
Accidents	FS	FS	FS	FS		F		FS	FS
Allergy			0	X	X	0	0	X	0
Liver or Uro-Genital Disorders	0	0	0	0					0

Table 1 - Continued

	Paper Mfg., Etc.	Print, Publish.	Chemicals	Petroleum Refining	Rubber, Plastics	Leather	Stone, Clay, & Glass	Primary Metal	Fabric. Metal
Blood-Lymphatic Disorders	0	0	X	X	X	0		0	0
Cardiovascular Disorders			0					X	0
Musculo-Skeletal Disorders								0	
Neurologic Disorders	0	X	X	X	X	0		X	0
Respiratory Disorders									
Extrin. Allerg. Alveolitis			X		X				
Pneumoconioses & Fibrosis			X				X	X	0
Chronic Bronchitis		0	X		0		X	X	
Emphysema			X					X	
Edema	0	0	X	X	0			X	0
Up. Resp. Tract Irrit.	X	X	X	X	X	X	X	X	X
Pneumonitis			X					X	0
Asthma	0	0	X	0	X	0		0	0
CA of Resp. Tract			X				X	X	
Skin Disorders									
Dermatitis	X	X	X	X	X	X	X	X	X
Skin Cancer								X	0
Dis. of Physical Hazards									
Cold Stress									
Heat Stress (Cramps, stroke, etc.)								X	
Hearing Loss	X	X	X	X	X	0	X	X	X
Poisonings									
Lead Poisoning		X	X					X	0
Metal Fume Fever			X	0			0	X	0
Systemic Poisoning (Miscellaneous)	0	0	X	X	X			X	
Miscellaneous									
Accidents					FS	F	FS	FS	FS
Allergy	0	0	X	0	X	X		0	0
Liver or Uro-Genital Disorders	0	0	X	0	X	0		X	0

Table 1 - Continued

	Machinery	Elect. Machinery	Transport. Equip.	Analytic Instr.	Misc. Mfg.	Railroad Transp.	Taxi, Bus, & Truck	Postal Serv.	Water Transp.
Blood-Lymphatic Disorders	0	0		0					
Cardiovascular Disorders		0		0			0		
Musculo-Skeletal Disorders						0	0		0
Neurologic Disorders	0	0	0	0					
Respiratory Disorders									
Extrin. Allerg. Alveolitis									
Pneumoconioses & Fibrosis	0	0							
Chronic Bronchitis									
Emphysema									
Edema	0	0							
Up. Resp. Tract Irrit.	X	X	X	X	X	X	X		0
Pneumonitis									
Asthma	0	0	0	0					
CA of Resp. Tract									
Skin Disorders									
Dermatitis	X	X	X	X	X	X	X	X	X
Skin Cancer	0	0							
Effects of Physical Hazards									
Cold Stress									0
Heat Stress (Cramps, stroke, etc.)									
Hearing Loss	X	X	X	0	X		0		
Poisonings									
Lead Poisoning	0	0							
Metal Fume Fever	0	0	0	0	0				
Systemic Poisoning (Miscellaneous)				0					
Miscellaneous									
Accidents	FS		S		F	S	S	S	S
Allergy	0	0	0	0	0	0	0		
Liver or Uro-Genital Disorders	0	0	0	0					

Table 1 - Continued

	Air Transp.	Pipe Lines	Transp. Serv.	Communication	Utility Serv.	Car Dlr., Gas Stat.	Personal Serv.	Auto Repair	Misc. Repair	Health Serv.
Blood-Lymphatic Disorder						0	0	0		
Cardiovascular Disorders							0			
Musculo-Skeletal Disorders				0						
Neurologic Disorders						0	0	0		
Respiratory Disorders										
Extrin. Allerg. Alveolitis										
Pneumoconioses & Fibrosis						0		0		
Chronic Bronchitis						0		0		
Emphysema										
Edema							0			
Up. Resp. Tract Irrit.	0	0	0	X	X	X	X	X		X
Pneumonitis										
Asthma						0	0	0		
CA of Resp. Tract										
Skin Disorders										
Dermatitis	X	X	X	X	X	X	X	X	X	X
Skin Cancer				0						
Dis. of Physical Hazards										
Cold Stress				0	0					
Heat Stress (Cramps, stroke, etc.)				0						
Hearing Loss	0					0		0		
Poisonings										
Lead Poisoning								0		
Metal Fume Fever					0		0			
Systemic Poisoning (Miscellaneous)						X		X		
Miscellaneous										
Accidents	S	S	S	S	S				FS	
Allergy				0		0	0	0	0	0
Liver or Uro-Genital Disorders						0	0	0		0

Table 2. Medical Surveillance Recommendations from NIOSH Criteria Documents

	Personal History	Work Exposure History	Physical Exam	EKG	Lung Function	X-Ray	Vision Tests	Blood Chem.*	Complete Blood Count	Urinalysis	Sputum Cytology	Skin Exam	COMMENTS
Acetylene	X		X										
Acrylamide	X	X	X				X					X	
Alkanes (C5-C8)	X	X										X	
Allyl Chloride	X	X	X		X	X			X	X		X	
Ammonia	X												
Anesthetic Gases and Vapors (waste)	X	X	X										
Arsenic (inorganic)	X	X	X			X			X		X	X	
Benzene	X	X	X						X	X			
Benzoyl Peroxide	X	X	X									X	
Beryllium	X	X	X		X	X							
Boron Trifluoride	X	X	X		X	X							
Cadium	X	X	X		X	X		X 1	X	X			
Carbaryl	X	X	X					2		X			
Carbon Dioxide	X		X										
Carbon Disulfide	X	X	X	X						X			

Table 2. continued

	Personal History	Work Exposure History	Physical Exam	EKG	Lung Function	X-Ray	Vision Tests	Blood Chem.*	Complete Blood Count	Urinalysis	Sputum Cytology	Skin Exam	COMMENTS
Carbon Monoxide			X					3					Attention Cardiovascular System
Carcinogens	X	X			X					X		X	
Chlorine	X	X	X		X	X							
Chloroform	X	X		X				1		X			
Chromic Acid	X	X	X			X						X	
Chromium (VI)	X	X				X		1		X		X	
Coke Oven Emissions			X	X	X					X	X	X	
Cotton Dust	X		X		X								
Epichlorohydrin	X	X	X					1	X	X			
Ethylene Dichloride 1,2 dichloroethane	X	X	X		X			1					Attention Cardiovascular System
Fibrous Glass	X	X	X		X	X						X	
Formaldehyde	X	X	X										A general statement "appropriate tests"
Hot Environments	X	X	X		X			1		X		X	Attention Cardiovascular System

Table 2. continued . . .

	Personal History	Work Exposure History	Physical Exam	EKG	Lung Function	X-Ray	Vision Tests	Blood Chem.*	Complete Blood Count	Urinalysis	Sputum Cytology	Skin Exam	COMMENTS
Hydrogen Cyanide Cyanide Salts	X	X										X	
Hydrogen Fluoride	X	X	X		X	X	X			X		X	
Hydrogen Sulfide	X	X	X										
Isopropyl Alcohol	X	X	X										
Lead (inorganic)			X					X	X	X			
Malathion	X	X	X				X	2					
Mercury (inorganic)			X							X			
Methyl Alcohol	X	X	X				X						
Methyl Parathion	X	X					X	2					
Methylene Chloride	X	X	X		X			3	X				
Nickel (inorganic)	X	X	X		X	X				X	X	X	
Nickel Carbonyl	X	X	X		X	X							Urinary Nickel
Nitric Acid	X	X	X		X								
Nitrogen Oxides	X	X	X		X	X							
Organotin	X	X	X	X	X	X	X	1		X			

Table 2. continued . . .

	Personal History	Work Exposure History	Physical Exam	EKG	Lung Function	X-Rays	Vision Tests	Blood Chem.*	Complete Blood Count	Urinalysis	Sputum Cytology	Skin Exam	COMMENTS
Petroleum Solvents	X	X	X					1	X	X			Attention Nervous System
Phenol	X	X	X					1 X	X	X			Attention Cardiovascular System
Phosgene	X	X	X		X								
Silica-Crystalline	X	X	X		X	X							
Sodium Hydroxide			X										
Sulfur Dioxide			X										
Sulfuric Acid			X				X					X	
1,1,2,2 Tetrachloroethane	X	X	X					1					
Tetrachloroethylene	X	X	X					1				X	Attention Cardiovascular System
Toluene			X						X	X			
Toluene Diisocyanate	X	X	X		X	X							
1,1,1 Trichloroethane	X	X	X					1				X	Attention Cardiovascular System
Trichloroethylene	X	X	X		X		X	1		X			

Table 2. continued . . .

	Personal History	Work Exposure History	Physical Exam	EKG	Lung Function	X-Ray	Vision Tests	Blood Chem.*	Complete Blood Count	Urinalysis	Sputum Cytology	Skin Exam	COMMENTS
Ultra Violet	X	X											
Xylene	X	X	X					1	X	X		X	
Zinc Oxide	X	X	X		X	X							

* Blood Chemistry is coded as follows:

1 = liver function test

2 = cholinesterase

3 = carboxyhemoglobin

4 = other

Examples of Organizational Mechanisms for the Delivery of Occupational Safety and Health Services

The examples provided below demonstrate the range of possible organizational arrangements that have been implemented to deliver occupational and non-occupational health care services to workers and their families.

Example 1. A corporate health care management system addresses both occupational and non-occupational health care services for workers (1).

In describing the program it is stated, "the truth of the matter, of course, is that any disease in an employee is influenced by the job. In fact, the health of employees who have no demonstrable disease in the ordinary sense is also significantly influenced by the job."

This program approach, termed Health Care Management (HCM), is based on authority, provided voluntarily by the employee, for the company to manage the health care provided to employees, a "mechanism through which a positive effect on the real health of employees can be achieved while containing health related cost and optimizing efficiency of the health care system."

The Health Care Management concept is based on the premise, "that if the health of an employee could be managed by competent professionals in the company's medical department in its entirety, it would be possible ... to guarantee that individual the best health for the longest time and to guarantee that the health services delivered would be of the highest quality at the lowest cost." The concept also suggests, "that if a majority of the individuals in an industrial population were managed in this way, the health care of the entire working population could, for all practical purposes, be brought under effective control."

HCM is divided into three levels, 1) management of a specific illness or injury, 2) planning a lifetime health strategy for the employee, and 3) the employee's full cooperation with the health plan outlined for him.

While this particular example indicates assumption of responsibility for total health care, other approaches are developed based on variations of this, often including only those health problems more specifically associated with and attributed to the workplace.

Example 2. The Industrial and Occupational Health Clinic at the Peter Bent Brigham Hospital, Boston, Massachusetts (2) "provides a type of ambulatory health care to greater Boston employees and employers that is not available in any other area hospital."

The clinic was started in 1959 for the purpose of providing medical services and followup for persons with work-related injury or disease.

There is no formal arrangement with the employers that utilize the service and after hours coverage is provided by the emergency room. The clinic serves 5,000-6,000 patients per year. The staff consists of a medical director, a nurse practitioner, a secretary and a receptionist.

This service has developed from an inhouse employee occupational safety and health service into the provision of consultation and medical services to local industry. This was accomplished by utilizing resources of the Harvard School of Public Health in combination with the hospital clinic.

Example 3. The problems involved in providing services on an economically feasible basis to employees of small plants requiring outside resources to support effective programs, are discussed (2).

The free standing industrial medical clinic servicing such industry has, in the case of the Detroit Industrial Clinic, P.C., Southfield, Michigan, proved to be an effective and economically feasible delivery system for occupational safety and health services.

Example 4. One local health department in Ohio (3) has established an occupational safety and health nursing and environmental consultation service. The service is provided to local industry based on a contractual arrangement with the health department for several hours of nursing service per week at a nominal fee.

The nurse maintains the first aid station and provides employee health counseling and other services as authorized by the employees family physician, (e.g., administering medications, checking patient progress etc.) In addition, walkthrough surveys, first aid services, routine tests (blood pressure, T.B. skin testing), pre-employment histories, recordkeeping, and health referral are provided.

The service, while not expanding significantly and providing minimal services, has been well received by both employers and employees.

Example 5. The Kansas "Program to Lower the Utilization of Services" (PLUS) (4), should be of particular interest to health planners as it developed out of the priority setting process required in State plan development under P.L. 93-641. It "is a health promotion and maintenance program geared to workers in business and industry...to identify precursors to chronic illness...and to provide the worker with incentive, information, opportunity, and support to change behavior by a series of programs called "interventions". The program was modeled from a test with health department employees. This will be followed by introducing the concept to business and industry in the State. The program is to be designed so industry can use all or part. The goal of the agency is operational programs at the workplaces of at least 20 major employers.

The project PLUS implementation scheme is based on adding it to employee benefit packages. This will be shared by health insurers, employers, employees, and government.

A major incentive of this program is the fact that insurers will be asked to negotiate a premium rate lower than expected if the employer participates in the prevention program. The local health department staffs are considered a potential resource for the program operation.

Example 6. Rapid company growth and the Occupational Safety and Health Act caused one company (5) to consider developing a new medical facility. Other companies in the area were without occupational medical services. The result, the Columbus Occupational Health Association, a voluntary, non-profit association of business and industry for the provision of comprehensive occupational medical services. The capital for equipment, building, land, etc. was put up by one company. Services are available on a fee-for-services basis. The growth has been impressive, from the original seven to 100 businesses since 1970. This will include a workforce of over 25,000 employed in business and industry in 15 states.

Example 7. The Kimberly-Clark Corporation (6) has developed a comprehensive program of health management for salaried employees. The company hopes for improved productivity, reduced absenteeism, and a reduced rate of health and medical insurance cost increase.

It is described as one of the most extensive programs for illness prevention for a large group of employers, in a company's own facilities. The company spent \$2.5 million for a 7,000 square-foot multiphasic health testing facility and a 32,000 square-foot physical fitness facility for the 2,100 employees at its corporate offices.

Example 8. One HSA, the Health Planning Council, Inc., (HPC) Madison, Wisconsin, has "a long standing commitment to the prevention of illness and the promotion of health." (7) This is supported by a State initiative for illness prevention and for wellness promotion. The work place was identified as the health care setting with highest priority because 1) employers are now motivated due to rising cost, 2) reinforcement of improved behavior can take place in this setting, 3) the work place is convenient, 4) the HPC service area had an existing employee program usable as a base and local interest in expansion.

This model was developed by adding prevention components to an "existing Trouble Employee's Program...expanded to deal with both physical and mental health and...basic screening services, consumer information, health education, and other preventive services." Implementation is now taking place with programs operational at the work places of three major employers.

These examples indicate the range of possible approaches to health care delivery including occupational health, at th workplace. They further demonstrate that the line between planning for health care services for area residents and planning for occupational and non-occupational health services for workers is indeed a fine one.

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2. "Development of Clinic-Based Occupational Safety and Health Programs for Small Businesses" DHEW (NIOSH) Publication No. 77-172, August, 1977.
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3. Ralston, Glenna, R.N.,B.S., "Keeping the Small Plant Healthy". Ohio's Health, Vol.XXV, No. 9, September, 1973.
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6. "Kimberly-Clark Health Management Program aimed at Prevention." Occupational Safety and Health, November, December, 1977.
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APPENDIX C

SELECTED BIBLIOGRAPHY OF REFERENCES AND DATA SOURCES

The following Bibliography has a two-fold purpose: 1) to describe generally available sources of information of potential value in assessing occupational health needs and 2) to cite basic reference works in occupational health which provide an overview useful in health planning.

Basic References in Occupational Safety and Health

This is a concise guide to industrial health problems with emphasis on the specific associations which exist between occupations and disease. The major types of occupational diseases and hazards are covered: dermatoses, pneumoconioses, and effects of chemical, physical, biological, and psychological hazards. The section dealing with chemical hazards is especially detailed, noting for each compound listed: local effects, systemic effects, route of entry, diagnostic tests, and references for further information.

Hamilton, Alice and Hardy, H.L. "Industrial Toxicology." Third Edition
Publishing Sciences Group, Inc., Acton, MA., 1974.

For common industrial hazards, specific use, and harmful effects are described. For substances, treatment and control are also discussed. Especially valuable is the attention given types of compounds, e.g., aliphatic hydrocarbons, since it is in these forms that hazards are generally encountered in industry. The book was written for physicians and may at times be more detailed than desired. Extensive bibliography.

Hunter, Donald "The Diseases of Occupations," Fifth Edition.
The English Universities Press, Ltd., London, 1975.

Hunter has managed to synthesize two histories - the medical history of workers' health problems and the industrial history of the 19th century. His primary emphasis is clinical. However, he is mindful of the importance of environmental factors in producing a clinical syndrome. Consequently, he describes the chemical composition of the materials handled in various occupations as well as their industrial processes and work conditions. Also examined is the problem of health manpower distribution and the European approach to occupational health services.

Hutchison, M.K. "A Guide to the Work-Relatedness of Disease." USDHEW
(NIOSH) Publication 77-123. U.S. Government Printing Office,
Washington, D.C., 1976.

This monograph addresses the complexities inherent in determining the work-relatedness of disease. Factors associated with establishing the link between disease and occupation are discussed. The book presents a method for collecting, organizing, and evaluating medical, occupational, and other evidence, which might be useful in establishing, for purposes of workers' compensation, the work-relatedness of disease.

International Labour Office. "Encyclopaedia of Occupational Health and
Safety." Two Volumes. International Labour Office, Geneva, 1971.

These volumes are comprised of articles by experts from all over the world. Drawing on the literature of many countries, the articles deal with materials, industries, industrial processes, occupational diseases and their treatment, early detection and prevention, and hazard control.

Key, M.M., et al. "Occupational Disease: A Guide to Their Recognition." National Institute for Occupational Safety and Health, (NIOSH). Cincinnati, Ohio, 1977.

NIOSH. "Industrial Environment-Evaluation and Control." USDHEW, PHS, CDC, NIOSH. Cincinnati, Ohio, 1973.

NIOSH Research Report, "Guidelines on Pregnancy and Work", DHEW (NIOSH) Publication No. 78-118, Rockville, Maryland, September 1977.

The guidelines are a framework for the application of clinical judgement. They are designed to help the practicing obstetrician assemble and interpret the information necessary to make clinical recommendations to protect the health of the pregnant worker and her fetus.

NIOSH, "Comprehensive Bibliography on Pregnancy and Work", DHEW (NIOSH) Publication No. 78-132, Rockville, Maryland, March 1978.

A bibliography of English and foreign articles dealing with the influence of the work and home environment on the health of mother and fetus.

Patty, F.A. (Ed.). "Industrial Hygiene and Toxicology" (Vol. II) Third Edition. John Wiley and Sons, New York, In press.

As its title suggests, this is a basic reference in industrial hygiene. Volume II discusses groups of materials commonly used in industry and, for each, notes the following: (1) sources, uses, properties, and industrial exposures, (2) physiological response, and (3) Threshold Limit Values. For many compounds, methods of environmental monitoring and warning properties are listed. A final chapter examines occupations and industries of special interest to industrial hygiene. It has excellent references and extensive bibliography.

Zenz, Carl (Ed.) "Occupational Medicine: Principles and Practical Applications." Yearbook Medical Publishers, Inc., Chicago, Illinois, 1975.

Zenz examines the role small business, hospital clinics, and community out-reach efforts can play in providing occupational health services within the context of an industrial hygiene and occupational medicine program. He deals with major types of diseases and major types of controls available. Special attention is given to industrywide problems such as dermatoses and occupational hearing loss, as well as to the many parties who can influence the healthfulness of a workplace.

The chapters of this syllabus were written by a group of distinguished professionals selected from industry, universities, consultant groups

and government, to reach the beginners in the profession. It compiles into one source the diversity of expertise needed to attain competency in the recognition, evaluation, and prescription of methods of control of environmental problems.

Data Sources

I. Industry -- Employment Data Source

A. County

"Census of Agriculture, 1974: Area Reports" (Volume I). Bureau of the Census, Department of Commerce. Government Printing Office, Washington, D.C., 1972.

Published every five years, these reports list the number of farms, types of crops raised, chemicals used, and machinery on hand. Number of employees is not listed. In addition, "Special Reports" (Volume V of this series) gives detailed information on aspects of the agricultural industry, e.g., dairy farming.

"Census of Manufacturers, 1972: Area Reports" (Volume III). Bureau of the Census, Department of Commerce. Government Printing Office, Washington, D.C., 1972.

For cities, counties, and SMSA's, detailed statistics regarding employment, production, payroll, and work conditions are presented. "Location of Manufacturing Plants" shows the number of manufacturing plants by size and by county.

"County Business Patterns." Social and Economics Statistics Administration, U.S. Department of Commerce. Washington, D.C., 1973.

Published annually since 1964, this series lists the number of establishments in each SIC as well as the number of production workers and the total number of employees for each group. Government, most railroad, self-employed, domestic service, and agricultural workers are not included, nor are employees of ocean borne vessels. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or often in local libraries.

"Division of Employment Security," _____, _____.
County State

DES keeps a listing by county and SIC of the number of persons employed and the number of establishments. This is usually the most timely source available for these items. This Division can generally be located by contacting the State Department of Labor. It is likely to be useful, not only for the timeliness of its data, but also for detail not easily obtainable elsewhere, e.g., agricultural employment and names of

establishments.

"Industrial and/or Manufacturing Directories."

These are usually published annually for each state and are usually available for the previous five years. In most cases, the following items are included for each establishment: address, product, SIC, number of employees, year established, and name of person to contact regarding general information. These directories exclude agricultural and government establishments, most service industries, and many construction and home businesses. Since a fee is sometimes charged for listing, many small manufacturers may not be included.

B. SMSA and Large Areas

"Census of Mineral Industries, 1972." U.S. Bureau of the Census, Department of Commerce. Washington, D.C.

Data for this census is aggregated solely by regions to ensure the industries' confidentiality. The following information is assembled by SIC, by type of establishment, and by region: number of establishments, number of employers, total wages, total man hours. Information will be useful to the HSA to the extent that it gives a sense of the Regions' relative involvement in a particular mining industry.

"Census of Retail Trade, 1972." Area Statistics, (Volume II and III). U.S. Bureau of the Census, Department of Commerce. Washington, D.C.

This is published every five years. For SMSA's and major retail centers, it notes the number of establishments and employees by SIC.

"Employment and Earning," (Volume 23 #5). Bureau of Labor Statistics, Department of Labor. Washington, D.C.

This is a monthly serial which lists the number of employees, average weekly and hourly earnings, and average hours worked by SIC. Production workers are separated from total. It also examines labor turn-over. The number of "quits" (voluntary termination of employment, including health) by SIC, and the involuntary termination of employment, (including health) by SIC are listed for the nation, states, and metropolitan areas.

II. Disease and Injury Data Sources

A. County

Mason, T.J. and McKay, F.W. "U.S. Cancer Mortality: 1950-1969." U.S. Cancer Institute, National Institutes of Health (DHEW-NIH 74-6-15). Bethesda, Maryland, 1974.

The total number of cancer deaths for each county in the U.S. during the period 1940-1969 is presented. Also included by county are age-adjusted death rates according to sex, race, and site of neoplasm. The county referred to is the county of usual residence as it is recorded on the death certificate. The total U.S. population for 1960 is used as the standard for the period.

"Vital Statistics of the United States: Annual Mortality Report, 1974." Mortality (Volume II). National Center for Health Statistics, U.S. Department of Health, Education, and Welfare. Government Printing Office, Washington, D.C., 1975.

This lists the number of deaths by county for selected diseases.

"Vital Statistics of (state), 1975." Division of Vital Statistics, State of _____.

This publication usually lists death rates by cause for the state, making allocations for broad disease categories to counties. Industrial accidents and deaths investigated are specifically enumerated.

B. National

"Federal Railroad Administration"

This department keeps all statistics relating to railroad employees, a group often excluded from workforce statistics gathered by the Department of Labor. Publications are available through the U.S. Department of Transportation. Principal health and safety publications are:

"FRA Guide for Preparing Accident/Incident Reports, 1975."

This book contains a list of all reports which must be filed as well as extensive definitions of terms included in the reports. It is necessary for interpretation of FRA statistics.

"Accident Bulletin: Summary and Analysis of Accidents on Railroads in the United States (No. 143)."

This annual publication includes selected ten year history tables showing trends, detailed tabulations of casualties, and damages by cause and by railroad. A monthly report, "Summary of Accidents/Incidents Reported by All Line Haul and Switching Terminal Railroad Companies" is also published.

"Preliminary Report of Railroad Accidents/Incidents and Resulting Casualties, April, 1976."

The equivalent of OSHA's reporting form, this monthly publication enumerates accidents, fatalities, injuries, and illnesses (called incidents).

"Minerals Yearbook, 1973." U.S. Bureau of Mines and Mining Enforcement Safety Administration, Department of the Interior.

This annual report lists the number and type of injuries by SIC within mining and discusses in summary fashion, employment, injury, and technological trends.

"Occupational Injuries and Illnesses in the United States by Industry, 1974."
Bureau of Labor Statistics, U.S. Department of Labor. Washington, D.C.

Based on a sample of 650,000 OSHA summary reports, this survey lists number and incidence rates for disease and accidents by SIC and industry size, and type of disease as a percent of the total.

III. Related References

"Occupational Employment in Manufacturing, 1971." Series 430 #1-113.
Bureau of Labor Statistics, Department of Labor. Washington, D.C., 1974.

In this series, 113 selected industries as defined by SIC are described. Each industry is analyzed with respect to its occupations, principal locations, and distribution of establishments and size.

"Standard Industrial Classification Manual." Bureau of the Budget,
Government Printing Office, Washington, D.C., 1972.

This taxonomy is used to classify places of employment by major type of activity. Factories, businesses, and farming establishments are included. Statistical data collected by the U.S. Government, state agencies, and trade associations are usually assembled using these categories.

Any industrial establishment can be classified. The classification is three-tiered. A two-digit classification represents the broadest category, e.g. manufacturing. Within each two-digit classification are three- and four-digit refinements. The three-digit classifications tend to represent specific functional divisions within the greater category. The four-digit classification usually gives a more detailed breakdown of the industrial activity.

"Detailed Characteristics, (state): 1970." Social and Economic Statistics Administration, Department of Commerce. Government Printing Office, Washington, D.C., 1972.

These volumes contain demographic information based on current census and compiled for small areas including counties.

"State Estimates of Disability and Utilization of Medical Services, 1969-71." Health Resources Administration DHEW Pub. # (HRA) 77-1241.
Government Printing Office, Washington, D.C.

Using the Health Interview Survey and population estimates from the 1970 Census of Population, state estimates of health services used have been

compiled. An assumption is made that a state's health-related characteristics will differ from national estimates only to the degree that social or demographic characteristics deviate from the national profile. Health related services examined are: limitation of activity due to chronic conditions, short term disability days, utilization of short-stay hospitals, utilization of physicians, and dental services.

"Census of Construction Industries, 1972." (Volumes I and II). U.S. Bureau of the Census, Department of Commerce. Washington, D.C.

Every five years the Bureau samples 1,000 establishments and estimates the following: number of establishments by size, average number of employees, mean number of construction workers per establishment, mean number of all other employees, and the number of employers.

"Employment and Earnings: Household Interview Data, November, 1976." Bureau of Labor Statistics, Department of Labor, Washington, D.C.

This monthly survey is designed to estimate (1) characteristics and past work experience of unemployed, and (2) number who left a job or took reduced employment as a result of illness or disability.

"National Safety Council." 444 North Michigan Avenue, Chicago, Illinois.

This public service organization is a major source of accident statistics and safety information. Services include specialized journals, newsletters, and educational equipment.

"Program on Current Employment Analysis." Bureau of Labor Statistics. U.S. Department of Labor. Washington, D.C.

Using data gathered by the Bureau of Census's Current Population Survey, this program analyzes special aspects of the labor force. Estimates are published monthly of characteristics such as age, sex, race, ethnicity, marital status, occupation, industry, and class of worker. Special topics are covered on a one-time or annual basis. These include: characteristics of special groups in the labor force, long-range projections of the labor force, tables of work life expectancy, and socio-economic studies of the American worker.

"Social Security Administration." Department of Health, Education, and Welfare. Baltimore, Maryland.

Because most workers in the U.S. are covered by Social Security, this Department is a valuable source of industry-occupation information as well as disability statistics. Data available to the public include:

1. Beneficiary Data (OSADI-SSI) -- Data on primary diagnosis and occupation of disabled workers under the Social Security Program and the supplemental Security Income Program. These are maintained

through separate statistical systems. A stratified state sample secures information for approximately 25% of each year's new awards. Neither county nor SMSA data are available.

2. Continuous Disability History Sample (CDHS) -- A partial sample of disabled workers is coded annually. The following information is stored for each worker sampled: primary diagnosis, occupation, county of residence, SIC. County of residence was not stored between 1970 and 1975.
3. Basic Statistical Data Files -- Four 1% samples are drawn annually from the universe of social security numbers for which employment was reported that year. These are:
 - a. Employee-Employer Sample (EE - ER) -- Relevant data elements include demographic information, wage, industry (SIC), and county of employment.
 - b. Self-Employed Sample (SE) -- This is identical in analysis to EE-ER with the exception that benefit status is also included.
 - c. Longitudinal Employee-Employer Data Sample (LEED) -- This file merges EE-ER files for an extended period with the result that all of the records associated with a single employee over the time span of the file appear together and in sequence.
4. Social Security Disability Statistics, 1975 -- Social Security Administration, Department of Health, Education, and Welfare. Washington, D.C.

This publication lists characteristics of applicants for whom determinations were made during the proceeding calendar year including: (1) disability rates by state, (2) disease rates by state, (3) occupation by diagnostic group, and (4) occupation by state.

Other Resources

"Analysis of Workmen's Compensation Laws, 1975." U.S. Chamber of Commerce. Government Printing Office, Washington, D.C., 1975.

This study describes the coverage available under law to workers in the United States for job-related accidents and illnesses.

Bingham, Eula (Ed.) Proceedings: "Conference on Women and the Workplace." Society for Occupational and Environmental Health, Washington, D.C., 1977.

This meeting addressed the subject of placement of workers in high risk areas, sex related health risks associated with job placement patterns, and

current legislation and its implications for women workers.

Burkart, J.A. and de Groot, N.F. "An Analysis of Worker's Compensation Case Data in Agriculture." ARAL Program (TR201-001). Utah Biomedical Test Laboratory, Salt Lake City, Utah, November, 1975.

This report analyzes 84,576 case records of agricultural workers who suffered occupational-related illnesses or injuries in six states and Puerto Rico. Data availability and limitations are discussed.

Carnow, B.W., et al. "A Bookshelf on Occupational Health and Safety." 65:503-520. American Journal of Public Health, 1974.

Lists major texts, important articles, and the most significant symposium and conference proceedings using the following topic headings: Industrial Hygiene and Toxicology, Safety and Accident Prevention, Occupational Medicine, Legislation, and Source of Information.

Discher, D.P., Kleinman, G.D., and Foster, J.F. "Pilot Study for Development of an Occupational Disease Surveillance Method." USDHEW (NIOSH) 75-162. Government Printing Office, Washington, D.C., 1975.

Presents the results of a pilot study designed (1) to determine the utility of procedures designed for finding occupational disease in a cross-sectional survey, and (2) to ascertain how much new data the method would generate. The survey questionnaire is included. This monograph is useful in that its findings illustrate the potential for index-reporting of occupational health problems and presents an instrument of possible usefulness in a local survey or plant investigation.

"National Clearing House for Alcohol Information (NCAI)." Rockville, Maryland.

This organization offers numerous services to those interested in alcoholism, whether for purposes of research, treatment, or service delivery. Alcoholism is an occupational problem in that two of its major consequences are absenteeism and industrial accidents. The following is by no means an exhaustive list of NCAI publications and services.

Bibliographic References -- These are available "on-line." NCAI will search a topic of your choice, e.g. "Alcoholism and Occupational Safety."

Hayward, B.J., Mathews, C.M., and Threat, R.M. "Occupational Programming: An annotated Bibliography." (FR 30-75). Human Ecology Institute, Raleigh, North Carolina, July, 1975.

"Alcohol and Health: Second Special Report to the U.S. Congress from the Secretary of HEW. (017-024-00 399). U.S. Government Printing Office,

Washington, D.C., June, 1974.

This compilation of recent research describes broad areas where alcohol is a problem. Of special interest are the sections dealing with the health consequences of alcohol use, and with "problem drinkers on the job."

National Council on Alcoholism, Inc., 733 Third Avenue, New York, N.Y.

This voluntary organization publishes materials particularly useful in health education. Selections from their Department of Education and Prevention and Labor and Management follows:

Trice, Harrison. "Alcoholism in Industry, Modern Procedures."

"Advances in Secondary Prevention of Alcoholism through the Cooperative Efforts of Labor and Management in Employer Organizations."

"Company/Union Programs for Alcoholics."

"Health Insurance Coverage for Alcoholism."

Rose, V.E. "Reliability and Utilization of Occupational Disease Data." U.S. Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, NIOSH, 1977.

Recommendations are presented for the modification of the occupational disease surveillance system used in the U.S. The primary focus involves the development and application of guidelines for determination of specific diseases with emphasis on surveillance as a by-product of prevention. The goal of the recommendation is to make occupational disease reporting a part of the overall control effort.

"Health Planning Related to Environmental Factors." United States Department of Health, Education, and Welfare, Bureau of Health Planning Resources Development. Government Printing Office, Washington, D.C., In press.

Developed by Drexel University under contract no. HRA 230-76-0247, this report includes one volume of guidelines to HSA's regarding a general approach to dealing with environmental hazards in developing HSP's and AIP's. It also includes four volumes which provide illustrations of specific strategies in the acquisition of data, setting of goals and objectives, and analysis of actions and resources needed to effecuate plans for health status and health systems improvement.

"Directory of Poison Control Centers." (FDS 72-7001). United States Department of Health, Education, and Welfare, Division of Hazardous Substances and Poison Control. Government Printing

Office, Washington, D.C., 1971.

Lists over 600 centers which provide for the medical profession on a 24-hour basis, information concerning the treatment and prevention of accidents involving poisons or potentially poisonous substances.

"Directory of Health Officers, Registrars, Principal Statisticians, and Research Directors in the United States." United States Department of Health, Education, and Welfare, National Center for Health Statistics, Rockville, Maryland, 1977.

A list by state of the names, titles, organizational locations and telephone numbers of health officers, etc. Published annually.

"Selected National Data Sources for Health Planners." (DHEW (HRA) 76-1236). United States Department of Health, Education, and Welfare, National Center for Health Statistics, Rockville, Maryland.

A survey of existing data sources which may be useful to health planners. The name, maintaining agency, data elements and the manner aggregated are specified.

"Criteria Documents." United States Department of Health, Education and Welfare, NIOSH. Government Printing Office, Washington, D.C.

These reports contain official NIOSH recommendations to OSHA for occupational health standards, and evaluations of supporting scientific evidence. There are 80 of these documents thus far, each dealing with a specific industry, substance, or group of substances. Major sections of each are: recommendations for a standard, biologic effects of exposure, environmental data, engineering controls, and work practices. These may be useful for details about an industry or hazardous agent.

Seidman, Bert, AFL-CIO; Binns, Gordon W., Jr., General Motors Corporation; Co-Chairman. "Labor-Management Group Position Papers on Health Care Cost." Labor-Management Staff Health Care Task Force, 1978. Department of Social Security, AFL-CIO, Washington, D.C.

APPENDIX D

Sample Worksheets for Development of an Industrial Profile

The worksheets which follow have been designed to facilitate the development and use of an industrial profile for a planning area. They are provided to demonstrate one method of displaying summary information on area industry including a listing of potential exposures to hazardous substances and physical agents. This information will indicate some occupational conditions, diseases, and injury types of importance in the health service area. In addition, it will provide a basis for the development of goals, objectives, and implementation strategies for environmental control, health education, and the delivery of medical services.

The worksheets are intended to help the HSA select those industrial classifications and occupational categories which are most appropriate for emphasis in the HSP and AIP. Specifically, this will identify major employers and potential exposures of the employees to health and safety hazards. It also identifies the community resources available to effectively deal with the identified problems, resource gaps, and resource coordination. Therefore, this or a similar process of information collection and analysis should be carried out to identify the high priority occupational problems, resources, and resource gaps.

Worksheet I

MAJOR INDUSTRIES

Rank order by size of employment the HSA's largest three-digit SIC's.
List number of employees and number of establishments for each.

Rank	SIC	Number Employees	Number Establishments	Hazardous Exposures *	Associated Diseases *
<u>1</u>					
<u>2</u>					
<u>3</u>					
<u>4</u>					
<u>5</u>					
<u>6</u>					
<u>7</u>					
<u>8</u>					
<u>9</u>					
<u>10</u>					
<u>11</u>					
<u>12</u>					
<u>13</u>					
<u>14</u>					
<u>15</u>					

TOTAL _____

% of Total Working Population _____

* See Appendix B

Worksheet IIa

INITIAL GROUP AND AGENCY CONTACT

Contact OSHA, NIOSH, state unions, and state employer associations to gain an overview of current occupational health and safety activities.

OSHA

Designation	Person to Contact	Current Activities

Worksheet IIb.

OSHA

For major SIC's attempt to obtain the following information through OSHA area office.

SIC	Inspections: Number and Type	Number Standards Violated	Standard Violated	Hazardous Substances Involved	Type of Citation
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Worksheet IIc.

NIOSH

Based on information obtained from the Regional Office and any appropriate National Office, note the following:

Designation	Person to Contact	Surveys, Investigations and Evaluations
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Worksheet IId.

UNIONS AND EMPLOYEE ORGANIZATIONS

List all major unions and employee organizations represented in the HSA. Note their involvement, if any, in occupational health issues.

Union or Organization Name	Occupational Health and Safety Represen- tative	Other Representative (Specify Title)	SIC's Included	Occupational Health and Safety Activities
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Worksheet III

AVAILABLE OCCUPATIONAL SAFETY AND HEALTH RESOURCES

Survey the HSA to ascertain what medical programs currently operate in the area and - at least partially - attend to occupational health problems associated with the SIC's selected. Include industrial health services, occupational disease research, emergency medical centers, periodic screening programs, education and prevention activities, specialized treatment facilities, and HSA activities.

Program (Name and Address)	Primary Emphasis or Responsibility	Person to Contact	Disease(s) of Concern	Associated SIC's	Comments

Worksheet IV

INITIAL SIC SELECTION

Based on the preceding information, select those SIC's which seem appropriate for further examination and possible emphasis in the HSP. The following factors should be considered in the process of selection: 1) size of workforce; 2) number of establishments; 3) nature of hazardous exposures and associated diseases; 4) information obtained from OSHA, NIOSH, unions, or other agencies contacted; and 5) available occupational safety and health resources.

Complete the following chart including major groups and agencies within the Health Service Area which may be of specific help regarding the selected SIC's.

SIC	Reason for Inclusion (1, 2, 3, 4, 5)	Resources to be Consulted	Comments
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Worksheet V

SUMMARY SHEET

Based on the preceding area-specific information, determine which SIC's and associated health problems will be emphasized in the HSP. Complete the chart below. Use the information recorded on this sheet to write the occupational health section of the HSP.

SIC	Associated Health Problem(s)	Related Area Resources (Agency Name and Contact)	Resource Needs	Comments*
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*Relate to planning goals and objectives

APPENDIX E

DHEW REGIONAL OFFICES

Region I - Boston, Massachusetts, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	Wesley E. Straub Regional Consultant, NIOSH DHEW, Region I Government Center (JFK Fed. Bldg.) Boston, Massachusetts 02203 Tel: 617/223-6668
Region II - New York, New York, New Jersey, New York, Puerto Rico, Virgin Islands	Mary L. Brown, R.N. Regional Consultant, NIOSH DHEW, Region III - Fed. Building 26 Federal Plaza New York, New York 10007 Tel: 212/264-2485
Region III - Philadelphia, Pennsylvania, Delaware, District of Columbia, Maryland, Virginia, West Virginia	William E. Shoemaker Regional Consultant, NIOSH DHEW, Region III P.O. Box 13716 Philadelphia, Pennsylvania 19101 Tel: 215/596-6716
Region IV - Atlanta, Georgia, Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee	C. Paul Roper Regional Consultant, NIOSH DHEW, Region IV 101 Marietta Tower, 502 Atlanta, Georgia 30303 Tel: 404/221-2396 FTS: 242-2396
Region V - Chicago, Illinois, Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin	Richard Kramkowski Regional Consultant, NIOSH DHEW, Region V 300 South Wacker Drive Chicago, Illinois 60607 Tel: 312/886-3881
Region VI - Dallas, Texas, Arkansas, Louisiana, New Mexico, Oklahoma, Texas	George L. Pettigrew Regional Consultant, NIOSH DHEW, Region VI 1200 Main Tower Bldg., Rm. 1700-A Dallas, Texas 75202 Tel: 214/767-3916 FTS: 729-3916

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Region VIII - Denver, Colorado,
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18 Oliver Street, Fifth Floor
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Telephone: 617/223-6712/3

Region II

U.S. Department of Labor
Occupational Safety and Health Administration
1515 Broadway (1 Astor Plaza)
New York, New York 10036
Telephone: 212/971-5941/2

Region III

U.S. Department of Labor
Occupational Safety and Health Administration
15220 Gateway Center, 3535 Market Street
Philadelphia, Pennsylvania 19104
Telephone: 215/597-1201

Region IV

U.S. Department Of Labor
Occupational Safety and Health Administration
1375 Peachtree Street, N.E., Suite 587
Atlanta, Georgia 30309
Telephone: 404/526-3573/4 or 2281/2

Region V

U.S. Department of Labor
Occupational Safety and Health Administration
300 South Wacker Drive, Room 1201
Chicago, Illinois 60606
Telephone: 312/353-4716/7

Region VI

U.S. Department of Labor
Occupational Safety and Health Administration
7th Floor, Texaco Building,
1512 Commerce Street
Dallas, Texas 75201
Telephone: 214/749-2477/8/9 or 2567

Region VII

U.S. Department of Labor
Occupational Safety and Health Administration
Waltower Building, Room 300, 823 Walnut Street
Kansas City, Missouri 64106
Telephone: 816/374-5249 or 5240

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Region VIII

U.S. Department of Labor
Occupational Safety and Health Administration
Federal Building, Room 15010, 1961 Stout Street
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Regional IX

U.S. Department of Labor
Occupational Safety and Health Administration
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U.S. Department of Labor
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