Writing a Disaster Plan:
A Guide for Health Departments

Prepared by the UCLA Center for Public Health and Disasters

First Edition
July 2005

Disclaimer

This disaster plan design guide is intended to be used as a reference to aid in disaster plan composition. It is based upon an all-hazards approach. The guide and attached forms are to be viewed as example material and not as "fill-in-the-blank" templates. Due to constantly changing laws and variable jurisdictional procedures, this guide may not contain the most recent emergency response decrees or findings. It is based on the expertise of the authors and incorporates the most useful elements of existing plans and recommended material from federal and state emergency response agencies. This guide may not be comprehensive of all emergency response topics applicable to local jurisdictions. Therefore, it is the responsibility of the user to research local procedures and laws to ensure validity of the final product.

Preface

Health departments are playing an increasingly important and integral role in disaster response. This is particularly true if the disaster is biological in origin. Furthermore, the demand for critical health services following a disaster often escalates at the precise moment when these services may be incapacitated. Thus, health departments' response must address both the direct consequences of the event and the corollary health demands of the community.

A well-designed and comprehensive all-hazards disaster plan is the first step to an appropriate and coordinated disaster response. A plan that incorporates all potential hazards is crucial because it can reduce confusion during a disaster by having a consistent set of core responses. An all-hazards plan will also save time by eliminating the need to develop multiple, redundant, and overly specific disaster plans. Disaster plans will differ between jurisdictions since the potential hazards, laws, and resources vary. An all-hazards plan should contain simple, concise information and a series of steps to follow in the event of an emergency situation or disaster. The greatest attribute of an all-hazards plan is that it can be adapted to multiple scenarios.

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This publication was supported by Cooperative Agreement Number U90/CCU924253 from CDC. Its contents are soley the responsibility of the authors and do not necessarily represent the official views of CDC.

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Introduction

A. About This Guide

The UCLA Center for Public Health and Disasters (CPHD) developed this *Writing a Disaster Plan: A Guide for Health Departments* to assist emergency and public health planners (e.g., bioterrorism coordinators) in designing an all-hazards disaster plan. The Center systematically reviewed disaster plans as well as federal and state guidelines and identified the information most essential to an effective plan.

The content in this guide is not intended to be viewed as a template, but should instead be used as a reference for how to develop an all-hazards disaster plan. This guide is not inclusive of all issues that could be addressed; additional information may be required based on your particular jurisdictional needs.

Just as hazards and risks are not static, neither is plan development. Rather, it is an iterative process whereby protocols are exercised, evaluated for effectiveness, and modified to address identified deficiencies.

The organization of this guide is as follows:

Section I: Staff Preparedness
Section II: Preparing to Write Your Plan
Section III: Components of a Disaster Plan
Section IV: Preparing to Implement Your Disaster Plan
Section V: Glossary of Acronyms

After reviewing this guide, you should be able to:

- Understand the importance of an all-hazards approach to plan development
- Identify and prioritize the hazards affecting your community
- Gather appropriate personnel to write the disaster plan (i.e., form a development team)
- Develop a working draft of your disaster plan
- Evaluate the effectiveness of your plan through structured exercises and the incorporation of necessary changes

B. Intended Audience

Public health planners should use this guide as a tool to assist them in the development of an all-hazards disaster plan. Additionally, components of this guide may be useful for planners in non-public health sectors, such as private industry, academic institutions, and other government agencies.

C. What is a Disaster

A disaster is any event that overwhelms the available local resources needed to cope with the resulting health, environmental, and infrastructural consequences. A disaster may be acute or chronic, naturally occurring or human induced. (Noji, 1997) Table 1 presents common disaster typology.

Table 1 Disaster Typology

Natural	Human-Induced
-Geological	-Non-Intentional
Earthquake/Tsunami	Chemical
Volcano	Nuclear
Landslide	-Intentional
-Meteorological	Blasts
Rain/Flooding	Chemical
Hail	Nuclear/Radiological
Wind (Tornado, Hurricane, etc.)	Biological

D. Why is an All-Hazards Disaster Plan Important

Due to this broad range of disaster possibilities, public health agencies should have a preparedness and response plan founded on an all-hazards approach. Comprehensive planning will better prepare your agency to respond to any disaster in a more organized and efficient fashion. Furthermore, an all-hazards plan provides a crucial framework upon which any disaster response can be built, with disaster-specific elements and contingencies addressed in annexes as needed.

Section I

Staff Preparedness

The safety of your staff is first and foremost in disaster preparedness and response.

The highest priority of your agency during an emergency is to assure the health and safety of your personnel. Explicit measures must be planned for and followed to promote staff well-being; otherwise, your staff will either not report as instructed or be incapacitated such that your disaster plan will not function.

Staff preparedness will increase the likelihood that personnel will report and be able to function efficiently and effectively. Personal preparedness for all staff will provide both physical and psychological security in the event of an emergency. Towards this end, you should provide an opportunity for your staff to learn about personal preparedness and encourage them to engage in such activities as practicing self-protective actions, gathering emergency supplies, developing a family disaster plan, and identifying caretakers for dependents.

A. Personal Protective Actions

There are certain actions that can be taken prior to or during an event that can reduce the likelihood of injury or loss of life. Practicing these actions can increase the chances that your department's staff will respond more appropriately in an emergency.

Depending on your hazards, you may want to have plans for: fire drills; drop, cover, and hold for earthquakes; sheltering in place for tornadoes; etc. Additionally, your department should provide all staff with information promoting their safety and well-being during an emergency. Building evacuation routes should be posted in a prominent location(s) within the office. Evacuation maps should contain back-up routes through which staff can safely exit the building if primary routes are blocked, crowded, or are otherwise not available. Include copies of the maps within your all-hazards disaster plan. Contact your building manager for information on recommended traffic flow for evacuation, additional/best evacuation routes, ventilation flow (smoke, air-born particles, etc.), or other evacuation or shelter in place procedures. The location of evacuation supplies (e.g., ladder, ax, fire extinguisher, etc.) should be clearly labeled, easy to access, and identifiable by all staff.

Inform staff of how they will be notified of when to evacuate or shelter in place, and make sure to include these instructions in your disaster plan. Furthermore, ensure that all staff are knowledgeable about the recommended sheltering procedures.

Immediately following the event, it is important to account for your staff. Consider establishing a meeting place at which employees should gather for roll call if the building is evacuated. A regularly updated staff roster should be included in the disaster plan so that no one is accidentally overlooked during the stress of a situation.

B. Agency Emergency Supplies

It is important to procure emergency supplies for your agency that are sufficient to sustain staff members for at least 72 hours. This will ensure that staff are able to function and stay healthy if they are confined to their workplace due to outside conditions like storms or impassable roads. Your emergency supplies should include items such as first aid kits, food, water, and safety equipment. A suggested list of supplies is included in Appendix A.

All staff should know the location of these emergency supplies. The emergency supplies should be clearly labeled and easy to locate. One place for storage may be near the Department Operations Center (see Section III.L.). An inventory of supplies should be maintained to ensure rotation of perishable items (e.g., food, batteries, printer cartridges). All staff should become familiar with and review what is available and where it is located. Designate a time every six months for a person to test, replenish, and refresh emergency supplies.

C. Employee Welfare Services

Departments should consider providing employee welfare services to those impacted by a disaster. This will instill confidence in your staff and promote participation in the critical response activities. Policies and services put in place by your department for its employees could include the following: (LA EPD, 2001)

- Child care
- Employee assistance hotlines and help desks for resource references and disaster assistance
- Flexible schedules for impacted employees
- Alternate work options such as telecommuting
- Salary advances
- Emergency “leave banks” for employees with no accumulated leave time
- Emergency paid leave for employees with no accumulated leave time
- Advance leave with optional payback provisions
- Credit union loans with deferred payment schedules or low interest loans
- Check-cashing services
- Referral to licensed child care or pet care services
- Increased ride share subsidies for commuters using public transportation

- Temporary shelters or lodging for displaced employees (and/or referrals to the appropriate source for this aid)
- Relocation and moving assistance or storage facilities for employees whose homes are destroyed
- Counseling services

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Section II

Preparing to Write Your Plan

Creating an effective disaster plan can be challenging. A balance between comprehensiveness and usability must be reached, usually through trial and error. The process is an interactive one and will cut across many disciplines. Therefore, a plan should not be written by a single individual.

This section addresses activities to be undertaken prior to plan writing, specifically: team selection; delegation of responsibilities; setting objectives; creating a timeline; obtaining leadership commitment; determining a plan format; reviewing financial policies; conducting a hazard risk assessment; establishing partners; and reviewing existing plans. Appendix B contains an itemized checklist of these preparatory steps to guide the development process.

While you may have already begun the plan writing process, the following preparatory steps are still relevant. For example, you may use many of the steps to guide the remainder of your writing process, or follow them to revise existing plans.

A. Select a Team

Form a team of employees to begin disaster plan development. A group of people will promote teamwork and allow participants to use their individual strengths and expertise to work on different parts of the plan. In creating your team, include representatives from different divisions such as epidemiology, environmental health, finance, etc. Individuals should not work on the plan alone, but instead, they should solicit advice and comments from people throughout the agency. Although it is important to include representation from across the agency, the team needs to be of a manageable size. Generally, effective group process deteriorates if there are more than 10 people involved. (Wheelan, et al.,1996)

B. Delegate Responsibilities

Select a lead staff member to manage the development of the disaster plan. The research and design of different portions of the plan can be divided among the other team members. Coordinate meetings so plan developers can share data, ensure that content and effort are not duplicated, and verify that information is consistent.

C. Establish Objectives

Develop objectives for writing the plan and prepare separate objectives for the plan itself. Establishment of long and short-term objectives can help to mobilize and focus energy and effort.

Objective development should follow the strategy that corresponds with the acronym "SMART." The acronym stands for **S**pecific, **M**easurable, **A**ttainable, **R**ewarding, and **T**imed. A foundation of **specific** objectives can propel work toward a focused direction. **Measurable** objectives ensure that actions can be monitored to assess progress. Objectives should be sufficiently challenging, though **attainable.** The **rewarding** satisfaction of accomplishing objectives can lead to enhanced confidence and greater endurance to endeavor more challenges. A timeline is a practical way to generate **timed** objectives. Specific deadlines for completion can be an influential source of motivation. (Locke and Latham, 1990)

An example of a SMART plan development objective is:

Josh will draft a summary of the state laws guiding isolation and quarantine and present this section to the planning group one week from today.

D. Establish a Schedule

Encourage efficient and prompt work by establishing a realistic schedule or timeline. The schedules or timelines can be modified as needed, but will serve as a source of encouragement to promote timely product development.

E. Obtain Commitment From All Management and Administration

The plan will be more successful if management and key staff participate in plan development, practice, and implementation. Prior to disaster plan development, there must be full commitment from departmental management and administration as well as local elected/appointed officials. Having the "buy-in" of all of these leaders will increase the level of acceptance of the disaster plan and will facilitate the implementation process. It is also important that you heighten employee awareness of the importance of an all-hazards disaster plan. Encourage disaster response staff to participate by helping with the plan's creation and familiarizing themselves with their personal roles in emergency response.

F. Determine the Format

There are various ways to format an all-hazards disaster plan. The step-by-step format provided in this guide can be adopted or modified based on what is most relevant for your department. A time continuum-based scheme may be preferred, which entails the division of sections into before (Disaster Preparation), during (Disaster Response), and after (Disaster Recovery) an incident. Another organizational alternative is to arrange the information on a general to specific spectrum. It would be best to choose the format that is consistent with other agencies in your jurisdiction.

G. Review Reimbursement/Aid Policies

Disasters and the related preparation, mitigation, response, and recovery are very costly. Most departments will not have money budgeted to deal with these expenses and will need to seek reimbursement for their disaster activities. Review current federal, state, and local reimbursement policies prior to plan development. Consider the necessary procedures associated with funding, supply requests, reimbursement, or mutual aid from local, state, or federal sources. These procedures may require detailed paperwork for processing. Review deadlines for applications (e.g., within six months of disaster) and estimate timeframes for how long it may take to receive assistance. Reimbursement or compensation may highly depend on detailed documentation of expenses and staff hours during an emergency scenario. Refer to the Incident Command System (ICS), discussed in Section III.I.2., for a suggestion on how to organize emergency staff response to ensure that a position for finance management is included.

- The Department of Homeland Security (DHS) provides local governments with the opportunity to apply for direct aid to compensate for substantial loss due to a disaster under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121 et seq.; Executive Order 12148; Reorganization Plan No. 3, 1978. Specific eligibility requirements are outlined in the FEMA Disaster Assistance Regulations, 44 CFR Part 206, Subpart K.

There are many different sources for disaster aid and reimbursement. It is important to keep up-to-date on which sources are available and the specific requirements of each source. This planning element should be worked into the disaster plan update process.

H. Conduct a Hazard Risk Assessment

In order to meet the preparedness requirements of the National Incident Management System, it is necessary to identify what disasters may impact a community. Identification of risk will allow a department to determine what kind of supplies should be kept on hand, where mutual aid may be needed, and what steps can be taken to reduce the potential risk that a hazard presents.

The first step in conducting a hazard risk assessment is to identify the potential hazards that may affect your community and department. A hazard is a condition or agent that has the potential to cause harm. Hazards can be “natural” or “man-made”. (CPHD, Head Start Disaster Preparedness Workbook, 2004)

The completion of a hazard risk assessment at the local public health agency level is an important part of the planning process. The ability to estimate possible hazards will better prepare your department to prioritize mitigation and response actions. Since risk is defined as the expectation of loss, disaster planning rests upon risk assessment. Risk is related to the likelihood of a specific hazard occurring, the likelihood of damage (vulnerability), and the availability of resources to respond. An equation that reflects the relationship of risk to hazard, vulnerability, and resources is:

Risk = (Hazard x Vulnerability) – Resources

Hazard

A hazard is a condition that has the potential to cause harm. Hazards can be "natural" or "man-made". For example, a likely hazard for the south-eastern coastal states is a hurricane, whereas in southern California, earthquakes are a significant hazard. The likelihood of some hazards occurring is difficult to estimate (i.e., terrorism).

Vulnerability

Vulnerability is the likelihood of physical harm and social disruption as a result of a hazard. (Cutter, et al., 2003) The characteristics of both the built environment and the population affect the vulnerability of your community. For example, buildings that are not resistant to wind increase the vulnerability in areas where tornadoes and hurricanes are likely hazards. Similarly, a high-density population with diverse cultural and linguistic attributes also increases your vulnerability. Other potential sources of vulnerabilities include the community's water supply, public utilities, transportation corridors, healthcare services, equipment, etc.

Resources

The resources available to a community can greatly mitigate the effects of the disaster. Some resources may come from municipal agencies (i.e., police, fire, public health, hospitals, etc.). Other resources include robust and redundant systems of transportation, communications, public utilities, etc.

A hazard risk assessment may have been conducted for your community by the emergency management agency or the local emergency planning council/committee. Often these do not include significant public health impacts. Therefore, you may need to expand on previously conducted assessments.

The UCLA Center for Public Health and Disasters has developed a standardized Hazard Risk Assessment Instrument (HRAI) which is applicable to public health departments. HRAI enables the completion of a hazard risk assessment, aids with resource and vulnerability analyses, and assists with determining likely hazard impacts. A variety of aspects potentially affected by a particular hazard are assessed with the use of HRAI. These aspects include: human impact, interruption of health services, community impact, and impact on the public health agency infrastructure.

I. Coordinate with External Agencies/Partners

Prior to plan development, identify and review existing plans from other agencies and partners in your jurisdiction and state. As you develop your plan, keep in mind that other agencies/partners will have a role in disaster response in many hazards. External agencies should coordinate their emergency disaster response plans. Collaboration between applicable entities will help to ensure a coordinated response to any disaster. Some of these agencies/partners include:

- Emergency Medical Services (EMS)
- Hospitals and Health Care Facilities
- Laboratories
- Local Office of Emergency Management (OEM)

- Local Fire Departments
- Local Law Enforcement
- Mental Health Professionals and Agencies
- Nurses
- Pharmacists
- Physicians and Physicians Assistants
- Veterinarians
- Volunteer Organizations (e.g., American Red Cross)

Compile a comprehensive list of related disaster response entities and review their respective plans. Ensure that your department's disaster response plans will coordinate with those of other agencies so that resources will be best utilized.

In addition, various community partners can be utilized in a disaster to supplement health department activities. Some groups may have regular public health related functions, while others may be able to provide non-public health related assistance. Community partners may include:

- Service Groups (Rotary Club, Kiwanis)
- Universities
- Religious Organizations
- Chambers of Commerce
- Local Businesses

J. Review Existing Disaster Plans

Your agency invariably has numerous plans guiding preparation and response activities. These plans may be hazard specific (e.g., mass illness), agent specific (e.g., smallpox), or activity specific (e.g., epidemiologic investigation). Review these plans for commonalities that can guide the development of the all-hazards disaster plan. The all-hazards plan should, in part, link together these specific plans, which then can be included as annexes.

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Section III

Components of a Disaster Plan

This section provides an overview of the suggested sections that any all-hazards disaster plan should contain.

The section is organized as an actual plan might be. Following each section heading is a description of both its relevance and suggested content. Examples are given where appropriate.

A. Title Page/Preface/Table of Contents

A title page should clearly portray the plan title, edition number, and creation date. The preface should address the importance of an all-hazards disaster plan as well as the names and contact information of the plan developers. The table of contents will maximize the ease with which readers can refer to certain sections. In an emergency, users must be able to follow a paginated guide to promptly find specific sections for reference.

B. Letter of Approval/Signature Page

An effective disaster plan requires significant "buy-in" from key stakeholders. This buy-in can be demonstrated by endorsement of the plan in the form of a signature page or letter of approval. Signatures should include those of the leading health official (e.g., Health Officer or the President of the local Board of Health), the department's executive director, and any other relevant political leadership (e.g., Mayor, County Manager). An example of a signature page is shown in Appendix C.

C. Mission Statement and Purpose

The mission of your public health agency (e.g., to protect and promote the community's health) should remain the same regardless of whether you are operating under usual circumstances or responding to a disaster. The many responsibilities inherent in a disaster response may cause your agency to lose focus of its overriding mission. Therefore, this mission statement should be included in your plan in order to remind the department about these underlying responsibilities and goals of the organization, even during a disaster situation.

A brief statement of the purpose of the disaster plan should be included. An example might be, "The purpose of this plan is to ensure that our agency can efficiently and effectively meet the health care needs of our community when confronted by the impact of a natural or human-induced emergency."

D. Plan Objectives

Plan objectives keep your plan realistic and ensure that your agency will stay focused and grounded during a disaster response. Plan objectives provide reasonable expectations for your agency to achieve, and thus facilitate a common direction towards your desired outcome.

Objectives should be comprehensive, yet concise. An effective approach to creating objects is the SMART method. Refer to Section II.C. for more details on how to develop SMART objectives.

An example of a SMART plan objective is:

The Health Department will be able to effectively communicate with all partner agencies within the County throughout the emergency response period.

E. Authorities, Codes, Policies

Federal, state, and local statutes and codes dictate the response capabilities and actions your agency is authorized to take as well as actions your agency is *not authorized* to take. All of your staff (especially management) should be familiar with these legal allowances and limitations. Therefore, your disaster plan should include a "quick digest" of the relevant statute and code title, section (and subsection, if necessary), and summary. Your legal counsel should identify the pertinent legal authorities and present this information in a "user friendly" format for inclusion. Additionally, an appendix to your disaster plan should contain the actual text of the applicable statutes, codes, and policies. This will ensure that your agency's disaster response adheres to and does not conflict with pre-existing protocol. Some examples of the numerous laws from the three levels of government can be found in Appendix D.

Statutes may change over time, so a schedule should be set to assure that laws are monitored and the disaster plan procedures are modified accordingly. At a minimum, the laws should be reviewed annually by your legal counsel. The disaster plan must adhere to all applicable laws in order to maximize the efficiency of the response.

E.1. Authority of Leading Local Health Official

For the purposes of this guide, the "Local Health Official" (LHO) refers to that individual tasked with the lead authority in a public health emergency. The position title is jurisdiction-specific and may be termed "Health Officer" or "Public Health Director", for example. The position of the Local Health Official will be clearly defined by state legislation. The relevant duties, responsibilities, and functions

of the Local Health Official will be determined by state and local statutes and codes, and will vary both in number and scope.

Your plan should contain a summary of your Local Health Official's authority, responsibilities, and functions. This serves to not only reinforce to the official his/her duties, but ensures that your staff clearly understand the role your LHO plays in a health emergency response. Documentation, including the exact statues and codes, should be included in an appendix. Some examples of the numerous laws that relate specifically to California Local Health Officials are listed in Appendix E.

E.2. Major Local Public Health Official Functions

There are many specific duties for which the Local Health Official is responsible. The LHO should become familiar with expected emergency response actions. Ensure that the LHO has access to a flow chart within the disaster plan that discerns who should be contacted in an emergency and under what circumstances. For example, if a smallpox case is suspected, the LHO must notify:

- Centers for Disease Control and Prevention (CDC)
- Federal Bureau of Investigation (FBI)
- State Department of Health
- Local Office of Emergency Management

Review and include thorough documentation of state laws applicable to the Local Health Official's duties, responsibilities, and authorities. The LHO should be knowledgeable of authoritative parameters and must be aware of where to locate applicable laws for reference if required to prove authority in an emergency. Some policies and topics of which public health officials should be particularly knowledgeable are:

- Quarantine
- Isolation
- Evacuation
- Nuisance abatement
- How to declare a public health emergency
- How to reverse a declaration of a public health emergency

F. Agency Communication Plans

The importance of effective intra- and interagency communication during an emergency cannot be overstated. Your disaster plan should contain separate and distinct sections for communication within your agency and among external agencies and organizations. The rationale for this separation stems from possible differences in the information, timing, and communication modalities necessary.

F.1. Internal Communication

Following a disaster event, your staff must be informed of your agency's status, the available details of the event, and their immediate roles and responsibilities (e.g., staffing a Department Operations Center, reporting to the agency's headquarters or normal work location, staying at home, etc.). This communication must occur immediately and in an orderly fashion. Multiple methods of communication must exist to ensure reliable communication. This section should contain a detailed communication protocol including:

Staff Directory

Your agency should have a directory containing all of the relevant contact information of your staff including phone numbers (landline and mobile), pager numbers, email addresses, and home addresses. The location of this directory (both physical and electronic, if applicable) should be stated in your plan. Additionally, you may want to attach the directory as an appendix, depending on the size of your agency. At a minimum, you should make the addresses of key management personnel available to certain staff members in case communication systems are not working and a messenger needs to be sent. In addition, alternate contact names and/or titles for every position should be listed in case primary contacts are not available. Appendix F contains an example of an internal agency contact list.

Telephone Tree

A "call-down list" or phone tree may be employed as the primary means of intra-agency communication during the initial emergency response phase. A flow chart can effectively portray this "call-down list" and whom each person is responsible for contacting. All staff members should have access to contact information and call-down lists. It is important that staff understand their responsibility as part of the call-down cascade. While your agency may have an automated electronic call-down system, inclusion of a physical list is, nonetheless, crucial in the event your automated system goes down.

Your plan should clearly describe how staff will be notified of an emergency during work hours and non-work hours and how the availability of key staff members will be determined. You should also include any circumstances such as a news broadcast that would lead to any specific automatic responses (e.g., recall of your personnel in the event of a natural disaster).

Primary, secondary, and tertiary communication methods

Within your plan, you should identify multiple modalities by which staff can access information and communicate with each other. Expect that systems will fail and create redundancies to accommodate for the expected failures throughout a disaster. Intra-agency communication will likely occur via telephone (landline and mobile), pager, and electronic systems (e.g., email or an internal health alert intranet) if the systems have not been compromised by the disaster. Satellite telephones and two-way radios can be used as backup for more traditional communication systems.

F.2. External Communication

During a disaster, your agency will be in contact with other agencies, organizations, and the public. Similarly to the information described above, your External Communication section should include:

Contact Information of External Agencies, Organizations, and Vendors

At a minimum, these should include local and state emergency managers, Police and Fire Department, Emergency Medical Services, local hospitals and healthcare facilities, surrounding public health agencies, state health agencies, and any other agencies that can provide aid or resources in a disaster. You should include any additional agencies or organizations you deem applicable; however, as the list grows and becomes more difficult to navigate, you may decide to create lists indexed by function and/or relegate lower priority (secondary choice) organizations to an appendix. For instance, local and state emergency managers would be high priority while community groups such as the Chamber of Commerce would be lower priority. Vendors should be included if they can provide critical items/services such as generators, tables, chairs, orange cones, phones, two-way radios, computers, lighting, and food and drink.

The external agency contact list should include information on the specific aid or resources that the external agency can provide, the name of a contact person, contact information, and an alternate contact name and/or title and contact information in case primary contacts are not available. Appendix G provides an example of an external agency contact list.

Responsibilities for external communication

Not all of your personnel will be, nor should be, communicating with partner agencies. You must define explicitly who will be the primary communicator and with which particular group (e.g., the Local Health Official with other emergency managers, the Public Information Officer with the local media).

These responsibilities may be contextual and thus depend on the specific response actions. In particular, the communication responsibilities of your staff may differ upon whether your Department Operations Center is activated. Thus, your plan should make it clear how these responsibilities may change. A simple chart may facilitate the presentation of this information.

Primary, secondary, and tertiary communication methods

As previously described, multiple modalities of communication should exist in the event one or more fails. In addition to the usual telephone, pager, and radio methods, you should be aware of the systems being used by your partner agencies and make every effort to ensure cross-platform compatibility. Ideally, interagency communication will occur via a single communication system, for example a standardized Emergency Medical Services communication system (e.g., ReddiNet) or a state-sponsored Health Alert Network (HAN). Advantages and disadvantages of some of the different methods of communication that are available can be found in Appendix H.

Back-up plan for reaching your contacts

All electronic communication services may be rendered inoperable. Your agency should have a back-up plan for such an event including pre-arranged triggers for supply requests. For example, a partner agency may be instructed to provide lighting in the event of a blackout, regardless of the occurrence of a specific request. Additionally, arrangements should be made to procure supplies from external resources in case a disaster takes place during non-business hours.

Finally, the importance of continuous contact with local healthcare facilities during an emergency is paramount. Your agency must monitor the status of patients, hospital capacity, pharmaceutical supplies, and especially the spread of communicable diseases. Towards this end, you may decide to create a specific section detailing the protocol for communication between your agency and healthcare facilities. An example of a health care provider contact information chart can be found in Appendix I.

G. Pre-Arranged Agreements

Disaster response activities will strain your agency's capacity and your community's resources. Consequently, you will need to augment your capacity and resources through the assistance of other groups, agencies, and communities. Pre-arranged agreements facilitate cooperation and allow for a reliable and organized mechanism of resource (personnel, facility, supply) augmentation. All pre-arranged agreements that the health department has developed should be included or referenced within the all-hazards disaster plan. Determine who is authorized to request aid and the circumstances under which the request can be made or aid granted.

Three commonly employed agreements are Mutual Aid Agreements, Memoranda of Understanding, and Service Contracts. Each is described below. When creating any agreement, it is important to identify existing aid agreements owned by other agencies and jurisdictions. This controls for the possibility of a resource being over-committed in a disaster due multiple, overlapping agreements.

G.1. Mutual Aid Agreements

Mutual Aid Agreements are a means to provide supplementary resources when those of your jurisdiction are already committed or will be overwhelmed by the scale of the emergency. Such agreements are negotiated between local governments and specify the terms and conditions under which sharing will occur. These agreements are usually reciprocal (mutual). (Gordon, 2002) Limitations on mutual aid should be built into the agreement (if local law allows) if there is a reasonable possibility that a disaster will spread and your agency will need its own resources. Many mutual aid agreements stipulate that once mutual aid is given, it cannot be taken away unless the receiving agency relinquishes the services. Some jurisdictions will have mandatory mutual aid agreements that a health department cannot opt out of. Local regulations should be reviewed before any agreements are made.

G.2. Memoranda of Understanding

A Memorandum of Understanding (MOU) is a document that defines a relationship, which may or may not be reciprocal, between two agencies or organizations. MOUs clarify provision of services and areas of responsibility. The written agreement can help to ensure that the needed services are offered during a disaster. An example of a useful MOU is one between the health department and a community clinic organization for surge capacity. Within the MOU, the health department might provide treatment guidelines and priority vaccinations for clinic staff, while the clinics would provide healthcare staff and physical space to care for patients.

MOUs should be included in the disaster plan appendices for quick reference in an emergency. Ensure that all MOUs are approved in advance by administration, finance, and legal departments. A sample MOU is located in Appendix J.

How to Create a Memorandum of Understanding

A Memorandum of Understanding (MOU) should contain six key elements:

- Introduction/preamble
- Authorities
- Areas/modalities of cooperation under the terms of agreement
- Periodic review of program progress under the terms of the agreement
- Insurance and indemnification
- Terms of enforcement/provisions for modifying or terminating the MOU

The **introduction** should include:

- Rationale for the agreement
- Purpose
- Broad objectives
- Assumptions concerning each participating party

The section on **authority** should answer the question:

- What is the existing responsibility of each agency prior to any new agreement between the two agencies to be outlined in this MOU

Areas of **cooperation** should be detailed by outlining:

- Which agency will be responsible for which activities
- How the agencies will work together
- How resource mobilization, communications, costs, reports, timetables, and publicizing this agreement within each organization will be accomplished

A section detailing periodic **review** of the agreement should include:

- How the progress of the terms of the MOU will be monitored
- How often such a review should take place
- What is the intent of such a review

The following **insurance and indemnification** issues should be addressed:

- Who will assume liability for claims against actions covered under this MOU
- Is there insurance to cover agency activities

The terms of **enforcement** should include:

- How long will this agreement remain in effect
- What steps need to be taken should one party wish to modify the agreement

G.3. Service Contracts

Service contracts are agreements that municipalities make with vendors for services. Service contracts may also be made at the agency level, but they are usually exclusive and limit where an agency can go to get a service or item. When forming or reviewing a service contract, ensure that the vendor has not made other agreements that will compromise their provision of services in a disaster situation. For instance, if a local bottled water supplier has a service contract with a public health department and also has contracts with 5 other local departments, they may not have the capacity to provide water to all 6 departments in the event of a disaster.

Examples of resources that are often acquired through service contracts are:

- Office and Medical Supplies
- Bottled Water
- Computer Repair Services
- Cellular Phone Services
- Health Care Personnel (e.g., nursing staff via a Registry Agency)

H. Data Protection

Public health departments have large amounts of data including vital records, surveillance data, case-tracing, etc. that must be protected. It is important to consider how these data will be protected if there is a disaster that destroys part or all of a health department's buildings. Issues that must be considered are:

- Mechanisms for backing-up data and/or computer systems
- Safest place to store vital records, data back-ups, etc. (off-site, secure site)
- Mechanisms that can be put in place to protect data from destruction, becoming unorganized, or being tampered with

I. Departmental Disaster Management

During a health-related emergency, your agency will take a lead role in the coordination and management of the many resources employed in the response activities. Having a thorough understanding of both your agency's and supportive agencies' responsibilities will lead to an efficient and effective disaster response. This section will help your agency understand and develop a uniform disaster management system that will facilitate information flow and resource coordination and thus add order to an inherently chaotic situation. Furthermore, such a management system is now required for receiving federal, and possibly state and local, funding and reimbursement.

At a minimum, effective disaster management encompasses:

- **Department Activity Prioritization:** Determining those usual agency functions (e.g., smoking cessation programs) that can be suspended during an emergency response and those vital programs (e.g., disease surveillance) that must be sustained
- **Disaster Staff Organization:** Incident Command System (ICS) - Understanding and activation of this practiced command and control structure
- **Department Operations Center:** Activation and operation of your agency's Department Operations Center, with an understanding of your agency's role vis a vís the interagency Emergency Operations Center (see Section III.L.)
- **Disaster Recovery:** Implementation of the Department Operations Center and disaster recovery measures (see Section III.P.)

Appendix K provides a detailed description of the California Standardized Emergency Management System (SEMS).

I.1. Department Activity Prioritization

The magnitude and speed with which a disaster occurs may consume most of your agency's resources within a short period of time. Some of your agency's usual and customary activities and programs may be suspended to free up needed resources; however, some should not. You should begin prioritizing which programs can be suspended during a disaster response. Your disaster plan should include a section that outlines this prioritization and perhaps a brief justification of which activities can be put on hold during a disaster (e.g., smoking education and research projects) and those which have a continuing high level of priority in disaster situations (e.g., disease surveillance and vital records). The degree to which regular operating programs should be put on hold will be dependent upon the severity of the disaster and the amount of staff and resources that must be assigned to dealing with the disaster in order to accomplish the department's mission.

Furthermore, the plan should indicate the name and title of the individual who has the authority to suspend programs. In most jurisdictions, the decision to put a program on hold will be made by the Health Officer or his/her designated representative in accordance with local laws and mandates.

I.2. Disaster Staff Organization: National Incident Management System (NIMS) and Incident Command System (ICS)

Any agency which receives disaster-related federal funding must be in compliance with the National Incident Management System (NIMS). NIMS is intended to be a standardized, yet flexible, approach to all-hazards incident management. The system can be used by any type of organization regardless of location or size to prepare for, respond to, and recover from disasters. NIMS is currently only mandated for those agencies that receive federal money for disaster-related needs, but parts of it are also being adopted by organizations within the private and non-profit sectors. The NIMS document is available at: http://www.fema.gov/pdf/nims/nims_doc_full.pdf. (DHS, 2004)

Your planning team should become familiar with all of the regulations and requirements of the National Incident Management System to ensure that your organization and its disaster plans are in compliance. NIMS is comprised of the following components:

- Command and Management
    - Incident Command System
    - Multi-Agency Coordination Systems
    - Public Information Systems
- Preparedness
    - Planning
    - Training
    - Exercises
    - Personnel Qualification and Certification
    - Equipment Acquisition and Certification
    - Mutual Aid
    - Publications Management
- Resource Management
- Communications and Information Management
    - Incident Management Communications
    - Information Management
- Supporting Technologies
- Ongoing Management and Maintenance

It is essential to have an organized staff structure when responding to a disaster. Specific duties delegated to individuals will help to organize the response, minimize confusion, and ensure that no disaster response elements are overlooked. If your department receives or benefits from any disas-

ter-related federal funding it is now required that your response utilize the Incident Command System (ICS) model as outlined in the National Incident Management System, which became mandatory through the Homeland Security Presidential Directive – 5 (HSPD-5), available at: http://www.deq.state.mi.us/documents/deq-wb-wws-HSPD-5.pdf.

ICS is a management model that is used to achieve command, control, and coordination during any type of an agency's response to an emergency. ICS is utilized by first responder groups (Fire Department, Police Department, and EMS), hospitals, utilities, and other businesses. By using ICS, public health departments will experience enhanced coordination with and between all disaster response agencies. ICS is NOT an emergency response plan, but is rather a structure or framework that an agency can use to respond to an emergency.

The basic tenets of ICS include:

- Appointment of an Incident Commander who has overall responsibility of the agency's response
- Pre-defined, clear reporting channels (chain of command)
- Common nomenclature for Command Staff and Section Chief positions
- Pre-defined responsibilities (emergency response functional roles)
- Ability to expand and contract the number and type of positions used to match the scale of the emergency

Five core ICS functions are graphically depicted in Figure 1 and described as follows:

- **Command:** Manages the Operations, Planning, Logistics, and Finance sections
- **Operations:** Manages and coordinates the activities of the public health response
- **Planning:** Projects ahead, determines future needs, and conveys them to Logistics
- **Logistics:** Ensures the availability of appropriate resources required by the other sections
- **Finance:** Ascertains that items are paid for, receipts are kept, and claims are submitted

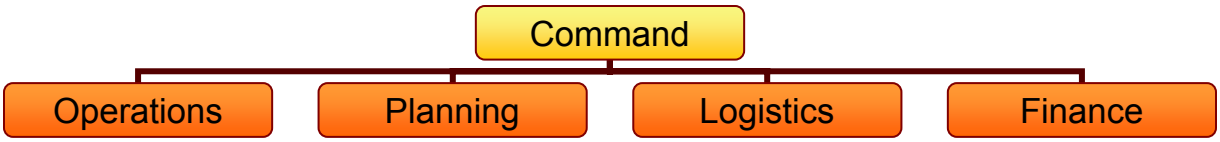

Figure 1 Five Core ICS Functions.

The numerous responsibilities respective to each ICS position can be delegated to subordinates. Each section chief must ensure that all personnel frequently provide status reports if duties are divided and redistributed. Command continuously supervises functions to confirm that all aspects are successfully addressed. More information about the ICS structure can be found in Appendix L.

ICS position assignments do not always perfectly correlate with the duties that personnel normally fulfill. Position assignments should be based on knowledge, skills, and functions, not on job titles.

Utilizing the knowledge, skills, and ability section of a job description can help you decide which employees could best fit functional roles within the ICS structure. For example, the knowledge, skills, and abilities for an epidemiologist position include such things as the ability to analyze data and generate projections. These are skills that would be useful for a Planning Chief.

During an emergency event the Incident Commander will open and/or close sections as needed. The ability to expand and contract operations ensures an efficient use of resources. Flexibility is particularly important because as public health responds to an emergency event, the department must simultaneously maintain essential services of public health. Regardless of the size of the agency, each position should have an alternate appointed in case the designated individual is not able to fulfill that role or is redirected to another assignment.

Disaster response staff should be aware of ICS attributes and staffing roles. All essential staff should be informed of the different levels of ICS activation and the circumstances under which each level will be activated. Staff should also be well aware of how they will be notified that the Incident Command System has been activated and the protocols required for activation.

You should include the following ICS components in your disaster plan:

- An ICS system description
- An ICS staff assignment list
- Protocols for activating ICS
- Levels and triggers of ICS activation
- How essential staff will be notified of ICS activation

Figure 2 shows an example of an Incident Command System organizational chart, specific to public health.

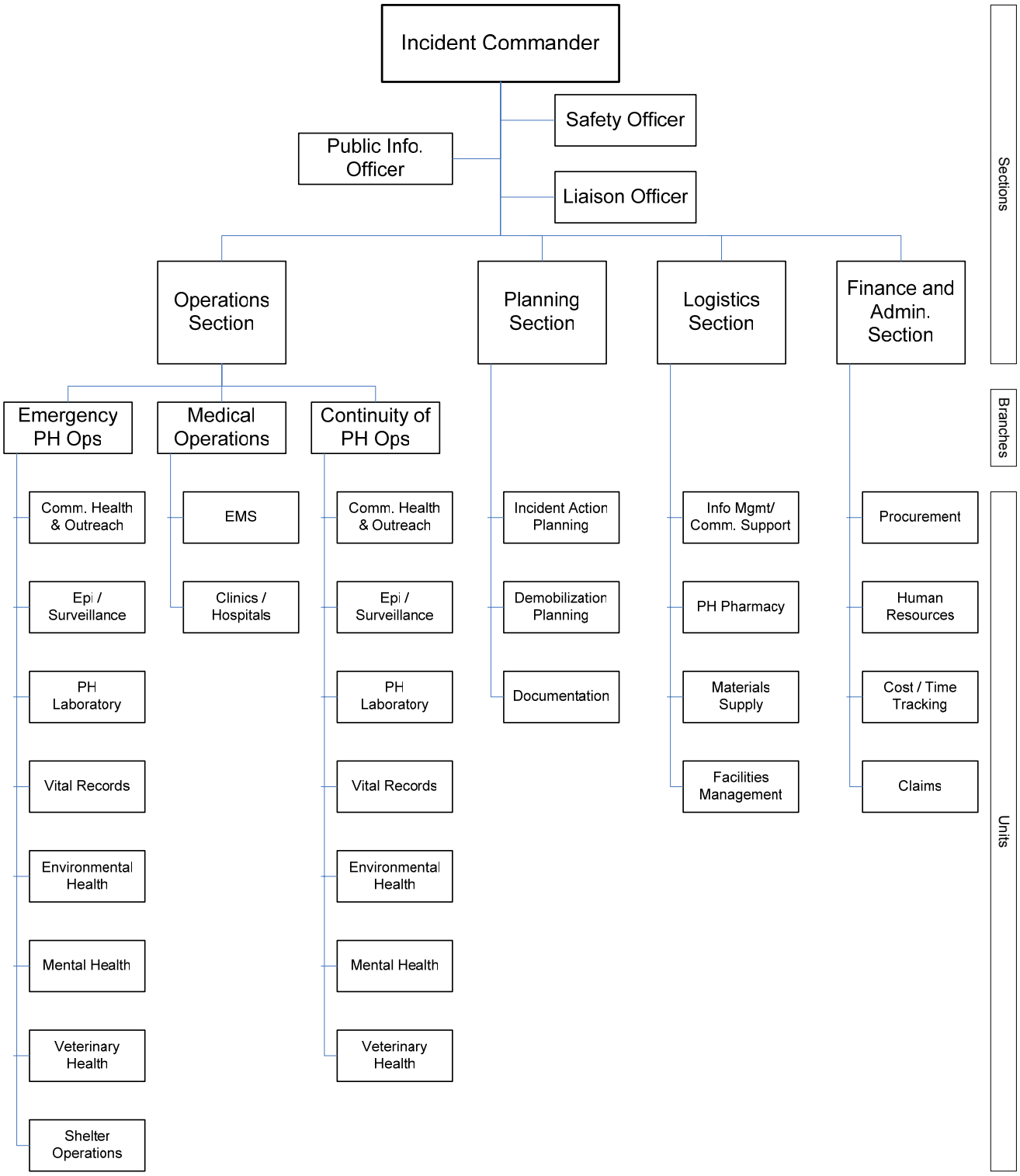

Figure 2 Public Health ICS Organization Chart. (Qureshi et al., 2005)

J. Leadership Succession

A list of staff leadership roles should clearly depict the succession of emergency authority. An example list of succession for management of the public health department is shown below in Table 2.

Table 2 Example of Administrative Leadership Succession

Position Title	Name	Successor 1	Successor 2	Successor 3
Health Officer				
Public Information Officer				
Operations Section Chief				
Planning Section Chief				
Logistics Section Chief				
Finance/Administration Section Chief				

Each leadership position should have a primary designee and several alternates identified. All personnel listed as successors to a position should be aware and capable of the associated responsibilities. Other staff should be familiar with the order of succession. If the assigned ICS Commander is unavailable, the successor should take over the responsibilities. Define under what terms staff may be considered unavailable or unable to fulfill the roles of a position. Ensure that each successor for a position is qualified to fill that role. For example, in California anyone acting as the LHO must be a licensed physician of the state.

K. Staff Responsibilities

Disasters and their necessary response do not usually coordinate well with regular working hours. The number of employees that will be needed around the clock or will need to be "on-call" for activation will vary, depending on the scope and magnitude of the disaster and the public health implications of the disaster. Keep in mind that many governmental agencies stipulate that their employees must report to work in an emergency. In California, for example, state law considers all government employees to be disaster service workers if needed. Even if the health department does not need more than normal staffing levels (low level of activation), personnel might be needed to help out in other departments or in other jurisdictions that have mutual aid agreements with the health department. In writing your disaster plan, it is necessary to consider local laws regarding the responsibilities of public health workers and how the department will call-up employees to ensure that all shifts are adequately covered. Mutual aid staffing may be able to fill in for some shortages, but health department personnel should be as evenly divided between shifts as possible.

K.1. Job Action Sheets

Job Action Sheets can help to clarify duties for which each individual is accountable and to whom they should report. Each staff member can refer to a job action checklist to ensure that no emergency response steps have been overlooked. Duties should be delegated in order to balance the load of responsibilities. An example of a Job Action Sheet is located in Appendix M. Tasks can be

listed by priority as seen in the example or can be presented in "pre-disaster", "response", and "recovery" sections. When employees review Job Action Sheets, they will consequently become increasingly familiar with the activities for which they are responsible.

Consider the following elements when designing Job Action Sheets:

- Activities to be performed
- When and how often
- Person to whom you report
- Timing the actions (before, during, and after the event)
- Job Action Sheets should be included as an appendix in the plan

L. Department Operations Center (DOC)

The Department Operations Center (DOC) is the hub of the health department's disaster response and recovery operations. The DOC is a centralized post through which different functional ICS sections can sustain communication and coordinate response efforts. In some jurisdictions, the DOC may be referred to as the Emergency Control (Communications) Center (ECC) or the Agency Operations Center (AOC).

Although many emergencies may not require the activation of the DOC or may only require basic "skeletal" staffing, preparation should be made ahead of time to activate a full-scale DOC when necessary. Develop a clear plan that specifies certain circumstances under which the DOC should be activated. Events that may prompt DOC activation include:

- Unusual disease reports
- Unusual rise in morbidity or mortality
- Local emergency declared by the Office of Emergency Management
- A local or regional emergency that may endanger the health and safety of the community
- State of emergency or federal emergency
- Pre-planned, large-scale event (political convention, Academy Awards, sporting events)

The levels of DOC activation may vary among jurisdictions depending on the event. The events that trigger each level of activation should be identified in your disaster plan. The level of activation will depend on the magnitude of the event, number of threatened individuals, location, probability of morbidity or mortality, and resource availability. Some general characteristics of the minimum, medium, and maximum levels of DOC activation include:

- **Minimum-Level 1:** Emergency situations that impose low threat, characterized by a serious, but manageable, event and a response coordinated from within a conference room
- **Medium-Level 2:** Generally occurs when a major response is required, but is mostly related to control of health or disease issues
- **Maximum-Level 3:** Required when a major disaster occurs and a full multi-agency disaster response is essential

During a disaster, time is broken down into operational periods. Action plans are usually designed to cover one operational period, which typically lasts 12 hours, creating two operational periods per day. In creating a disaster plan, you must consider how best to define operational periods for your organization. Often, they will be defined as 7am-7pm and 7pm-7am, so that personnel working at the start of an incident are required to continue working through the operational period that they are part-way into and through the next complete period. For 24 hour operations, it will be necessary for alternates to assume their ICS positions for one of the periods.

The DOC positions and duties should be consistent with the Incident Command System model. In addition to the standard ICS model, there may be a DOC manager position, which is often, but not always, the same individual as the Incident Commander. The DOC manager must be able to organize the set-up and break-down of the DOC and be available to answer any questions or fill any needs regarding the DOC. The DOC manager can be a high level administrator, the LHO, head of Epidemiology, head of Communicable Diseases, EMS director (if present in the department), or any other qualified staff member designated to the position.

Although many members of the Incident Command System will be present in the DOC and easily accessible, it is important that all messages between sections and from outside of the DOC be documented either on paper or electronically, depending on your capacity. This procedure may seem cumbersome, but is necessary in case there are any disputes about how the disaster was handled and to document the incident for review and reimbursement.

Determine which personnel are authorized to activate the DOC such as the Incident Commander, LHO, DOC manager, Director of Epidemiology, etc. A chart that depicts DOC staff assignments and contact information should be developed to permit quick reference during an emergency. At least two back-up DOC managers should be named on the staff assignment list. Table 3 depicts an example of a DOC staff assignment chart.

Table 3 Example of an ICS-Based DOC Staff Assignment Chart

Position	Name	Telephone Number	Email	Cell Phone
INCIDENT COMMANDER				
• Liaison				
• Public Information Officer				
• Safety Officer				
OPERATIONS SECTION CHIEF				
• Emergency Public Health Operations				
• Medical Operations				
• Continuity of Public Health Operations				
PLANNING SECTION CHIEF				
• Incident Action Planning				
• Demobilization Planning				
• Documentation				
LOGISTICS SECTION CHIEF				
• Information Management/ Communication Support				
• Public Health Pharmacy				
• Materials Supply				
• Facilities Management				
FINANCE/ADMINISTRATION SECTION CHIEF				
• Procurement				
• Human Resources				
• Cost/Time Tracking				
• Claims				

In summary, the most essential DOC elements to incorporate within your plan include:

- Purpose of DOC
- DOC location and alternate locations if primary site is unavailable
- DOC activation levels and circumstances under which each is applicable
- DOC set-up procedures and the locations of all supplies (see Appendix N for a list of suggested supplies)

- Contingencies for communication throughout the DOC, with personnel, between agencies, and with the EOC
- How personnel will be notified of DOC activation
- Personnel that should report to the DOC
- Operational periods and procedures for staff changes
- DOC deactivation procedures
- Food and supplies to care for personnel staffing the DOC

In the event of a disaster, the DOC may also be used as a "safe place" for departmental staff and their families. If roads are difficult to travel, arrangements for child care are not made, or outside conditions are not safe for unnecessary travel, personnel and sometimes their families may end up staying at the DOC. Unless preparations are made for these people to be taken care of somewhere else, the department needs to plan for the basic needs of these people for up to three days. A disaster plan should encourage personnel to be personally prepared in their homes to deal with disasters.

M. Check-In/Out Procedures

Your employees are your most valuable asset, and as such, the health department must keep track of where they are and what they are doing during a disaster.

Check-in and check-out procedures should be designed with two goals in mind:

1) Keeping track of where your personnel resources are and have been throughout a disaster.
2) Keeping track of the amount of time that each person works during the disaster response in order to receive appropriate reimbursement funds.

Establish a central place for workers at the DOC to check-in/out. Those workers who report directly to the field should also report their arrival/departure to the central check-in/out location. In some cases, their supervisors may call in their arrival. If a disaster has restricted or cut-off your communication systems, develop an alternative strategy for recording personnel whereabouts and work times.

N. Emergency Operations Center (EOC)

The Emergency Operations Center (EOC) is a centralized location from which multiple agencies can manage a coordinated response to an emergency. Personnel that often report to the EOC may include, but are not limited to, representatives from the Health Department, Police Department, Fire Department, Utilities, Public Works, Schools, Transportation, Emergency Medical Services, and volunteer agencies such as the Salvation Army, Red Cross, etc. A high concentration of management in one location can expedite synchronized reactions and enhance monitoring of the field and operational area.

Determine which health department personnel should report to the EOC once it is activated and how they will be notified of activation. Plan ahead of time to make sure that the health department

representative at the EOC is not also appointed to be the Incident Commander or the DOC manager. The EOC may request that the Health Officer or Public Health Director be present as part of a Policy Council or Unified Command. In this instance, a second health department representative should also be at the EOC in the Operations Section. The representative to the Operations Section at the EOC should have sufficient authority to make decisions about what the health department will be doing relative to other departments, and in meeting the needs of the response and recovery effort as a whole. The health department should work with EOC management to ensure that they will be able to fulfill the duties that the EOC plan stipulates for the health department and that these duties are appropriate (what your department can contribute to the overall emergency response effort).

The following bullets indicate the fundamental elements of the EOC section that should be included within an all-hazards disaster plan.

- Identify which health department staff should report to the EOC
- Clarify roles of health department staff at the EOC
- Identify which health department staff can activate the EOC
- Identify how the health department staff will be notified of EOC activation
- Identify how the EOC will be notified of the health department DOC activation

In a bioterrorism or public health emergency, the Incident Commander at the EOC may be the LHO or the LHO in unified command with another designee. This will be dependent upon local and state laws, statutes, and codes.

O. Public Health Concept of Operations

The functions of public health during a disaster are similar to those ongoing activities that occur during times of non-emergency. These include surveillance and data collection, dissemination of public information, laboratory detection and confirmation, and environmental health and resource maintenance. However, disaster-related functions differ from normal activities in two important ways. First, public health decisions and activities must occur on an accelerated time-frame—often with limited resources. Second, public health must collaborate with other agencies and organizations—many of them non-health, such as fire, law enforcement, and public works—to coordinate response activities.

These functions apply equally to a public health response to a natural disaster (e.g., flood) as well as man-made disasters whether intentional (e.g., bioterrorism) or not (e.g., a hazardous materials incident). Your disaster plan should include how your agency will fill the primary roles of public health in response to a disaster, which include the following:

- Assessing the needs of disaster-affected populations
- Matching available resources to the needs
    - Assuring appropriate clinical care
    - Implementing strategies to reduce the health impacts
- Evaluating the effectiveness of disaster response (Noji, 2005)

O.1. Assessing the Needs of Disaster-Affected Populations

The first step in responding to the public health needs of a population affected by a disaster is to assess those needs. Numerous needs assessment methodologies exist which can be used to identify the health affects of the disaster. These methods may entail enhanced surveillance from reporting healthcare facilities, rapid surveys of a sample of the affected population, or the immediate physical assessment of key infrastructure elements to determine the potential of environmental health hazards. In the case of a disease outbreak—whether natural or intentional—the needs assessment will focus on the medical needs of your exposed population, epidemiologic investigation, and prevention strategies to control further spread. Such disasters may not be geographically or temporally localized; as such, the affected population may be geographically diffuse and present at several multiple health care facilities over time. Hence assessment strategies may need to incorporate the entire population.

In natural and other physical disasters (e.g., earthquake and the damage seen on 9/11), the effects of the disaster are often more apparent and may be more localized. However, assessments of less obvious impacts, such as the health care needs of certain vulnerable sub-populations (e.g., those in nursing homes, non-English speaking populations, or those with special health care needs) need to be conducted as well as the more obvious assessment of injuries and the impacts on infrastructure (e.g., water and sanitation systems) to mitigate secondary health effects.

Health needs should ideally be assessed as soon as possible, preferably immediately after a disaster occurs or an outbreak is identified. Follow up assessments should be conducted often (e.g., three days later, weekly, or semi-weekly) to remain abreast of current and changing population needs. These surveys are referred to as Rapid Needs Assessments and should be designed to capture information that can be acted on quickly. These assessments can be used to estimate the need for immediate services, such as the number of people injured or the number exposed to a disease agent who may need prophylaxis. The World Health Organization (WHO) and the CDC have established guidelines for conducting rapid needs assessments in the immediate aftermath of a health emergency that may be of use in your planning. (WHO, 1990)

While the focus of a needs assessment strategy is to determine immediate and acute needs, the process should be continuous throughout the emergency and response phases. Once your public health response strategies have been put in place, these assessments can help you evaluate the effectiveness of those responses. They can also be used to determine medium- and long-term needs of the affected population. After the acute phase, assessments may be conducted less frequently and will likely cover a different span of issues.

Your disaster plan should describe the importance of immediate and serial needs assessments and provide details of different methodologies appropriate to both the possible disaster type and your potentially affected population. You may want to have pre-designated and pre-trained disaster assessment teams in place to conduct your assessments. The plan should include the composition of these teams, their responsibilities, and the activation protocols for the teams.

Sample survey instruments or templates for designing them should be included in an appendix to the plan. Likewise you may include templates for other instruments, such as those for conducting syndromic surveillance in hospitals, as part of your assessment strategy.

O.2. Matching Available Resources to the Needs

A key tenet of preparedness is to acquire resources needed to enable a rapid response in the event of an emergency. Thus, a resource assessment should be conducted that addresses what resources may be needed in different emergency scenarios and what resources are currently available to the health department. Your plan should document the resource assessment and the availability of resources. Consider caches that may already exist within your jurisdiction or the possible development of local caches of supplies. You will also need to consider ways to increase unplanned or exhausted resources quickly in an emergency.

The size and demographic characteristics of your jurisdiction will determine the magnitude of response that is necessary in a disaster situation. Whatever the local population size (30,000, 250,000, or 10 million), plans should be made to support a large portion of that number. When considering your population, it is also important to consider what subsets may be more vulnerable to specific threats, and to plan accordingly. For instance, if a jurisdiction is likely to experience power outages as a result of storms or wind, the local health department must have plans to support the number of vulnerable patients whose living accommodations do not have back-up power sources.

When planning for disasters, local population surges must also be accounted for. If a population has a large number of commuters, they should be included in the amount of people that a health department may need to support. If a county has any major events that bring in a great deal of non-residents (festivals, conventions, seasonal attractions, college students, competitions, etc.), there should be contingency plans that explain how the increased population will be served in a disaster, and/or where additional resources will be found. It is important to keep in mind that mutual aid resources can be utilized to make up for any shortcomings in supplies and/or personnel, but that it is ultimately the responsibility of the health department to prepare for these possible scenarios.

One way to meet the emergent public health needs quickly is to redirect staff activities within your public health agency. Staff and resources normally dedicated to certain areas may be redirected to bolster your response activities. For example, your surveillance activities are crucial in continued identification of disease outbreaks as well as determining the effectiveness of control strategies. Consequently, such activities should have the highest priority for continuation even during extreme emergencies. Alternatively, some health education programs such as smoking cessation programs can be temporarily suspended and the staff's energies redirected to emergency response. For example, health educators may be used to develop educational materials for the affected population. Your plan should contain a section discussing such possibilities, providing a rationale for such a decision, and explaining an algorithm that determines the priority of certain functions and their possibility of being suspended.

In order for redirection of staff efforts to be successful in an emergency, it is crucial to convey to your staff the importance of their presence on the job in a disaster. Staff need to know that regardless of their everyday duties, they are essential in an emergency. To improve their ability to work through an emergency, staff should be encouraged to establish contingency plans for their loved ones during times of emergency. Staff already on the job when disaster strikes will likely be asked to remain at work. These staff should be allowed to contact their loved ones to ensure their safety. This assurance will bring peace of mind and increase chances of staff remaining at work. Off-duty staff will likely be required to report either immediately or at some designated time. A written policy

should be established to document this and distributed to all staff. The policy should be stated in your plan and included in an appendix.

Partnerships are a very effective way to quickly increase the amount of available resources. Health departments can enter into agreements with public- and private-sector entities to ensure that assistance can be made available once your resources have been depleted. Memoranda of Understanding and other aid agreements (refer to Section III.G.) should be created with partners during times of non-emergency to ensure that help can readily arrive in the event of a disaster. These MOU's can be utilized both to increase supplies as well as human resources in times of an emergency.

A disaster resulting in the depletion of your local pharmaceutical and medical supplies may activate a request for the Strategic National Stockpile (SNS). Your plan should document what will trigger such a request, how you will deal with the immediate aftermath of the event, and the process for requesting the SNS. A separate annex generally will be utilized to describe your procedures for receipt, storage, and distribution of the Stockpile. Part of your planning prior to the arrival of the Stockpile should include prioritization of treatment and prophylaxis, in anticipation of a limited quantity of pharmaceuticals. You may need to triage medications to those already ill and prophylaxis to essential personnel and their families. Your plan should include how you will make decisions about prioritization. As with the SNS annex, your mass prophylaxis plan will be detailed in a separate annex and should include such things as how many sites may be needed, the identification of those sites, personnel needed to staff each site, resources needed at each site including pharmaceuticals and other supplies, and the ICS structure for the site. You may want to use some of the available models to determine staffing for your mass prophylaxis sites. (Computer Staffing Model for Bioterrorism Response, 2004)

Most public health agencies will not be able to staff the public health response to a large-scale disaster with only their existing staff. Additional personnel may come through agreements with neighboring public health agencies, state-wide mutual aid agreements, or through community-based groups such as the Medical Reserve Corps. (See www.medicalreservecorps.gov for more information.) Depending on your licensing and credentialing laws, retired medical staff, public health, nursing and medical students, and staff from other healthcare facilities can be useful resources. Medical response may be augmented utilizing the National Disaster Medical System (NDMS). Disaster Medical Assistance Teams (DMAT), a component of NDMS, deploy to disaster sites with sufficient supplies and equipment to sustain themselves for a period of 72 hours while providing medical care. DMATs are designed to be a rapid-response element to supplement local medical care. They generally are able to deploy within 12-48 hours following a request for assistance. Your plan should address the availability of resources and document the process for activating such mutual aid resources.

During the emergency, the plans you make for meeting the needs of your population will assist you in writing Incident Action Plans (IAP). A template for Incident Action Plans can be found in Appendix O.

Assuring Appropriate Clinical Care

The Council on Linkages has identified ten essential services for public health. One of those essential services of public health is to "Link people to needed personal health services and assure the

provision of health care when otherwise unavailable." (Public Health Functions Steering Committee, 1994) Public health is responsible for ensuring that appropriate and adequate medical care is provided to victims of the emergency. Although medical providers provide the care, the public health agency may develop and disseminate diagnostic and treatment protocols for unusual diseases. Additionally, public health may manage resource allocation and patient distribution. For example, isolation hospitals for specific communicable diseases may need to be designated within the jurisdiction. It is generally within the scope of public health's responsibilities to make such designations. Your plan should include the necessary steps to do so.

Implementing Strategies to Reduce the Health Impacts

Once the needs of the population are identified and immediate medical needs are being met, the public health agency will turn to public health strategies to reduce the likelihood of further impacts on the populations' health. These strategies will focus on issues related to environmental health (e.g., water, sanitation, hygiene, and vector control), injury prevention (e.g., debris removal), infectious disease control (e.g., surveillance, immunization/prophylaxis, and isolation/quarantine), and management of chronic diseases (e.g., replacement of lost medications, shelters for vulnerable subpopulations). Your various strategies for meeting these needs will be defined in your plan.

Disease containment and prevention strategies are part of public health's daily responsibilities. In times of disaster, your health department will have to implement these strategies at an accelerated speed and on an increased scale. A disease outbreak may be the disaster. Alternatively, a disaster may put conditions into place that could result in increases in infectious diseases such as contamination of the water supply or increases in vector breeding grounds. Standard outbreak prevention strategies may need to be augmented following a disaster. For example, boil water orders may be put into place, vector control strategies may need to be improved, or restaurant evaluations amplified.

O.3. Evaluating the effectiveness of disaster response

Public Health's ultimate motive in an emergency is to the do the most good for the most people in the shortest possible timeframe. Your evaluation criteria should reflect this. The criteria in evaluating response effectiveness must acknowledge the urgency and resource limits of your disaster response activities. As with all public health evaluation, ways to measure effective intervention should be built into the intervention itself.

Constant evaluation during disaster response activities will allow you to alter your response to better meet the needs of the population. Your plan should note that the standards by which you measure the effectiveness of your disaster response will be adjusted from those applied to the measurement of everyday programs. Your plan should include guidelines for developing an after action report (see Section III.Q.). The guidelines used in your agency should be complementary to those utilized by your jurisdiction's emergency management agency. Remember that an after action report, like any evaluation report, is only effective if shortfalls and successes are identified and changes to the plan are made to improve the process for the next emergency.

P. Disaster Recovery

P.1. Deactivation of the Department Operations Center

Effective response measures will lead to a de-escalation of the emergency event, rather than an abrupt termination of emergency activities. The activation level of your Department Operations Center (see Section III.L.) should parallel this de-escalation. Thus, just as your all-hazards disaster plan contains protocols on activating your Department Operations Center at appropriate levels, it should contain protocols on deactivating or "rolling-back" from the current level to the next lower level (e.g., move from Level 3 to Level 2 to Level 1). Include in your plan trigger events indicating when a transition should take place as well as protocols facilitating the demobilization of activated staff and the renewal of previously suspended agency activities. For example, as the prevalence of an outbreak stabilizes, begins to decrease, and/or shows no signs of re-emerging, you may roll-back your activation Level from 3 to 2. When the prevalence and/or casualties approach zero, you may roll-back from 2 to 1, and so on.

The exact timing of such activation level roll-backs is highly dependent on the event details, your resource availability, and your planning capacity. Additionally, such intangible elements as precedent, experience, or even instinct will play a role (although the latter should be minimized or qualified). As such, you may find it difficult to create a single, comprehensive protocol guiding deactivation procedures. At a minimum, however, your plan should contain guidance stressing the importance of the concept, if not step-by-step instructions.

P.2. Event Recovery

The recovery from a disaster requires considerable efforts to return to normalcy. It would be useful for staff members to remain organized in ICS format to assure that all aspects of recovery are accounted for. Command, Operations, Planning, Logistics, and Finance Section Chiefs should direct and monitor the return to normal procedures of each respective section. Recovery planning efforts should occur simultaneously with those of disaster response. Upon impact of a disaster, implementation of recovery strategies will promote a smoother return to conventional functions.

Q. Debriefing

After a disaster, there should always be a debriefing of staff members. At a minimum, debriefing will give a department the opportunity to acknowledge the end of acute disaster operations and orient employees to their continuing obligations to disaster-related activities. A debriefing is a formal opportunity to document lessons learned and an opportunity for staff to collectively discuss the experience. Depending on the scope of the disaster, the debriefing process may vary. For a small disaster or a potential disaster that did not materialize, debriefing could consist merely of collecting documentation from employees. After a disaster that lasted for an extended period of time, supervisors should use a debriefing to give instructions for the collection of disaster-related information. After an especially stressful or large-scale disaster, it might be useful to plan to spend time giving instructions for how to deal with disaster-related data and timelines for putting the data together, along with

explaining the services that are available to employees that have been affected by the disaster. The debriefing section of a disaster plan may also consist of a plan for employees to be given time to discuss their disaster experiences collectively outside of the formal structure of evaluations.

A formal after action report (AAR) should document the lessons learned from the process of disaster response and recovery. These should be recorded and then integrated into the disaster plan. It is also helpful if these lessons learned can be shared with other agencies. The following is a list of components that should be included in an after action report. These components are adapted from the U.S. Department of Homeland Security: Office of Domestic Preparedness, *Homeland Security Exercise and Evaluation Program, Volume II: Exercise Evaluation and Improvement*.

Executive summary: The executive summary provides a brief overview of the exercise, major strengths demonstrated during the exercise, and areas that require improvement. There should be bulleted points addressing: strengths, areas for improvement, and recommended follow-up actions.

Exercise/Event Overview: The overview describes the exercise/event, identifies the agencies/ organizations that participated in it, and describes how it was structured and implemented. Exercise information will be gathered in a database on the National Exercise Program and will be available for planning, scheduling, and evaluation purposes. There should be sections addressing: exercise/ event name, duration, dates, sponsor (for exercises), type of exercise/event, funding source (for exercises), program (for exercises), scenario (for exercises), location of participating organizations, co-sponsors (for exercises), participating agencies/organizations/partners, international agencies, number of participants, exercise/event overview (i.e., brief description), and exercise/event evaluation.

Goals and Objectives (for exercises)/Incident Action Plans (for events): This section lists the goals and objectives/action plans for the exercise/event. These are developed during the exercise planning and design phase (exercises) or incident action planning (events) and are used to define the scope and content of the exercise/event as well as the agencies and organizations that will participate. All of the goals and objectives/action plans should be listed.

Exercise/Events Synopsis: The synopsis provides an overview of the scenario used to facilitate exercise play and the actions taken by the players to respond to the simulated incident (exercise) or the scenario of the event being reviewed (event). The activities are presented in the general sequence and timeline that unfolded at each site. The synopsis provides officials (events) and players (exercises) with an overview of what happened at each location and when. It is also used to analyze the effectiveness of the response, especially the time-sensitive actions. It provides a means of looking at the ramifications of one action not happening when expected, on actions taken by other players, and on the overall response. The scenario, along with the following components, should be addressed for each time period being reviewed: location, discussion/action, expected discussion/ action, and ramifications.

Analysis of Mission Outcomes: This section of the report analyzes how well the participating agencies and jurisdictions addressed the mission outcomes (exercises) or followed the Incident Action Plan (events). Mission outcomes are those broad outcomes or functions that the public expects from its public officials and agencies. As defined in ODP's *Homeland Security Exercise and Evaluation Program, Volume II: Exercise Evaluation and Improvement*, the mission outcomes include: prevention and deterrence, emergency assessment, emergency management, hazard mitigation, public

protection, victim care, investigation and apprehension, and recovery and remediation. The goals and objectives will define the mission outcomes that are addressed by the exercise/event and that should be analyzed in this section of the after action report. An analysis of each mission outcome/ Incident Action Plan should be included.

Analysis of Critical Task Performance: This section of the report reviews performance of the individual tasks as defined in the Incident Action Plan and/or Job Action Sheets. Each task identified by the appropriate planning team as critical to the response required by the scenario should be discussed in this section.

Tasks that were performed as expected require only a short write-up that describes how the task was performed and generally would not be followed by recommendations. For tasks that were not performed as expected, the write-up should include: 1) an issue statement; 2) references to plans, procedures, and evaluation guides; 3) a brief summary of the issue; 4) the consequence of the issue on the response; and 5) an analysis of what happened or did not happen and the root causes for the variance from the expected outcome. Recommendations for improvement should be presented to address identified issues. To facilitate tracking of recommendations and improvements, acronyms should be spelled out in each recommendation.

The Analysis of Critical Task Performance section of the report also should be used to document a variance from expected performance that may have resulted in an improved response or innovative approaches that were used during the response. Following the review and validation of the draft report findings by key officials from the participating agencies/jurisdictions (during the debriefing meeting), the officials define the actions that will be taken to address the recommendations. These improvement actions are presented following each recommendation and include: the action, the responsible party/agency, and the timeline for completion.

Conclusions: This section should provide a final overview of the event in reference to the past exercises/events that your agency has participated in. It should address lessons learned, how the agency will benefit from the experience, and the after action report process. Last, the conclusions should suggest actions that the local (or other) jurisdictions can take to be better prepared in the future.

R. Glossary of Terms/Acronyms

A glossary of acronyms or terms is a helpful resource to incorporate within the all-hazards disaster plan. The glossary should define any difficult or ambiguous terms and all acronyms. The location of the glossary can be either at the beginning or the end of the disaster plan.

S. References

A references section is particularly useful for hazard risk analysis and policy/law information. The references section is also helpful to have in case anyone wishes to confirm the validity of a statement, explore a topic in further detail, research updates in policies, etc. The references section should include all of the basic information such as author, title, volume, page, and year published.

T. Appendices

The appendix contains materials that support your plan. Some examples of materials that can be included in the appendices are:

- Communication/IT/Contact Information
- Evacuation and/or Shelter in Place
- Hospital/Health Care Provider Status Reporting
- Job Action Sheets
- Maps
- Personal Protective Equipment

U. Annexes

The disaster plan should contain annexes that describe specific responses to various hazards. The response to a bioterrorism smallpox attack is very different from the response required for a wildfire or a flood. For example, for a large-scale smallpox outbreak, special preparation must be invested toward quarantine, vaccine acquisition and dispensing procedures, mass casualty incidents, mortality procedures, etc. The annexes you include will be based upon your hazard risk assessment.

Some examples of annexes include:

- Bioterrorism
- Casualty Management
- Chemical Terrorism
- Epidemiology and Surveillance
- Flood
- Mass Prophylaxis
- Mass Fatality
- Nuclear/Radiological Terrorism
- Strategic National Stockpile
- Wildfire

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Section IV

Preparing to Implement Your Disaster Plan

A well-developed disaster plan can be of great benefit to your organization, especially when it is referred to and used on a regular basis. A disaster plan, no matter how appropriate or well-written, is only a book on the shelf unless all health department staff can visualize the approach described and use the framework for making informed decisions outlined within the plan. The plan needs to be distributed and accessible by all staff so they can become familiar with the content and actions needed to be implemented during a disaster.

The plan should at least be distributed to all people within the Incident Command System structure that have any kind of leadership role. All staff that have any role in disaster response should become familiar with those aspects of the plan that pertain to them.

The plan should be available in hard-copy in case the power is out, phone lines are down, etc. It might also be beneficial to have a laminated copy of the plan that can withstand exposure to the elements, dirty hands, etc. The plan can also be made available electronically (e.g., through the Internet or Intranet).

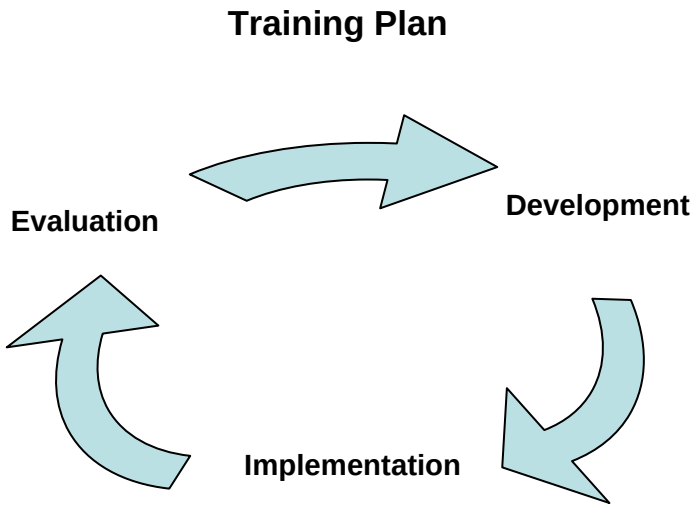
Distribute copies of the disaster plan to other local agencies that are involved in emergency response. Many agencies are not familiar with the roles and mandates of public health departments, so the disaster plan is a good way to establish a dialog about what each agency will be doing and expecting in a disaster. Some example agencies to include in distribution are listed in Section II.I. Any time the plan is updated, be sure the selected external agencies receive the revisions. Include a distribution chart within your plan in order to systematize the circulation of your disaster plan and the updated editions. Refer to Appendix P for an example of an external agency distribution chart.

It is essential to train and conduct drills and exercises on your plan so that all staff understand the procedures that will be undertaken by the department during an emergency. The knowledge and expertise required to effectively fulfill job responsibilities will ensure a well-prepared and ready health force. Training to respond to various disasters should take place before a disaster occurs. This will help reinforce your written disaster plan, answer questions, and address any staff or departmental concerns. Additionally, this is a good time to discuss/review the reasoning behind certain recommendations or approaches found within your plan.

A. Training Plan

Training is an ongoing activity designed to increase the level of competence and expertise of staff and volunteers. It is also an effective means of helping staff develop key skills and gain a greater sense of ownership and responsibility for the plan. Often in designing a plan, the plan becomes the end rather than the means. The plan is a general guide – the reward/benefit is achieved from its implementation.

An operational training plan focuses on meeting the identified needs of the public health agency by providing access to an ongoing learning process. A training plan outlines what training will take place; who will benefit; and how, when, and where the training will be conducted. It is important, therefore, to decide how a training plan will be implemented and integrated into the overall health department program. After the training has been evaluated, the need for follow-up training may be indicated and the process will start again. Learning is an ongoing cyclical process.



B. Development

It is important to decide how the training plan will be implemented and integrated into the overall program management and planning operations of your health department. Make sure that staff understand the importance and purpose of trainings, types of trainings that will be used, topics to be covered in the training, when they are scheduled to occur, and who will be trained. A schedule of trainings accompanied by training documentation (see Appendix Q) should be included within the all-hazards disaster plan. Write a comprehensive training plan that covers the next three to five years, accompanied by a narrative description to provide additional background information. Include in this plan such details as training projections, learning objectives, delivery strategies, and costs. Trainings can include classroom seminars, tabletop exercises, walk-through drills, and/or functional exercises. Trainings can be progressive and build onto each other in succession and/or they can cover various and differing topics.

Before training plans are created, make contact with your state's Homeland Security Office and the local Office of Emergency Management to determine how you should submit your agency's planned exercises and to determine if some exercises can be run jointly with other departments or local jurisdictions. There may also be training requirements attached to grant money and other funding sources (i.e., certain funding may be dependent upon trainings). This should be considered before training plans are developed and implemented.

In order to realize the preparedness and response needs of your health agency, all staff must be trained and ready in the event of a disaster. Set training priorities and make a list of what types of staff development/training is needed. Some of the training sessions will be relevant to all public health staff, while others are more pertinent to specific groups such as communicable disease, epidemiology, or clinical staff. Most staff will need basic or introductory training, while a smaller number will need additional, more in-depth training.

Other considerations prior to conducting training activities include: identifying different options/ resources available to develop trainings, ensuring staff time can be made available for training (i.e., find out whether all health department staff will be able to get release time to attend/participate in planned training activities), estimating the cost of each option, and identifying funding sources to cover training expenses. Be realistic about the budget and time implications when selecting different training methods.

Because of the interrelationship between learning and practice, the most effective training methods provide the participants with new information and an opportunity to practice new skills. This skill-based training consists of a sequence of learning events that ensure participants have the opportunity to use their newly acquired skills and knowledge and to receive feedback on their performance.

Training plans need to include a variety of learning experiences so that they can meet different needs. The learning format/method chosen will vary according to several factors: learning style of the participant(s), number of participants, prior experience, staff position and/or education level of the participant(s), and the type of information being presented. Some staff learn best through a lecture or a workshop, while others learn best through intensive practice and feedback sessions such as tabletop exercises or drills, which build participant skills and confidence. By including varied formats, your training plan will ensure that the needs of learners/staff are met and that a broad range of employees are reached and trained.

According to the U.S. Department of Homeland Security: Office of Domestic Preparedness, *Homeland Security Exercise and Evaluation Program, Volume 1: Overview and Doctrine,* some examples of learning formats/methods may include one or more of the following:

Classroom seminars can include lectures orally or via PowerPoint presentation, overhead transparencies, or other formats. The content should include disaster response information and protocol.

Tabletop exercises involve senior staff, elected or appointed officials, or other key personnel in an informal setting, discussing simulated situations. This type of exercise is intended to stimulate discussion of various issues regarding a hypothetical situation. It can be used to assess plans, policies, and procedures or to assess types of systems needed to guide the prevention of, response to, and recovery from a defined event.

Drills are a coordinated, supervised activity usually employed to test a single specific operation or function in a single agency. Drills are commonly used to provide training on new equipment, develop or test new policies or procedures, or practice and maintain current skills.

Functional Exercises are generally focused on exercising the plans, policies, procedures, and staffs of the direction and control nodes of Incident Command (IC) and Unified Command (UC). Generally, events are projected through an exercise scenario with event updates that drive activity at the management level. Movement of personnel and equipment is simulated.

Full-Scale Exercises are multi-agency, multi-jurisdictional exercises that test many facets of emergency response and recovery. The events are projected through a scripted exercise scenario with built-in flexibility to allow updates to drive activity. It is conducted in a real-time, stressful environment that closely mirrors a real event. First responders and resources are mobilized and deployed to the scene where they conduct their actions as if a real incident had occurred (with minor exceptions). The exercise simulates the reality of operations in multiple functional areas by presenting complex and realistic problems requiring critical thinking, rapid problem-solving, and effective responses by trained personnel in a highly stressful environment.

C. Implementation

Training implementation is an ongoing process. The training manager should map out the training plan, thus providing a blueprint (action steps) to follow for training. Without such a plan, efforts may be chaotic and unfocused. The training plan should be implemented by ensuring the course material, class setting, and staff are ready.

There are distinct steps that need to be considered in order to implement the training plan.

A) *Prepare a schedule for your trainings.* Training is generally more effective when spread out over time, with opportunities to practice and apply what has been learned in trainings. Avoid scheduling too much training in a short period of time.

B) *Assign staff responsibilities to ensure the necessary activities are carried out according to plan.* Identify the roles and responsibilities of the training staff (e.g., staff handling training development and implementation, course presenters/instructors, development and distribution of instructional materials, etc.). The training plan may also include the identification of other groups who may serve as consultants.

C) *Obtain or develop any materials or resources needed to conduct the training activities you selected.* Training materials may include visuals for overhead projectors, handouts, workbooks, manuals, the disaster guide, computerized displays, and demonstrations. Resources may include websites (e.g., training.org) or your local Center for Public Health Preparedness (CPHP).

D) *Identify the provider for the training.* Training may be in-house or contracted to an external agency.

Time must be allocated for staff to become familiar with the information presented in the training and develop a sense of ownership for the material. They need to absorb and think about the information/knowledge they gained, practices, and refine their skills by incorporating what they have learned.

D. Evaluation

Evaluation of both your agency's performance and the appropriateness of the all-hazards disaster plan are crucial components of exercises.

All training activities must be evaluated to ascertain whether learning has occurred. It is important to evaluate training and determine the extent to which it achieved its objectives. Evaluation identifies effective areas and those requiring improvement. The results of the evaluation will be valuable in providing information that can be incorporated when planning subsequent learning events to reinforce and enhance skills.

Evaluation of the training plan will reveal whether the overall learning objectives were met. This will help to determine whether the training approach used was successful and what adjustments, if any, need to be made. Evaluation should take place both immediately following the training and several weeks or months later, to see whether the training accomplished its objectives and participants gained or maintained the skills learned.

A number of evaluative frameworks can be used, from simple observation of staff actions to comprehensive scoring of performance. The methodology employed must be appropriate to the plan component you are evaluating and the intended use of any information you collect. Participant surveys, pre-and post- tests, observations of exercises and drills, and debriefing are all potential options to evaluate the effectiveness of a training course.

Administer pre- and post-tests prior to and immediately after disaster plan trainings. Give participating staff a test before and after the training and compare the results. This can help assess whether the trainings have resulted in increased knowledge of disaster preparedness and response. It can also help you to assess the respondents' perceptions of the strengths and weaknesses of the trainings. Increased knowledge does not necessarily result in behavior change. Therefore, you cannot be assured that an increase in knowledge will result in participants taking the appropriate actions in the event of a disaster.

Observation can be used as a qualitative evaluation method during exercises and drills to assess the strengths and weaknesses of an agency's disaster response. This involves watching staff perform the task or conduct the role during an exercise or drill. It can be helpful to use standardized forms that prompt observers to look for and document specific things (e.g., prompt observers to look for any bottlenecks occurring in a mass vaccination/prophylaxis exercise, document if employees/volunteers are assuming their assigned responsibilities and, if not, describe observed reasons for not doing so if apparent, etc.). Observation does not limit the type of information (data) you can collect. If unexpected outcomes occur during an exercise or drill there is room to collect this data. Observing exercises and drills that use your disaster plan to guide activities can help you assess the effectiveness of your disaster plan and make necessary changes based on the assessment. This

evaluation method can also help you determine whether or not key roles are being filled by the most appropriate individuals. The use of evaluation through observation is highly subjective; it depends largely on the observer's assessment of what is noteworthy and may vary between different observers. Therefore, it is important to train observers to track critical actions dictated by the scenario.

Following any type of training activity (i.e., a training, drill, or exercise), a staff debriefing should occur. In the debriefing, identify lessons learned, areas of improvement, and next steps required to improve the plan and emergency response. The disaster plan and Job Action Sheets should be revised in accordance with conclusions derived from the simulation and debriefing.

Your training evaluation plan should include systems to ensure good record keeping. It is essential that the disaster plan incorporates good record keeping with the capability to document and measure improvement and shortfalls throughout the implementation process. Additionally, good record keeping will enable the agency to evaluate the success of any disaster training as well as response. Documentation of the training is as important and valuable as the training itself. Develop a training log to document and track information related to the staff who received training (i.e., participating staff, job title, date the training was conducted, related competency, type of training, training topic, and outcomes/evaluation). Refer to Appendix Q for an example of a training activity log. The analysis of the data obtained from the log can provide information to be incorporated into future plan revisions.

E. Updates/Revisions

The disaster plan should be updated regularly due to constantly changing regulations, organization operations, training outcomes/evaluation, contact information, and other unanticipated events. Be vigilant of new laws or changes in regulations and revise the disaster plan accordingly. Document any changes and revisions made to your plan. A schedule for frequent and systematic updates will help to verify the validity of all information. Plan content should be updated *at least* once a year. However, changes in contact information of employees and other agencies may necessitate more frequent updates. Subsequent to any plan revisions, training programs should be modified to incorporate any changes and implemented to assure that all health department staff are prepared in the event of a disaster. An example of a plan revision log can be found in Appendix R. Modified disaster plans should be promptly distributed to the appropriate parties.

Section V

Glossary of Acronyms

AOC (Agency Operations Center): A pre-determined location at which selected staff from a department can convene to launch an organized response to an emergency. The AOC is synonymous with DOC and ECC.

CDC (Centers for Disease Control and Prevention): A component of the U.S. Dept. of Health and Human Services responsible for the prevention and control of threats to public health. Working with states and other partners, CDC provides a system of health surveillance to monitor and prevent disease outbreaks including bioterrorism, implement disease prevention strategies, and maintain national health statistics.

CPHD (University of California Los Angeles Center for Public Health and Disasters): A University-based Center that promotes interdisciplinary efforts to reduce the health impacts of domestic and international, natural and human-generated disasters.

CPHP (Centers for Public Health Preparedness): A national network charged with the responsibility of ensuring a strong public health system and providing lifelong learning opportunities to public health professionals to prepare the public health workforce to respond to current and emerging public health threats.

DHS (Department of Homeland Security): A federal agency charged with securing the homeland from terrorist attacks by preventing and detering terrorist attacks and protecting against and responding to threats and hazards to the nation.

DHHS (Department of Health and Human Services): "…the United States government's principal agency for protecting the health of all Americans and providing essential human services, especially for those who are least able to help themselves."

DOC (Department Operations Center): A pre-determined location at which selected staff from a department can convene to launch an organized response to an emergency. The DOC is synonymous with the AOC and ECC.

DMAT (Disaster Medical Assistance Team): A group of medical and support personnel designed to provide emergency medical care during a disaster or other unusual even.

EAS (Emergency Alert System): When activated by appropriate authorities, the system can be used to broadcast information to the public over various media sources.

ECC (Emergency Control (Communications) Center): A pre-determined location at which selected staff from a department can convene to launch an organized response to an emergency. The ECC is synonymous with DOC and AOC.

EDIS (Emergency Digital Information Service): A transmitter used in California which can tap into all television stations within range in order to distribute televised information to the public and news media. (www.edis.ca.gov)

EMS (Emergency Medical Services): Local, state, or federal agencies that ensure quality, pre-hospital patient care by administering an effective system of coordinated emergency medical care, injury prevention, and disaster medical response.

EOC (Emergency Operations Center): A pre-determined location at which specific personnel from different agencies within a jurisdiction convene to efficiently organize a disaster response.

EOP (Emergency Operations Plan): An emergency preparedness plan that specifies actions to be followed prior to, during, and following an emergency.

EPA (Environmental Protection Agency): A state and/or federal agency which develops and enforces environmental regulations, finds and conducts environment-related research projects, and provides educational material to promote a more environmentally informed public.

FBI (Federal Bureau of Investigation): A federal government agency which investigates and attempts to prevent terrorist and foreign intelligence threats against the United States, combats multiple forms of crime (including cyber, organized, and white collar), and enforces criminal laws.

FEMA (Federal Emergency Management Agency): An agency within the Department of Homeland Security that supplies disaster preparedness and response information, provides disaster assistance employees, disaster training, aid to other emergency management agencies, and coordinates the federal response to an emergency.

GIS (Geographic Information Systems): A computer-based mapping system that can be used to monitor disease outbreak, injuries, events, etc.

HAN (Health Alert Network): A nationwide, integrated information and communications system serving as a platform for distribution of health alerts, dissemination of prevention guidelines and other information, distance learning, national disease surveillance, and electronic laboratory reporting, as well as for CDC's bioterrorism and related initiatives to strengthen preparedness at the local and state levels.

HRAI (Hazard Risk Assessment Instrument): A model that helps with completing a hazard risk assessment, conducting resource and vulnerability analyses, and projecting likely hazard impacts.

ICS (Incident Command System): A management model that is used to achieve command, control, and coordination during any type of agency's response to an emergency.

LHO (Local Health Official): The Local Health Official is that person charged with the responsibility of protecting the community/population from disease.

MCI (Mass Casualty Incident): An event that results in casualties (injuries and fatalities) that exceed immediately available resources.

MOU (Memorandum of Understanding): A document that describes an agreement between two agencies or organizations which clarifies provisions of services and areas of responsibilities.

NACCHO (National Association of County and City Health Officials): A professional organization that represents local governmental public health agencies and supports strong national policy and effective local public health practices and systems.

NDMS (National Disaster Medical System): A system designed to provide emergency medical assistance to States following a catastrophic disaster or other major emergency.

NEDSS (National Electronic Disease Surveillance System): An initiative that promotes the use of data and information system standards to advance the development of efficient, integrated, and interoperable surveillance systems at federal, state, and local levels. It is a major component of the Public Health Information Network (PHIN).

NIMS (National Incident Management System): Developed by the Secretary of Homeland Security at the request of the President, NIMS integrates effective practices in emergency preparedness and response into a comprehensive national framework for incident management.

OEM (Office of Emergency Management): A local or state agency that coordinates emergency management activities with other federal and state agencies and integrates federal resources into state and local response recovery efforts.

PIO (Public Information Officer): Prepares news releases, information, interviews, and publications of public safety or health-related information to enhance health awareness of the public. The PIO is responsible for communications with the media and may field questions at press conferences.

REDDINET (Rapid Emergency Digital Data Information Network): A proprietary system primarily used in California, which combines Internet and digital radio technology to supply emergency first responders with secure, two-way communication.

RIMS (Response Information Management System): An Internet-based communication system used to manage communications between the five levels of government agencies within the Standardized Emergency Management System in California.

SEMS (Standardized Emergency Management System): SEMS is the official method for disaster response management in California. The use of SEMS standardizes the response to emergencies involving multiple jurisdictions or multiple agencies.

SMART (Specific Measurable Attainable Rewarding and Timed): An acronym that addresses the main elements to consider when developing project or training objectives.

SNS (Strategic National Stockpile): A national repository of antibiotics, chemical antidotes, anti-toxins, life-support medications, IV administration, airway maintenance supplies, and medical/ surgical items. The SNS is designed to supplement and re-supply state and local public health agencies in the event of a national emergency anywhere and at anytime within the U.S. or its territories.

SOPs (Standard Operating Procedures): A standard set of procedures to follow under specific circumstances, in an attempt to execute a coordinated and organized response.

WHO (World Health Organization): The United Nations specialized agency for health.

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Appendices

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APPENDIX A
AGENCY SUPPLY LIST

First Aid Supplies

- ☐ Gloves
- ☐ OTC pain and fever meds
- ☐ Burn and wound care supplies (i.e., antiseptic and bandages)
- ☐ Waterless hand sanitizer
- ☐ Heavy duty EMT shears
- ☐ Hot and cold packs

Safety Supplies

- ☐ Radio and batteries
- ☐ Hard hats
- ☐ Work gloves
- ☐ Goggles
- ☐ Dust masks
- ☐ Flashlights (extra batteries)
- ☐ Light sticks
- ☐ Duct tape
- ☐ Pry bars
- ☐ Rope
- ☐ Other supplies appropriate to your facility
- ☐ Other available as pre-packaged kits
- ☐ Fire extinguishers
- ☐ Ladder (if tall building)

Personal Comfort

- ☐ Emergency blankets
- ☐ Sanitary supplies:
  - ❍ Plastic bags
  - ❍ Toilet paper
  - ❍ Feminine hygiene needs

Food and Water

- ☐ 1 gallon water/person/day x 3 days
- ☐ 2000 kcals/person/day x 3 days
- ☐ Portable cooking facilities

APPENDIX B
All-Hazards Disaster Plan Checklist

Staff Preparedness

- ☐ Personal Protective Actions
- ☐ Agency Emergency Supplies
- ☐ Employee Welfare Services

Preparing to Write Your Plan

- ☐ Select a Team
- ☐ Delegate Responsibilities
- ☐ Establish Objectives
- ☐ Establish a Schedule
- ☐ Obtain Commitment From All Management and Administration
- ☐ Determine the Format
- ☐ Review Reimbursement/Aid Policies
- ☐ Conduct a Hazard Risk Assessment
- ☐ Coordinate with External Agencies/Partners
- ☐ Review Existing Disaster Plans

Components of a Disaster Plan

- ☐ Title Page/Preface/Table of Contents
- ☐ Letter of Approval/Signature Page
- ☐ Mission Statement and Purpose
- ☐ Plan Objectives
- ☐ Authorities, Codes, Policies
    - ○ Authority of Leading Local Health Official
    - ○ Major Local Public Health Official Functions
- ☐ Agency Communication Plans
    - ○ Internal Communication
    - ○ External Communication

- ☐ Pre-Arranged Agreements
  - ❍ Mutual Aid Agreements
  - ❍ Memoranda of Understanding (MOU)
  - ❍ Service Contracts
- ☐ Data Protection
- ☐ Departmental Disaster Management
  - ❍ Department Activity Prioritization
  - ❍ Disaster Staff Organization: National Incident Management System (NIMS) and Incident Command System (ICS)
- ☐ Leadership Succession
- ☐ Staff Responsibilities
  - ❍ Job Action Sheets
- ☐ Department Operations Center
- ☐ Check In/Out Procedures
- ☐ Emergency Operations Center
- ☐ Public Health Concept of Operations
  - ❍ Assessing the Needs of Disaster-Affected Populations
  - ❍ Matching Available Resources to the Needs
  - ❍ Evaluating the Effectiveness of Disaster Response
- ☐ Disaster Recovery
  - ❍ Deactivation of the Department Operation Center
  - ❍ Event Recovery
- ☐ Debriefing
- ☐ Glossary of Terms/Acronyms
- ☐ References
- ☐ Appendices
- ☐ Annexes

Preparing to Implement a Disaster Plan

- ☐ Training Plan
- ☐ Development
- ☐ Implementation
- ☐ Evaluation
- ☐ Updates/Revisions

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APPENDIX C
Signature Page

THE UNDERSIGNED STAFF CONCUR WITH THE JURISDICTIONAL AND DEPARTMENTAL FEATURES OF THE FOLLOWING ALL-HAZARDS DISASTER PLAN GUIDE.

_____	_____
Name/ Position/ Name of Appropriate Department	Date
_____	_____
Name/ Position/ Name of Appropriate Department	Date
_____	_____
Name/ Position/ Name of Appropriate Department	Date
_____	_____
Name/ Position/ Name of Appropriate Department	Date

[Name of organization/agency]

[Insert date]

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APPENDIX D
Examples of Disaster Related Laws from Federal, State, and Local Sources

Federal:

Executive Order No. 12148. Federal Emergency Management

Sec. 2. Management of Emergency Planning and Assistance

2–1. General.

2–101. The Director of the Federal Emergency Management Agency shall establish Federal policies for, and coordinate, all civil defense and civil emergency planning, management, mitigation, and assistance functions of Executive agencies.

2–102. The Director shall periodically review and evaluate the civil defense and civil emergency functions of the Executive agencies. In order to improve the efficiency and effectiveness of those functions, the Director shall recommend to the President alternative methods of providing Federal planning, management, mitigation, and assistance.

2–103. The Director shall be responsible for the coordination of efforts to promote dam safety, for the coordination of natural and nuclear disaster warning systems, and for the coordination of preparedness and planning to reduce the consequences of major terrorist incidents.

2–104. The Director shall represent the President in working with State and local governments and private sector to stimulate vigorous participation in civil emergency preparedness, mitigation, response, and recovery programs.

2–105. The Director shall provide an annual report to the President for subsequent transmittal to the Congress on the functions of the Federal Emergency Management Agency. The report shall assess the current overall state of effectiveness of Federal civil defense and civil emergency functions, organizations, resources, and systems and recommend measures to be taken to improve planning, management, assistance, and relief by all levels of government, the private sector, and volunteer organizations.

State:

New York State Defense Emergency Act 1951 784/51 Article 4 Section 40.

Powers of certain state officers and agencies.

Notwithstanding the provisions of any law, for the purpose of providing during the defense emergency (a) for unanticipated or emergency needs for the protection of the safety and health of the people of the state in the event of attack, or (b) for the mobilization and efficient utilization of all of the resources and facilities in the state in aid of the defense effort, or (c) for the orderly conduct of public or private affairs in a manner consistent with the requirements of the defense effort, the following officers or agencies of the state shall have power to take action or to adopt, promulgate and make effective plans, regulations or orders, consistent with the provisions of this act and with any actions taken or plans, regulations or orders adopted and promulgated by the council, with respect to the following matters....

Local:

Miami-Dade County Code of Ordinances
Chapter 8B EMERGENCY MANAGEMENT
Sec. 8B-5.

Procedure for adoption of ordinances and regulations during disasters or emergencies.

Upon affirmation by the Mayor or the Chairperson of the Board of County Commissioners in the absence of the Mayor or the Manager in absence of the Mayor and the Chairperson of the Board of County Commissioners that a disaster or emergency exists which will affect the health, safety or welfare of the citizens of Miami-Dade County, any such ordinance or regulation adopted and promulgated because of such disaster or emergency shall become enforceable immediately upon promulgation. A copy shall be filed with the Clerk of the Circuit Court as Clerk of the Miami-Dade County Commission within twenty-four (24) hours of its promulgation. Upon failure to file the ordinance or regulation within twenty-four (24) hours, such ordinance or regulation shall not be deemed to have been adopted because of a disaster or emergency and shall have no effect until filed in the Office of the Clerk of the Circuit Court as Clerk of the Miami-Dade County Commission within a period of fifteen (15) days as heretofore provided.
(Ord. No. 99-51, §§ 2, 3, 5-25-99; Ord. No. 03-178, § 1, 7-22-03)

Sec. 8B-6. Powers of the Mayor.
Pursuant to the Code and Florida State law, and to execute the policies and purposes of this Chapter, the Mayor, the Chairperson of the Board of County Commissioners in the absence of the Mayor or the Manager in the absence of the Mayor and the Chairperson of the Board of County Commissioners is authorized to:
(1) Declare a Local State of Emergency: The Mayor or the Chairperson of the Board of County Commissioners in the absence of the Mayor may declare a Local State of Emergency for a period of up to thirty (30) days for any or all areas of Miami-Dade County in response to the imminent threat of, or an occurring emergency or disaster. The Mayor or the Chairperson of the Board of County Commissioners in the absence of the Mayor or the Manager in the absence of the Mayor and the Chairperson of the Board of County Commissioners must present to the Board and file with the Office of the County Manager an affidavit stating the reasons for the Declaration:

- (a) If the Declaration is to exceed thirty (30) days the Mayor, or the Chairperson of the Board of County Commissioners in the absence of the Mayor or the Manager in the absence of the Mayor and the Chairperson of the Board of County Commissioners, shall present to the Board an additional affidavit stating the reasons for the extension.
- (b) A Local State of Emergency may be terminated by executive order once conditions that prompted the declaration are no longer a threat.

(2) Ensure the coordination Local, State, or Federal agencies, and private entities to facilitate disaster or emergency operations.
(3) The Mayor shall be the official representative of Miami-Dade County and speak on behalf of its actions in response to disasters or emergencies.
(Ord. No. 99-51, § 3, 5-25-99; Ord. No. 03-178, § 1, 7-22-03)

APPENDIX E
Health Officer Authority in California

The Local Health Officer (LHO) is legally responsible for managing medical/health preparedness and response/recovery efforts at the county level. The LHO has the authority to enforce city, county, and state statutes. The California Government Code, Section 101040, states the following:

"…the County Health Officer may take any preventive measure that is necessary to protect and preserve the public from any public health hazard during any 'state of war emergency,' 'state of emergency,' or 'local emergency' as defined by Section 8558 of the Government Code, within his or her jurisdiction."

"Preventive measure" for example, means abatement, correction, removal, or any other protective step that may be taken against any public health hazard that is caused by a disaster and affects the public health. Funds for these measures may be allowed pursuant to Sections 29127 to 29131, inclusive, and 53021 to 53023, inclusive, of the Government Code, and from any other money appropriated by a County Board of Supervisors or a City governing body to carry out the purposes of this section (Section 101040).

It is important to include the applicable laws, codes, and definitions of used terminology for easy reference and clarification. Include the code definitions of potentially ambiguous phrases such as: local emergency, state of war emergency, state emergency, and preventive measures.

A local emergency can be declared due to health-related reasons. Under the government code 8558(c), such health-related conditions as air pollution, epidemic and plant or animal infestation or disease…[and] upon the existence of "other conditions" that are or are likely to be beyond the control of the services, personnel, equipment and facilities of the political division.

Another regulation that would be useful to incorporate within the plan is that according to Penal Code Section 409.5 the Local Health Officer has the authority to order an evacuation if there is an immediate menace to public health from a calamity such as flood, storm, fire, earthquake, explosion, accident or other disaster.

Integrate doctrines related to quarantine authority to further reduce the research effort required during an emergency response. For example, the Health Officer has the authority to:

"…quarantine, isolate, inspect, and disinfect persons, animals, houses, rooms, other property, places, cities or localities."

The Health Officer and the Director of the Department of Food and Agriculture are authorized to impose quarantine measures. The quarantine measures include:

a) Preventing or restricting persons from entering or leaving a quarantined area.
b) Preventing or restricting movement of vehicles, commodities, household goods, and animals from entering or leaving a quarantined area.

c) Preventing or restricting direct communication between persons under the quarantine and those not affected.
d) Disinfecting of persons, animals, houses, or rooms.
e) Destruction of beddings, carpets, household goods, furnishings, materials, clothing, or animals when disinfecting would be unsafe.
f) Any other action considered necessary to eradicate a public nuisance.
g) Any other action considered necessary to prevent spread or additional occurrences of a disease.
h) Any other action necessary to preserve the public health.

Cal. Health & Safety Code § 120100, § 120175, § 120585, §120215, (a), (b). § 120200, 120210(a), 120210(b), 120215, 120135, 120415, 120145, Cal. Food & Agric. Code § 5763, Cal. Food & Agric. Code § 9573.

Medical Health Operational Area Coordinator

An element of the emergency response specific to California includes aid to the LHO from a Medical Health Operational Area Coordinator (MHOAC). The MHOAC assists the LHO in preparation and execution of the county medical/ health plan. The LHO may choose to delegate some responsibilities to the MHOAC. The LHO and MHOAC should maintain close contact. All parties should recall that the LHO has sole authority to sanction emergency measures necessary to protect public health (Section 101049 of the Government Code).

APPENDIX F

Internal Agency Emergency Contact List

Name	Job Position	Work Phone	Home Phone	Cell Phone	Pager	Fax	Email	Other

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APPENDIX G

External Agency Aid and Resources Supply Contact List

Item	Name of Contact	Agency/ Dept/ Business	Address	Work Phone	Home Phone	Cell Phone	Pager	Fax	Email	Notes	MOU Established
Office Supplies											
Medical Supplies											
Pharma-ceuticals											
Extra Staff/ Volunteers											
Information Technology											
Equipment Rentals											
Food/drinks											
Hardware											
Transporta-tion											
Security											

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APPENDIX H
ADVANTAGES AND DISADVANTAGES OF COMMUNICATIONS OPTIONS

Phone: Landline phone, cell phone, text message, recorded message on voice mail (specify outgoing message), hotline, GETS cards, satellite phone, fax, etc. Discuss options such as telephone switch bypass with the phone company.

- *Advantage:* Phones are a very easy and effective way to communicate. There are many phone-related options for communication and most will work with all other options – the same special equipment is not needed by both parties.
- *Disadvantage:* Phone systems are reliant upon infrastructure that can be damaged in a disaster and can be overloaded by other calls, making them unavailable unless designated lines are available.

Computer: Email, website, Health Alert Network (HAN), Blastfax, Response Information Management System (RIMS), etc.

- *Advantage:* Computer-based systems can be very effective at reaching a lot of people very quickly. They can send messages to a number of different devices and are not reliant upon everyone having the same equipment.
- *Disadvantage:* Infrastructure disruptions can disrupt computer and Internet-based communications. Internet services can be disrupted in a far away place and still affect local functioning.

Radio: Handheld radio (pre-determine channels), Handheld Amateur Radio (HAM)

- *Advantage:* Communications can be widely disseminated in a short amount of time. Not reliant upon land-based power being available. Multiple agencies can work on the same frequencies.
- *Disadvantage:* Special equipment and licensing may be required.

Message Boards: Whiteboard, corkboard, or other message board

- *Advantage:* Can be updated easily and messages can be left, rather than being broadcast multiple times.
- *Disadvantage:* Messages are one-way and recipients must be onsite.

Mixed media: Emergency Digital Information Service (EDIS in California), Emergency Alert System (EAS)

- *Advantage:* Messages can reach any person watching television or listening to the radio. Highly effective way to communicate a message to the public.
- *Disadvantage:* Messages are one-way and depend upon people listening to the radio or watching television at the time of the broadcast. Messages reach the general public, and some health department related messages should not be relayed to the public as a whole.

Other Options: Rapid Emergency Digital Data Information Network (ReddiNet), pagers, paper messages, out of state voice-mail or paging systems, etc.

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APPENDIX I

Health Care Provider Contact Information

Provider Name	Type of Agency	Max. # Licensed Beds	Contact Name	Work Phone	Hotline Number	Work Fax	Cell Phone	Pager	Email
	Acute Care Facility								
	Skilled RN Facility								
	Outpatient Clinic								
	Trauma Center								

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APPENDIX J
Sample MOU

Memorandum of Understanding
Between

Local County A Department of Health Services
AND
Local Voluntary Organization C

This MOU is made and entered into this 4th day of November, 1998, and between the Local County A (hereafter "County"), and Local Voluntary Organization C (hereafter "LVO C").

1. **Purpose:** The purpose of this Agreement is to define the relationship between the County acting through its Department of Health Services (DHS) and LVO C, Los Angeles Chapter, in preparing for and responding to the physical and emotional needs of individuals, groups, and families and in coordinating health-related activities in disaster relief situations. This disaster relief and response may be met through the joint efforts of the DHS and the LVO C.

2. **Authorities:** The DHS, is authorized to provide for the organization, mobilization, coordination and direction of medical and health services, both public and private, during a disaster. Such authority is granted by the State B Emergency Services Act, State of B Emergency Plan, the State B Emergency Medical Mutual Aid Plan, the Local County A Code Chapter 2.13, the Multi-hazard Functional Plan Annex D and E, the Federal Disaster Relief Act and the State B Health and Safety Code Division 2.5 Article 4. All activities and services provided by County will be high quality and will conform to current professional standards.

   By congressional charter dated January 5, 1905 (31 U.S.C.) and subsequent statutes (Public Law 93-2), the LVO C has been designated the nationwide lead agency through which the American people voluntarily extend assistance to individuals and families in need as a result of disaster. The LVO C does not have the power to surrender the mandate created by its charter. The legal status of the LVO C as a unique instrumentality has been confirmed by a unanimous decision of the U.S. Supreme Court in Department of Employment v. United States, 385 U.S. 377 (1966). The LVO C mitigates suffering by meeting the urgent needs of victims and emergency workers immediately after a disaster has struck or in advance of a potential disaster.

   Appropriate Federal, State, and local government agencies may, by contract or otherwise, accept and utilize the services and facilities of the LVO C and may distribute through the LVO C medicines, food, and other consumable supplies of emergency assistance.

   The LVO C recognizes that primary responsibility for the general health of a community in a disaster rests with the local health authorities and local medical, nursing, and health resources. In a disaster, ill or injured persons normally look to their own physicians or to the usual community medical, nursing, and health care facilities for the particular type of care needed. All LVO C disaster health services activities, as part of the LVO C disaster preparedness and relief program

and as part of the community's emergency response system, supplement the existing community health care delivery system.

Just as the LVO C coordinates its overall disaster program with the community's public safety and emergency service efforts, the LVO C disaster health services efforts must be coordinated with those of the local health authorities and the medical and nursing communities. All activities and services provided by the LVO C will be high quality and will conform to current professional standards.

3. **Areas of Agreement and Cooperation:** The LVO C and DHS, agree to cooperate in the following areas of endeavor following an incident of disaster:

DHS has overall local responsibility for ensuring the care of individuals who are sheltered and require medical care, special medical equipment, and continuing medical surveillance. The individuals may either be transferred as soon as possible from a public shelter to an appropriate alternate facility or be cared for by the agency or individual normally responsible for pre-shelter caretaker duties, or the DHS in the pre-determined temporary infirmary section of the shelter.

Transferal of all persons requiring a fully equipped and properly staffed facility will be a high priority and will be coordinated jointly by the County's emergency Operation Center and the DHS Departmental Operations Center.

LVO C, in cooperation with DHS, will provide disaster health services personnel in all designated LVO C shelters. These workers will be available for consultation with the DHS workers in the temporary infirmary section.

DHS will:

- Provide consultation on health assessments and referrals to the LVO C shelter nurses;
- Ensure minimum sanitation standards are met at all LVO C shelters;
- Assign public health nursing personnel if available, or other available nursing personnel obtained through other Federal, State, and local resources, to LVO C shelters when mutual aid is requested through appropriate channels;
- Provide consultation and training on sanitation standards and communicable disease control to shelter staff.

LVO C will support DHS by providing to DHS staff LVO C disaster preparedness training including, but not limited to, the following LVO C courses:

- Managing Shelters
- Health During Disasters
- First Aid and CPR Courses
- Mental Health During Disasters

Such training will be provided at no cost to DHS.

Both agencies will collaborate to develop training which address the unique aspects of the two different agencies.

Priorities will focus on:

- Coordination of health care activities
- Public Health Nurse preparation for potentially working in LVO C shelters
- Tracking patients/clients back into communities
- Utilization of congregate care teams; and of shelter/community liaisons

Both agencies will participate in County disaster drills to enhance their understanding of roles and responsibilities.

Representatives of both agencies will attend and participate in ongoing disaster planning meetings focusing on meeting the disaster caused and aggravated physical and emotional needs of the community. Information will be shared to include:

- Table of organization
- Initiation of mutual aid
- Expected services

Both agencies agree to include the cooperative operational policies and procedures outlined in their respective disaster plans.

4. **Publication and Dissemination of Directives:** Both agencies agree to jointly publish this agreement and to disseminate its content through appropriate methods and channels to its executive, managerial, and supervisory staff; any volunteer or paid staff providing disaster relief services; and as a basis of coordination with superior, affiliated, associate, or subservient units, departments, divisions, or organizations.

5. **Indemnification and Insurance:** Notwithstanding any other agreements, LVO C agrees to defend, hold harmless, and indemnify County, County Special Districts, elected or appointed officers, agents, and employees against any legal liability, including reasonable attorneys fees, in respect to bodily injury, death, and property damage arising from the negligence of LVO C during its use of property belonging to County.

   Notwithstanding any other agreements, County agrees to defend, hold harmless, and indemnify its officers, agency, volunteers, and employees against any legal liability, including reasonable attorneys fees, in respect to bodily injury, death, and property damage arising from the negligence of County during its use of the property belonging to LVO C.

6. **Effective Date, Modification, and Termination:** This agreement shall become effective upon the execution by authorized individuals of both organizations. It shall continue in force with or without subsequent modification or amendment until it expires or is terminated. Modification shall be by the same means as original execution, including the same obligations of publication and dissemination of such modifications. Termination may be by either party to the other with a minimum of thirty (30) calendar days prior written notice.

   Unless sooner cancelled or terminated, this Agreement shall expire on June 30, 2002.

   IN WITNESS WHEREOF, the Board or Supervisors of the County A has caused the Agreement to be subscribed by its Director of Health Services, and LVO C has caused the Agreement to be subscribed on its behalf by its duly authorized officer, the day, month, and year first above written.

COUNTY A	LVO C
By: _____ Director of Health Services	By: _____ Contractor

By: _____
Signature

_____
Printed

Title: _____
(Affix corporate seal here)

APPROVED AS TO FORM BY THE OFFICE OF THE COUNTY COUNSEL.

County Counsel

APPROVED AS TO CONTRACT ADMINISTRATION:

By: _____
Acting Chief, Grants and Contracts Section

APPENDIX K

Standardized Emergency Management System Overview

The Standardized Emergency Management System (SEMS) is the official method for disaster response management in California. SEMS was established in 1992 in Section 8607 of the Emergency Services Act in the California Code of Regulations. The use of SEMS standardizes the response to emergencies involving multiple jurisdictions or multiple agencies. The Emergency Services Act, Section 8607(e)(1) states the following:

"Each local agency, in order to be eligible for any funding of response-related costs under disaster assistance programs, shall use the standardized emergency management system to coordinate multiple jurisdiction or multiple agency operations."

SEMS is intended to be flexible and adaptable to the needs of all emergency responders. Local governments in California must use SEMS to be eligible for funding/ reimbursement of disaster response related costs under state disaster programs.

If SEMS is used, the requirements are that departments do the following:

- Formalize the Operational Area Emergency Management Organization to coordinate emergency response efforts
- Use the Incident Command System (ICS) in disaster response
- Standardize training
- Centralize gathering of intelligence and mutual aid requests into one Emergency Operations Center (EOC) at the Operational Area level

Each plan should comply with any pre-determined local, state, or federal requirements. Consider adhering to SEMS guidelines if no other specific format is required.

SEMS can be managed through the Internet via the Response Information Management System (RIMS). An ID number and password can connect users to district reports and resource requests.

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APPENDIX L
Public Health Incident Command System

Command

Command is responsible for the overall direction and management of the health department's response to an event. For any incident there are several agencies that must be notified, varying on the characteristics of the event. The Incident Commander is responsible for insuring that each of these agencies is notified in a timely manner. In some states, the Incident Commander will have a direct line to the state health department for incident notification to request assistance such as laboratory resources, epidemiological investigation resources, or mobilization of regional and federal health manpower and resources.

The Incident Commander is designated by the Health Officer (or Commissioner) of the agency and s/he may designate either her/himself or another person in the agency to serve in that capacity. In a large incident, the Health Officer might be situated in the community's emergency operations center (EOC) or the office of a local government official (e.g., Mayor or County Executive) to participate in advisement or policy making for the incident. In this case, the Health Officer must appoint an Incident Commander to assume responsibility for the health department's response. The three positions that should be filled to aid the Incident Commander with management duties include a Liaison Officer, Public Information Officer, and Safety Officer.

Liaison Officer

The Liaison Officer is responsible for establishing and maintaining an effective relationship with outside agencies and organizations. This is frequently done through the area EOC. Another important function of the Liaison Officer is to prevent the Incident Commander from becoming overloaded with requests from outside agencies. The Liaison Officer can "triage" requests from outside agencies to the appropriate individuals within the agency.

Because the nature of this position is to establish and develop relationships, the activities of this position may be on-going and not necessarily just activated at the time of an incident. "During an incident" should not be the first time that the Liaison Officer meets colleagues from other agencies. To foster acquaintances, non-event duties may include participating on advisory boards, local emergency planning committees, local hazard mitigation plan task forces, etc.

Public Information Officer

The Public Information Officer (PIO) is responsible for coordinating, providing and/or approving all information to the media, healthcare providers, and the public. The PIO should compile information received from the Section Chiefs and synthesize details for the appropriate audiences. The PIO is also expected to anticipate what type of information will be needed and be prepared to respond promptly.

Media interaction entails the creation of written press releases and regularly scheduled press conferences. The PIO must prepare health officials with essential points and parameters for press conferences. The PIO's duties may also include developing or approving website content, media/ public hotline information, and appropriate updates for both, respectively. The PIO should be vigilant of circulating rumors, attempt to prevent them by providing frequent press releases, and respond immediately to rumors that undoubtedly will arise. Determine a way in which the PIO will receive the latest information circulating through the media. The PIO should prepare and practice making appropriate statements for many different scenarios prior to any disastrous event. It would be beneficial to create some press releases in advance that address multiple scenarios such as quarantine, infectious disease, fire, drought, etc. The sample press releases can be incorporated within the disaster plan appendix. The sample press releases can serve as a helpful reference during a disaster and may help to reduce some of the time required to develop a statement in an emergency. The timing and frequency with which the PIO responds to a disaster will greatly affect the public response. A poorly phrased or delayed response to the media can lead to fallacious rumors, public loss of trust with authorities, reduced ability to correct rumors, and preventable public dissatisfaction.

Safety Officer

The primary responsibility of the Safety Officer is to initiate systems to ensure the physiological and psychological safety of the public health staff responding to the emergency. The Safety Officer must assure that the required protective/safety equipment is available, staff is monitored for adverse health effects, and timely treatment is available. The safety officer is also responsible for maintaining security of the health department's facilities to avoid vandalism, theft, and other dangerous and costly problems.

Operations

The Operations Section performs field work response during an event. The staff may work individually, in teams, or with responders from other agencies doing outreach, collecting samples, providing therapy, etc. Operations staff may also handle phone calls on the agency's hotline within the confines of the health department. The Operations staff must be extremely vigilant of the emergency situation and are required to report back to unit leaders on the fluctuating status of events. All of the other sections provide support for the Operations Section.

The duties that fall under the Operations Section can be divided into smaller sub-categories and reassigned to subordinates. The Operations responsibilities that can be divided and delegated may include, but are not limited to, the following suggested categories:

- Emergency Public Health Operations
    - Community Health and Outreach
    - Epi/Surveillance
    - Public Health Laboratory
    - Vital Records

    - Environmental Health
    - Mental Health
    - Veterinary Health
    - Shelter Operations
- Medical Operations
    - EMS
    - Clinics/Hospitals
- Continuity of Public Health Operations
    - Community Health and Outreach
    - Epi/Surveillance
    - Public Health Laboratory
    - Vital Records
    - Environmental Health
    - Mental Health
    - Veterinary Health

Planning

The Planning Section is responsible for collecting and analyzing information for the purpose of situation status determination and forecasting. The Planning Section must collect information from various sources, including all other sections and external agencies. Other responsibilities include tracking resource status, shifting staff, documenting the response effort, distributing information as needed, and promptly sharing information with other Section Chiefs. The Planning Section Chief may choose to divide positions into smaller factions and delegate the responsibilities. Some suggested sub-categories of the Planning Section may include, but are not limited to, the following:

- Incident Action Planning
- Demobilization Planning
- Documentation

Logistics

The Logistics Section should procure appropriate space, supplies, equipment and personnel resources required by the Operations Section and other staff. The Logistics Section must arrange transportation, acquire fuel, food, manage clerical support for meetings, set up lines for communication, and coordinate medical services. The numerous logistics duties can be dispersed among subordinate personnel. Some suggested sub-categories of the Logistics Section may include, but are not limited to, the following:

- Information Management/Communication Support
- Public Health Pharmacy
- Materials Supply
- Facilities Management

Finance/Administration

The Finance and Administration Section is responsible for financing and recording items that Logistics has procured. Finance provides cost and time tracking associated with acquiring personnel and handles reimbursement claims. Some suggested sub-categories of the Finance/ Administration Section may include, but are not limited to, the following:

- Procurement
- Human Resources
- Cost/Time Tracking
- Claims

APPENDIX M
Sample Job Action Sheet

Public Health
Incident Command System (ICS)
Emergency Response
Job Action Sheet

Logistics Section Chief

Reports to: Incident Commander
Logistics Command Center Location: _____ **Telephone:** _____

Mission: *Organize, direct and coordinate those operations associated with maintenance of the physical environment (facilities), security, personnel deployment (movement) and provide for adequate levels of shelter and supplies to support the mission's objectives.*

Immediate:

- Receive appointment from the Incident Commander. Obtain packet containing Section's Job Action Sheets
- Read this entire Job Action Sheet
- Obtain briefing from Incident Commander
- Confer with Appointed Unit leaders and insure the formulation and documentation of an incident-specific section action plan as approved by the Command Staff
- Add additional (or delete) tasks and distribute Job Action Sheets
- Distribute the corresponding Job Action Sheets with incident specific tasks
- Establish Logistics Section Center in proximity to ICC
- Advise IC on current logistical service and support status

Intermediate:

- Update Section staff of new developments and receive Section status reports
- Secure areas as needed to limit unauthorized personnel access
- Obtain information and updates regularly from unit leaders and officers; maintain current status of all areas
- Review IAP and estimate section needs for next operational period or shift through Liaison Officer, initiate contact with DES for EMS, Fire and Police assistance when necessary
- Prepare to manage large numbers of potential volunteers
- Confer with PIO to establish areas for media personnel
- Obtain supplies as requested by Planning or Operations

Extended:

- Maintain documentation of all actions and decisions on a continual basis –forward completed unit activity log to Administrative Section Chief
- Participate in the development and execution of the demobilization and make recommendations to IC as necessary
- Observe all staff for signs of stress, report issues to Safety Officer
- Provide rest periods and relief for staff
- Prepare end of shift report and present to oncoming Incident Commander and Logistics Section Chief
- Plan for the possibility of extended deployment

(Qureshi, et al., 2005)

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APPENDIX N
Department Operations Center Supplies

- Computers – with access to EOC network and necessary software – enough to meet the needs of each section
- Printers
- Fax Machines
- Copier
- Dedicated/Secure Phone Lines & Telephones – enough to meet the needs of all sections and lines for each operations group
- Tables – enough to provide adequate work space for all DOC personnel, operational area representatives, and other agency representatives – ability to expand this work space if needed
- Chairs for all personnel plus extra
- Pre-stocked forms for an extended operational period
- General Office Supplies: paper, pens, pencils, post-it notes, scissors, and clipboards
- Bull Horn and/or Public Address System
- White Board & Pens
- Message Board – to be used for messages to individuals or to everyone; status updates and changes can be listed here
- Communications equipment to connect with the EOC and related departments (fire, sheriff, animal control, public works), conference call equipment
- Televisions with cable or satellite reception and closed caption capability
- Tape or Digital Recording Equipment
- Power Strips/Surge Protectors
- Emergency Supplies (food, water, medical, blankets, first aid, hard hats, flashlights, batteries, PPE)
- Radio (AM, FM, and weather)
- Copies of disaster plan and all other “supporting plans” such as mass illness and bioterrorism plans
- Copies of departmental vital records
- Contact Lists for personnel, suppliers, media, other departments, and other agencies
- Regional Maps
- Back up Power Supply
- Systems Set-Up Directions for computers, alternate communications systems, and power supply systems
- Labeled and color coded vests for Section Chiefs and all Command Staff

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APPENDIX O
Department of Health
Incident Action Plan (IAP)

Incident	Date	Section/Position

Officer:	**For Time Period:**
GOAL(S):	**OBJECTIVES for Goal Achievement:**
	1.
	2.
	3.
	4.
	5.
Resources Needed:	**Obtained from/time:**
1.	
2.	
3.	
4.	
5.	
Goals(s) Completed/Status:	**Reported to/time** :

Signature: _____ Position: _____ Time:_____

(Qureshi, et al., 2005)

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APPENDIX P
External Agency Plan Distribution

Agency	Department	Employee Name	Date	Edition	Date	Edition	Date	Edition	Date
Local Office of Emergency Management									
City FD	Fire Dept		07/04	1st	11/04	2nd	03/05	3rd	
City PD	Police Dept		07/04	1st	11/04	2nd	03/05	3rd	
City PHD	Public Health Department		07/04	1st	11/04	2nd	03/05	3rd	
County Board of Supervisors									
County FD									
County PD									
County PHD									
EPA									
FBI									
Local Hospital Disaster Coordinators									
State Office of Emergency Management									

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APPENDIX Q
Training Activity Log

Staff	Job Title	Date	Related Competency	Type of Training	Training Topic	Evaluation: Key Lessons Learned
Joan Smith	PH Nurse, BT Coordinator	7/05	1,2,3,4,5	Classroom/ Tabletop	Intro to the All-Hazards Plan	Additional training needed: XXX

Core competencies:

1: Describe the public health role in emergency response for a range of emergencies that might arise, *2:* Describe the chain of command in emergency response, *3:* Identify and locate the agency emergency response plan, *4:* Describe his/her functional role(s) in emergency response and demonstrate his/her role(s) in regular drills, *5:* Demonstrate correct use of all communication equipment used for emergency communication, *6:* Describe communication role(s) in emergency response, *7:* Identify limits to own knowledge/skill/authority and identify key system resources for referring matters that exceed those limits, *8:* Recognize unusual events that might indicate an emergency and describe appropriate action, *9:* Apply creative problem solving and flexible thinking to unusual challenges within his/her functional responsibilities and evaluate effectiveness of all actions taken.

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APPENDIX R
Plan Revision Log

Revision Date	Description of Changes Made	Authorization Signature	Authorization Date	Training Revisions	Date of Training Revisions