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Dear Colleagues:

The Centers for Disease Control and Prevention is pleased to announce this important guidance to state and local public health departments for the protection of at-risk populations during an influenza pandemic.

Over the past year, ASTHO solicited widespread input from local at-risk populations and their service providers during public engagement sessions in cities across the country, stakeholder meetings with local and state public health officials, and national organizations and federal officials.

ASTHO should be commended for systematically engaging multiple stakeholders in order to produce this guidance document. We anticipate it will be a useful tool to public health pandemic influenza planners and their partners.

Sincerely,

A handwritten signature in blue ink, appearing to read "S Redd".

Stephen Redd, M.D.  
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A handwritten signature in blue ink, appearing to read "Toby Merlin".

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## **At-Risk Populations and Pandemic Influenza:**

Planning Guidance for State, Territorial, Tribal, and Local  
Health Departments

**June 2008**

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## Introduction

In 2007, the Association of State and Territorial Health Officials (ASTHO) received funding from the Centers for Disease Control and Prevention (CDC) to develop guidance for state, territorial, tribal, and local health departments on at-risk populations in an influenza pandemic. ASTHO worked with state, local, tribal, and territorial health agencies; federal entities including CDC; and other key stakeholders to develop this guidance. The premise of this guidance is that certain populations are at increased risk of harm during an influenza pandemic; special provisions, plans, and procedures must be arranged prior to an event to ensure the health and safety of these groups. Prior to this project, there was no specific national guidance in place to direct the development of such plans.

Public health agencies function to convene and collaborate with community partners in order to protect and promote the health of the population within their jurisdiction. They have a vital role in coordinating key activities that bring together a multitude of partners. In a public health emergency such as pandemic influenza, this convening role is integral to providing guidance and coordination among the people who put support activities into action. Both CDC and ASTHO recognize that many entities have work in progress to develop plans and procedures for at-risk populations in emergencies. This guidance differs from those projects because of its singular focus on pandemic influenza. While many of the recommendations provided in this guidance will be applicable to all-hazards planning, specific considerations come into play in an influenza pandemic that cannot be addressed in all-hazards planning.

Influenza pandemics are widespread events that affect all jurisdictions. They occur over extended periods of time, affect the entire country, and may include a series of waves rather than one isolated outbreak. During a severe pandemic, hospitals and other healthcare centers are likely to be overwhelmed with patients, and business may experience a substantial reduction in staff. **This guidance offers public information and recommendations to health departments on how they can provide support to at-risk populations in such an event. Although not the primary audience, community-based organizations (CBOs), faith-based organizations (FBOs), non-profit service providers, businesses, etc, will also find the guidance useful for identifying key areas where they should collaborate with the public health departments to reach at-risk populations.**

## Project Overview

In order to produce a well-informed product, the input from numerous stakeholders was used to develop this document. The activities that led to the development of this guidance can best be described through the contributions of the Advisory Panel, the Work Group members, and participants in the public meetings:

- The subject matter experts on the Advisory Panel (listed in Appendix A) guided development of this project, including: defining at-risk populations; identifying the focus areas for work groups; shaping the overall methods; reviewing the draft guidance; and suggesting changes prior to the public comment period.
- The Work Group members (listed in Appendix A) represented a broad range of subject matter expertise. Each person belonged to one of the five Work Groups, which correspond to the chapters in this guidance. The Work Groups each convened three times via conference calls; members contributed to the guidance during and between these calls.
- Members of at-risk populations and family members or caregivers convened in two cities during March for public engagement meetings: 57 people participated in Boston, MA on March 8, 2008; 66 people participated in Kansas City, MO on March 15, 2008. A meeting for stakeholders – primarily representatives from national organizations working with at-risk populations – drew 21 participants in Washington, DC on March 20, 2008. Each meeting included pandemic influenza education, and structured discussion and voting on two topics: defining at-risk populations and identifying key needs during an influenza pandemic. Some of those findings were included

directly in the guidance; some were used to identify issues that needed to be emphasized in the guidance.

The guidance was drafted with the assistance of the Center for Infectious Disease Research and Policy (CIDRAP) at the University of Minnesota between January and April, based on the input of those three key groups and supporting research by ASTHO and its project partners. The guidance then underwent concerted review by ASTHO, CIDRAP, and CDC. CIDRAP and ASTHO staff incorporated multiple drafts and feedback from the 30-day public comment period. Additional information about the drafting process is available on ASTHO's Web site, [www.ASTHO.org](http://www.ASTHO.org).

## **Project Objective**

This project's objective is to develop sound, evidence-based guidance on the protection of at-risk populations during an influenza pandemic. The guidance's goal is to provide state, territorial, tribal, and local health officials and agencies with usable tools and recommendations for developing their individual plans for at-risk populations in an influenza pandemic.

## **Definition of At-Risk Populations**

In an influenza pandemic, everyone will be at risk of infection. Therefore, the definition used in this guidance does not focus on who is most at risk of infection, but who is most **at risk of severe consequences** from the pandemic, including societal, economic, and health-related consequences. This guidance does not solely address direct impacts from the pandemic (i.e., viral infection), but also the secondary or tertiary effects that at-risk populations may experience even without being infected with the virus. Community mitigation strategies may result in resources being unavailable, causing consequences on populations' health, safety, and well-being.

Often the terms "vulnerable" or "special needs" are used instead of the term "at-risk." At-risk was chosen for this project's definition for two reasons: 1. it more effectively encompasses the concept outlined above regarding consequences; and 2. it is in line with the *Pandemic and All-Hazards Preparedness Act*. While the focus of this guidance is on the term "at-risk", it can be assumed that generic references to vulnerable or special needs populations are included in the definition of at-risk populations. Further explanation regarding the specifics of this definition follows.

Federal, state, territorial, tribal, or local governments will not have the resources to provide care for everyone during an influenza pandemic. As a result, many educational materials and guidance documents have been produced that encourage individuals and families to plan to care for themselves. However, there will be people who are unable to take care of themselves. These are the people who are considered to be the at-risk populations during and after<sup>1</sup> an influenza pandemic. They may, for example, have more difficulty understanding health messages, reaching medical services, or stockpiling food, and require assistance to meet basic needs or obtain routine or emergency medical care.

The National Response Framework and the document, "*Federal Guidance to Assist States in Improving State-Level Pandemic Influenza Operating Plans*," reference the Department of Health and Human Services working definition of at-risk individuals:

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<sup>1</sup> While the focus of this definition is on the impacts during and after an influenza pandemic some preparedness activities specifically for at-risk populations will need to occur before a pandemic in order to fully assist these populations.

*Before, during, and after an incident, members of at-risk populations might have additional needs in one or more of the following functional areas:*

- *maintaining independence,*
- *communication,*
- *supervision,*
- *transportation, and*
- *medical care.*

*In addition to those individuals specifically recognized as at-risk in the Pandemic and All Hazards Preparedness Act (i.e., children, senior citizens, and pregnant women), individuals who might need additional response assistance should include those who have disabilities; live in institutionalized settings; are from diverse cultures; have limited English proficiency or are non-English speaking; are transportation disadvantaged; have chronic medical disorders; and have pharmacological dependency.*

The above definition provides an overarching framework of functional needs; within these needs are factors that place individuals at risk. The At-Risk Populations Project’s Advisory Panel adopted a factors-based approach to defining at-risk individuals, which may further assist planners in identifying those in most need of assistance. Factors were chosen because Panel members felt that they provide a more specific understanding of the populations who truly need *extra* assistance in an influenza pandemic, as well as the specific assistance they need and the barriers that render them more at risk. This approach is in contrast to a label-based approach such as, “People who are blind” or “People who require a wheelchair” because such labels do not help planners easily distinguish different levels of need within a group. For example, people who are blind or in wheelchairs but have robust support groups do not need additional assistance during an influenza pandemic. Traditionally, groups such as the elderly or children have been designated at-risk. The Advisory Panel determined, for example, that not all elderly individuals or children will necessarily be at greater risk in an influenza pandemic simply due to their age. Many elderly live in homes or with families who can provide for them and assist them; children who live with capable adults are not necessarily at risk. In some cases, there will be people who become temporarily at-risk during an incident and may need extra assistance; these people would not be identified using the more traditional labels. Following this logic, the Advisory Panel developed the following definition:

*Certain factors will increase a person’s risk of negative outcomes on health, safety, and well-being; they may experience significant barriers, and therefore need help maintaining medical care, food, and shelter. Factors that increase the risk of harm during an influenza pandemic include:*

- A. *Economic disadvantage (e.g., having too little money to stockpile supplies, or to stay home from work for even a short time)*
- B. *Absence of a support network (e.g., some children; homeless; travelers; and the socially, culturally, or geographically isolated)*
- C. *Needing support to be independent in daily activities because of:*
  - a. *Physical disability*
  - b. *Developmental disability*
  - c. *Mental illness or substance abuse/dependence*
  - d. *Difficulty seeing or hearing*
  - e. *Medical conditions*
- D. *Trouble reading, speaking, or understanding English*

This definition is scalable – people may fall into more than one group, which may increase the negative outcomes that they may experience. Additionally, the proportion of the factors that place people at risk will differ in each jurisdiction. Planners should be prepared to interpret the factors as appropriate for the locality.

## **Planning Assumptions**

This document is meant to supplement current plans that public health agencies use. In developing this guidance, it was assumed that it would be used in conjunction with each jurisdiction's emergency operations plan, pandemic influenza plan, continuity of operations plan, and others deemed appropriate by the officials using the guidance. These plans outline the specific roles and responsibilities of all emergency responders, including lines of authority, and function as the template for managing an influenza pandemic. This guidance serves as the second step in public health emergency management – refining response activities specifically for populations who will need extra assistance.

There is currently no federal funding available specifically for at-risk populations pandemic influenza planning. Many pandemic planning guidance documents released by federal agencies, however, including those from CDC, reference the need for states, territories, tribes, and local communities to plan and prepare for the impact that such emergencies will have on at-risk populations. Accordingly, jurisdictions across the United States are engaged in a variety of activities to plan for these populations (examples of those activities are included in lists of *Sample Tools and Practices* provided at the end of each chapter). This guidance is intended to provide a framework and set of recommendations to assist in these planning efforts; however, many jurisdictions may not be able to implement the full set of recommendations in the absence of available and adequate funding. Thus, planners may wish to work with their partners to determine their jurisdiction's priority planning needs related to at-risk populations and to implement selected recommendations as appropriate and over time. Many of these recommendations may also be incorporated into ongoing preparedness activities. Where possible, planners are encouraged to consider how to refine current activities rather than initiating new activities to ensure that the needs of at-risk populations are adequately addressed.

## **Ethical Considerations**

Pandemic preparedness requires planning for the allocation of scarce resources during a time of great demand for those resources. As a result, all pandemic planning is built on ethical considerations, whether or not they are explicitly stated.

The ethical considerations involved in pandemic planning ought to be examined directly as part of the planning process, with special attention given to minimizing severe consequences for at-risk populations. This section will explore ethical considerations in pandemic planning to help jurisdictions frame discussions and to provide additional resources that may assist in planning.

There is a difference between public health ethics and medical/clinical ethics. Although both approaches rely on the principle of “do no harm,” public health ethics focus on the health and safety of the community as a whole, whereas medical/clinical ethics emphasize the individual. The need for medical care during a pandemic will exceed the resources available. This means the paradigm of medical care will shift from a system geared to care for individual patients to a system that must limit the impact of the disaster on the community through using available resources to reduce individual morbidity and mortality.

There is also a contrast between how public health functions every day and how decisions are made during emergencies. Emergency response decisions must be made quickly and under intense situations. It is prudent to discuss essential services and responsibilities before an influenza pandemic to assure that emergency response does not conflict with these ethical principles or with basic social justice principles.

Ethical decision-making in influenza pandemic planning will encompass resource allocation, triage, standards of care, workforce management, personal liberty restrictions, and other issues involved in disruptions in daily living.<sup>2</sup> Health officials and personnel will need to address the immediate effects of

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<sup>2</sup> Archer, J., Alyea, J., & Kopfenstein, M. (2008, February 22). *Ethics and Pandemic Planning*. Presented at the Public Health Preparedness Summit, Atlanta, GA.



decisions, but also the long-term effects of these decisions (i.e., mental health issues may arise from these decisions). Discussion and community engagement on ethical decision-making ought to be taking place at every level of government because an influenza pandemic requires decision-making under extraordinary uncertainty.

An influenza pandemic will impact all people, regardless of whether they fall under the definition of at-risk populations. The definition (for the purposes of this project) includes, but is not limited to, people who have disabilities. The World Health Organization's (WHO) International Classification of Functioning, Disability and Health (ICF) states that "every human being can experience a decrement in health and thereby experience some degree of disability. Disability is not something that only happens to a minority of humanity."<sup>3</sup> The ICF considers disability to be a "universal human experience," thus making it a "mainstream" concept that affects all people, rather than a select minority. This concept of universal human experience can be applied to the factors included in the at-risk population definition. When people understand disability as a universal human experience, it may foster a sense of urgency about cooperating to protect all members of a community. While the focus of the ICF is on disability, its spirit of "universal human experience" can be applied across all factors within the definition in this guidance.

In *Ethical Guidelines in Pandemic Influenza: Recommendations of the Ethics Subcommittee of the Advisory Committee to the Director, Centers for Disease Control and Prevention*, the Ethics Subcommittee discusses numerous ethical issues to consider in an influenza pandemic. Some key points are:

- A "fair process" approach:
  - Ensure consistency in applying standards across people and time (treat like cases alike).
  - Decision-makers should be impartial and neutral.
  - Ensure that those affected by decisions have a voice in decision-making and agree in advance to the proposed process.
  - Treat those affected with dignity and respect.
  - Ensure that decisions are adequately reasoned and based on accurate information.
  - Communications and processes should be clear, transparent and without hidden agendas.
- Identification of key people for the preservation of society is a form of social worth criterion that is justified for pandemic influenza planning.
- Mandatory social distancing interventions should be implemented only if it seems that voluntary actions will not be effective.
- Limiting individual freedom may be appropriate if maintaining that freedom puts others at risk.
- Adopt the least restrictive practices that will allow the common good to be protected.<sup>4</sup>

The Public Health Leadership Society (PHLS), a committee of subject matter experts from across the United States, drafted a code of ethics including 12 "Principles of the Ethical Practice of Public Health." The principles provide succinct guidelines on which to build an ethically-based response plan. These 12 principles are annotated below; the full reference and link to the document is listed at the end of this section.

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<sup>3</sup> World Health Organization. (2001). *International Classification of Functioning, Disability and Health*. Retrieved March 17, 2008, from <http://www.who.int/classifications/icf/en>.

<sup>4</sup> Kinlaw, K. & Levine, R. (2007, February 15). *Ethical Guidelines in a Pandemic Influenza-Recommendation of the Ethics Subcommittee of the Advisory Committee to the Director, Centers for Disease Control and Prevention*. Retrieved June 24, 2008, from [http://www.cdc.gov/od/science/phcc/panFlu\\_Ethic\\_Guidelines.pdf](http://www.cdc.gov/od/science/phcc/panFlu_Ethic_Guidelines.pdf).



1. Prevent adverse health outcomes.
2. Achieve community health in a way that respects the rights of individuals.
3. Ensure an opportunity for input from community members.
4. Advocate and work for the empowerment of the disenfranchised and ensure that basic resources and conditions necessary for health are accessible to all.
5. Seek the information needed to implement effective policies and programs.
6. Provide communities with information they have and obtain community's consent for implementation.
7. Act in a timely manner on the information.
8. Incorporate a variety of approaches.
9. Enhance the physical and social environment.
10. Protect the confidentiality of information that can bring harm to an individual or community if made public. Exceptions must be justified.
11. Ensure the professional competence of employees.
12. Engage in collaborations and affiliations in ways that build the public's trust and institution's effectiveness.<sup>5</sup>

The above points and principles are meant to provoke thought and cannot be considered all-encompassing or universally applicable. Officials may find that some points and principles do not apply to their constituents, or they may conflict with a given community's values. Each jurisdiction will need to make decisions relevant to that community.

The most important point is to consider the ethical concepts inherent in planning for and responding to an influenza pandemic and use these considerations to drive decisions. These decisions should reflect an understanding of individual community values. Following is a short list of references that planners may wish to review while considering ethical issues for influenza pandemic planning.

- The Bellagio Meeting on Social Justice and Influenza (2006). Bellagio Statement of Principles. Available at: <http://www.hopkinsmedicine.org/bioethics/bellagio/statement.html>.
- Kinlaw, K. and Levine, R. (2007). Ethical Guidelines in Pandemic Influenza. Available at: [http://www.cdc.gov/od/science/phec/panFlu\\_Ethic\\_Guidelines.pdf](http://www.cdc.gov/od/science/phec/panFlu_Ethic_Guidelines.pdf).
- Lemon, S., Hamburg, M., et al (2007). Ethical and Legal Considerations in Mitigating Pandemic Disease. The National Academies Press, Washington, DC. Available at: [http://www.nap.edu/catalog.php?record\\_id=11917](http://www.nap.edu/catalog.php?record_id=11917).
- Public Health Leadership Society (2002). Principles of the Ethical Practice of Public Health. Available at: <http://www.apha.org/NR/rdonlyres/1CED3CEA-287E-4185-9CBD-BD405FC60856/0/ethicsbrochure.pdf>.
- Roberts, Marc and Renzo, Evan G (2007). Mass Medical Care with Scarce Resources: A Community Planning Guide, Chapter 2: Ethical Considerations in Community Disaster Planning. Available at: <http://www.ahrq.gov/research/mce/mce2.htm>.
- Thomas, James (2007). Ethical Concerns in Pandemic Preparation and Responses. For the Southeast Regional Center of Excellence for Emerging Infections and Biodefense. Available at: [http://www.serceb.org/wysiwyg/downloads/pandemic\\_flu\\_white\\_paper.May\\_25.FORMATTED.pdf](http://www.serceb.org/wysiwyg/downloads/pandemic_flu_white_paper.May_25.FORMATTED.pdf).
- Thomas JC, Desgupta N, Martinot A. (2007). Ethics in a pandemic: A survey of the state pandemic influenza plans. *Am J Public Health*; 97 Suppl 1:S26-3.

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<sup>5</sup> Public Health Leadership Society. (2002). *Principles of the Ethical Practice of Public Health*. New Orleans, LA. Retrieved June 24, 2008, from <http://www.apha.org/NR/rdonlyres/1CED3CEA-287E-4185-9CBD-BD405FC60856/0/ethicsbrochure.pdf>.

- University of Toronto Joint Centre for Bioethics (2005). Stand on Guard for Thee: Ethical considerations in preparedness planning for pandemic influenza. Available at: [http://www.jointcentreforbioethics.ca/research/documents/stand\\_on\\_guard.pdf](http://www.jointcentreforbioethics.ca/research/documents/stand_on_guard.pdf).

## **Legal Considerations**

An important aspect of any pandemic planning discussion is an acknowledgment of the significant role that law plays either to help or to hinder response efforts. It is important to note here that the following information is intended only as an initial guide to assist planners and their legal counsel in identifying potential issues in their jurisdiction. ***Neither the information contained in this section, nor in this guidance document should be considered legal advice.*** The issues and laws identified here are not a comprehensive list. Every jurisdiction should consult with legal counsel for their agency, as well as engage a broad range of legal counsel from other federal, state, territorial, tribal, and local agencies, state attorney general's offices, courts, private businesses, and others as necessary. As jurisdictions have found through their planning activities on other pandemic-related issues, the early identification and resolution of potential legal gaps, uncertainties, or limitations helps to remove or minimize potential future problems.

### ***A Range of Issues to Consider***

There are many significant legal considerations that need to be addressed when planning for these populations. These issues include, among others:

- Defining altered standards of care during a pandemic and how the considerations of various at-risk populations change the definitions of the altered standards.
- Considering potential due process delays and the potential impacts on various at-risk populations.
- Evaluating potential liability and compensation concerns for volunteers that may make assisting at-risk populations during a pandemic difficult.
- Balancing sound public health practice/disease control measures during an influenza pandemic with protecting the rights of at-risk populations (e.g., federal civil rights or other protections that cannot be waived in a state/territory emergency declaration).
- Addressing protections normally afforded to certain at-risk populations as defined in this guidance that may not be feasible, or could be potentially waived or delayed during a pandemic.

Multiple jurisdictions with potentially conflicting or overlapping authorities will interact in an influenza pandemic. All levels of jurisdictional authorities will need to react. Planning and coordination may reduce the risk of delay and jurisdictional confusion when a quick response is necessary. For example, a state may issue waivers on standard healthcare provision; however, without federal waivers, healthcare providers would still be liable for meeting a certain standard of care. States with tribal nations within their boundaries must address legal coordination issues prior to an event; will they be able to go directly to the tribes to enter into interjurisdictional agreements, or must the federal government also be involved? Similar coordination will need to occur in localities where military bases and foreign embassies are situated. Finally, the scope of a jurisdiction's authority may be different when a state of emergency is declared versus when there is no emergency declaration.

Legal and practical issues will need to be balanced. For example, a state may have the operational capacity to dispense mass countermeasures such as antiviral medications rapidly; however, if state law mandates that only licensed pharmacists may dispense medication, the potential shortage of persons who can legally dispense will hinder a rapid response. Understanding the laws and regulations that must be waived by Executive Order or other legal mechanism during an emergency and taking steps to be prepared by drafting sample Executive Orders in advance will speed up the response process.

### ***A Range of Laws to Consider***

Federal, state, territorial, tribal, local, and even international laws are relevant to planning for the needs of at-risk populations in a pandemic. The Americans with Disabilities Act (ADA) covers some of the populations as defined as part of this project; however, a variety of legal statutes and advice needs to be considered to ensure that the civil rights of all citizens are not violated. The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act); the Civil Rights Act; the Health Insurance Portability and Accountability Act (HIPAA); the Emergency Medical Treatment and Active Labor Act; federal anti-discrimination laws; and the Centers for Medicare and Medicaid Services regulations should all be reviewed as part of pre-planning for legal considerations in an influenza pandemic. It is important for jurisdictions to consider both health-related and non-health-related legal issues as part of influenza pandemic planning. Officials should evaluate what, if any, protections that are normally afforded to certain at-risk populations as defined in this guidance would not be feasible or could be potentially waived or delayed during a pandemic.

Some specific topics to consider are:

- Unaccompanied minors are legally different from unaccompanied adults.
- The ADA applies to state and local governments and any private business that meets the definition of “public accommodation,” including organizations/agencies that are contracted by states and local governments.
- The ADA protects people with long-term conditions, *not* short-term conditions (important to consider because of the definition’s inclusion of “emergent” diseases or disabilities).
- ADA Chapter 7 Addendum 1: Title II Checklist: Emergency Management provides a detailed list of tasks to consider in emergencies.
- Service animals will also require basic care (food, water, etc.).
- Much of the current literature, anecdotes and subsequent legal discussions primarily revolve around shelters - how might this apply in an influenza pandemic (points of dispensing, mass vaccination sites, other sites where services are provided)?
- Per the Stafford Act, territories are included in the term “state,” and “authorized tribal organizations” are considered to be “local governments.” How might this affect cross-jurisdictional planning?
- The Stafford Act states that agencies must comply with nondiscrimination regulations in order to receive assistance or supplies under the act.
- The Stafford Act provides for federal unemployment compensation “as a result of a major disaster.” How might this be applied in an influenza pandemic when the length of unemployment may be extended?
- HIPAA laws in emergencies:
  - In some circumstances, the Privacy Rule does not apply to public health surveillance activities.
  - Are there limits to what information can be collected under the bio-surveillance mandate?
  - How might the information in the bio-surveillance mandate be useful to emergency preparedness and response activities?
  - Privacy issues within the use of registries – how will this information be protected?
- “Section 508 also requires that individuals with disabilities, who are members of the public seeking information or services from a Federal agency, have access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities, unless an undue burden would be imposed on the agency.”<sup>6</sup>

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<sup>6</sup> United States Access Board. (2000, December 21). *Electronic and Information Technology Accessibility Standards (Section 508)* (Federal Register Publication No. 36 CFR Part 1194). Retrieved June 24, 2008, from <http://www.access-board.gov/sec508/standards.htm>.

- How might Section 508’s accessibility requirements for electronic and information technology apply in an influenza pandemic, particularly if registries are being used?
- How does the Model State Emergency Health Powers Act apply to private data that may be useful to emergency preparedness and response activities? When does it take effect? What are its key limitations?

Following is a short list of references that personnel may wish to review while considering legal issues for influenza pandemic planning.

- Department of Health and Human Services Office of the Secretary (2002). Standards for Privacy of Individually Identifiable Health Information, Final Rule (45 CFR Parts 160 and 164). Available at: <http://www.hhs.gov/ocr/hipaa/privrulepd.pdf>.
- Department of Health and Human Services Office of Civil Rights (2006). Emergency Preparedness Planning and HIPAA Privacy Rule: Disclosures for Emergency Preparedness – A Decision Tool. Available at: <http://www.hhs.gov/ocr/hipaa/emergencyPPR.html>.
- Department of Justice (2007). ADA Best Practices Tool Kit for State and Local Governments, Chapter 7 Addendum 1: Title II Checklist (Emergency Management). Available at: <http://www.usdoj.gov/crt/ada/pcatoolkit/chap7emergencymgmtadd1.htm>.
- Federal Emergency Management Agency (2007). Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, and Related Authorities. Available at: <http://www.fema.gov/about/stafact.shtm>.
- Gostin, L., Sapsin, J., et al (2002). The Model State Emergency Health Powers Act: Planning for and Response to Bioterrorism and Naturally Occurring Infectious Diseases. *JAMA*. 288:622-628. Available at: <http://jama.ama-assn.org/cgi/content/full/288/5/622>.
- United States Congress (1988). Rehabilitation Act, Section 508 (29 USC 794d). Available at: <http://www.section508.gov/index.cfm>.

## **Guidance Structure**

This guidance is divided into five chapters. Each chapter contains three key sections:

- A narrative that introduces and explores the chapter topic;
- One to three main recommended planning activities, with a number of additional supporting recommendations that may be useful in achieving the main recommendation/s; and
- A table with sample practices, tools, and additional resources that may advance planning efforts.

These sections are intended to explain why action is needed, what action steps are recommended, and to offer suggestions for how to accomplish the activities. Most chapters also contain one or two real-world examples of activities that reflect the recommended planning activities.

This guidance also includes a supplement: “Proposed Timeline for Enacting Recommendations,” that adapts the recommended planning activities in the guidance to the various levels of proximity and severity of an influenza pandemic.

## **Chapter 1: Collaboration with and Engagement of At-Risk Populations**

### **Introduction**

Strong, enduring partnerships form the core of effective public health planning with at-risk populations. For preparedness planners to understand the needs and priorities of at-risk populations requires an effective, two-way dialogue based on mutual trust. Likewise, credible policy-making depends on informed, advance input from those at-risk and the agencies and individuals who assist or care for them.

This chapter will examine how to develop long-term partnerships with members of at-risk populations and the organizations that serve those populations.

Successful collaboration and community engagement activities are hallmarks of strong, enduring partnerships. The phrase “community engagement” in this guidance means “structured dialogue, joint problem-solving, and collaborative action among formal authorities, citizens at-large, and local opinion leaders around a pressing public matter.”<sup>7</sup>

Collaborating with and engaging at-risk populations and the organizations that serve them may be pursued simultaneously at two levels:

1. Efforts to inform individuals and the organizations that serve them about an influenza pandemic and how they can prepare; and
2. Efforts to ensure at-risk individuals shape the pandemic influenza planning and policies that affect their lives.

The other chapters of this guidance are integral components of a larger process for protecting at-risk populations during an influenza pandemic. Each of the steps in this process relies on having developed a robust collaboration and engagement process, yet it is important to understand that some steps need to occur almost simultaneously. For example, locating at-risk populations will enhance efforts to identify networks essential to forming partnerships. Likewise, becoming part of the effective networks that exist between at-risk individuals and the organizations that serve them will help emergency preparedness planners locate members of at-risk populations.

Successful collaboration and engagement activities are time-consuming. Planners should begin identifying and working within existing networks well before a pandemic to understand the needs and priorities of those populations. They can craft appropriate messages, which can be delivered through existing networks and by trusted messengers, to enhance community resiliency (i.e., the ability to respond and recover from a pandemic).

### **Background and Findings**

Strengthening partnerships with members of at-risk communities and organizations that serve these communities is essential to maintaining the health and well-being of at-risk populations during health emergencies. Such efforts will be enhanced through understanding the challenges and perspectives of public health agencies, at-risk individuals, and community organizations.

**CHALLENGES FOR PUBLIC HEALTH AGENCIES:** Public health agencies have an important leadership role in preparedness planning through convening and collaborating with a broad network of partners. Joining existing networks that include CBOs, FBOs, and at-risk populations will be more effective if public health personnel invest time in learning about the social values, cultural nuances, religious values and health beliefs of at-risk populations in their jurisdiction, including religious, tribal, or organizational

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<sup>7</sup> Schoch-Spana, M., Franco, C., Nuzzo, J.B., & Usenza, C. on behalf of the Working Group on Community Engagement in Health Emergency Planning. (2007, March). Community engagement: leadership tool for catastrophic health events. *Biosecurity and bioterrorism: biodefense strategy, practice, and science*, 5(1), 8-25.

etiquette as applicable. To ensure that collaborative efforts are sustained, public health personnel also must build and maintain relationships.

Becoming a partner in the networks that serve at-risk populations may differ from working with other preparedness stakeholders. Planners might need to make accommodations, such as scheduling meetings at times and in locations that allow those who are at risk to participate more easily, or allowing extra time for translation of proceedings into American Sign Language (ASL) or other languages.

Though there may be significant benefits to joining existing networks, public health agencies may also choose to develop their own networks, even those focused solely on preparedness or pandemic influenza planning. Agencies that develop their own networks should pursue having a broad range of participants, including members of at-risk populations, and CBOs and FBOs that serve members of those populations. Public health agencies may also find they need a combination of those two approaches – participating in existing networks to the extent that resources and funding allow, and developing new networks when gaps are identified that are most effectively addressed by convening a new group of specific partners.

Regardless of whether existing or new networks (or a combination) are pursued, public health agencies should develop plans to continually nurture and expand partnerships. Formally acknowledging partnerships as an ongoing priority may help ensure that they are pursued. Maintaining relationships is difficult when the people who forged those connections change jobs. It may help to include the building and maintaining of such partnerships as a formal job duty. For example, a departing employee may introduce the incoming employee to key people in a network, or at least notify network members of the staff change.

Preparedness planners can demonstrate the value of partnering to enhance preparedness by assisting CBOs and FBOs in a variety of activities, including informal conversations, personal preparedness education, and continuity of operations (COOP) planning.

During public engagement meetings convened as a part of developing this guidance, several at-risk individuals emphasized that preparedness planners must strive to identify people who are not connected to community networks. Planners also need to understand both the systemic barriers at-risk populations face, and feelings, such as distrust, that may affect their interactions with governmental employees, including in public health.<sup>8,9</sup>

Many organizations exist to assist members of at-risk communities. Those organizations, such as CBOs and FBOs, are a crucial link to at-risk populations. Preparedness planners should understand the missions of these groups, areas of shared interest, and the challenges CBOs and FBOs face.

Participants at a national stakeholder meeting in Washington, DC said it is as important for public health agencies to develop trust with CBOs and FBOs as with at-risk individuals, because those organizations are best equipped to engage those at risk.<sup>10</sup> Such a process is time-consuming, so outreach and collaboration must begin well before a pandemic.

**CHALLENGES FOR CBOs AND FBOs:** Given the often urgent nature of their missions, community groups might not immediately recognize the benefits of networking with public health preparedness planners. However, such groups may benefit immensely from understanding that pandemic preparedness can strengthen their ability to continue their work in the face of many kinds of emergencies.

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<sup>8</sup> Association of State and Territorial Health Officials. (2008, March 8). At-Risk Populations Project: Public Engagement Meeting. Facilitated by the Keystone Center at Boston University School of Medicine, Boston, MA.

<sup>9</sup> Association of State and Territorial Health Officials. (2008, March 15). At-Risk Populations Project: Public Engagement Meeting. Facilitated by the Keystone Center at South-Broadland Church, Kansas City, MO.

<sup>10</sup> The Association of State and Territorial Health Officials. (2008, March 20). At-Risk Populations Project: Public Engagement Meeting. Facilitated by the Keystone Center at the Hilton Washington, Washington, DC.



At the national stakeholder meeting, CBO and FBO representatives expressed a desire for public health to assist in building community capacity. Participants suggested public health agencies identify and connect resources, such as: organizing AmeriCorps alumni; and locating trained individuals, such as Red Cross and fire department reserve volunteers.<sup>10</sup> Participants also said messages should be clear and not appear to conflict. For example, one meeting attendee said, “It’s contradictory to recommend self-quarantine and isolation but then say, ‘Please check on your neighbors.’”

CBOs and FBOs may need to find creative ways to improve their organization’s preparedness with limited resources, but their heightened level of preparedness could enhance their ability to continue providing services during a range of emergencies.

**CHALLENGES FOR AT-RISK INDIVIDUALS:** Some of the people most vulnerable to the effects of an influenza pandemic are often least prepared to plan and respond effectively. Among the factors that may increase the likelihood of an individual’s risk of consequences is economic disadvantage, which makes it difficult for people to stockpile food, water<sup>11</sup>, and other emergency supplies. According to an annual survey that tracks trends in public attitudes toward personal preparedness, “Americans with annual household incomes below \$25,000 are more likely than those with incomes above \$50,000 to believe that...it’s not really possible for the average person to prepare for a major disaster (42 percent vs. 31 percent).”<sup>12</sup>

People without a support network face some distinct risks during a pandemic. For example, homeless persons must devote a great deal of energy to daily survival, while travelers might struggle to meet basic or healthcare needs in unfamiliar settings. Social, cultural or geographic isolation may limit people’s access to healthcare during an influenza pandemic.

The need for additional support to maintain independence, such as required by those with physical disabilities, developmental disabilities, or medical conditions, may also increase an individual’s risk of harm during an influenza pandemic. For example, some people with chronic diseases invest significant time, money, and energy in care. Maintaining their health status during a pandemic will be even more challenging because of limited healthcare resources; they may experience exacerbation of their conditions if there is an increased risk of infection or stress, or decreased access to medications.

Individual preparedness may be hampered if materials are not available in a range of languages or if the language is written at a level beyond the reader’s comprehension.

During public engagement meetings, many participants said that systemic problems, distrust of government agencies, and personal beliefs could hinder at-risk individuals from working closely with or accessing community networks.<sup>8,9</sup>

**IDENTIFYING COLLABORATIONS AND PARTNERSHIPS:** By collaborating with at-risk populations before a pandemic, health planners can learn about the needs, strengths, and resources of each population and ensure that their efforts complement community priorities and needs. Collaborative networks are likely to exist between organizations that serve at-risk populations and members of those groups. Identifying and actively contributing to existing networks will allow public health agencies to augment network resiliency, and enable at-risk populations and public health staff to communicate before, during, and after a pandemic.

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<sup>11</sup> *The federal government recommends that individuals and families keep a supply of nonperishable food and water because it may be difficult to get these supplies at the store or there may be temporary interruptions in service. Although disruptions may occur during a pandemic, one can assume that water supplies are safe to drink unless notified otherwise.*

<sup>12</sup> National Center for Disaster Preparedness, Columbia University, Mailman School of Public Health. (2007). *The American Preparedness Project: Where the US Public Stands in 2007 on Terrorism, Security, and Disaster Preparedness*. Retrieved February 25, 2008, from <http://www.ncdp.mailman.columbia.edu/files/NCDP07.pdf>.



When identifying promising partnerships, planners should start by noting the existing relationships that are part of their daily activities, as well as relationship-building resources that exist within, or are already affiliated with, their department or agency. These commonly include the following:

- Advocacy groups such as the American Diabetes Association or American Medical Association
- Caregiver networks, including family networks
- Community health and outreach worker networks
- Existing links between government agencies, emergency personnel, healthcare providers, and at-risk populations (e.g. state Aging and Disability Resource Centers provide information on life-saving resources to seniors and people with disabilities in emergency and non-emergency times.)
- Existing links between public health departments and specialized health entities or organizations that serve at-risk communities (such as collaborations between independent living centers and local health departments, or stakeholder meetings, such as one conducted by the Seattle/King County Coalition for the Homeless)
- FBO-related programs, such as food banks and homeless shelters
- Federally Qualified Health Centers and other health clinics (e.g. rural health clinics)
- Frequent or formalized interactions with at-risk individuals that provide opportunities for building network resiliency, such as including personal preparedness education with Medicaid enrollment materials
- Public health outreach should include official and unofficial leaders, both of which can serve as influential cultural brokers within community-wide information networks. (Examples may range from elected officials to religious leaders, tribal elders or even hairdressers.)
- Jurisdictional neighbors
- Local religious leadership, such as ecumenical or inter-religious groups, local ministerial associations, hospital chaplains or spiritual care departments, among others
- Patient navigator networks
- Payor networks, including Medicaid and Medicare, as well as health maintenance organizations
- Programs or departments in their own agencies whose work includes key at-risk populations, such as maternal and child health (MCH) departments. (MCH departments have existing communication networks with at-risk populations and receive funding to strengthen the public health infrastructure)
- Programs that already serve members of at-risk communities, such as English-As-A-Second-Language programs at community colleges
- Provider networks, including both clinical services and auxiliary networks

After identifying potential relationships and resources, public health agencies should assess the information they have collected about these formal and informal networks to ensure that all at-risk groups in their jurisdiction are included. The sample list of collaboration partners included at the end of this chapter is a step toward including the broadest range of at-risk groups in their preparedness efforts.

It is useful to understand how these partners seek to identify at-risk individuals. Some CBOs and FBOs serve a specific cultural group; others address a specific functional need in a community. It is also useful to understand the CBOs' or FBOs' network or partnerships. Some CBOs and FBOs collaborate solely with non-profits located within their communities, while others are part of national networks with ties to lawmakers and the private sector. Participants at the stakeholder meeting suggested that much of a community's emergency response capacity lies in the private sector, which may indicate planners should identify networks that include these entities.<sup>10</sup>

Joining a collaborative network will allow public health agencies to contribute to the resiliency of these networks, such as by providing tools for continuity of operations (COOP) planning, personal preparedness, and other risk-abatement education. By seeking to promote pandemic preparedness within

robust networks, planners reinforce the value of existing relationships and contribute to the resiliency of those networks.

**CONTRIBUTING TO COMMUNITY NETWORKS:** If collaboration activities are effectively initiated *before* a pandemic, health departments will be able to activate networks in order to convey timely health information to at-risk populations *during* a pandemic. CBOs and FBOs will benefit by quickly obtaining audience-appropriate messages from health departments.

Some characteristics of effective collaborations include:

- Public health involvement contributes to the overall resiliency of the communities they serve.
- Public health agencies strive to have a staff member or members whose work is dedicated to building and maintaining collaborations.
- Relationship-building is ongoing, despite changes in priorities or funding.
- Messages are audience-appropriate (see Chapter 3).
- Partners can seek funding, including pre-pandemic collaborative effort monies, from grants, foundations or businesses.
- At-risk individuals can participate in planning and policy development whenever possible.
- Participants can follow the rules of the group, such as tribal decision-making processes.<sup>10</sup>

Public health planners also may contribute to network resiliency by encouraging routine practices that foster pandemic preparedness, such as handwashing or respiratory hygiene.

According to at-risk individuals who attended the public engagement meetings, health planners should always expand the reach of collaborative networks. For example, public health staff can use train-the-trainer programs to connect collaborative partners to existing networks or to link existing networks.<sup>8,9</sup>

**ENGAGING MEMBERS OF COMMUNITY NETWORKS:** Effective engagement demands two-way learning. Communities may have a great deal to learn about pandemic preparedness; likewise, preparedness planners may have a great deal to learn about perceptions of preparedness, disease, and disaster in the communities they serve. Learning how to engage can be just as important as knowing what to say once engagement has begun.

One early step in this process is to seek, identify, and build on existing assets and strengths in a community, group, or individual. Teaching may build on people's experiences with responding to emergencies and disasters, such as living without basic services or rationing food or other supplies.

Preparedness planners willing to learn about the needs in community networks are more likely to play an important role in those groups and in the community decision-making processes. They also may use their understanding of the network and of at-risk populations to convey culturally and contextually appropriate risk-abatement concepts. This two-way learning process can build meaningful partnerships. It can be promoted informally and formally, such as through training sessions for public health staff, neighborhood volunteers and groups, and at-risk individuals.

Long-term participation in networks yields the greatest benefits, and planners must recognize its importance. The public health contact person should participate in these networks even when there are changes in grants and shifts in priorities if at all possible. It may be useful to view the role of pandemic influenza preparedness in the context of overall risk-abatement activities. The staff contact who is participating in those networks becomes a conduit to share pandemic influenza preparedness information, and other information, with network members. Likewise, network members share information that can enrich planners' understanding of the community and enhance preparedness planning.

Preparedness planners need to design an appropriate timeline for initiating new engagement activities. They also should determine which individuals or agencies are best equipped to facilitate engagement activities. Services and education may be better received if local groups provide them.<sup>10</sup>

Communicating about goals, resources and needs can help strengthen collaborations. In some cases, public health agencies and those who serve at-risk communities may consider formalizing their partnership. One often-used tool is a memorandum of understanding (MOU). It can outline each partner's roles and responsibilities, defining expectations and providing accountability for both community-based organizations and government agencies. Exploring whether to develop such an agreement can also allow public health planners and CBOs and FBOs to discuss their community responsibilities and corresponding MOUs, as well as their ability to fulfill the responsibilities of an MOU. In some cases, simply having a clear conversation about expectations may be enough; in others, partners will find it mutually beneficial to develop an MOU. In addition to establishing roles and responsibilities, MOUs, if deemed appropriate for a collaboration, should also describe which collaborative partners will provide the funding, resources, and expertise necessary for accomplishing the memorandum's stated goals. For example, the Massachusetts Department of Public Health provides an example of a MOU acting as conduit for the exchange of funding for technical assistance.<sup>10</sup> Finally, it is important that MOUs designed to address pandemic preparedness are crafted in a manner that allows for sustained, collaborative efforts.

Tips for engaging members of community networks include:

- Visit at-risk individuals in their homes or neighborhoods.
- Include staff from CBOs and FBOs when creating educational materials.
- Acknowledge the contributions of community members who are giving their time; consider providing food or certificates of appreciation.
- Recognize that groups and individuals may work at different paces.
- Face-to-face communication may be more effective than electronic communication.
- Provide community members with a needed service in exchange for their planning help.
- Begin engagement meetings with a brief introduction about influenza and the need for preparedness planning.
- Attend community events as possible.
- Seek funding from varied sources (e.g., federal, state, territorial, tribal, or local agencies with grant money; foundations; private corporations, etc.).

#### **NEW JERSEY MAKES COLLABORATION A 'SNAP'**

The New Jersey Special Needs Advisory Panel (NJSNAP) acts as an advisory board to the New Jersey Office of Emergency Management (NJOEM) and the New Jersey Office of Homeland Security and Preparedness (OHSP) regarding issues affecting special needs populations in New Jersey before, during and after an emergency or disaster. The NJSNAP identifies issues likely to affect special needs populations as they prepare to respond to an emergency, or issues likely to affect emergency management personnel as they attempt to assist persons with special needs before, during and after adverse conditions. NJSNAP also helps emergency management personnel learn how to support people with special needs. The panel consists of over thirty informed representatives of governmental and non-governmental stakeholders who serve the at-risk populations. In addition to making recommendations and devising ways to reach New Jersey's at-risk populations, the members of the NJSNAP also draft proposed legislation, formulate memoranda of understanding, and develop products and programs to address identified issues, if so directed by NJOEM or OHSP. This creative, inexpensive method is effective for networking with diverse key stakeholder organizations that serve at-risk populations and developing sound programs for jurisdictions. Project Freedom, an organization that develops housing for people with disabilities, provides meeting space for NJSNAP; the New Jersey Office of Emergency Management provides administrative support.

NJSNAP's achievements include development of a Special Needs Annex to the NJ State Emergency Operations Plan, conferring with the Regional Administrator of FEMA Region II, drafting proposed legislation, formulating MOUs, sponsoring multidisciplinary training events, working in partnership with New Jersey OSP on a project involving a demographic study, an outreach and communications plan, a shelter analysis, technical guidance review and deployment of technology applications in four coastal counties of New Jersey, forming key partnerships with diverse entities that serve at-risk populations, and collaborating with media providers. To learn more: <http://nj.gov/njoem/plan/special-needs-njsnap.html>

**STRENGTHENING COMMUNITY NETWORKS:** One at-risk representative from the public engagement meetings said that, while collaborative efforts should begin within existing networks, it is important to note that existing networks "...only reach people being served" and that some people who need services won't be part of a network.<sup>10</sup> When polled, 86 percent of the respondents at one meeting indicated they did not believe that existing communication networks work well enough for relaying information to at-risk populations during a pandemic.<sup>8</sup> Participants also expressed concern that institutions may have difficulty meeting needs and coordinating resources for at-risk individuals, such as elderly individuals living in group homes and foster children, during a pandemic.

Participants at public engagement meetings suggested ways to strengthen networks:<sup>8, 9, 10</sup>

- Although they acknowledged the potential for conflicts between protecting personal information and responding quickly, many participants supported using voluntary registries, creating registries that link at-risk individuals and first-responders, and encouraging CBOs to share client information. Stakeholder meeting participants emphasized the importance of clarifying expectations, and that registry use would not imply a guarantee of services to those listed.
- Conveying personal preparedness messages through collaborative networks before a pandemic will get people used to receiving such messages, and enhance resiliency and trust.
- Several participants encouraged health planners to join broad networks in which the collaborative partners collectively address a wide range of client characteristics or needs, as opposed to narrow networks that would provide multiple ways to reach the same small group of at-risk individuals.

**BUILDING NETWORKS:** As stated above, there may be significant benefits to joining existing network; however, public health agencies may also choose to develop their own networks. Agencies should pursue having a broad range of participants, including members of at-risk populations, and CBOs and FBOs that serve members of those populations. It is important to include members with additional links to other agencies, such as CBOs and FBOs that partner and communicate frequently with other CBOs and FBOs.

Planners may also find they need a combination of approaches – such as participating in existing networks to the extent that resources allow, and developing new networks when gaps are identified that are best addressed by convening a new group of specific partners. For example, Public Health – Seattle and King County identified a need to create a Community Communication Network (CCN) to reach people who might not, or could not, access information from traditional sources serving the general public.<sup>13</sup> The CCN became a partnership between public health, CBOs, and community leaders to disseminate important routine and emergency health information. Creation of this network allowed the county to ensure communication channels existed and would function during an emergency, while also establishing a means to consistently communicate public health information, including health education and preparedness information, to CBOs.

It is important to understand what networks exist in a community and how they function before determining whether to create a new network. If a new network is necessary, it is valuable to specifically describe the goal of that new network and the roles of the participants in it.

**INDIVIDUAL-LEVEL PREPAREDNESS:** Public engagement meeting participants expressed a desire to build community resiliency. Preparedness planners may address this through concerted efforts to strengthen individual preparedness and through including at-risk populations in the planning process.

Many respondents agreed or strongly agreed, “Communities should provide opportunities for one-on-one personal preparedness planning for individuals who are at risk.”<sup>8</sup> Participants also suggested that such information be given to children in schools; that families receive assistance in developing preparedness plans; and that individuals be encouraged to identify a partner to support their personal preparedness planning. Additionally, they suggested that personal preparedness education and training be pursued as a method of engagement. Others recommended creating community forums to promote education, outreach, and discussion about pandemic influenza. They also encouraged social service providers to give preparedness information to at-risk individuals at the point of service delivery.

**INCLUDING AT-RISK POPULATIONS IN POLICY DEVELOPMENT:** Personal preparedness for pandemic influenza is important for individuals. An important aspect of planning for communities is collective decision-making that applies community values to developing public health policies. Such a process educates people while increasing community empowerment and support for policies and enhancing trust.

Include at-risk individuals in policy decision-making well before an influenza pandemic, in conjunction with policy development. Understand the principles of engagement and adopt a model for engagement. For a thorough list of principles, see the *Public Health Workbook to Define, Locate and Reach Special, Vulnerable and At-Risk Populations in an Emergency*, available at [http://www.bt.cdc.gov/workbook/pdf/ph\\_workbook\\_draft.pdf](http://www.bt.cdc.gov/workbook/pdf/ph_workbook_draft.pdf).

The scope of the engagement can help guide criteria for participants. Community-level policy-making processes may include general community members, as well as members of at-risk populations. A persuasive argument can be made to sometimes focus policy engagement solely on at-risk populations and their stakeholders, especially when the goal is to better understand and reflect the needs of those populations. Both approaches can give at-risk individuals a voice in shaping the policies that affect them.

The Policy Analysis CollaborativE (PACE) public engagement model<sup>14</sup> has been used successfully on a national scale to convene stakeholders and representatives from the general public to offer policy recommendations on pandemic influenza.<sup>15</sup> For a detailed description of the PACE process and other

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<sup>13</sup> Elsenboss, C. (2008, May 13). Personal communication.

<sup>14</sup> The Keystone Center & The Association of State and Territorial Health Officials. (2007, May). *Policy Analysis CollaborativE*. Retrieved March 19, 2008, from <http://www.pandemicpractices.org/practices/resource.do?resource-id=26&community-id=11>.

<sup>15</sup> International Association for Public Participation. (2007). *2007 Core Values Award Winners*. Retrieved March 31, 2008, from [http://www.pandemicpractices.org/files/26/26\\_award.pdf](http://www.pandemicpractices.org/files/26/26_award.pdf).

public engagement tools such as the Q-method, see the link in the [table](#) at the end of this chapter. The 14 steps in implementing the PACE model can be found online at:

[http://www.pandemicpractices.org/files/26/26\\_1\\_pace\\_overview.doc](http://www.pandemicpractices.org/files/26/26_1_pace_overview.doc).

Shared decision-making, collaborative problem-solving, collaborative planning and joint policy making are all types of collaborations that planners can undertake.<sup>16</sup> The following are sample topics to address:

- How do community members weigh the risks and benefits of closing schools in an influenza pandemic?
- What values and priorities should help the community allocate limited resources, such as hospital beds, ventilators, and medications, during times of scarcity?
- What approach/es to handling funerals is/are appropriate for this community?
- How can the community enhance personal preparedness among all community members, including at-risk populations?
- What approach to emergency preparedness planning will engage the most community organizations and individuals?

There are no shortcuts to building trust between communities and public health agencies and enhancing preparedness. Policy-focused engagement is time-consuming, yet essential. It is also the key to obtaining community-vetted solutions, which is why engagement should aim to solve specific problems.

#### **BUILDING NEIGHBORHOOD NETWORKS IN MISSISSIPPI**

Jones, Smith, Wayne, and Jasper Counties in Mississippi created an operations plan to develop neighborhood networks through local fire departments and churches with special emphasis on the needs of vulnerable populations. Built on American Red Cross concepts, these networks will offer support to community members during a pandemic by ensuring that fire departments provide resources and information to churches, which, in turn, monitor specific neighborhoods and roads to identify and assist at-risk populations. The jurisdiction of each fire department is divided so that every household is assigned to one of the churches. Churches then visit each household to determine special needs/at risk people or households. This approach can be modified for a variety of communities.

To learn more: <http://www.pandemicpractices.org/practices/resource.do?resource-id=41&interest-id=1>

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<sup>16</sup> The Keystone Center & The Association of State and Territorial Health Officials. (2007). *The Policy Analysis Collaborative-A Model for Public Engagement*. Retrieved March 31, 2008, from [http://www.pandemicpractices.org/files/26/26\\_1\\_pace\\_overview.doc](http://www.pandemicpractices.org/files/26/26_1_pace_overview.doc).

## **Recommended Planning Activities**

The primary recommendation for public health planners to implement is included here. Additional recommendations follow, to be undertaken as time and resources allow.

- Join an existing network or create a network with representation from at-risk individuals, CBOs, FBOs, and additional key partners, such as media outlets, which brings together partners to conduct pandemic and all-hazards planning. This network can be exclusively for preparedness planning, or can include preparedness planning as one aspect of the network.

*Staff and funding vary tremendously among state, territorial, tribal and local entities, so not all of the potential planning activities listed below will be feasible for all agencies. However, preparedness planners should identify which of the following steps would help them achieve the recommendation listed above.*

### **RECOGNIZE COMMUNITY ASSETS**

- Where possible, contribute to the resiliency of networks, such as by providing tools for continuity of operations (COOP) planning.
- Identify and reach out to non-traditional leaders who may not occupy obvious or formal roles in their community (e.g. tribal elders, business leaders, or hairdressers).<sup>10</sup>
- Use funds creatively to increase planning activities for at-risk populations, such as by providing mini-grants to CBOs and FBOs for pandemic planning. Partners may seek funds from alternative sources, such as foundations or businesses.

### **IDENTIFY PARTNERS AND LINK TO EXISTING NETWORKS**

- These businesses, organizations, and individuals represent a small sample of potential partners. (For a more comprehensive list of collaboration partners, see pages 26-27 of *Discovering Community Power: A Guide to Mobilizing Local Assets and Your Organization's Capacity*).<sup>17</sup>
  - Alternative and ethnic media outlets
  - Apartment building owners
  - Assisted living centers
  - Boys and Girls Clubs of America
  - Caregiver networks
  - Case-management organizations
  - Community advocacy organizations
  - Community centers
  - Community health worker networks
  - Disability organizations
  - Family planning offices and clinics
  - Homeless-to-homeless outreach
  - Homeowners' associations
  - Knights of Columbus
  - Lawmakers
  - Lions Clubs International
  - Local literacy organizations
  - National and community services (e.g., AmeriCorps, Senior Corps, American Red Cross, etc.)
  - Neighbor-to-neighbor networks
  - Nursing homes
  - Offices administering services for women, infants, and children
  - Outreach programs
  - Payor networks
  - Private sector entities
  - Religious groups/leaders
  - Rotary International
  - Salvation Army
  - Scouting organizations
  - Senior centers
  - State and local racial and ethnic partner organizations (e.g., National Association for the Advancement of Colored People)
  - Tribes/tribal representatives/Indian Health Service
  - Worker organizations (e.g., unions, migrant worker clinics, groups serving undocumented workers/residents)

<sup>17</sup> Kretzmann, J. P., & McKnight, J. L. (2005). *Discovering Community Power: A Guide to Mobilizing Local Assets and Your Organization's Capacity*. Evanston, IL: ABCD Institute. Retrieved February 25, 2008, from <http://www.sesp.northwestern.edu/images/kellogabcd.pdf>



**MAKE COLLABORATIONS FLEXIBLE**

- Incorporate pandemic influenza-specific initiatives into ongoing risk-abatement activities to foster preparedness and meet partners' needs.
- Designate a staff member to build and maintain collaborations.
- Disseminate preparedness information as part of existing outreach efforts.
- Emphasize that preparedness allows community organizations to fulfill their mission.
- Provide CBOs and FBOs with tools, such as COOP planning guides and personal preparedness training/materials.
- Use networks for routine and emergency activities and communications; and medical and clinical services.

**INCLUDE AT-RISK POPULATIONS IN POLICY DEVELOPMENT**

- Involve at-risk individuals and their service providers during all phases of policy development and include engagement meetings to address specific policy questions.
- Obtain buy-in for engagement meetings from key leaders.
- Determine how to approach engagement, which partners may enhance the process, and whether the goal is best met through inviting the general population or only at-risk populations.
- Consider using a model that can be adjusted based on the goals of the engagement process, such as the PACE model.
- In meetings, provide participants with the information they need for discussions and to make useful recommendations. Meetings should include easy-to-understand materials and presentations, and ample time should be included for questions.

**Sample Tools and Practices**

Material	Description	URL
<b>Preparedness Planning: Personal, Community, and Regional</b>		
Guide for Including People with Disabilities in Disaster Preparedness Planning, Connecticut Developmental Disabilities Network	This guide is primarily intended to assist preparedness planning at municipal and regional levels. Its appendices contain information useful to individuals with disabilities and to their families.	<a href="http://www.ct.gov/ctcdd/lib/ctcdd/guide_final.pdf">http://www.ct.gov/ctcdd/lib/ctcdd/guide_final.pdf</a>
Emergency Management Be Prepared Initiative, Multiple OH agencies	The Initiative is a preparedness workbook aimed at people with special functional needs. The workbook is part of a kit that consists of three document folders: 1) Emergency Plan for Home; 2) Be Prepared to Go to a Shelter; and 3) Important People and Papers.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=272&amp;interest-id=1">http://www.pandemicpractices.org/practices/resource.do?resource-id=272&amp;interest-id=1</a>
Ready in 3, Missouri Department of Health and Senior Services	The Ready in 3 Pandemic Flu Guide is a good example of an all-hazards personal preparedness campaign. Its simple message—Create a Plan, Prepare a Kit, Listen for Information—breaks large tasks into smaller, more manageable tasks.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=139&amp;interest-id=1">http://www.pandemicpractices.org/practices/resource.do?resource-id=139&amp;interest-id=1</a>
Vulnerable Populations Action Team (VPAT), Public Health – Seattle and King County (WA)	The VPAT coordinates countywide pandemic preparedness efforts among a wide variety of various community partners with public health expertise in vulnerable populations. The VPAT offers training and assistance to community-based organizations (CBOs), provides emergency information to residents through a communications network, and advocates on behalf of vulnerable populations for greater inclusion in emergency preparedness, response, and recovery planning.	<a href="http://www.metrokc.gov/health/VPAT/">http://www.metrokc.gov/health/VPAT/</a>
Stakeholders Help, Advice, and Recommendations Exchange (SHARE), Alabama Department of Public Health	SHARE is a listserv designed to facilitate pandemic influenza planning for the healthcare, business, first responder, education, government, faith based/community organizations, and communications sectors in Alabama.	<a href="http://www.adph.org/pandemicflu/Default.asp?id=1150">http://www.adph.org/pandemicflu/Default.asp?id=1150</a>
House of Worship Communitywide Asset and Logistics Management (HOWCALM™)	The HOWCALM® system is a secure, user-friendly, Web-based management tool that catalogs emergency contact information and material/human resources in five categories at US houses of worship, religious schools, and faith-based service providers. It is operated by New York Disaster Interfaith Services (NYDIS), a 501(c)(3) faith-based federation of service providers and charitable organizations that collaborate to develop and support disaster readiness, response, and recovery services for NY City. Now operational in NYC and containing 7,000 profiles, the system can now operate nationally and has the potential to contain 450,000+ profiles. It can enhance the capability of faith communities and their NGO and government partners in mitigation and planning efforts; to communicate in times of crisis; and to manage assets.	Sample tour available at <a href="http://www.howcalm.org/tour">www.howcalm.org/tour</a> (login and password are both “tour”).

<b>Material</b>	<b>Description</b>	<b>URL</b>
<b>Identifying Collaborations and Partnerships</b>		
Public Health Workbook to Define, Locate and Reach Special, Vulnerable and At-Risk Populations in an Emergency	An excellent resource that provides a thorough treatment of community engagement, prioritizing activities, and how to maintain relationships.	<a href="http://www.bt.cdc.gov/workbook/pdf/p_h_workbook_draft.pdf">http://www.bt.cdc.gov/workbook/pdf/p_h_workbook_draft.pdf</a>
Kentucky Outreach and Information Network (KOIN), Kentucky Cabinet for Health and Family Services	KOIN constitutes a partnership between government and an organized network of community-based organizations that serve as conduits of preparedness and emergency information to special needs populations. It is a grassroots approach to outreach and communication among populations that may be hard to reach and may be most applicable to suburban and rural populations.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=70&amp;interest-id=1">http://www.pandemicpractices.org/practices/resource.do?resource-id=70&amp;interest-id=1</a>
Creating and Maintaining Coalitions and Partnerships	The Community Tool Box is the world's largest resource for free information on essential skills for building healthy communities. It is a service of the Work Group for Community Health and Development at the University of Kansas.	<a href="http://ctb.ku.edu/en/dothework/tools_tk_1.htm">http://ctb.ku.edu/en/dothework/tools_tk_1.htm</a> Main site: <a href="http://ctb.ku.edu/en/">http://ctb.ku.edu/en/</a>
Promotores for Pandemic Influenza, El Paso City-County Health and Environmental District (TX)	El Paso is training promotores and community health workers to provide pandemic influenza education for the Hispanic/Latino community in El Paso, Texas. This is an enterprising way to reach people who may not be reached by mainstream public health efforts.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=145&amp;interest-id=1">http://www.pandemicpractices.org/practices/resource.do?resource-id=145&amp;interest-id=1</a>
Relationship Model for Accessing and Assessing Underserved Communities, Saint Louis City Department of Health (MO)	This model was tested in East End Bridgeport, CT, a predominantly African American community of 35,000 to 40,000. By accessing the community through formal and informal community leaders, the health department staff was able to build relationships while assessing awareness, knowledge, attitudes, beliefs, and perceived barriers to care through the Key-Informant Interview process.	<a href="http://www.naccho.org/topics/modelpractices/database/practice.cfm?PracticeID=49">http://www.naccho.org/topics/modelpractices/database/practice.cfm?PracticeID=49</a>
Discovering Community Power: A Guide to Mobilizing Local Assets and Your Organization's Capacity; ABCD Institute in cooperation with the W.K. Kellogg Foundation	This guide contains tools, tips, and worksheets to help organizations: 1. Enhance connections with the community's assets. 2. Strengthen the community by investing in the community's assets. 3. Strengthen community based projects, activities, and proposals.	<a href="http://www.sesp.northwestern.edu/images/kelloggabcd.pdf">http://www.sesp.northwestern.edu/images/kelloggabcd.pdf</a>
<b>Contributing to Community Networks</b>		
Neighbor to Neighbor (N2N) Network, Platte County Health Department (MO)	The Neighbor to Neighbor Network is a local, grassroots project that designates community hierarchies to establish communication about vulnerabilities between neighbors.	<a href="http://pandemicpractices.org/practices/resource.do?resource-id=74&amp;interest-id=1">http://pandemicpractices.org/practices/resource.do?resource-id=74&amp;interest-id=1</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
Seniors Outreaching to Seniors (SOS), Richland County Health Department (MT)	SOS gives elderly individuals from eastern Montana a sense of security by connecting them to their community. SOS accomplishes this goal by focusing on disaster preparedness, phone-based outreach, and home safety inspections.	<a href="http://www.nwpublichealth.org/docs/nph/f2007/regional_prep_f2007.pdf">http://www.nwpublichealth.org/docs/nph/f2007/regional_prep_f2007.pdf</a>
A Grassroots Funding Model that Created a Public Health Foundation Operating within a Public Health Agency, Greene County Combined Health District (OH)	Greene County Combined Health District (GCCHD) created the Greene Community Health Foundation and its mission was to: 1) Help assist underserved GCCHD clients with funding for medical need; 2) Find avenues of funding for clients; 3) Develop partnerships with providers for reduced charges for clients; 4) Develop community partnerships to strengthen programs and projects at GCCHD; and 5) Develop state and national partnerships to strengthen the programs and projects at GCCHD.	<a href="http://www.naccho.org/topics/modelpractices/database/practice.cfm?PracticeID=117">http://www.naccho.org/topics/modelpractices/database/practice.cfm?PracticeID=117</a>
Churches, ARC, Volunteer Neighborhood Network; Jones, Smith, Wayne, and Jasper Counties (MS)	These counties created an operations plan to develop neighborhood support networks through local fire departments and churches with special emphasis on vulnerable populations.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=41&amp;interest-id=1">http://www.pandemicpractices.org/practices/resource.do?resource-id=41&amp;interest-id=1</a>
<b>Engaging Members of Community Networks</b>		
Leaving No One Behind: Communicating with Special Populations; San Mateo County Health Department (CA)	A partnership was developed between the San Mateo County Health Department and community-based organizations (CBOs) that have existing relationships with special populations. The partnership included memoranda of understanding (MOUs) with these organizations, articulating expectations for all parties named in the MOU and providing a way to update CBOs quickly during emergencies.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=14&amp;interest-id=1">http://www.pandemicpractices.org/practices/resource.do?resource-id=14&amp;interest-id=1</a>
<b>Conducting Policy-Focused Engagement</b>		
Public Health Workbook to Define, Locate and Reach Special, Vulnerable and At-Risk Populations in an Emergency	Contains a thorough list of principles of community engagement that set the stage for productive interactions.	<a href="http://www.bt.cdc.gov/workbook/pdf/ph_workbook_draft.pdf">http://www.bt.cdc.gov/workbook/pdf/ph_workbook_draft.pdf</a> Page 12.
Policy Analysis Collaborative (PACE), Association of State and Territorial Health Officials and The Keystone Center	The Policy Analysis Collaborative (PACE) public engagement model has been used successfully on a national scale to convene stakeholders and representatives from the general public to offer policy recommendations on aspects of pandemic influenza. The overview defines the theory and process of the PACE model, which proposes to engage citizens in meaningful health policy collaboration.	<a href="http://www.pandemicpractices.org/files/26/26_1_pace_overview.doc">http://www.pandemicpractices.org/files/26/26_1_pace_overview.doc</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
Q-method for audience research on pandemic influenza	Public Health-Seattle and King County has found Q-method, including a game-like activity for interviewees or focus group participants, to be a useful tool in audience research on pandemic influenza. The approach combines quantitative and qualitative tools to analyze participants' opinions on a topic. Public health employees conducted formative key informant interviews to determine how members of specific populations may feel about community mitigation measures, vaccine and medication, access to healthcare, and other issues related to pandemic influenza. They developed approximately 30 statements that reflect what might be important to members of these groups in an influenza pandemic. Focus group participants were asked to individually rank those statements from most to least important using a game-board format. The process stimulates focus group discussions and helps participants identify their values and priorities. The approach also allows groupings of viewpoints to emerge, along with the areas of disagreement and consensus. The agency is using the resulting information to develop communications strategies and messaging.	Expected to be available by 7/1 at the Equity in Emergency Response toolkit located at this URL: <a href="http://www.advancedpracticetoolkits.com/">http://www.advancedpracticetoolkits.com/</a>
Pandemic Flu Town Hall Meeting Models, New York State Department of Health	The Town Hall Meeting Models provide useful descriptions of community engagement activities, such as town hall meetings, televised meetings, open houses, and mini-summits. The document candidly describes the advantages and disadvantages of each technique. These materials can help agencies decide which materials and type of meeting would meet their community's needs.	<a href="http://www.pandemicpractices.org/files/109/109_models.doc">http://www.pandemicpractices.org/files/109/109_models.doc</a>
Pandemic Influenza Information Tool Kit: Town Hall Meetings; Indiana State Department of Health	These documents are part of a detailed toolkit for planning and conducting local mini-Summits or Town Hall Meetings on introductory pandemic preparedness issues. The toolkit materials combine pandemic influenza issues with broader health topics, such as tobacco prevention, and are intended to emphasize personal preparedness at the state and local level.	<a href="http://www.in.gov/isdh/23167.htm">http://www.in.gov/isdh/23167.htm</a> Download materials directly: <a href="http://www.in.gov/isdh/images/PanFluToolKit.zip">http://www.in.gov/isdh/images/PanFluToolKit.zip</a>
Policy Toolkit for Public Involvement in Decision Making, Health Canada	The Health Canada Policy Toolkit for Public Involvement in Decision Making seeks to “provide a policy framework and practical guidance for public involvement, which clarifies departmental expectations and roles and cuts through the jargon around public involvement concepts.” Using a five-level model, the Policy Toolkit assists health planners as they determine when to “inform/educate,” “gather information/views,” “discuss or involve,” “engage,” and “partner” as part of their public involvement efforts.	<a href="http://www.hc-sc.gc.ca/ahc-asc/pubs/public-consult/2000decision/index_e.html">http://www.hc-sc.gc.ca/ahc-asc/pubs/public-consult/2000decision/index_e.html</a>

## **Chapter 2: Identifying At-Risk Populations**

### ***Introduction and Background***

Developing a comprehensive approach to planning for those most at risk during an influenza pandemic depends on effectively identifying at-risk populations and using that information to inform planning, risk communication, and response. This chapter addresses the following questions:

1. Who is at risk?
2. For what purpose will populations be identified? What will be done with the information gathered?
3. What tools and approaches exist to identify those at risk?
4. What is the extent of the risk in the local community? What is the distribution of risk?
5. What are the factors that contribute to risk in this jurisdiction? And how might the risk change during a pandemic?
6. How might states, territories, tribes and local entities prioritize among groups?

Most of the chapter is devoted to tools and approaches to identify at-risk populations; however, a basic overview of the other issues may provide useful context and direction for planners. [Sample tools and practices](#) to assist planners in identifying at-risk populations are located at the end of the chapter.

### **WHO IS AT RISK?**

Factors that increase the risk of harm during an influenza pandemic include:

- A. Economic disadvantage (e.g., having too little money to stockpile supplies, or to stay home from work even briefly)
- B. Absence of a support network (e.g., some children; homeless; travelers; and the socially, culturally, or geographically isolated)
- C. Needing support to be independent in daily activities because of:
  - a. Physical disability
  - b. Developmental disability
  - c. Mental illness or substance abuse/dependence
  - d. Difficulty seeing or hearing
  - e. Medical conditions
- D. Trouble reading, speaking, or understanding English

These factors can impair the ability of at-risk individuals to maintain independence, communicate, travel from one place to another, and manage medical conditions. The more difficulty people have in meeting those needs, the greater the risk for them to be harmed during a pandemic.

### **FOR WHAT PURPOSE WILL POPULATIONS BE IDENTIFIED?**

Understanding who is at-risk and how those populations are distributed in a jurisdiction will improve planning, communications, and the ability to provide assistance during a pandemic. (This guidance specifically pertains to an influenza pandemic; however, identifying at-risk populations is a task that should be undertaken for all-hazards planning, as well as other public health activities.)

Planned response activities for a pandemic will vary greatly both by the type of the jurisdiction involved and the available resources. For example:

- Agencies that distribute funds to other agencies or organizations must identify where the greatest needs are, in order to effectively allocate those funds;
- Some planners will need to identify the largest populations who speak languages other than English to prioritize translating materials;
- Agencies or CBOs and FBOs responsible for delivering services will need to know prior to a pandemic how and where to deliver those services.

## **WHAT TOOLS AND APPROACHES EXIST TO IDENTIFY THOSE AT RISK?**

To effectively locate at-risk populations, planners must first understand their jurisdictions' specific needs and resources. Locating at-risk populations may involve identifying the general geographic areas in which a population lives, works, and receives services. It may also include collecting demographic data to ascertain all factors that place populations at risk. Locating at-risk populations should be thought of not simply as an exercise in geographic pinpointing, but as a multifaceted approach that involves determining: 1) the extent of risk, 2) the distribution of risk, 3) the factors that contribute to risk in a given jurisdiction, and 4) how risk may change over the course of a pandemic.

Public health planners may be accustomed to identifying at-risk populations through demographics (e.g., age, chronic illness, or socioeconomic status). As described in the introduction to this guidance, during a pandemic, not all people in traditional at-risk groups will have increased need for resources and services; likewise, some people in traditional at-risk groups *will* have increased need for resources and services. It is also important to recognize the skills and assets of at-risk population members. For example, economically disadvantaged individuals may be at risk of adverse consequences during a pandemic because they lack funds to stockpile food and other goods; however, they may work as personal care attendants (PCA) to people with physical disabilities, have significant knowledge of their needs, and be indispensable to their clients.

Traditional at-risk groups (e.g., the elderly, the disabled) often do not share many characteristics with each other, making it difficult to locate and quantify them. For instance, children with cystic fibrosis and people with Alzheimer's or congestive heart failure may be at increased risk during an influenza pandemic. The factors-based definition in this document helps to ensure that these disparate groups are identified – based on their needs for clinical services, in-home support, and specialized nutrition.

A pandemic may cause long-term and pervasive disruption to the healthcare system and economy, thus placing many individuals at risk due to one or more demographic characteristics. Locating and quantifying at-risk groups may require a more flexible definition of populations' needs and circumstances. Defining risk based on factors may ensure that individuals are neither stigmatized nor given unnecessary services. For example, people who are deaf<sup>18</sup> or who have schizophrenia may not want to be classified as "at-risk" if they live independently or have an effective support system. Particularly important to planners are demographic characteristics that may affect communications with the population and those that may hinder access to care and community services for individuals.

A second challenge to defining at-risk populations is matching population needs with available resources. The relationship between resource availability and need may determine whether a population is at risk during an influenza pandemic. For instance, an economically stable elderly woman with a strong family support system may be at less risk than a healthy young man who does not speak English. Several groups, such as migrant workers or undocumented immigrants, may be reluctant to access resources due to a distrust of government officials or a fear of consequences. Awareness of the various community resources, both clinical and non-clinical, potentially available to assist at-risk populations may significantly aid planners within public health agencies and organizations that provide direct care in formulating a coordinated and integrated response during an emergency.

Planners will also need to adjust for *changes* in a population's risk status due to shifts in personal demographics or resource availability. For example, a healthy child whose parents fall ill, or a disabled

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<sup>18</sup> *The authors recognize there is a distinction between Deaf and deaf. "deaf" refers to those who are unable to hear well enough to rely on their hearing and use it as a means of processing information. "Deaf" with a capital "D" refers to a particular group of deaf people who share a language, American Sign Language (ASL), and a culture. For the purposes of this guidance document, the authors will use "deaf." The authors are neither ignoring nor discounting the distinction. For a further examination of this issue, please see National Association of the Deaf, <http://www.nad.org/site/pp.asp?c=foINKOMBF&b=180410>.*



person who loses a caregiver, may be at risk due to a change in circumstances. A healthy person with a psychiatric disorder may lose a significant amount of daily function if medications are unavailable. An individual who may not normally meet the criteria for being economically disadvantaged may lose all income due to a job loss resulting from the pandemic, or from being unable to work due to illness. All of these examples reflect the changing nature of risk and the potential difficulties in quantifying the effects of a pandemic on different populations. This underscores the importance of collaborating with CBOs and FBOs in this process, because they will be most familiar with their clients and have the ability to communicate with them.

Planners may need to use many different sources and methods to locate and quantify the different at-risk populations in their jurisdiction. Quantifying a jurisdiction's at-risk populations is a necessary first step to mapping their location and distribution. Mapping at-risk populations gives planners the ability to spatially locate at-risk populations and allocate resources or prepare a medical response quickly during a time of need. However, maps are effective only if accurate and representative data are used to create them. Data should be "current, accurate, and local."<sup>19</sup>

### **Sources of Public Data**

Demographic data on people can be divided into two types:

1. Information about groups of people, such as Census data that might help identify low-income neighborhoods, the elderly, and people living in group quarters (e.g., dormitories, prisons, or long-term care homes); and
2. Information about individuals, such as special-needs registries, which allows local planners to plan door-to-door type services if needed.

One of the first steps in locating and quantifying at-risk populations is the identification of relevant demographic data in a jurisdiction. Federal data portals, such as the United States Census American FactFinder, are publicly available online; however, the information in national databases may not be sufficiently up-to-date or specific to the needs and available resources in a jurisdiction. State Census Data Centers are good sources of demographic information, yet they offer different levels of data quantity and analysis. For instance, people with physical disabilities are represented in the Census, yet people with mental illnesses are only represented if the illness interferes with daily function. Since levels of daily function among those with mental illness may change drastically during a pandemic, it is important to recognize the limits of static public data sources.

State and local emergency management and public health officials may use voluntary registries to quantify at-risk populations. Such registries depend on the voluntary participation of individuals or households. Registries may include data on special medical needs, disability status, functional needs, and other information residents think will aid response efforts.

Participation in voluntary registries may include only individuals comfortable sharing their medical information. Registries may not include individuals who have privacy concerns, or individuals who do not wish to share their personal data prior to an emergency.

Registries are not a simple solution to locating and quantifying at-risk populations. They may foster expectations of care that cannot be met. If people volunteer to be identified in a registry, they might wrongly assume that they have been guaranteed assistance during an emergency. Further, it may be difficult to determine who has not been included in a registry.

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<sup>19</sup> Campbell, V.A. (2006, June). *Data Resources on Disability and Aging for Emergency Planners and Responders*. Presented at the Working Conference on Emergency Management and Individuals with Disabilities and the Elderly, Washington, DC. Retrieved February 28, 2008, from [http://www.add-em-conf.com/presentations/Topic\\_A\\_Campbell.pdf](http://www.add-em-conf.com/presentations/Topic_A_Campbell.pdf).

Voluntary registries may not be practical for other reasons. For instance, they may not be sustainable due to funding and staffing constraints. Registries also require significant maintenance and outreach to keep data current. People who manage private and sensitive data need to ensure that private information remains private. If health agencies wish to use voluntary registries, they should be aware of the legal restrictions to sharing private data and should inform participants about how the information will be used or shared. Health departments interested in developing registries despite those potential drawbacks should consider the varied infrastructure elements necessary to make them effective and involve potential participants in their development.

Some departments prefer not to use registries at all; they collaborate with local agencies and CBOs and FBOs that can and will contact their clients/members in an emergency. Departments may want to reach out to collaborative partners in CBOs and FBOs, including soup kitchens, shelters, even labor unions, to identify at-risk populations.

Collaborative partnerships with national, state, and local organizations also may yield *aggregate* data about at-risk populations. Examples of organizations that collect data about their members include national organizations that assemble registries to provide health information to emergency service providers (e.g., MedicAlert Foundation International) and organizations that provide home-based services (e.g., Meals on Wheels).

### **Managing and Mapping Public Data**

Planners will likely need data from several sources to identify their community's at-risk populations. Data from several sources may not be compatible, however, due to differences in how jurisdictions define at-risk populations or data formatting requirements.

Local data may offer the most comprehensive and specific information on a jurisdiction's at-risk populations, yet its usefulness may not transfer to other communities. Data comparability presents a significant barrier to using and interpreting demographic information in various jurisdictions.

Several initiatives, such as the National Governors Association State Alliance for E-Health, are beginning to recommend uniform guidelines for inter-state data.<sup>20</sup> These initiatives are fairly new and often confined to the healthcare services arena, so planners should be cautious of the data's geographic and topical applicability in their jurisdictions.

**GEOGRAPHIC INFORMATION SYSTEMS:** Data from different sources may also need to be formatted to comply with system requirements of data analysis and mapping software. Use of a Geographic Information System (GIS) may resolve this issue because it can merge data from different sources.<sup>21</sup>

Several jurisdictions across the United States use GIS technology to map resources and populations. GIS maps dynamic population data according to location, allowing planners to view where at-risk individuals live or receive services within the jurisdiction. One significant benefit of GIS during an emergency is its ability to map data in as small or large an area as desired. Planners can view data in multiple areas at once, which allows a map to serve as the basis for a common management model.<sup>22</sup> For instance, a regional map of at-risk populations can allow disparate partners to integrate their response efforts using a common geographic guide.

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<sup>20</sup> National Governors Association Center for Best Practices. *State Alliance for E-Health*. Retrieved March 3, 2008, from: <http://www.nga.org/portal/site/nga/menuitem.1f41d49be2d3d33eacdcbbeb501010a0/?vgnextoid=5066b5bd2b991110VgnVCM1000001a01010aRCRD>.

<sup>21</sup> ESRI. (Updated 2008, February). *GIS.com*. Retrieved March 3, 2008, from <http://www.gis.com>

<sup>22</sup> Enders, A., & Brandt, Z. (2007). Using Geographic Information System Technology to Improve Emergency Management and Disaster Response for People with Disabilities. *Journal of Disability Policy Studies*, 17(4), 223-229.

Efforts to map data in a uniform fashion across jurisdictions exist at several levels. In the United States, the National Geospatial Program Office manages geographic data at the national level. As part of this initiative, the Office oversees the National Spatial Data Infrastructure (NSDI), which collects and maps data in categories such as administrative boundaries, demographics, health, transportation, utilities, and communication. One type of map - Cadastral maps - describes the characteristics and structure of US property parcels, which can be helpful in locating physical infrastructure (e.g., schools, transportation) within a community. Currently, Cadastral maps may not provide great assistance in locating at-risk individuals; however, their detail and uniformity may be of use in assessing resource availability for at-risk individuals in a community. For instance, Cadastral property maps could potentially include data on: the location and licensure of group care facilities; location of buildings that offer disability-accessible or zero-step entries; or the electrical outlet capacity of care centers.

At the federal level, the Substance Abuse and Mental Health Services Administration (SAMHSA) maintains an extensive GIS application to assist grantees and program officers in evaluating problems and services in their communities. The application was intended to address the users' difficulty in accessing geo-coded data specific to their communities. Users are able to locate federal resources; quantify information on substance abuse or mental health issues in a given location; and assimilate local data into a map. Data is available at state, county, ZIP code, or community levels. Users may identify relationships and compatibility between jurisdictions.<sup>23</sup>

Several states maintain GIS-compatible data, although data quality and variety may vary significantly. For instance, the Land Management Information Center at the Minnesota Department of Administration's Office of Geographic and Demographic Analysis collects GIS data on several topics that pertain to planning for at-risk populations. The Minnesota Geographic Data Clearinghouse allows users to map infrastructure elements such as school districts, property parcels, correctional facilities, emergency medical services primary service areas, senior nutritional services and call center volume, hospitals and nursing homes, and communication towers.<sup>24</sup>

GIS platforms use a combination of numerical and spatial information to track information and trends. The US Global Positioning System (GPS) often acts as a component of GIS, since it uses satellite technology to determine precise locations of places and resources.<sup>25</sup> GPS technology is not widely used in public health agencies at the moment, but health-related GPS projects are under development. One example of how GPS is being used by emergency management is location of enhanced 9-1-1 systems. The Federal Communications Commission Public Safety and Homeland Security Bureau uses GPS technology to find individuals who dial 9-1-1 from a wireless phone.

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<sup>23</sup> Reynolds, C. (2005, February). *SAMHSA Mapping & Reporting Portal*. Presented at the Federal Users Conference. Retrieved March 3, 2008, from <http://gis.esri.com/library/userconf/feduc05/docs/pap168.pdf>.

<sup>24</sup> Minnesota Office of Geographic and Demographic Analysis. Land Management Information Center. Retrieved March 3, 2008, from <http://www.lmic.state.mn.us>

<sup>25</sup> RAND Corporation. (1995). *The Global Positioning System: Assessing National Policies*. Retrieved March 25, 2008, from [http://www.rand.org/pubs/monograph\\_reports/MR614/](http://www.rand.org/pubs/monograph_reports/MR614/).

### **IDENTIFYING AT-RISK POPULATIONS IN KANSAS**

The Kansas Association of Local Health Departments is using a multi-faceted approach to identify and locate at-risk populations in the state. Several tools were developed in collaboration with the Kansas Public Health Leadership Institute to survey and assess the needs of potentially at-risk residents in diverse parts of the state. One tool allows jurisdictions to identify at-risk populations and resources and determine what they might need during an influenza pandemic. Another assessment queries community agencies about resources, so they can share in planning activities with public health officials. The tools are being combined with GIS technology to map key services in the state.

Kansas has a large elderly and rural population, with 14 percent of the rural population living in poverty. The state is also growing in ethnic and cultural diversity. Planners are designing these tools to be customized to the unique and changing needs of local groups, such as state public health advocacy agencies, CBOs, licensed facilities, and 100 local health departments. The work that was done in Kansas to develop and streamline information on at-risk populations in advance of an emergency will allow public health officials more time, energy, and awareness to address their local needs. To learn more about the assessment: <http://www.pandemicpractices.org/practices/resource.do?resource-id=291&state-id=20>;

### **Limits to Public Data**

Differing definitions of who is at risk may affect how data is gathered and measured in various jurisdictions. For instance, one jurisdiction may currently consider people with physical disabilities and people with sensory disabilities as two groups, while another jurisdiction combines them. During an influenza pandemic, differences in how jurisdictions define their at-risk groups may hinder a coordinated response. At-risk populations may be counted multiple times or not at all. The factors-based definition in this guidance may allow planners to collect and analyze data in a more uniform and accurate fashion.

Several at-risk groups may be particularly difficult to locate and quantify before an influenza pandemic. One example is homeless individuals who transfer frequently between shelters or stay in places other than shelters (e.g., houses of worship, libraries, parks or other outdoor areas). People with no documented health history, such as some homeless individuals and recent immigrants, may not be identified through public health data. During one public engagement meeting, several participants mentioned that many people may also have an unrecognized condition or disability – people may be disabled, yet may be waiting for official identification and assistance for their disability. Individuals with emergent mental illness or crises may also be challenging to locate and quantify during a pandemic.

People's compliance with emergency recommendations may also affect how planners locate them. A recently developed model indicates that even when people are told to shelter-in-place during an influenza pandemic, some have indicated they will evacuate their residences. A geographic assessment of risk may change if migration in or out of an area occurs during a pandemic.<sup>26</sup>

Highly mobile populations, such as the homeless, migrant workers, or people who live in mobile homes may not be accurately understood if data is not updated frequently. It may be especially difficult to quantify transitory populations, such as tourists and travelers. The number and type of transitory populations may shift due to changes in available resources throughout a pandemic. If people are not sheltering in place, it may be especially important to quantify and map this changing group on an ongoing basis. For instance, if planners are using either a fixed dataset or interactive map to locate mobile populations, it may be advisable to account for monthly or seasonal changes in travel.

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<sup>26</sup> Meit, M. (2008, January 25). *Locating and Quantifying At-Risk Populations: NORC Modeling Efforts*. Personal communication.

Community planners may be aware of local characteristics that can be used to predict potential population movement. For example, communities with large numbers of college students, migrant workers, or “snowbirds” experience population shifts at different times of the year. Other communities have distinct demographics. Washington, DC, for example, experiences a daily influx of mobile people who work in the District, yet live in Maryland or Virginia.

Sensitive information on at-risk populations may be unavailable to planners. For instance, a project to map at-risk populations in Kansas collected data on facilities that were registered with the state. Information on nursing homes was available to planners, but information on child-care facilities was protected by state statute. Local resources will differ in levels of confidentiality and terms of access. While national information on migrant farm workers is available, communities that hire migrant workers may have a better understanding of seasonal numbers and employment sectors.

#### **HOW MIGHT STATES, TERRITORIES, TRIBES AND LOCAL ENTITIES PRIORITIZE AMONG GROUPS?**

As jurisdictions identify their at-risk populations, they may begin planning and communication activities. It will not be realistic to simultaneously initiate collaborations, develop communications, and plan for services for all members of all at-risk populations. Planners will have to choose where to start, and determine how they will gradually include more at-risk populations.

The question quickly becomes: “How do we prioritize?”

Prioritization must be a state, territorial, tribal or local decision. One approach can be found in the CDC’s *Public Health Workbook to Define, Locate and Reach Special, Vulnerable, and At-risk Populations in an Emergency*, which recommends focusing on the largest at-risk groups in order to reach the most people as quickly as possible. “Every state or community will have a population mix that is at once unique and still in some ways similar to others.”<sup>27</sup>

The workbook suggests planners begin with economic disadvantage because it is a “sweeping category” that encompasses many at-risk populations who are also affected by other factors. “If a community maps its areas of deep poverty, health and emergency providers will clearly be able to see where extra help will be needed in any emergency.”<sup>27</sup>

Planners may find it practical to focus on one or a few at-risk populations in an initial planning cycle, and add additional factors in later planning cycles. In this way, all at-risk populations will be incorporated into pandemic influenza planning. Planners may need to refer to their jurisdiction’s demographics to identify and plan for their largest at-risk populations first, including smaller populations in later planning cycles.

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<sup>27</sup> Centers for Disease Control and Prevention. (February 2007). *Public Health Workbook to Define, Locate and Reach Special, Vulnerable, and At-risk Populations in an Emergency*. Retrieved April 5, 2008, from [http://www.bt.cdc.gov/workbook/pdf/ph\\_workbook\\_draft.pdf](http://www.bt.cdc.gov/workbook/pdf/ph_workbook_draft.pdf).



## **Recommended Planning Activities**

The primary recommendations for public health planners to implement are included here. Additional recommendations that should be undertaken as time and resources allow are included in the next section.

Informed use of data is integral to identifying at-risk populations. Availability of local data varies widely; however, many of the local promising practices that are available can be adapted to many jurisdictions. A list of sample tools for collecting local data related to the recommendations is provided in a [table](#) at the end of this chapter.

- Find and use data sources that identify the at-risk populations in the jurisdiction, based on the definition in this guidance.
- Consider prioritizing planning for populations at economic disadvantage and other large populations in the initial planning cycle. Develop an approach for adding other at-risk populations in later planning cycles to ensure they are included. Consider adding those populations based on their relative size within the jurisdiction.
- Agencies that distribute funds to other agencies or organizations must identify where the greatest needs are, in order to effectively allocate funds.

***Staff and funding vary tremendously among state, territorial, tribal and local entities, so not all of the potential planning activities listed below will be feasible for all agencies. However, preparedness planners should identify which of the following steps would help them achieve the recommendations listed above.***

## **Locating Relevant Public Data**

### **NATIONAL DATA**

- Identify relevant demographic data (e.g., disability status, primary languages spoken) in your jurisdiction through federal Census databases, such as the main United States Census 2000 or the Census Survey of Income and Program Participation.

### **STATE AND LOCAL DATA**

- Arrange training sessions with state data centers, so state and local employees can increase their familiarity with available data sources.
- Use data from transportation and mass transit planners to identify local populations that require assistance to use public transportation.
- Consider the pros and cons of a voluntary registry before determining whether to establish one.
- Collaborate with local agencies, organizations, and CBOs and FBOs (such as soup kitchens, shelters, and even labor unions) that can and will contact their clients/members in an emergency.
- Assess local non-health-related data, such as data on transportation and population stability that may be useful in identifying at-risk populations. Examples may include tourism data from a local Chamber of Commerce or Department of Natural Resources; data from fire or police departments; transitory student population data from local colleges and universities; and population projections from local transportation, land use, or zoning building commissions.
- Encourage local businesses and CBOs to develop or to become familiar with their continuity-of-operations (COOP) plans. COOP plans may assist public health planners in understanding where populations will be located during an influenza pandemic or by identifying aggregate dayshift workers within a jurisdiction.
- Quantify transitory groups, such as tourists, travelers, and migrant workers, on an ongoing basis.
- Identify local characteristics that may predict population movement (e.g., universities, farms or plants that employ migrant workers).
- Assess local resources that may attract or repel migration into a jurisdiction during an influenza pandemic.

## **HEALTHCARE DATA**

- Encourage healthcare providers to inquire about functional needs on patient intake forms (i.e. the forms patients complete at a doctor's office with personal and medical information). This information would only be available to the healthcare provider but may help the provider better understand the needs of their patients.

## **CBO/FBO DATA**

- Where available, use data from community agencies and foundations (e.g., Meals On Wheels, visiting/home health nurse associations, tertiary care). If detailed datasets are unavailable due to privacy or other considerations, use aggregate data to inform predictions about community risk (e.g., Community A may have 6,000 residents who use insulin, while Community B may have 2,000 residents who rely on delivered meals). For instance, MedicAlert Foundation International is willing to share aggregate data with public health planners.
- Engage neighborhood associations, CBOs, FBOs, caregiver networks, and provider networks to help identify people with functional needs within the community. For example, local religious leaders may have detailed knowledge of specific sub-populations served by their faith community, or may know specific individuals at particular risk.

## **MAPPING AT-RISK POPULATIONS**

- Map at-risk people in settings where a significant number live together ("Group quarters", such as long-term care homes, prisons, and college residence halls).
- Study how communities map significant at-risk populations in non-emergency situations and how these models might be applicable during a pandemic.
- Use national GIS mapping data to identify at-risk populations in a given jurisdiction and its neighboring jurisdictions. This may include data from the National Spatial Data Infrastructure, Cadastral maps, and SAMHSA grantee GIS applications.
- Identify state or local organizations that collect GIS-compatible data.



**Sample Tools and Practices**

Material	Description	URL
<b>Data Sources that Identify Individuals or Groups of People</b>		
<b>General Demographics Relevant to Factors That Put Populations At-Risk</b>		
The Kaiser Family Foundation: State Health Facts	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Children’s health</li> <li>• Chronic Disease</li> <li>• Disability</li> <li>• Employment</li> <li>• Food stamps</li> <li>• HIV/AIDS</li> <li>• Insurance status, including high risk pools</li> <li>• Medicare, Medicaid, and SCHIP coverage</li> <li>• Poverty</li> <li>• Prescription drug use</li> </ul> <p><b>Geographic levels:</b> State  <b>Frequency of updates:</b> Unknown  <i>Note: Data were drawn from an analysis and two-year average of March 2006 and 2007 Current Population Survey results.</i></p>	<p><a href="http://www.statehealthfacts.org/">http://www.statehealthfacts.org/</a></p>
United States Census 2000	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Race/ethnicity</li> <li>• Language</li> <li>• Disability status (physical, sensory, mental, and self-care)</li> <li>• Annual income</li> </ul> <p><b>Geographic levels:</b> National, state, county, city, ZIP code  <b>Frequency of updates:</b> The full Census is updated every 10 years, but many categories are updated more frequently (the American and the Puerto Rico Community Surveys, and some economic censuses are updated annually.)  <i>Note: American FactFinder is a fairly simple way to find data at the state, local, or ZIP code level. Fact sheets list data on demographics and social, economic, and housing characteristics.</i></p>	<p>Main Census Web site:  <a href="http://www.census.gov">http://www.census.gov</a></p> <p>American FactFinder:  <a href="http://factfinder.census.gov/home/saff/main.html?_lang=en">http://factfinder.census.gov/home/saff/main.html?_lang=en</a></p>

Material	Description	URL
<b>Children</b>		
The Child and Adolescent Health Measurement Initiative: National Survey of Children with Special Healthcare Needs	<p><b>Sample data categories:</b> (Data was measured by household and individual demographics)</p> <ul style="list-style-type: none"> <li>• Age</li> <li>• Gender</li> <li>• Race/ethnicity</li> <li>• Language</li> <li>• Healthcare need</li> <li>• Functional limitations</li> </ul> <p><b>Geographic levels:</b> National and state  <b>Frequency of updates:</b> Every four years</p>	<a href="http://cshcndata.org/DataQuery/SurveyAreas.aspx?yid=2">http://cshcndata.org/DataQuery/SurveyAreas.aspx?yid=2</a>
US Department of Health and Human Services: Administration for Children and Families	<p><b>Sample data category:</b> Number of children who enter and exit foster care each year  <b>Geographic levels:</b> National and state  <b>Frequency of updates:</b> Every year</p>	<a href="http://www.acf.hhs.gov/programs/cb/stats_research/afcars/statistics/entryexit2005.htm">http://www.acf.hhs.gov/programs/cb/stats_research/afcars/statistics/entryexit2005.htm</a>
<b>Disability</b>		
Administration on Aging and Centers for Medicare and Medicaid Services: Aging and Disability Resource Centers (ADRCs)	<p><b>Sample data category:</b> Location of ADRCs and state-specific resources  <b>Geographic levels:</b> State and county  <b>Frequency of updates:</b> Unknown</p>	<a href="http://www.adrc-tae.org/tiki-index.php?page=p_AboutStates">http://www.adrc-tae.org/tiki-index.php?page=p_AboutStates</a>
Centers for Disease Control and Prevention: Behavioral Risk Factor Surveillance System (BRFSS)	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Age</li> <li>• Gender</li> <li>• Race/ethnicity</li> <li>• Income</li> <li>• Education</li> <li>• Functional disability</li> </ul> <p><b>Geographic levels:</b> National, state, metropolitan area  <b>Frequency of updates:</b> Every year</p>	<a href="http://www.cdc.gov/brfss">http://www.cdc.gov/brfss</a>
Rural Institute of Montana: Disability Counts	<p><b>Sample category:</b> Disability  <b>Geographic levels:</b> State and county (data is divided between urban and rural areas)  <b>Frequency of updates:</b> Unknown  <i>Note: Also available is a list of state Centers for Independent Living.</i></p>	<a href="http://www.disabilitycounts.org">http://www.disabilitycounts.org</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
United States Department of Housing and Urban Development: Multifamily Inventory of Units for the Elderly and Persons with Disabilities	<b>Sample data category:</b> Disability-accessible housing units and residential units for elderly and people with disabilities <b>Geographic levels:</b> State <b>Frequency of updates:</b> Unknown	<a href="http://www.hud.gov/offices/hsg/mfh/hto/inventorysurvey.cfm">http://www.hud.gov/offices/hsg/mfh/hto/inventorysurvey.cfm</a>
US Social Security Administration: Social Security Online	<b>Sample data categories:</b> Numbers of people who receive supplemental security income (i.e., people who are low-income, blind, disabled, or aged) <b>Geographic levels:</b> National, region, state, county, independent city <b>Frequency of updates:</b> Unknown	<a href="http://www.socialsecurity.gov/policy/docs/statcomps/ssi_sc/2006/index.html">http://www.socialsecurity.gov/policy/docs/statcomps/ssi_sc/2006/index.html</a>
<b>Elderly</b>		
Administration on Aging and Centers for Medicare and Medicaid Services: Aging and Disability Resource Centers (ADRCs)	<b>Sample data categories:</b> Location of ADRCs and state-specific resources <b>Geographic levels:</b> State and county <b>Frequency of updates:</b> Unknown	<a href="http://www.adrc-tae.org/tiki-index.php?page=p_AboutStates">http://www.adrc-tae.org/tiki-index.php?page=p_AboutStates</a>
US Social Security Administration: Social Security Online	<b>Sample data categories:</b> Numbers of people who receive supplemental security income (i.e., people who are low-income, blind, disabled, or aged) <b>Geographic levels:</b> National, region, state, county, independent city <b>Frequency of updates:</b> Unknown	<a href="http://www.socialsecurity.gov/policy/docs/statcomps/ssi_sc/2006/index.html">http://www.socialsecurity.gov/policy/docs/statcomps/ssi_sc/2006/index.html</a>
<b>Homeless Populations</b>		
US Department of Housing and Urban Development: Homeless Management Information Systems	<b>Sample data categories:</b> Homeless populations, both in and away from shelters <b>Geographic levels:</b> State region (e.g., metropolitan, northeast) <b>Frequency of updates:</b> Unknown	<a href="http://www.hud.gov/offices/cpd/homeless/hmis/">http://www.hud.gov/offices/cpd/homeless/hmis/</a>
<b>Language</b>		
The Modern Language Association Language Map	<b>Sample data categories:</b> 33 spoken languages and language groups <b>Geographic levels:</b> National, state, county, ZIP code <b>Frequency of updates:</b> Language maps use Census data, which is updated every 10 years.	<a href="http://www.mla.org/map_main">http://www.mla.org/map_main</a>
The Pew Hispanic Center	<b>Sample data categories:</b> (All data categories relate to Hispanic persons in the US) <ul style="list-style-type: none"> <li>• Demographics</li> <li>• Economics</li> <li>• Education</li> <li>• Nationality</li> <li>• Migrant workers</li> </ul> <b>Geographic levels:</b> National and state <b>Frequency of updates:</b> Unknown	<a href="http://pewhispanic.org">http://pewhispanic.org</a>

Material	Description	URL
<b>Mobile Populations</b>		
US Census of Agriculture	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Number of hired farm workers</li> <li>• Wages of hired farm workers</li> <li>• Agricultural sectors that employ hired farm workers</li> <li>• Hours worked by hired farm workers within 3-month periods</li> </ul> <p><b>Geographic levels:</b> State region  <b>Frequency of updates:</b> Every five years</p>	<a href="http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1063">http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1063</a>
US Census: Housing Vacancies and Home Ownership	<p><b>Sample data categories:</b> Number of seasonal homes, ownership, and vacancies  <b>Geographic levels:</b> Region  <b>Frequency of updates:</b> Every three months</p>	<a href="http://www.census.gov/hhes/www/housing/hvs/hvs.html">http://www.census.gov/hhes/www/housing/hvs/hvs.html</a>
US Chamber of Commerce	<p><b>Sample data category:</b> Local Chambers of Commerce and Convention and Visitors Bureaus, which may have data on local tourism and travel  <b>Geographic levels:</b> State and city  <b>Frequency of updates:</b> Unknown</p>	<a href="http://chamberofcommerce.com">http://chamberofcommerce.com</a>
US Department of Transportation: Federal Highway Administration	<p><b>Sample data category:</b> In-state rural and urban mobility by number of miles traveled  <b>Geographic levels:</b> State  <b>Frequency of updates:</b> Unknown</p>	<a href="http://fhwainter.fhwa.dot.gov/ohim/hs00/ps1.htm">http://fhwainter.fhwa.dot.gov/ohim/hs00/ps1.htm</a>
<b>Race/Ethnicity</b>		
Asian and Pacific Islander Center for Census Information Services	<p><b>Sample data categories:</b> Socioeconomic information on 21 sub-groups of Asians and Pacific Islanders in the United States  <b>Geographic levels:</b> National, state, county  <b>Frequency of updates:</b> The API Center uses Census data, which is updated every 10 years.</p>	<a href="http://www.apiahf.org/programs/accis/index.htm">http://www.apiahf.org/programs/accis/index.htm</a>
<b>Refugee/Immigrant Populations</b>		
US Department of Health and Human Services: Administration for Children & Families: Office of Refugee Resettlement	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Number of refugee arrivals</li> <li>• Refugee nation of origin</li> <li>• Local community organizations that receive discretionary funding to assist refugees</li> </ul> <p><b>Geographic levels:</b> State  <b>Frequency of updates:</b> Every year</p>	<a href="http://www.acf.hhs.gov/programs/orr/data/index.htm">http://www.acf.hhs.gov/programs/orr/data/index.htm</a>
<b>Socio-economic Factors</b>		
US Department of Labor: Bureau of Labor Statistics	<p><b>Sample data category:</b> Unemployment  <b>Geographic levels:</b> National, region, state  <b>Frequency of updates:</b> Monthly and annually</p>	<a href="http://www.bls.gov/lau">http://www.bls.gov/lau</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
US Social Security Administration: Social Security Online	<p><b>Sample data categories:</b> Numbers of people who receive supplemental security income (i.e., people who are low-income, blind, disabled, or aged)</p> <p><b>Geographic levels:</b> National, region, state, county, independent city</p> <p><b>Frequency of updates:</b> Unknown</p>	<p><a href="http://www.socialsecurity.gov/policy/docs/statcomps/ssi_sc/2006/index.html">http://www.socialsecurity.gov/policy/docs/statcomps/ssi_sc/2006/index.html</a></p>
<b>Special Healthcare Needs</b>		
The Child and Adolescent Health Measurement Initiative: National Survey of Children with Special Healthcare Needs	<p><b>Sample data categories:</b> (Data was measured by household and individual demographics)</p> <ul style="list-style-type: none"> <li>• Age</li> <li>• Gender</li> <li>• Race/ethnicity</li> <li>• Language</li> <li>• Healthcare need</li> <li>• Functional limitations</li> </ul> <p><b>Geographic levels:</b> National and state</p> <p><b>Frequency of updates:</b> Every four years</p>	<p><a href="http://cshcndata.org/DataQuery/SurveyAreas.aspx?yid=2">http://cshcndata.org/DataQuery/SurveyAreas.aspx?yid=2</a></p>
United States Department of Housing and Urban Development: Housing Opportunities for Persons with AIDS	<p><b>Sample data category:</b> State grantees that provide institutionalized housing to people with HIV/AIDS</p> <p><b>Geographic levels:</b> State</p> <p><b>Frequency of updates:</b> Unknown</p>	<p><a href="http://www.hud.gov/offices/cpd/aidshousing/local/">http://www.hud.gov/offices/cpd/aidshousing/local/</a></p>
<b>Resources for Local Data Collection</b>		
National States Geographic Information Council: Federal Geographic Data Committee: 2006 State Data	<p><b>Sample data categories:</b> Contact information for state Offices of Geographic and Demographic Analysis, along with their relationships to other data collection agencies within the state</p> <p><b>Geographic levels:</b> State</p> <p><b>Frequency of updates:</b> Every year</p>	<p><a href="http://www.nsgic.org/states/index.cfm">http://www.nsgic.org/states/index.cfm</a></p>
State Data Center Program	<p><b>Sample data categories:</b> Contact information for state data centers, which coordinate data collection agencies and activities and provide access to demographic; economic; and social statistics</p> <p><b>Geographic levels:</b> State</p> <p><b>Frequency of updates:</b> Unknown</p>	<p><a href="http://www.census.gov/sdc/www/revpage34to40.doc">http://www.census.gov/sdc/www/revpage34to40.doc</a></p>
<b>Data Sources that Identify Resources</b>		
<b>Disability</b>		
Centers for Independent Living	<p><b>Sample data category:</b> Centers for Independent Living that serve populations with disabilities</p> <p><b>Geographic levels:</b> State</p> <p><b>Frequency of updates:</b> Every week</p>	<p><a href="http://www.ilru.org/html/publications/directory/index.html">http://www.ilru.org/html/publications/directory/index.html</a></p>

Material	Description	URL
National Dissemination Center for Children with Disabilities	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Agencies serving children and youth with disabilities and medical needs</li> <li>• Parent groups and state chapters of disability organizations</li> </ul> <p><b>Geographic levels:</b> State  <b>Frequency of updates:</b> Continuously</p>	<a href="http://www.nichcy.org/states.htm">http://www.nichcy.org/states.htm</a>
Rural Institute of Montana: Disability Counts	<p><b>Sample data category:</b> Disability  <b>Geographic levels:</b> State and county (data is divided between urban and rural areas)  <b>Frequency of updates:</b> Unknown  <i>Note: Also available is a list of state Centers for Independent Living.</i></p>	<a href="http://www.disabilitycounts.org">http://www.disabilitycounts.org</a>
United States Department of Transportation: Bureau of Transportation Statistics	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Individual and household transportation use</li> <li>• Transportation use among people with disabilities</li> <li>• Required transportation accommodations</li> </ul> <p><b>Geographic levels:</b> State  <b>Frequency of updates:</b> Approximately every five years</p>	Freedom to Travel Report: <a href="http://www.bts.gov/publications/freedom_to_travel">http://www.bts.gov/publications/freedom_to_travel</a> National Household Travel Survey: <a href="http://www.bts.gov/programs/national_household_travel_survey/">http://www.bts.gov/programs/national_household_travel_survey/</a>
<b>Health Access</b>		
Community Health Centers	<p><b>Sample data categories:</b> Community Health Center locations  <b>Geographic levels:</b> State, county, city  <b>Frequency of updates:</b> Unknown  <b>Note:</b> CHCs provide primary care to people with limited financial resources, and they are a main source of care for the homeless, migrant workers, and residents of public housing.</p>	<a href="http://ask.hrsa.gov/pc">http://ask.hrsa.gov/pc</a>
Health Resources and Services Administration: Geospatial Data Warehouse	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Primary care service areas</li> <li>• Health professional shortage areas</li> <li>• Access to care for people with epilepsy</li> <li>• Rural hospitals</li> <li>• Ryan White programs</li> </ul> <p><b>Geographic levels:</b> Varies, depending on the data source  <b>Frequency of updates:</b> Varies, depending on the data source</p>	<a href="http://datawarehouse.hrsa.gov">http://datawarehouse.hrsa.gov</a>
<b>Refugee/Immigrant Populations</b>		
US Department of Health and Human Services: Administration for Children and Families: Office of Refugee Resettlement	<p><b>Sample data categories:</b> Number of refugee arrivals; Refugee nation of origin; Local community organizations that receive discretionary funding to assist refugees  <b>Geographic levels:</b> State  <b>Frequency of updates:</b> Every year</p>	<a href="http://www.acf.hhs.gov/programs/orr/data/index.htm">http://www.acf.hhs.gov/programs/orr/data/index.htm</a>

Material	Description	URL
<b>Special Healthcare Needs</b>		
Department of Health and Human Services: National Center for Health Statistics: National Ambulatory Medical Care Surveys	<b>Sample data categories:</b> Medical diagnoses; prescription medications <b>Geographic levels:</b> Physician office <b>Frequency of updates:</b> Every year	<a href="http://www.icpsr.umich.edu/cocoon/ICPSR/STUDY/21560.xml">http://www.icpsr.umich.edu/cocoon/ICPSR/STUDY/21560.xml</a>
National Dissemination Center for Children with Disabilities	<b>Sample data categories:</b> <ul style="list-style-type: none"> <li>• Agencies serving children and youth with disabilities and medical needs</li> <li>• Parent groups and state chapters of disability organizations</li> </ul> <b>Geographic levels:</b> State <b>Frequency of updates:</b> Continuously	<a href="http://www.nichcy.org/states.htm">http://www.nichcy.org/states.htm</a>
Substance Abuse and Mental Health Services Administration: Substance Abuse Treatment Facility Locator	<b>Sample data categories:</b> <ul style="list-style-type: none"> <li>• Treatment and residential facilities that serve people with substance abuse and co-existing mental health disorders</li> <li>• Facility address</li> <li>• Contact information</li> <li>• Special programs</li> <li>• Language services (e.g., ASL)</li> </ul> <b>Geographic levels:</b> State, city, ZIP code, address <b>Frequency of updates:</b> Every year, although facility location is updated monthly	<a href="http://dasis3.samhsa.gov">http://dasis3.samhsa.gov</a>
United States Administration on Aging: Eldercare Locator	<b>Sample data category:</b> Resources for the elderly who need assistance <b>Geographic levels:</b> County, city, ZIP code <b>Frequency of updates:</b> Unknown	<a href="http://www.hud.gov/offices/cpd/aidshousing/local/">http://www.hud.gov/offices/cpd/aidshousing/local/</a>
<b>Sample Tools</b>		
Florida Special Needs Shelter and Registry	The Florida Department of Health developed a voluntary registry for individuals who may need shelter during an emergency. The registry application requests a variety of information from participants, including medical dependence on electricity or oxygen; cognitive, mental, sensory, or mobility impairment; use of a service animal; dependence on dialysis; use of a caregiver; and primary language.	<a href="http://www.floridadisaster.org/SpecialNeeds/Documents/2007/DOH%2064-3%20SpNS%20rule%20Nov%2007.pdf">http://www.floridadisaster.org/SpecialNeeds/Documents/2007/DOH%2064-3%20SpNS%20rule%20Nov%2007.pdf</a>
Kansas Collaborative GIS Project	Kansas Collaborative GIS Project: The Kansas Association of Local Health Departments (KALHD) did a project to collect existing data on at-risk populations and map it for all of the counties. They created collaborations with other state agencies to develop this GIS Web-based system and worked with other state agencies to identify state-licensed facilities. This project was conducted without using added resources, but through coordination with existing state resources to map licensed facilities, etc.	<a href="http://www.kalhd.org/en/cms/?210">http://www.kalhd.org/en/cms/?210</a>



<b>Material</b>	<b>Description</b>	<b>URL</b>
Kansas Vulnerable Populations Outreach	A number of detailed assessments collect information on medical needs and disability requirements in households and organizations. Assessments are targeted to the elderly, the disabled, non-English speakers and people in institutions.	<a href="http://pandemicpractices.org/practices/resource.do?resource-id=291&amp;state-id=20">http://pandemicpractices.org/practices/resource.do?resource-id=291&amp;state-id=20</a>
Polk County (WI) Special Population Planning	This local, voluntary registry provides a means of accessing populations with special medical needs during an emergency.	<a href="http://pandemicpractices.org/practices/resource.do?resource-id=233&amp;state-id=58">http://pandemicpractices.org/practices/resource.do?resource-id=233&amp;state-id=58</a>
Special Needs Registry (Linn County, IA)	Linn County used a voluntary registry and GIS to map the location of people who may need extra assistance during an evacuation. Locations can be mapped onto the county Metropolitan Evacuation Plan map for quick comparison.	<a href="http://www.linncounty.org/files/download.asp?type=Adobe&amp;mode=view&amp;I=3687">http://www.linncounty.org/files/download.asp?type=Adobe&amp;mode=view&amp;I=3687</a>
United Hospital Fund's Aging in Place Initiative (New York City, NY)	The Initiative quantified elderly people and mapped "naturally occurring retirement communities" in each borough of New York City.	Map of elderly individuals per borough: <a href="http://uhfnyc.org/usr_doc/UHF_Presentation1.ppt">http://uhfnyc.org/usr_doc/UHF_Presentation1.ppt</a> See Appendix 1 of the full report for information on locating populations and support resources: <a href="http://www.uhfnyc.org/pubs-stories3220/pubs-stories_show.htm?doc_id=203833">http://www.uhfnyc.org/pubs-stories3220/pubs-stories_show.htm?doc_id=203833</a>
<b>Sample Mapping Sources and Projects</b>		
<b>Mapping and Geographic Information System (GIS) Resources</b>		
The CDC/ATSDR Public Health Vulnerability Mapping System: Using a Geographic Information System for Depicting Human Vulnerability to Environmental Emergencies	The CDC mapping project describes a variety of individual factors and environmental events that may place people at great risk. The GIS component maps potential hazard sources and data on community vulnerability to determine specific, local risk. <i>Note: the definition of vulnerable populations in this white paper differs slightly from the definition in this guidance; however, the methods and resources may prove helpful for jurisdictions in planning for at-risk populations.</i>	<a href="http://ftp.cdc.gov/pub/nceh/opter/Public%20Health%20Vulnerability%20Mapping%20System_A.doc">http://ftp.cdc.gov/pub/nceh/opter/Public%20Health%20Vulnerability%20Mapping%20System_A.doc</a>
Federal Geographic Data Committee: EROS Data Center: Entry Point to Geospatial Data Clearinghouse	<b>Sample data categories:</b> Infrastructure; public land use <b>Geographic levels:</b> Varies, depending on the data and mapping source <b>Frequency of updates:</b> Varies, depending on the data and mapping source	<a href="http://clearinghouse1.fgdc.gov/fgdc/EDCgateway.html">http://clearinghouse1.fgdc.gov/fgdc/EDCgateway.html</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
Federal Geographic Data Committee: National Spatial Data Infrastructure (NSDI)	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Administrative boundaries</li> <li>• Demographics</li> <li>• Health</li> <li>• Transportation</li> <li>• Utilities</li> <li>• Communication</li> </ul> <p><b>Geographic levels:</b> Varies, depending on the data and mapping source  <b>Frequency of updates:</b> Varies, depending on the data and mapping source  <i>Note: Data can be incorporated into property parcel maps.</i></p>	<p><a href="http://www.fgdc.gov/nsdi/nsdi.html">http://www.fgdc.gov/nsdi/nsdi.html</a></p>
National Park Service Interactive Map Center	<p><b>Sample data categories:</b> Population density; state park locations  <b>Geographic levels:</b> National, state  <b>Frequency of updates:</b> Varies, depending on the data source  <i>Note: The Interactive Map Center and Data Clearinghouse may facilitate prediction and mapping of mobile populations.</i></p>	<p>Interactive Map Center:  <a href="http://maps.nps.gov">http://maps.nps.gov</a>            Data Clearinghouse:  <a href="http://www.nps.gov/gis/data_info/">http://www.nps.gov/gis/data_info/</a></p>
United States Department of the Interior: Bureau of Land Management: Cadastral Survey	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Land ownership</li> <li>• Location of public lands</li> <li>• Location of American Indian reservations</li> </ul> <p><b>Geographic levels:</b> Varies, depending on the data source  <b>Frequency of updates:</b> Unknown</p>	<p><a href="http://www.blm.gov/wo/st/en/prog/more/cadastralsurvey.html">http://www.blm.gov/wo/st/en/prog/more/cadastralsurvey.html</a></p>
United States Geological Survey: National Geospatial Program Office (NGPO) and Geospatial One Stop	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Administrative/political boundaries</li> <li>• Culture and demographics</li> <li>• Health</li> <li>• Transportation</li> <li>• Utilities</li> <li>• Communication</li> </ul> <p><b>Geographic levels:</b> Varies, depending on the data source  <b>Frequency of updates:</b> Varies, depending on the data source  <i>Note: The NGPO integrates the Federal Geographic Data Committee, the National Spatial Data Infrastructure, and Geospatial One Stop.</i></p>	<p>National Geospatial Program Office:  <a href="http://www.usgs.gov/ngpo">http://www.usgs.gov/ngpo</a>            Geospatial One Stop:  <a href="http://www.geodata.gov">http://www.geodata.gov</a></p>

Material	Description	URL
<b>Global Positioning System (GPS) Resources</b>		
Federal Communication Commission: Public Safety and Homeland Security Bureau	<p><b>Sample data categories:</b> Registry of Public Safety Answering Points (PSAPs)</p> <ul style="list-style-type: none"> <li>• Total number of PSAPs</li> <li>• PSAP mapping capabilities</li> <li>• Number of PSAPs that accept wireless 9-1-1 calls</li> <li>• Number of wireless providers</li> </ul> <p><b>Geographic levels:</b> National, state, county  <b>Frequency of updates:</b> Continuously</p>	<a href="http://www.fcc.gov/pshs/services/911-services/enhanced911/psapregistry.html">http://www.fcc.gov/pshs/services/911-services/enhanced911/psapregistry.html</a>
National Emergency Number Association and Digital Data Technologies, Inc.	<p><b>Sample data categories:</b></p> <ul style="list-style-type: none"> <li>• Basic 9-1-1 services</li> <li>• Enhanced 9-1-1 services</li> <li>• Status of wireless planning</li> </ul> <p><b>Geographic levels:</b> National, state, county  <b>Frequency of updates:</b> Continuously</p>	<a href="http://ena.ddti.net/nationalmap.aspx">http://ena.ddti.net/nationalmap.aspx</a>
<b>Sample Mapping Tools</b>		
The CDC/ATSDR Public Health Vulnerability Mapping System: Using a Geographic Information System for Depicting Human Vulnerability to Environmental Emergencies	<p>The CDC mapping project describes a variety of individual factors and environmental events that may place people at great risk. The GIS component maps potential hazard sources and data on community vulnerability to determine specific, local risk.  <i>Note: the definition of vulnerable populations in this white paper differs slightly from the definition in this guidance; however, the methods and resources may prove helpful for jurisdictions in planning for at-risk populations.</i></p>	<a href="http://ftp.cdc.gov/pub/nceh/option/Public%20Health%20Vulnerability%20Mapping%20System_A.doc">http://ftp.cdc.gov/pub/nceh/option/Public%20Health%20Vulnerability%20Mapping%20System_A.doc</a>
Kansas Collaborative GIS Project	<p>Kansas Collaborative GIS Project: The Kansas Association of Local Health Departments (KALHD) did a project to collect existing data on at-risk populations and map it for all of the counties. They created collaborations with other state agencies to develop this GIS and Web-based system and worked with other state agencies to identify state-licensed facilities. This project was conducted without using added resources, but through coordination with existing state resources to map licensed facilities, etc.</p>	<a href="http://www.kalhd.org/en/cms/?210">http://www.kalhd.org/en/cms/?210</a>
Mapping of Children with Special Educational Needs (Washington, DC)	<p>This project located addresses of special education students and cross-matched their address data with local schools. Data on students' sensory, physical, mental, and self-care needs also was collected and mapped.</p>	<a href="http://proximityone.com/pldcps.htm">http://proximityone.com/pldcps.htm</a>
Minnesota Geographic Data Clearinghouse	<p>The Clearinghouse provides numerous GIS data sets from agencies such as the Minnesota Department of Transportation and the Minnesota Department of Natural Resources, among others. GIS-compatible data includes information on school districts, Cadastral property parcels, correctional facilities, Emergency Medical Services primary service areas, senior nutrition services and call center volume, hospitals and nursing homes, and communication towers.</p>	<a href="http://www.lmic.state.mn.us/chouse">http://www.lmic.state.mn.us/chouse</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
NORC Modeling Efforts (University of Chicago)	This project mapped urban-to-rural evacuation intent in a dirty bomb scenario. It has county-specific information on resources and expected evacuee load.	<a href="http://www.norc.org/projects/Emergency+Preparedness+Planning.htm">http://www.norc.org/projects/Emergency+Preparedness+Planning.htm</a>
Special Needs Registry (Linn County, IA)	Linn County used a voluntary registry and GIS to map the location of people who may need extra assistance during an evacuation. Locations can be mapped onto the county Metropolitan Evacuation Plan map for quick comparison.	<a href="http://www.linncounty.org/files/download.asp?type=Adobe&amp;mode=view&amp;I=3687">http://www.linncounty.org/files/download.asp?type=Adobe&amp;mode=view&amp;I=3687</a>
United Hospital Fund's Aging in Place Initiative (New York City, NY)	The Initiative quantified elderly people and mapped "naturally occurring retirement communities" in each borough of New York City.	Map of elderly individuals per borough: <a href="http://uhfnyc.org/usr_doc/UHF_Presentation1.ppt">http://uhfnyc.org/usr_doc/UHF_Presentation1.ppt</a> Appendix 1 of the full report has locating populations and support resources: <a href="http://www.uhfnyc.org/pubs-stories3220/pubs-stories_show.htm?doc_id=203833">http://www.uhfnyc.org/pubs-stories3220/pubs-stories_show.htm?doc_id=203833</a>
WebFOCUS Special Needs Mapping (Philadelphia's Homeless Outreach, Early Intervention, and Crisis Response Center)	The Center used a state technology grant to develop a WebFOCUS database. One application has mapped developmentally delayed children in order to monitor interruptions in service, and another application tracks residential beds in order to monitor admission and discharge of institutionalized mentally ill persons.	<a href="http://www.informationbuilders.com/applications/philly.html">http://www.informationbuilders.com/applications/philly.html</a>
<b>Sample Cadastral Tools</b>		
Montana Cadastral Mapping Program	The Cadastral Mapping Program provides downloadable metadata for property use in all Montana counties. An interactive map allows users to view property parcels, schools, roads, and emergency facilities in Montana towns.	<a href="http://www.gis.mt.gov">http://www.gis.mt.gov</a>
Montana Geographic Information Clearinghouse and Cadastral/CAMA Project	Montana's geographic and cadastral data allows users to map Census data, public land use, and school districts by county and city.	Montana Geographic Information Clearinghouse: <a href="http://nris.mt.gov/gis/default.asp">http://nris.mt.gov/gis/default.asp</a> Montana Cadastral/CAMA Project: <a href="http://nris.mt.gov/nsdi/cadastral">http://nris.mt.gov/nsdi/cadastral</a>

## **Chapter 3: Communications with and Education of At-Risk Populations**

### ***Introduction and Background***

Communicating effectively with at-risk populations before, during, and after an influenza pandemic is integral to minimizing illness, disability, and death. The aim of this section is to identify:

- Risk communication messages that will need to be disseminated to at-risk communities, including messages tailored for pre-pandemic, pandemic, and post-pandemic intervals;
- Methods to effectively communicate those messages to reach the target populations;
- Technologies needed to reach target populations while simultaneously considering effective communications systems that are already in place, but may be used for other purposes (e.g., early warning notification systems); and
- Strategies to evaluate the effectiveness of the risk communication messages for at-risk populations.

Risk communication principles dictate that one must be first, be right, and be credible. Effective communication with at-risk audiences requires additional steps because of the varying needs of each population. One of the most important considerations in communicating with and educating at-risk populations is to understand that it will be a time- and labor-intensive activity. Resources should be identified to enable this effort, and the process should begin as early as possible.

The role of community networks and organizations will be integral in building connections with different populations. Planners should engage local communities to assist in ongoing communication and education of at-risk populations (see Chapter 1).

Many of the factors that put people at risk may also complicate effective communications. At-risk populations may face a variety of barriers that make communication challenging. It is important to identify factors that hinder effective communication and plan for alternative methods to reach these populations. Some examples include:

- Certain populations, such as the economically disadvantaged, may not have access to televisions, the Internet, or a telephone.<sup>28</sup>
- Written pandemic preparedness materials may be too complex for low-literacy populations.
- Information for populations with limited English competency may be unavailable.
- Culturally appropriate information may be unavailable.
- Materials may be inaccessible to those in remote or rural areas, or those who are unable to travel to where materials are available.
- Undocumented workers or immigrants may be reluctant to seek official sources of information or assistance for fear of deportation or other repercussions.<sup>29</sup>
- Others may simply not consider health departments or other government agencies the most credible source of information.<sup>28, 29</sup>
- Materials may be scarce in formats such as Braille, large print, or audio files.
- Some at-risk individuals may not know where to go for health information, especially if they do not receive regular healthcare.<sup>9</sup>

Because of the varied barriers to successful communication with at-risk populations, no one-size-fits-all approach will work. For example, reaching the geographically isolated may entail communicating through

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<sup>28</sup> Texas Department of State Health Services. (2004). *Barriers to and Facilitators of Effective Risk Communications Among Hard-to-Reach Populations in the Event of the Bioterrorist Attack or Outbreak*. Retrieved June, 24, 2008, from <http://www.dshs.state.tx.us/riskcomm/documents/Research.pdf>.

<sup>29</sup> Andrulic, D.P., Siddiqui, N.J., & Gantner, J.L. (2007). Preparing racially and ethnically diverse communities for public health emergencies. *Health Affairs (Millwood)*, 26(5), 1269-1279.

neighbors, schools, or faith communities, while reaching people who are deaf may rely heavily on technology such as TTYs, video relays (a telephone system with video that enables the deaf and hard of hearing to communicate with hearing people through a sign language interpreter), e-mail, text-messaging, and social and cultural networks.

Nonetheless, effective communications with at-risk populations have some common attributes. They must incorporate at least these three key components: audience-appropriate messages, trusted messengers, and effective methods, including technologies appropriate to the groups at risk. Each of these key components must be understood and effectively managed relative to the at-risk populations. These components will be explored in more depth in the section below.

## **Findings**

Although this chapter will focus chiefly on communications with at-risk populations, it is useful to identify key audiences to receive risk-communication messages about those at risk. In some cases, specific messages will need to be conveyed to caregivers and service providers of at-risk individuals.

**MESSAGES:** To mitigate the effects of an influenza pandemic, it will be essential for populations to know what that is; how to limit the spread of infection; when and how to seek care or practice self-care when ill; and how to obtain antiviral medication and vaccinations. Populations will need to know how to prepare for potential disruptions in daily life, such as what to keep in emergency kits or stockpile in homes, how to practice social-distancing strategies, and whom to contact for instructions or help. In the pre-pandemic stage, it is particularly important for people to learn what may happen during an influenza pandemic so they can mentally prepare themselves. This will enhance their ability to cope. Other than messages on preparedness, empowering messages on self-care are also especially important, because regular support systems may be disrupted, resources may be scarce, and people may need to rely on themselves.

Audience-appropriate messages must be tailored to the differing needs of populations. Messages may need to be geared to low-level reading ability, with simple, clear and direct language. “Plain language,” free of jargon, is useful for everyone, not just at-risk populations (see the [table](#) at the end of this chapter for tools on plain language). Messages should be brief and constantly reevaluated to ensure they are meeting the needs of the particular group. They should reflect an understanding of the audiences’ beliefs about health and illness. For instance, some diabetes educators provide general education about preparedness for pandemic influenza at the time of general diabetes education and/or yearly seasonal influenza vaccination. Timing is also important.

Comments at the public engagement meetings suggested underlying beliefs and in some cases, misperceptions, that are important to recognize.<sup>8,9</sup> Some participants said they thought they might be immobilized with fear during an influenza pandemic. Others said feelings of uselessness or depression might prevent them from seeking help. Some people said they did not consider stockpiling to be realistic, or vaccination to be effective. People also expressed concern about the possibility of community-wide panic and riots, events that are actually rare. Understanding these perspectives and fears will help public health communicators tailor messages.

It is important to consider how different populations prefer to communicate – a work group in Delaware, for instance, found that deaf and hard of hearing individuals may prefer sign language and visual cues to written information. Somali, Mien, and Hmong populations, and other groups whose written languages are relatively new, or groups such as the Mixteco, whose languages have no written form, will need to communicate orally rather than in written form.

While many public health messages are written, planners must also prepare messages that can be delivered orally and visually in different community settings. Using multiple approaches to convey messages will assist in reaching individuals who face barriers to receiving messages.



Even the way a message is packaged – such as the use of colors, images, fonts – can have social and cultural relevance, which communicators need to understand.<sup>30</sup> Messages should reflect the cultural and social realities of the intended audience as much as possible.

Message content may address, but will not be limited to, the following:

- Basic respiratory hygiene
- Changes in healthcare standards
- Clarifying risks of infection or consequences people may face in different circumstances or demographic groups.
- Home care and how to do it
- How and when to shelter in place
- How to access care
- How to continue necessary activities, e.g. obtaining food or medicines – especially important for individuals who are unable to stockpile those items
- How to cope with the effects of a pandemic
- How to know when to seek care
- How to pursue religious worship/practice when social distancing measures are in effect
- How to stockpile necessities (what supplies, how much to buy, how to rotate supplies, how to stockpile on a limited budget)
- Potential impact of ignoring public health messages
- Preparing for changes to daily life, such as school closures or service and utilities disruptions
- Signs and symptoms of influenza
- What social distancing measures are and how to apply them
- Where to find care

The vehicles to convey messages may include, but are not limited to, the following options, some of which are beyond the scope of public health. Public health planners should engage their partners in developing and distributing messages to help ensure an effective and targeted approach:

- Articles in general interest and ethnic media outlets
- Brochures and fliers
- Cars with loudspeakers/megaphones
- E-mail and text messages
- Face-to-face conversations
- Fotonovelas - comic-style novels that use photos instead of illustrations. (Please see the [table](#) at the end of this chapter for a link to a Spanish language fotonovela.)
- Inserts in utility mailings, paycheck envelopes, Medicaid enrollment letters, newsletters, etc.
- Limited-text comic books
- Neighbor-to-neighbor networks
- Newsletters (in hard copy or electronic format)
- Pictograms - illustrations that symbolize particular actions or ideas. (Please see the [table](#) at the end of the chapter for examples.)
- Radio or television spots
- Religious bulletins
- Telenovelas - Spanish television mini-series soap operas. According to a CDC survey, they can be a powerful vehicle for health education, especially among regular viewers.<sup>31</sup>
- Web sites

**ENSURING MESSAGE CONTENT IS AUDIENCE-APPROPRIATE:** Once the types of messages and core message concepts have been identified, planners must ensure that messages are audience-appropriate.

Literacy in general, and health literacy in particular, are important factors to consider in messaging. Health communicators recommend communicating at or below a sixth-grade level. Other factors to consider when tailoring messages for audiences include: age; socio-economic status; tribal affiliation or

<sup>30</sup> Kreuter, M., & McClure, S. (2004). The Role of Culture in Health Communication. *Annual Review of Public Health, 25*, 439-55.

<sup>31</sup> Centers for Disease Control and Prevention. (2003, November 17). *2002 Porter Novelli Healthstyles Survey: Telenovela Viewers and Health Information*. Retrieved June 24, 2008, from [http://www.cdc.gov/healthmarketing/entertainment\\_education/2002Survey.htm](http://www.cdc.gov/healthmarketing/entertainment_education/2002Survey.htm).



membership; cultural and linguistic background; and religion, etc. For instance, messages meant for children and youth may differ both in terms of content and style from messages tailored to adults.

In communities where many people speak or read languages other than English, planners should develop materials in these languages. Such materials need to be culturally appropriate – direct or literal translations of English-language materials may be confusing and convey the wrong messages. Consult with community partners and in-language experts to ensure the language and context are appropriate, bearing in mind that there may be multiple dialects. Generally, planners should recognize the potential existence of sub-groups within any particular at-risk population, which may affect message content.

Certain religious practices may also call for specific types of messages for certain groups. For instance, among Christian denominations where handshaking or drinking from a communal cup is practiced during worship, messages may include instructions about avoiding these practices during a pandemic to limit infection. It is important to consult local faith leadership ahead of time to coordinate advice (ensuring that policies generated by faith communities correspond to advice from health authorities) and to ensure proper vocabulary (to establish and maintain the credibility of health authorities). It is also important to be aware of how best to time messages to reach a particular audience; for example, educational events should not conflict with the timing of religious services.

Finally, even general-audience education campaigns should be considered for their impact on at-risk populations. For example, one routine respiratory and hand hygiene campaign included a physical reminder of hand hygiene – wastepaper baskets were placed by doors in public restrooms to encourage people to open doors while holding a tissue. Unfortunately, the location of the baskets made the bathrooms inaccessible to wheelchair users. It is important to reach out to at-risk populations via focus groups, key informants, etc., to develop messages to increase likelihood that they are appropriate and achieve the goal for the at risk group.

**MESSENGERS:** Because a message’s acceptability is highly dependent on who delivers it, trusted messengers will be valuable partners in conveying messages to at-risk populations. Trusted messengers may include, but are not limited to:

- CBO and FBO staff
- Community health educators and outreach workers, including tribal community health representatives
- Community leaders and organizers
- Employers
- Interpreters
- Law enforcement officers
- Media personalities
- Medical personnel
- Personal caregivers
- Public health and social workers
- Religious leaders
- Teachers
- Traditional healers
- Tribal elders

Based on findings from a study in Kentucky, “local trusted sources gain more trust in a time of shared crisis and outside sources . . .lose credibility not through inaccuracy, but simply because they're not the recognized face on the ground.”<sup>32</sup> For health communication purposes, when people view sources to be similar to themselves, they may be more likely to trust the source, underscoring the importance of using messengers that communities identify with.

It is important to note that different communities will trust different people, based on direct experience as well as historical, socio-cultural, or legal reasons. For instance, the history of racism may affect how some African-American communities perceive the government and information from official sources. “A federal government official might not be the best source for communicating preparedness to immigrants

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<sup>32</sup> Kentucky Cabinet for Health and Family Services (2006). *Reaching Vulnerable Populations in Widespread Emergencies: Lessons Learned in Kentucky*. Retrieved June 24, 2008, from [http://chfs.ky.gov/NR/rdonlyres/7273FDC1-69CA-4208-9298-6C4A4924A49F/0/KYHandout\\_4\\_6.pdf](http://chfs.ky.gov/NR/rdonlyres/7273FDC1-69CA-4208-9298-6C4A4924A49F/0/KYHandout_4_6.pdf).

or African-Americans familiar with the legacies of Tuskegee or with Hurricane Katrina.<sup>29</sup> One study in the South Bronx showed that African-American and Latino focus group participants distrusted the healthcare system: many felt that they received second-class care and that their complaints were not taken seriously because of their ethnic background.<sup>33</sup> Poor relationships between some urban African-American communities and police departments also heighten distrust. While law enforcement officers may be highly trusted by the general population, undocumented workers are unlikely to rely on official sources.<sup>28</sup>

A study conducted in Texas found hard-to-reach Hispanic and African-American populations are more likely to rely on family and community networks for information, and the best messengers included neighbors and faith leaders. The role of FBOs was also emphasized for rural communities. For people with mental illness, the most trusted information source was usually the primary caregiver.<sup>28</sup>

Medical and health personnel play key roles in sharing health information. Research in King County, Washington, shows that health workers, especially those who work within the community and are bilingual, are among the most trusted sources of health information among Vietnamese and Mexican immigrants, and African-Americans.<sup>34</sup> Similarly, a statewide preparedness study in Kentucky found that people in general are most likely to view their local doctor, hospitals, and healthcare centers as trusted sources of information.<sup>35</sup> Public health planners should engage hospitals and community health workers in sharing messages and tools being developed for communication about pandemic influenza.

The use of ethnic media outlets has been particularly effective in some areas. The Texas study showed that many Hispanics have access to and rely primarily on Spanish-language radio and television stations for information.<sup>28</sup> Planners should maintain a list of these media and use them regularly to disseminate health messages. Another example: The Emergency and Community Health Outreach (ECHO) program in Minnesota produces talk shows with local, in-language hosts who appear on local public television stations (see the [table](#) at the end of this chapter for ethnic media resources).<sup>36</sup>

Mainstream radio and television stations may have weekly programs geared to specific populations. Community, college, and cable-access stations are also potential channels. In general, the media are important partners because they may be the first place many community members turn for information on emergencies. A majority of respondents to a statement at one of the public engagements strongly agreed that media should have pre-planned informational messages in ASL and other languages during a pandemic.<sup>8</sup> Participants at the national stakeholders meeting also suggested having public service announcements in various languages.<sup>10</sup>

Some trusted messengers will be found among: CBOs and FBOs; voluntary organizations; advocacy groups; neighborhood associations; schools; workplaces; and agencies that already work with at-risk populations such as public health, social service or emergency preparedness agencies, assisted-living facilities, caregivers, senior centers and literacy groups.

Other trusted messengers will come from even less-obvious places. Examples include traditional healers and influential members of informal social networks. Gathering sites, such as hair salons; corner stores; community and recreation centers; ethnic businesses and restaurants; and phone bars, should also be considered as places to find messengers or convey messages. The University of Pittsburgh's Center for

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<sup>33</sup> Kaplan, S.A., Calman, N.S., Golub, M., Davis, J.H., Ruddock, C., & Billings, J. (2006, February). Racial and ethnic disparities in health: a view from the South Bronx. *Journal of Health Care for the Poor and Underserved*, 17(1), 116-27.

<sup>34</sup> Li-Vollmer, M. (2008, February 28). Personal Communication.

<sup>35</sup> Kentucky Cabinet for Health and Family Services & Jane Mobley and Associates. (2007). *Kentucky Bioterrorism Communication Survey*. Retrieved June 24, 2008, from <http://chfs.ky.gov/NR/rdonlyres/F59ACC35-8EFE-439B-BDD2-C4802EC47575/0/FINAL07GenPopSurvey.pdf>.

<sup>36</sup> Emergency and Community Health Outreach. *ECHO Web Site*. Retrieved March 17, 2008, from <http://www.echominnesota.org/>.

Minority Health, for example, launched a program through which health educators work with barber shops and salons to provide health information and activities to the African-American community.<sup>37</sup>

School-aged children may also act as messengers, such as when they are responsible for interpreting for non-English speaking parents. For adults who are home-bound or isolated, health messages sent home with schoolchildren may be vital sources of information. It is worth noting that younger people may also be more adept with technology, such as the Internet, than older generations so they can be valuable in guiding others to online resources and tools.

It is vital to understand cultural preferences such as gender and age when selecting, training and working with messengers for specific purposes. In some communities, it may be more appropriate to use messengers of the same gender as the intended audience. In others, where the age hierarchy is important, elders may be more effective than younger people. Tribal affiliation, or identification with a subculture or sub-region, may also greatly affect which messengers are considered most credible.

Public health planners may also need to work closely with interpreters to reach populations with limited English competency. Depending on the circumstances, interpreters can range from trained individuals and bilingual staff to community members or family members. Planners should aim to work with individuals who have received some training. Considering the potential challenges of explaining medical and health terminology in another language – some words or concepts may have no direct translation or context in certain languages – it is vital that interpreters receive adequate training and education on pandemic influenza so that messages are communicated accurately and effectively. Interpreters should also be trained on ethical and technical aspects of health interpretation such as accuracy, impartiality in delivering messages, maintaining confidentiality, managing cultural differences, and other ethical considerations. For more information on standards for healthcare interpreters, see the National Council on Interpreters in Health Care, <http://www.ncihc.org/mc/page.do>.

Identifying established pathways to reach at-risk populations before a pandemic will save time and resources. Such pathways may include existing public health and community partnerships; and existing agencies and programs such as the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), Maternal and Child Health (MCH) offices, or family planning. Hospitals and clinics may also be valuable resources for reaching communities, such as the elderly and the immunocompromised. Pandemic preparedness messages may be integrated into their ongoing activities, minimizing the resources required to convey the messages. Planners may also want to use the time after an influenza pandemic to prepare people for future events.

Maintaining connections should involve creating a database or directory of trusted sources to deliver messages (see the [table](#) at the end of this chapter for a sample directory from the Minnesota Department of Health). These databases are dynamic and should be regularly updated. Contacts should be provided with adequate materials to share with their populations, such as brochures, pamphlets, posters, videos or audio, PowerPoint slides, and information cards. Such a model is currently being used in Kentucky (please see the Kentucky Outreach and Information Network, listed in the [table](#) at the end of this chapter). By using train-the-trainer strategies, planners can ensure a wide range of community members are equipped to disseminate messages when needed. This model also enhances the resiliency of the CBO/FBO because heightened preparedness will most likely increase their ability to maintain organizational operations during an influenza pandemic (see Chapter 1).

All health departments should designate and train an official spokesperson who will be responsible for influenza pandemic-related communications and serve as a point of contact for trusted messengers and for the community at large. An existing official can assume this role. This person should be identified and made known to possible partners well in advance of an emergency.

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<sup>37</sup> Center for Minority Health, University of Pittsburgh. *Health Advocates in Reach (HAIR)*. Retrieved June 24, 2008, from <http://www.cmh.pitt.edu/coid.asp>.

**METHODS:** Effective communication methods are needed, including technologies that are appropriate to the diverse needs of at-risk populations. Community agencies can use various technologies and methods to convey messages, including phone trees, text messages, voicemail, e-mail distribution lists, online postings, and even door-to-door methods to reach populations.

It is important to understand and use the existing communication infrastructure and established community pathways and social networks, such as community relationships, general and ethnic media outlets, and social service resources.

Reaching at-risk populations will entail using different levels of engagement: low engagement, in which indirect methods such as traditional advertisements, Web sites and press releases are used; medium engagement, in which there is a mix of indirect and semi-direct communication pathways; and high engagement, which relies on face-to-face, direct communication.

Planners must also consider how to communicate with transient populations, such as seasonal residents unfamiliar with local emergency plans, migrant workers, tourists, or the homeless.

Various technologies exist to aid communications with at-risk populations. These may include video phones and text messaging devices for the deaf, and computer reading programs for the blind. Based on research in Delaware, the most common technologies used by the deaf and hard of hearing in that state are CapTel™ (a telephone system which translates spoken words into text), videophones, and Sidekick pagers (text messaging devices); the population is moving away from the traditional TTY phones.<sup>38</sup>

Mass notification systems such as Reverse 9-1-1® can be used for both general and at-risk populations – the system automatically calls numbers in a specified database with a recorded message (see the [table](#) at the end of this chapter for a link to the Reverse 9-1-1® Web site). The 2-1-1 non-emergency hotline and referral call center system is another technology that may be used for communication and education. Currently, callers can get information on community services through the system, which is available in many areas around the country (for more information on 2-1-1, visit <http://www.211.org/>).

It is important to recognize the strengths and limitations of communications technologies. Participants at a public engagement meeting, who rely on videophones and Sidekick pagers, expressed concern that Emergency Notification System software does not currently communicate with those devices, although the software does communicate with CapTel™ and TTY text messaging devices.<sup>8</sup> Call notifications through Reverse 9-1-1® currently will not reach users with a blocked number, cell phone, or Voice over Internet Protocol (VoIP) unless users register their numbers with emergency services providers.<sup>39,40</sup> The Reverse 9-1-1® system was highly credited for encouraging people to evacuate in time during the California wild fires in 2007, but calls were only made to land lines and registered numbers.<sup>41</sup> Responders in California also had difficulty using Reverse 9-1-1® to identify and contact homes that are located in one community but have a postal address in another, homes on Indian reservations that may not have formal street addresses, and homes that have area codes from a different county.<sup>42</sup> The system may also

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<sup>38</sup> Delaware Non-Typical Functional Needs Working Group. (2007). *Emergency Preparedness for Individuals with Non-Typical Functional Needs*.

<sup>39</sup> Dane County. *Dane County Department of Emergency Management Warning System*. Retrieved May 12, 2008 from <http://www.countyofdane.com/ems/popwarn.htm>.

<sup>40</sup> Rowan County. *Reverse 911®*. Retrieved May 13, 2008, from <http://www.rowancountync.gov/GOVERNMENT/Departments/Telecommunications/Reverse911/tabid/312/Default.aspx>.

<sup>41</sup> Phelps, A. (2007, November 28). *Wildfires gave reverse 911 its first test*. [Radio broadcast]. Washington, DC: National Public Radio (NPR). Retrieved March 24, 2008, from <http://www.npr.org/templates/story/story.php?storyId=16703144>.

<sup>42</sup> EG&G Technical Services, Inc. & County of San Diego Office of Emergency Services. (2007). *San Diego County Firestorms After Action Report*. Retrieved May 13, 2008, from <https://www.llis.dhs.gov/docdetails/details.do?contentID=30763>.

be too cost-prohibitive to implement for some localities. Furthermore, while the system can be used to send messages in different languages, if messages are only disseminated in English, they would not be beneficial for limited-English proficiency populations.

Participants at a public engagement meeting suggested having public health alerts, similar to the AMBER Alert Program for finding missing children, as a warning system.<sup>9</sup> AMBER Alerts are announced on television, radio, highway traffic signs, and via text messages.<sup>43</sup> Planners may explore this option, even though several challenges exist, such as character limits on the display signs; determining when and how frequently it could be used for public health purposes and who would give approval for its use; as well as the possibility that using such systems for public health messages might interfere with their current purposes. If this method were adopted for public health purposes, messages could potentially direct people to where they can obtain more information or resources.

Another suggested technology for emergency messages is the television “crawler” or “ticker,” which are lines of text that scroll at the bottom of the television screen (current uses of the crawler include news headlines and severe weather warnings). A limitation of the crawler is that it could block closed captioning text – Federal Communications Commission (FCC) guidelines require (with some exceptions) that closed captioning be available.<sup>44</sup> Planners should ensure when using such technologies that FCC guidelines are met.

Communication methods should also be legally compliant with Section 508 of the Rehabilitation Act, which calls for federal agencies to make electronic and information technology accessible to people with disabilities.<sup>45</sup> Populations with visual, hearing, and cognitive limitations may use alternative Web browsing methods to assist them, such as screen readers and screen pointers; therefore, planners should ensure content on Web sites can be accessed effectively by people with disabilities.

Primary systems may fail in emergencies, underscoring the importance of back-up systems. For example, in Kentucky, health departments in rural areas use satellite phones for emergency communication with other agencies and emergency responders during power outages. Officials ask community members in these isolated areas to be aware of where the local health department is in the event that a catastrophe isolates their community.<sup>46</sup> Kentucky health officials have also trained ham radio operators to be part of the communications network; they can be called upon to deliver messages when necessary.

Some at-risk populations do not rely on technology in day-to-day life. Amish community members who share a phone in a centralized location will not benefit from a reverse emergency calling system or other types of telephone outreach. One study showed that while many emergency resources for minorities are available on the Internet, these groups did not benefit from them due to limited Internet access or an inability to navigate complex Web pages that are primarily in English.<sup>29</sup>

Effective communications to at-risk populations will require the use of both technological and non-technological methods for conveying information. Person-to-person communication may still be the best way to reach these populations, hence the importance of mapping communities and social networks in advance. The use of multiple methods will help compensate for methods that are not always effective – participants at public engagement meetings, for instance, said that while mailings are a good information source, some people consider them junk mail and ignore them.<sup>8,9</sup>

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<sup>43</sup> U.S. Department of Justice, Office of Justice Programs. (2008) *AMBER Alert: Frequently Asked Questions*. Retrieved June 4 from <http://www.amberalert.gov/faqs.htm>.

<sup>44</sup> Federal Communications Commission, *Close Captioning*. Retrieved March 27, 2008 from <http://ftp.fcc.gov/cgb/consumerfacts/closedcaption.html>.

<sup>45</sup> United States Access Board. (2000, December 21). *Electronic and Information Technology Accessibility Standards (Section 508)* (Federal Register Publication No. 36 CFR Part 1194). Retrieved June 24, 2008, from <http://www.access-board.gov/sec508/standards.htm>.

<sup>46</sup> Fox, B. (2008, January 30). Personal Communication.



#### **REACHING ISOLATED WORKERS IN CALIFORNIA**

The Mixteco/Indígena Community Organizing Project (MICOP), based in Ventura County, California, provides direct services to 10,000 people a year. The number of Mixtecos (immigrants indigenous to Oaxaca, Mexico) living in Ventura County is estimated at 20,000; however, the population is believed to be larger. MICOP serves community members of largely monolingual Mixteco-speaking farm workers who, because of language barriers, cultural differences, extreme poverty and mistrust of authorities, are isolated and difficult to reach. MICOP's work in reaching the local Mixtec community encompasses four key components: the training and deployment of Mixteco-speaking *promotores de salud*, or lay health outreach workers; the training of Mixteco-Spanish interpreters; community organizing to promote self-sufficiency and unity in the local Mixtec community; and advocacy for linguistically accessible and culturally appropriate services.

Promotores, themselves Mixteco and Spanish speakers, are the key link to the local Mixtec community. In a train-the-trainer model, they receive ongoing training on issues ranging from pandemic flu to HIV/AIDS to domestic violence, and teach and provide referrals in Mixtec neighborhoods. Since Mixteco has no written form, many Mixteco speakers have no literacy skills in any language.

MICOP uses a low-literacy curriculum – including hands-on demonstrations and ample time for repetition and hands-on learning, where applicable. In a short time, promotores have become trusted messengers and teachers. As a result, they are uniquely qualified to communicate key information—from the need to be vaccinated against influenza to the need to evacuate due to rising waters—and link the Mixtec community with the agencies that serve them.

**TIMING OF MESSAGES:** Just as messages will change from audience to audience, so too will messages change throughout an influenza pandemic. Prior to an influenza pandemic, basic messages about prevention of respiratory infections may be most appropriate. These messages can be incorporated into routine messaging about colds and influenza, or about hygiene in schools or workplaces. Similarly, all-hazards emergency preparedness, with messages developed initially from the threats people face year in and out, such as floods, tornadoes, earthquakes or hurricanes, can lay the groundwork for education on pandemic influenza – receiving messages about an influenza pandemic may be frightening, but if put in the context of all-hazards, they may be less overwhelming.

As an influenza pandemic becomes imminent, people need to be educated in greater detail about what it is and how it differs from routine threats. As the transition is made towards a greater threat, it would be appropriate to use pre-planned messages specific to pandemic influenza education, preparedness, response, and recovery.

During an influenza pandemic, the tone and content may shift again. The heightened stress of an emergency will play a large role in shaping messages. Effective messages may contain fewer details and urge only a few specific, manageable actions. Emphasizing resiliency is important at all times.

Messages should be consistent and delivered at the right time. The federal guidance, *Community Strategy for Pandemic Influenza Mitigation* will assist in identifying triggers that signal a shift in messages (<http://www.pandemicflu.gov/plan/community/commitigation.html#VI>).

#### **EVALUATING THE EFFECTIVENESS OF RISK-COMMUNICATION MESSAGES FOR AT-RISK**

**POPULATIONS:** Effective risk-communication messages prompt the sought-after attitude and behavior changes and are essential for community- and individual-level planning and preparedness.<sup>47</sup> Evaluating the effectiveness of risk-communication messages is a way to assess the preparedness levels of both the jurisdiction and at-risk populations. This evaluation process can occur by assessing the impact of a media campaign, or conducting pre- and post-tests at pandemic influenza education sessions. The information

<sup>47</sup> Bostrom, A., Atman, C. J., Fischhoff, B., & Morgan, M. G. (1994). Evaluating risk communications: completing and correcting mental models of hazardous processes, part II. *Risk Analysis*, 14(5), 789-798.

gleaned during the evaluation process can be used to identify areas for follow-up activities. Planners will need to integrate a set of tools into their organizational and project activities to evaluate the effectiveness of risk-communication messages. Evaluation can also occur as a part of exercises. Exercises usually measure a jurisdiction's ability to disseminate risk-communication messages. When conducting exercises, planners need to incorporate evaluation tools to ensure that messages are appropriate, accurate, timely, and effective at enhancing preparedness levels of at-risk populations (see Chapter 5 for more on exercises).

It is reasonable and useful to evaluate risk-communication messages for at-risk populations in a number of ways, including:

- Evaluating the channels used for messages
  - Track geographic distribution, modes and saturation of messages
  - Media monitoring
  - Focus groups
- Evaluating the ability of collaborative partners to disseminate emergency messages
  - HSEEP exercises
  - Observational activities (e.g., does the organization have an updated emergency contacts list and/or an emergency communication plan)
- Measuring the impact of messages on preparedness levels of at-risk populations
  - Pre-test messages
  - Surveys
  - Observational activities (e.g. checklists)
  - Focus groups
  - Key informant interviews
  - Pre/post-tests (e.g., at public meetings or educational seminars)
- Evaluating the effectiveness of risk-communication messages on preparedness levels of at-risk populations:
  - Surveys
  - Observational activities (e.g., checklists)
  - Focus groups
  - Key informant interviews
  - Pre/post-tests

Additionally, evaluating the effectiveness of risk-communication messages on preparedness levels of at-risk populations involves measuring individual preparedness levels and message characteristics, which will be explored separately.

Knowledge, attitudes, and actions affect individual preparedness levels. Evaluators need to know if their risk-communication messages are being retained and if those messages are changing attitudes and behaviors. Individual preparedness levels are primarily measured through surveys, interviews, and focus groups. In addition to standard evaluation instruments, evaluators may document observed message delivery and individual response or action.

Quantitative and qualitative assessment tools should reflect the objectives of the communication message. For example, health departments may want to know if individuals are making preparations by storing water. The Indiana State Department of Health assessed this objective by asking, “As a result of information you have received at work, a meeting, or from television, radio, or your child’s school, have you begun to prepare a two-week supply of water stored—one gallon per person, per day?”<sup>48</sup> This question can be tailored to specific risk-communication efforts.

Evaluators may identify a standard set of questions to measure preparedness across all audiences. They may need to add questions specific to the resource needs of at-risk populations. For example, the pandemic influenza preparedness evaluation for the Indiana State Department of Health asks respondents: “Have you talked with family members, loved ones, and neighbors about how they would be cared for if

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<sup>48</sup> Indiana State Department of Health. *Pandemic Influenza Information Tool Kit: Town Hall Meetings*. Retrieved June 24, 2008, from <http://pandemicpractices.org/practices/resource.do?resource-id=96&state-id=19>.



they got sick, or what will be needed to care for them in your home?”<sup>48</sup> For at-risk individuals who rely on caregivers, one example of a modification is: “If you rely on others for care, have you made continuation of care plans in case your caregiver cannot assist you?”

Message characteristics include message content, method of delivery, and delivery technology. Risk-communication messages are more likely to be effective and retained if they are designed and delivered appropriately. Messages can be monitored in the following ways: systematic media monitoring during all stages of a pandemic; tracking the geographic distribution, modes, and saturation of messages; and opinion surveys to measure the diffusion of messages.<sup>49</sup>

Evaluators may modify standard tools or questions to address the factors putting people at risk. One example of a modified question is this: “If you cannot afford to purchase and store supplies recommended by the health department (e.g., food, water) do you know where to find reduced-cost or free supplies?”

#### **NORTH CAROLINA USES MULTIPLE CHANNELS, MESSENGERS**

North Carolina Division of Public Health focuses on leveraging trusted organizations to communicate with members of at-risk populations. This includes reaching migrant farm workers through rural health center outreach workers, connecting with disabled individuals and older persons through the Disabled and Elderly Emergency Management (DEEM) Initiative, communicating with small business owners through the Small Business Technology Development Center, and educating healthcare professionals through the North Carolina Area Health Education Centers Program.

Communication and education materials are provided in innovative formats. North Carolina Division of Public Health provides PowerPoint slide sets for various disciplines, narratives from small business owners describing positive planning experiences, and training materials for schools and child care providers. Innovative communication efforts include a *fotonovela* for Latino families, interactive kiosks with health information at health fairs, pandemic influenza information inserts for Medicaid enrollment card mailings, and a pandemic influenza call-in show on a public television station (once in English and once with Spanish translation).

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<sup>49</sup> Glik, D. C. (2007). Risk communication for public health emergencies. *Annual Review of Public Health*, 28, 33-54.

## **Recommended Planning Activities**

The primary recommendations for public health planners to implement are included here. Additional recommendations that should be undertaken as time and resources allow are included in the next section.

- Use effective methods to reach priority at-risk populations, including appropriate risk communication techniques, trusted messengers, appropriate technologies, media, and formats.
- Establish and follow a protocol for evaluating risk communication messages for at-risk populations. It may include: evaluating the channels used for messages; evaluating the ability of collaborative partners to disseminate emergency messages; and measuring the impact and effectiveness of messages on preparedness levels of at-risk populations.

***Staff and funding vary tremendously among state, territorial, tribal and local entities, so not all of the potential planning activities listed below will be feasible for all agencies. However, preparedness planners should identify which of the following steps would help them achieve the recommendations listed above.***

### **MESSAGES**

- Adapt existing materials or develop new ones on pandemic influenza to be suitable for at-risk populations.
- Develop audience-appropriate messages to be shared at different times: pre-pandemic, pandemic, and post-pandemic.
- Identify which times to use which messages, depending on the pandemic's proximity and severity. Basic messages about prevention of respiratory infections may be most appropriate before a pandemic.
- Coordinate messages among the levels of government for clarity and consistency.
- Message timing can be determined by trigger events already identified by federal planners, such as in the *Community Strategy for Pandemic Influenza Mitigation*, (<http://www.pandemicflu.gov/plan/community/commitigation.html#VI>).
- During an emergency, share information as early as possible.
- Understand your audience by reviewing the community's demographics and vital statistics.
- Be inclusive of all people in message design. For example, for materials for the general public, include photographs and illustrations of people who use wheelchairs or other assistive devices, along with people who do not use these devices.<sup>50</sup>
- Repeat important messages regularly.

### **MESSAGE CONTENT**

- Craft clear messages that are easy for audiences to understand and follow.
- Use simple language that is suitable for different levels of literacy.
- Any examples or suggestions used should be relevant to the community.
- Tailor messages to existing cultural attitudes and beliefs; and religious observances, attitudes, and beliefs.
- Address the audience's risk, as well as the potential severity of the pandemic in the messages. For example, people may be at greater risk than they realize or they may underestimate the severity of a pandemic. People should know when they must seek help – according to respondents at a public engagement meeting, some at-risk individuals do not usually seek help until the condition is severe.<sup>9</sup>
- Tell people where and how to access healthcare and to receive answers to their questions.

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<sup>50</sup> New York State Department of Health. *How to create health messages for people with disabilities*. Retrieved March 10, 2008, from <http://www.nyhealth.gov/nysdoh/promo/messages.htm>.

- Messages should empower people to act; avoid messages that provoke unnecessary fear.
- Include recommendations and alternatives suitable for the audience – for example, many people cannot afford to stockpile items on preparedness checklists. Messages should contain clear alternatives and solutions (e.g., listing the least expensive brands, local stores that offer discounted prices, or centers where people might be able to get the items for free; or to start early and purchase items a little at a time.).<sup>51</sup>
- Address any underlying assumptions that may affect how people react to the message. Undocumented immigrants or the uninsured may be reluctant to seek services; messages should specify whether, when and where services are available for those who lack documentation or insurance.
- Test messages and seek feedback from the target audience during message development to ensure they are effective. Use focus groups to form messages and pre-test materials.
- Describe appropriate options in social distancing messages. A sample message could be: “Work from home if possible. If you can’t work from home, try to keep at least six feet from other people while at work and wash your hands frequently.”<sup>33</sup>

## **MESSAGE FORMATS**

- Determine feasible methods for reaching priority at-risk populations, including using appropriate technologies and formats.
- Plans should include multiple ways to convey messages to at-risk populations.
- Use simple formats for written materials, such as checklists. Highlight important information, such as emergency numbers.
- Adopt visual messaging formats such as pictograms, comic books, and fotonovelas where appropriate. These may be effective for many at-risk groups, as well as for a more general audience. Use internationally recognized health and warning symbols.
- Use alternative formats such as large-print materials and Braille. Check phone books and the Internet for Braille services, or visit [www.hotbraille.com](http://www.hotbraille.com) for free Braille services. Inquire about the use of Computer-Assisted Realtime Translation (CART), which uses a stenotype machine or computer to translate written word into text for deaf and hearing impaired populations (the National Court Reporters Association at 1-800-272-6272 maintains a list of certified CART reporters).
- Make Web sites accessible. For suggestions on how to do so, visit the Web Accessibility Initiative at [www.w3.org](http://www.w3.org).
- Use creative methods, such as plays and skits, to communicate with people at the grassroots level.
- Use visual aids during face-to-face communications (e.g., the Cambridge Public Health Department’s Advanced Practice Center uses personal preparedness displays at community health fairs and meetings with pictograms, sample sheltering supplies and emergency kits, and communication plan templates. <http://www.emergencyinfoonline.org/3030/files/PreparednessDisplay.pdf>).<sup>52</sup>
- Distribute and display materials in places frequented by at-risk individuals, such as hospital waiting rooms, free clinics, bus stations, and ethnic markets.
- Develop pre-recorded media messages in various languages that can be ready on short notice.
- Ensure that call-in information lines such as 2-1-1 systems have information that is applicable and accessible to at-risk populations.

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<sup>51</sup> Greenberger, M. (2007). Preparing Vulnerable Populations for a Disaster: Inner-City Emergency Preparedness-Who Should Take the Lead? *Journal of Health Care Law*. 10(2):291-308.

<sup>52</sup> Simonsen, G. (2007). Promoting Personal Preparedness: Universal Design and Health Interventions. *Emergency Info Online*. Retrieved June 24, 2008, from [http://www.emergencyinfoonline.org/3030/files/fam\\_health.pdf](http://www.emergencyinfoonline.org/3030/files/fam_health.pdf).

- Communication plans must demonstrate an understanding of what means exist to convey messages to specific populations. Have more than one way to convey messages to at-risk populations.

## **MESSENGERS**

- Identify, educate, and empower trusted messengers to deliver messages (see Chapter 1). This will entail recognizing the two-way nature of each collaboration.
- Train messengers to deliver risk-communication messages and ensure they have the appropriate materials. Use memoranda of understanding to formalize partner roles and responsibilities, as appropriate (see the [table](#) at the end of this chapter for a sample MOU).
- Identify clear plans and alternatives on communicating with partners. Always identify backup contacts.<sup>53</sup>
- When using messengers from outside a community, ensure all messengers are culturally competent and provide guidelines for culturally competent communication.
- Have interpreters and in-language phone lines available. Interpreters and bilingual staff also should be trained to deliver messages in face-to-face settings. Educate interpreters on pandemic influenza, as needed. If possible, allow interpreters to practice presentations. Build connections with interpreting agencies and include them in planning efforts.
- Consider cultural and religious preferences when selecting messengers, e.g., among some communities, it may be inappropriate to have a male messenger communicate with a female audience, or a younger person may not elicit as much respect as an elder.

## **EVALUATION**

- Identify evaluation tools, such as surveys, interviews, focus groups, or pre- and post-tests for educational presentations. If necessary, start with tools aimed at the general population and modify them to incorporate the factors putting people at risk.
- Test communication networks through drills, exercises, or other means to evaluate their effectiveness.
- Use tools to evaluate messages both within and independent of evaluation exercises (See Chapter 5). Exercises typically assess a jurisdiction's ability to disseminate risk-communication messages, while other tools can ensure that messages are appropriate, accurate, timely, and effective at enhancing preparedness levels of at-risk populations.
- Identify questions to measure whether the objectives are being met for all audiences. Modify or supplement questions specific to at-risk populations.
- Evaluate individual preparedness levels by assessing knowledge, attitudes, and actions.
- Evaluate message characteristics such as message content, channel, clarity, and appropriateness of messenger.
- Use evaluation findings to identify follow-up activities.

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<sup>53</sup> Fox, B. (2008, February 27). Personal Communication.

### Sample Tools and Practices

Material	Description	URL
<b>Guidelines</b>		
CDC Crisis and Emergency Risk Communication (CERC) and CERC for pandemic influenza	A course that gives participants essential knowledge and tools to navigate the harsh realities of communicating to the public, media, partners and stakeholders during an intense public health emergency.	<a href="http://emergency.cdc.gov/erc/cerc.asp">http://emergency.cdc.gov/erc/cerc.asp</a> (general) <a href="http://emergency.cdc.gov/erc/panflu/">http://emergency.cdc.gov/erc/panflu/</a> (specific to pandemic influenza)
Centers for Disease Control and Prevention (CDC). <i>Public Health Workbook to Define, Locate and Reach Special, Vulnerable and At-Risk Populations in an Emergency</i>	The workbook's chapter on reaching at-risk populations (section 3) offers valuable guidelines, tips and concrete steps on how to implement effective emergency communication with diverse populations.	<a href="http://www.bt.cdc.gov/workbook/">http://www.bt.cdc.gov/workbook/</a>
Center for Excellence in Disabilities. <i>Emergency Management and People with Disabilities Guide</i>	This guide offers various recommendations on how to prepare people with disabilities for emergencies. Includes links on useful etiquette when communicating with people with disabilities.	<a href="http://www.cedwvu.org/programs/wvats/emergencybrochure.shtml">http://www.cedwvu.org/programs/wvats/emergencybrochure.shtml</a>
Community Strategy for Pandemic Influenza Mitigation	This document assists in identifying triggers that determine the timing of messages.	<a href="http://www.pandemicflu.gov/plan/community/commitigation.html#VI">http://www.pandemicflu.gov/plan/community/commitigation.html#VI</a>
Connecticut Disaster Guide for People with Disabilities	Chapter 3 of this guide outlines information on how to make communication accessible for the deaf and hard of hearing, the blind and visually impaired, and those with cognitive disabilities.	<a href="http://www.ct.gov/ctcdd/lib/ctcdd/guide_final.pdf">http://www.ct.gov/ctcdd/lib/ctcdd/guide_final.pdf</a>
FEMA (messages for people with disabilities)	This site lists recommendations of additional factors to consider when helping people with different disabilities prepare for an emergency.	<a href="http://www.fema.gov/plan/prepare/specialplans.shtm">http://www.fema.gov/plan/prepare/specialplans.shtm</a>
Independent Living tips for people on how to communicate directly with people with disabilities	The site includes useful suggestions on how to interact and communicate with people who have disabilities, including etiquette, and words to use and those to avoid.	<a href="http://www.crinet.org/interact.php">http://www.crinet.org/interact.php</a>
Cambridge Public Health Department Pictogram-based Signs for Mass Prophylaxis Services.	This tool shows examples of standard pictograms that could be used to communicate health messages.	<a href="http://www.cambridgepublichealth.org/services/emergency-preparedness/products/Emergency_Dispensing_Site_Signage.php">http://www.cambridgepublichealth.org/services/emergency-preparedness/products/Emergency_Dispensing_Site_Signage.php</a>
New York State Department of Health	The site outlines guidelines on how to communicate with and about people with disabilities.	<a href="http://www.health.state.ny.us/nysdoh/pr/omo/people.htm">http://www.health.state.ny.us/nysdoh/pr/omo/people.htm</a>
US Department of Labor	The guide offers considerations for communicating with people with disabilities (affirmative language choices and appropriate actions).	<a href="http://www.dol.gov/odep/pubs/fact/communicate.htm">http://www.dol.gov/odep/pubs/fact/communicate.htm</a>
<b>Technology</b>		
CapTel™	This site includes information on telephone technology for the deaf, which uses word displays.	<a href="http://www.captionedtelephone.com/about-captel.php">http://www.captionedtelephone.com/about-captel.php</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
Reverse 9-1-1 <sup>®</sup>	This site describes the Reverse 9-1-1 <sup>®</sup> system and how it can be used for emergency purposes.	<a href="http://www.reverse911.com/index.php">http://www.reverse911.com/index.php</a>
<b>Sample Tools and Practices</b>		
American Red Cross Disaster Guide	This comprehensive tool is aimed at helping people with disabilities prepare for a disaster. Information includes how to assess preparedness; creating a support network; personal preparedness and disaster supplies checklists.	<a href="http://www.redcross.org/services/disaster/beprepared/disability.pdf">http://www.redcross.org/services/disaster/beprepared/disability.pdf</a>
Cambridge Public Health Department Advanced Practice Center's personal preparedness displays	This PDF provides examples of pictograms, sample sheltering supplies, emergency kits, and communication plan templates for personal preparedness displays at community health fairs and meetings.	<a href="http://www.emergencyinfoonline.org/3030/files/PreparednessDisplay.pdf">http://www.emergencyinfoonline.org/3030/files/PreparednessDisplay.pdf</a>
Culturally Specific Populations Emergency Communications Project, Multnomah County, Oregon	The goal of the project is to enhance methods of communicating with culturally-specific populations in an emergency, in order to improve timely distribution of information so that these populations understand, trust, and are able to act upon the information they receive.	<a href="http://www2.co.multnomah.or.us/Public/EntryPoint?ct=39038dc7fc0fd010VgnVCM1000003bc614acRCRD">http://www2.co.multnomah.or.us/Public/EntryPoint?ct=39038dc7fc0fd010VgnVCM1000003bc614acRCRD</a>
Community Organization Directory, Minnesota Department of Health	This directory lists community organizations that work with immigrant and refugee populations. It serves as an example of the type of community partners and organizations that might be included in a database of community networks.	<a href="http://www.health.state.mn.us/divs/idepc/refugee/maacboguide.pdf">http://www.health.state.mn.us/divs/idepc/refugee/maacboguide.pdf</a>
Community Readiness Challenge, Platte County Health Department, Missouri	This project aims to educate the economically disadvantaged on pandemic preparedness.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=73&amp;state-id=29">http://www.pandemicpractices.org/practices/resource.do?resource-id=73&amp;state-id=29</a>
Community Toolkit: Preparing for an Influenza Pandemic, Ramsey County, Minnesota	The tool kit is meant to educate community groups and help them plan for seasonal, avian, and pandemic influenza. It includes educational presentations; ideas for activities that community groups can conduct with their members; discussion guides and evaluation forms for audience members and facilitators to use during educational sessions; and brochures and fact sheets on emergencies, emergency assistance, avian flu, pandemic flu, food safety, and healthy habits.	<a href="http://www.co.ramsey.mn.us/ph/ei/toolkits.htm">http://www.co.ramsey.mn.us/ph/ei/toolkits.htm</a>
Emergency Management Be Prepared Initiative (Ohio)	Aimed at people with special functional needs, who may need additional assistance during a public health emergency, the workbook focuses on enhancing individual preparedness and resiliency for a variety of emergencies.	<a href="http://pandemicpractices.org/practices/resource.do?resource-id=272&amp;interest-id=1">http://pandemicpractices.org/practices/resource.do?resource-id=272&amp;interest-id=1</a>
Faith Based Emergency Preparedness Initiative, Illinois Department of Public Health	This project uses trained ambassadors from different faith-based organizations to reach out to communities with influenza and preparedness information and resources. The campaign includes radio, television, Web site and telephone hotline messages.	<a href="http://www.idph.state.il.us/planready/index.htm">http://www.idph.state.il.us/planready/index.htm</a>



<b>Material</b>	<b>Description</b>	<b>URL</b>
Emergency Preparedness Factsheets	This Web site provides tip sheets for a variety of at-risk populations, including people with special medical needs, people with cognitive or psychiatric disabilities, and people with communication difficulties.	<a href="http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=333&amp;q=233957">http://www.dsf.health.state.pa.us/health/cwp/view.asp?a=333&amp;q=233957</a>
Health Ambassadors: Connecting with the Hard to Reach, South Brunswick, New Jersey	The practice used community residents from the South Asian and Chinese populations as “health ambassadors” to promote culturally and linguistically appropriate health activities.	<a href="http://www.naccho.org/topics/modelpractices/database/practice.cfm?PracticeID=118">http://www.naccho.org/topics/modelpractices/database/practice.cfm?PracticeID=118</a>
Kentucky Cabinet for Health and Family Services, Kentucky Outreach and Information Network (KOIN)	KOIN is an example of a promising practice that details how to build and maintain community partnerships with at-risk populations, types of partners, and methods that can be used in communication.	<a href="http://pandemicpractices.org/practices/resource.do?resource-id=70&amp;interest-id=1">http://pandemicpractices.org/practices/resource.do?resource-id=70&amp;interest-id=1</a>
Leaving No One Behind: Communicating with Special Populations, San Mateo County, CA	San Mateo’s project is a promising practice in community engagement. The project details include processes used to establish memoranda of understanding with community-based organizations.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=14&amp;interest-id=1">http://www.pandemicpractices.org/practices/resource.do?resource-id=14&amp;interest-id=1</a>
Neighbor to Neighbor Network, Platte County Health Department, Missouri	This site outlines how to create community support programs that allow neighbors to communicate, identify vulnerabilities, and help each other in pandemic preparedness.	<a href="http://www.plattecountyhealthdept.com/crc/n2n">http://www.plattecountyhealthdept.com/crc/n2n</a>
Preparing for a Public Health Emergency Booklet	This booklet describes what people need to know when preparing for a public health emergency. Pandemic influenza is briefly covered. Booklets are available in English, Spanish, and Arabic. A Breeze presentation is available in American Sign Language.	<a href="http://michigan.gov/mdch/0,1607,7-132-2945_21919_22007-136675--00.html">http://michigan.gov/mdch/0,1607,7-132-2945_21919_22007-136675--00.html</a>
Promotores for Pandemic Influenza, Texas	This is an example of the use of promotores to communicate and educate Latino and Spanish speaking populations about pandemic influenza.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=145&amp;state-id=51">http://www.pandemicpractices.org/practices/resource.do?resource-id=145&amp;state-id=51</a>
Ready in 3, Missouri Department of Health and Senior Services	This sample communication tool outlines a simple plan in 3 steps on how to prepare for personal and family emergency preparedness. (Create a Plan, Prepare a Kit, Listen for Information).	<a href="http://pandemicpractices.org/practices/resource.do?resource-id=139&amp;interest-id=1">http://pandemicpractices.org/practices/resource.do?resource-id=139&amp;interest-id=1</a>
When Words Are Not Enough	This program contains educational materials (video, manual, communication booklet, and poster) for first responders and children in special education classes who may have difficulty communicating during an emergency.	<a href="http://www.woodsidefire.org/WWANE.html">http://www.woodsidefire.org/WWANE.html</a>
<b>Communication Methods/Channels</b>		
Cambridge Public Health Department Pictogram-based Signs for Mass Prophylaxis Services.	This tool shows examples of pictograms that could be used to communicate health messages.	<a href="http://www.cambridgepublichealth.org/services/emergency-preparedness/products/Emergency_Dispensing_Site_Signage.php">http://www.cambridgepublichealth.org/services/emergency-preparedness/products/Emergency_Dispensing_Site_Signage.php</a>
Emergency and Community Health Outreach (ECHO), Minnesota	ECHO disseminates all-hazards and pandemic influenza information via fax, telephone, television, Internet, and e-mail in multiple languages. ECHO produces talk shows with local, in-language hosts who appear on local public television stations.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=47&amp;interest-id=1">http://www.pandemicpractices.org/practices/resource.do?resource-id=47&amp;interest-id=1</a>



<b>Material</b>	<b>Description</b>	<b>URL</b>
Multicultural Broadcasting, Inc	This media group serves different ethnic populations, with outlets in more than 30 languages. The site includes listings of radio and television stations.	<a href="http://www.mrbi.net/">http://www.mrbi.net/</a>
New America Media	In this directory of ethnic media resources around the country, resources are categorized by ethnicity, language and media type. It is a sliding fee scale paid service.	<a href="http://news.ncmonline.com/directory">http://news.ncmonline.com/directory</a>
North Carolina Division of Public Health, <i>Gripe Pandémica</i>	<i>Gripe Pandémica</i> is an example of a Spanish language fotonovela on preparing for pandemic influenza.	<a href="http://www.ncpanflu.gov/panFluAndYou.htm">http://www.ncpanflu.gov/panFluAndYou.htm</a>
Protect Iowa Health, Iowa Department of Health	Materials to communicate including a guidebook, fliers and checklists in different languages, and coloring pages, using catchy phrases and a creative slogan.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=53&amp;state-id=16">http://www.pandemicpractices.org/practices/resource.do?resource-id=53&amp;state-id=16</a>
USP Pictograms	The site features examples of pictograms for health education.	<a href="http://www.usp.org/audiences/consumers/pictograms">http://www.usp.org/audiences/consumers/pictograms</a>
New York Disaster Interfaith Services (NYDIS) electronic communications	NYDIS is a 501(c)(3) faith-based federation of service providers and charitable organizations who collaborate to develop and support faith-based disaster readiness, response, and recovery services for New York City. NYDIS provides a bi-monthly newsletter of events, news and preparedness tips. In addition, people who sign up for the e-newsletters will also receive alerts from NYDIS to relay urgent news, or report up-to-date information to religious leaders, faith-based providers and partner agencies in a crisis.	<a href="http://www.nydis.org/resources/7.php">http://www.nydis.org/resources/7.php</a> for newsletter examples
<b>Locating Communication Partners</b>		
Multicultural Broadcasting, Inc	This media group serves different ethnic populations, with outlets in more than 30 languages. The site includes lists of radio and TV stations.	<a href="http://www.mrbi.net/">http://www.mrbi.net/</a>
New America Media	In this directory of ethnic media resources around the country, resources are categorized by ethnicity, language and media type. It is a sliding fee scale paid service.	<a href="http://news.ncmonline.com/directory">http://news.ncmonline.com/directory</a>
<b>Resources</b>		
Electronic and Technology Accessibility Standards (Section 508)	This document helps organizations understand section 508 of the Rehabilitation Act, ensuring that all electronic and information technology is accessible to persons with a disability.	<a href="http://www.access-board.gov/sec508/standards.htm">http://www.access-board.gov/sec508/standards.htm</a>
Federal Communications Commission, Closed Captioning	This site helps individuals understand closed captioning regulations.	<a href="http://ftp.fcc.gov/cgb/consumerfacts/closedcaption.html">http://ftp.fcc.gov/cgb/consumerfacts/closedcaption.html</a>
Hot Braille Web site	This site provides links to various online Braille services.	<a href="http://www.hotbraille.com">http://www.hotbraille.com</a>
National Council on Interpreters in Health Care	This site provides standards for healthcare interpreters.	<a href="http://www.ncihc.org/mc/page.do">http://www.ncihc.org/mc/page.do</a>
Plain language – how to get rid of jargon	This site includes useful tips on how to create simple, clear messages that can easily be understood; word suggestions; and other considerations.	<a href="http://www.plainlanguage.gov/">http://www.plainlanguage.gov/</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
University of Michigan Health System Program for Multicultural Health: Cultural Competency	This site offers useful background information on cultural competency in healthcare and tools and resources including models for cross-cultural communication.	<a href="http://www.med.umich.edu/multicultural/ccp/index.htm">http://www.med.umich.edu/multicultural/ccp/index.htm</a>
Web Accessibility Initiative	This site provides tips on how to make Web sites accessible.	<a href="http://www.w3.org">http://www.w3.org</a>
<b>Evaluating Risk Communications</b>		
CDC Public Health Workbook to Define, Locate and Reach Special, Vulnerable, and At-Risk Populations in an Emergency	Section 3: Tools and Templates, contains a template to use in a focus group, interview, or roundtable discussion to better understand the characteristics of effective communication messages.	<a href="http://www.bt.cdc.gov/workbook/pdf/ph_workbook_draft.pdf">http://www.bt.cdc.gov/workbook/pdf/ph_workbook_draft.pdf</a>
King County Office of Emergency Management Emergency Preparedness Survey	Appendix 1 includes a sample phone survey measuring individual preparedness levels, motivation for preparedness, community involvement, awareness of education campaigns, desirable aspects of emergency kits, and effective communication messengers.	<a href="http://www.metrokc.gov/prepare/docs/10-25-07HebertFinalResearch.pdf">http://www.metrokc.gov/prepare/docs/10-25-07HebertFinalResearch.pdf</a>

## **Chapter 4: Provision of Services (Clinical and Non-Clinical)**

### ***Introduction and Background***

Many at-risk populations will be vulnerable to harm during a pandemic because they rely on various essential services to survive and live independently. Populations may be at risk due to interruptions in their support systems, in addition to personal or population-specific risk factors. Essential services (e.g. healthcare and critical infrastructure) will be degraded during an influenza pandemic, forcing people to care for themselves. There are some people, however, who will be unable to do so. Providing services to at-risk populations during an influenza pandemic requires an understanding of their daily living needs and how a pandemic might affect those needs.

At-risk populations may need both clinical and non-clinical services. Necessary clinical services for some at-risk populations are extensive and distinct from each other. The range of non-clinical services required for survival may be more disparate. Non-clinical services may include transportation, food stamps, and the support provided by organizations to assist people with the tasks of daily life. Examples included in this chapter are not comprehensive but serve as examples of the range of needs that may arise.

The objective of this chapter is to identify the essential public health services at-risk populations need to survive an influenza pandemic, recognizing that there are a number of other services that will need to be provided that are beyond the scope of public health. The chapter will also attempt to clarify who is providing services, and what planning activities public health can undertake with those service providers before a pandemic.

Essential public health activities include:

- Monitor health status to identify community health problems
- Diagnose and investigate health problems and health hazards in the community
- Inform, educate, and empower people about health issues
- Mobilize community partnerships to identify and solve health problems
- Develop policies and plans that support individual and community health efforts
- Enforce laws and regulations that protect health and ensure safety
- Link people to needed personal health services and assure the provision of healthcare when otherwise unavailable
- Assure a competent public health and personal healthcare workforce
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services<sup>54</sup>

This chapter will address providing some necessary services that may be scarce or overlooked during an influenza pandemic. Although it is rarely public health's responsibility to provide these services, it is prudent to discuss them here to provide a more detailed overview of the impact of an influenza pandemic on at-risk populations. With the above activities in mind, this chapter examines how public health planners and healthcare providers can safeguard the health and independence of the most vulnerable. It is likely in an influenza pandemic that public health agencies will be stretched beyond capacity, at which point it will become necessary to prioritize these activities to provide services to the degree possible.

This chapter is narrow in scope – its intent is to address public health and medical needs of at-risk populations in an influenza pandemic. It does not describe all of the people who are at risk or all of the reasons why they will be at risk, but provides a number of public health and medical examples for pandemic planners to envision a community's potential needs. Each jurisdiction should assess its own populations to determine the specific services that need to be provided (see Chapter 2).

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<sup>54</sup> Public Health in America. (1999). *Essential Public Health Services*. Retrieved June 24, 2008, from <http://www.health.gov/phfunctions/public.htm>.

## **Essential Clinical Services**

In a severe pandemic, systems that provide clinical services for the population at large may become overwhelmed or be unavailable. High rates of illness and death, agency closures, and employees' decisions to stay at home may all contribute to a scarcity of basic services. Doctors' offices, clinics, hospitals, and emergency departments may be particularly overwhelmed. Triage and admission criteria may change; patients may experience altered triage or prioritization; and care may be provided in different types of settings. Increased demand may delay response times and might even disrupt additional emergency services, such as ambulance transport or 9-1-1 call response. Consequently, public health departments will experience a greater demand on call centers, and requests for guidance and assistance.

Epidemics and natural disasters can substantially harm people who are already disadvantaged by social, economic, or medical conditions.<sup>55</sup> Pandemic planners are trying to incorporate the needs of at-risk individuals who require care to minimize this unfortunate reality. This requires special planning to prepare for varying needs in an already overwhelmed healthcare system. In an influenza pandemic, non-English speaking patients may not understand how to access healthcare at an alternative care site if interpreters are not available. Homebound or isolated persons may be unable to follow homecare instructions due to insufficient social support. Patients with chronic medical illness who require frequent hospitalization may face dangerous interruptions in care due to an overwhelmed hospital infrastructure and lack of qualified healthcare personnel. People with mental illness or chronic disease, and people who are disenfranchised, underinsured, or uninsured may face even more daunting barriers to healthcare services.

As implied by the definition of at-risk populations in this guidance, many circumstances and medical conditions could render people vulnerable in an influenza pandemic. An example of a particularly challenging group is pregnant women. They may be unsure about following some public health advice, such as taking vaccines or medications, due to concerns about the possible impact on the pregnancy. Maternal influenza infection and fever, as well as prophylaxis and treatment, could all affect the fetus. Recommendations for nonpharmaceutical interventions (e.g. voluntary quarantine or social isolation) may be difficult to implement for this group because of conflicting medical requirements, such as outpatient prenatal visits or inpatient delivery. Finally, healthcare facilities must also create plans to minimize exposure of pregnant women to the pandemic virus while providing necessary care.<sup>56</sup>

In addition to basic services, some at-risk populations require more specialized or specific clinical services to survive and to maintain independence. This guidance divides those essential clinical services into three main groups: services to treat chronic physical conditions; services to treat mental illness and/or addiction; and requirements of those who depend on specialized equipment or supplies to maintain their health, mobility or independence. Lack of access to the healthcare system will also be discussed as a significant barrier to clinical services during a pandemic. Public health agencies should work with partners to ensure that people are aware of any alternative service provision during a pandemic.

Additionally, public health planners should ensure that countermeasure-dispensing plans, including vaccines and antivirals, meet the needs of at-risk populations. Regarding influenza vaccine, "distribution plans may need to include mobile community health centers (staffed by nurses and nurse practitioners) that can travel to low-income areas, along with a variety of community medical and other service providers and nontraditional sites like soup kitchens, sheltered workshops, and transit points, which have

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<sup>55</sup> Centers for Disease Control and Prevention. (2007, February). *Community Strategy for Pandemic Influenza Mitigation*. Retrieved March 27, 2008, from <http://www.pandemicflu.gov/plan/community/commitigation.html>.

<sup>56</sup> Rasmussen, S.A., Jamieson, D.J., & Bresee, J.S. (2008, January). Pandemic Influenza and Pregnant Women. *Emerging Infectious Disease*, 14(1), 95.

become popular places for administering yearly influenza vaccine.”<sup>57</sup> Antiviral plans should have similar provisions, as appropriate.

**LACK OF ACCESS TO THE HEALTHCARE SYSTEM:** A significant number of at-risk individuals have difficulty obtaining clinical care during times of normalcy. This problem may worsen during an influenza pandemic. Planners should be aware of barriers to healthcare, some of which may prevent people from seeking care even when it is available. Barriers in a pandemic may include lack of funds or insurance, visa status, lack of interpreters, lack of citizenship, or confusion about where to obtain services.

Lack of health insurance or money to pay for health services prohibits many people from receiving treatment and may be an even bigger issue during an influenza pandemic. People who lack personal identification (e.g., homeless, undocumented workers) may be reluctant to seek care that requires providing proof of identity. Many people who cannot afford healthcare receive services from free or sliding-scale community clinics, where services, providers, and support staff may already be limited. The services provided by these clinics may become severely overwhelmed and strained during an influenza pandemic. The strain on staffing resources in all healthcare settings may result in an inability to diagnose or fully manage chronic conditions.

During a public engagement meeting, discrimination on the basis of cultural and economic factors was mentioned as a barrier to seeking clinical services during an influenza pandemic.<sup>9</sup> Discrimination may result from providers’ lack of knowledge or experience about how certain cultures or ethnic groups prefer to be treated. Discrimination may prohibit a significant segment of at-risk populations from accessing life-preserving services before and during a pandemic. Distrust or fear of authorities may also cause some individuals to refrain from seeking government services. For example, during the national stakeholders’ meeting, a participant recounted experiences with undocumented immigrants who sought refuge in a park instead of a shelter during the 2007 California wildfires.<sup>10</sup>

Another significant barrier to receiving clinical services during a pandemic is confusion about where and how to access the healthcare system. Finding affordable, appropriate healthcare may be particularly complicated for at-risk populations who cannot pay for services or who distrust healthcare systems. During one public meeting, many individuals mentioned having to visit several healthcare and public health agencies before receiving appropriate information and services.<sup>9</sup> If people without a medical “home,” such as a primary care physician, are confused about where to receive preventive information and treatment during a pandemic, their ability to keep themselves safe and healthy may be threatened and they risk spreading the virus to others while trying to seek care.

Public health agencies need to consider these barriers in pandemic preparedness planning. Additional collaboration with service providers may prove necessary to develop detailed plans and procedures for ensuring that at-risk populations receive the essential care that they need to survive a pandemic.

**CHRONIC PHYSICAL CONDITIONS:** A significant number of Americans live with chronic diseases that are managed with daily medication or other medical interventions and therapies. Chronic disease causes major limitations in daily living for approximately 10 percent of Americans.<sup>58</sup> Currently, 10.8 million people are living with cancer,<sup>59</sup> 5 million have heart failure,<sup>60</sup> and 3.3 million have kidney disease.<sup>61</sup>

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<sup>57</sup> Centers for Disease Control and Prevention (2000, March 24). Adult Immunization Programs in Nontraditional Settings: Quality Standards and Guidance for Program Evaluation. *MMWR*. 49, 1-39.

<sup>58</sup> Centers for Disease Control and Prevention. *Chronic Disease Prevention*. Retrieved May 20, 2008, from <http://www.cdc.gov/nccdphp>.

<sup>59</sup> Centers for Disease Control and Prevention. *Cancer Prevention and Control*. Retrieved May 20, 2008, from <http://www.cdc.gov/cancer>.

<sup>60</sup> Centers for Disease Control and Prevention. *Heart Failure Fact Sheet*. Retrieved May 20, 2008, from [http://www.cdc.gov/dhdsplibrary/fs\\_heart\\_failure.htm](http://www.cdc.gov/dhdsplibrary/fs_heart_failure.htm).

Some people will be at risk during a pandemic because of these (and other) chronic medical conditions and the need for ongoing clinical services to enhance or sustain their lives. Examples include people who require: chronic oxygen therapy; medical therapeutics, such as dosing of blood thinners or chemotherapy; and ongoing life-sustaining intervention, such as kidney dialysis.<sup>62</sup>

Services to treat chronic medical conditions or provide life-sustaining medical interventions may be reduced or interrupted during a pandemic. Essential services may also be provided outside of hospitals or in alternative venues. These disruptions may create serious issues for individuals requiring chronic care.

In a severe pandemic, many pharmaceutical supplies may be unavailable, difficult to access, or in short supply. Many insurance plans only allow individuals to obtain a 30-day supply of certain medications, making it difficult to stockpile an emergency supply of medicine. (While it is beyond the scope of this document, and involves too lengthy of a discussion to incorporate here, it is noted that the concept of prescription drug stockpiling is an issue that needs to be explored.) Chronic medical conditions may also be aggravated by influenza infection, psychological stress, and shortages of services, food, and water.

Diabetes is an example of a health condition that may be negatively affected by reduced services during an influenza pandemic. Approximately 20.8 million people – seven percent of the US population – have diabetes.<sup>63</sup> People with diabetes have unique pharmaceutical, dietary, and clinical needs. During an influenza pandemic, insulin may be unavailable or difficult to access. The type and quantity of food and fluid needed by people with diabetes may be unavailable or limited. Food and water stockpiling lists distributed by health departments may not be appropriate for their needs. Many diabetic people also require frequent clinical monitoring of their blood sugar, as well as eye, foot, and cardiovascular health.

Other examples of chronic health conditions that need to be considered are HIV/AIDS and Tuberculosis (TB). People living with HIV and AIDS who take antiretroviral medications would need to avoid treatment interruptions to prevent the development of resistance and worsening of symptoms; people being treated for tuberculosis must avoid treatment interruptions to prevent the spread of multi-drug resistant and extensively drug-resistant strains (XDR). Transmission of XDR TB in a community during an influenza pandemic would compound the public health emergency.

**EQUIPMENT/RESOURCES FOR INDEPENDENT LIVING:** Some at-risk persons are able to live independently through the use of specialized resources, such as personal medical equipment, supplies, and personal assistance services. Examples include: home oxygen therapy or home mechanical ventilation; intravenous nutrition or medicine; mobility devices; and devices for impaired vision and hearing.

According to CDC's National Center for Health Statistics, a significant proportion of the US population depends on assistive technology or equipment for daily function. Surveys estimate that 7.4 million people use mobility devices (e.g., canes, walkers, wheelchairs); 4.6 million people use anatomical devices (e.g., braces and artificial limbs); 4.2 million people use hearing devices; and approximately 500,000 people use vision devices (e.g., white canes, Braille).<sup>64</sup> Demographic factors such as poverty, youth, and African-

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<sup>61</sup> Centers for Disease Control and Prevention, National Center for Health Statistics. *Kidney Disease*. Retrieved May 20, 2008, from <http://www.cdc.gov/nchs/fastats/kidbladd.htm>.

<sup>62</sup> Mokdad, A.H., Mensah, G.A., Posner, S.F., Reed, E., Simoes, E.J., & Engelgau, M.M. (2005). When Chronic Conditions Become Acute: Prevention and Control of Chronic Diseases and Adverse Health Outcomes during Natural Disasters. *Preventing Chronic Disease*, 2(A04). Retrieved March 3, 2008, from [http://www.cdc.gov/pcd/issues/2005/nov/05\\_0201.htm](http://www.cdc.gov/pcd/issues/2005/nov/05_0201.htm).

<sup>63</sup> National Institutes of Health: National Institute of Diabetes and Digestive and Kidney Diseases. *National Diabetes Statistics*. Retrieved March 26, 2008, from <http://diabetes.niddk.nih.gov/dm/pubs/statistics/#7>.

<sup>64</sup> National Center for Health Statistics, National Health Interview Survey on Disability. (1994). *Table 1. Number of persons using assistive technology devices by age of person and type of device: United States, 1994*. Retrieved June 4, 2008, from [http://www.cdc.gov/nchs/about/major/nhis\\_dis/ad292tb1.htm](http://www.cdc.gov/nchs/about/major/nhis_dis/ad292tb1.htm).



American or Latino ethnicity negatively affect whether an individual can access assistive technology.<sup>65</sup> Access problems likely would worsen during an influenza pandemic.

Individuals who rely on medical or other specialized equipment may already own the supplies they need to function within their homes. During a pandemic, however, life-sustaining medical equipment that requires regular maintenance and monitoring may malfunction without appropriate maintenance personnel. Consumable supplies may become scarce due to supply-chain interruptions, or home health personnel may not be able or willing to assist homebound persons.

People with assistive devices may encounter unexpected problems during an influenza pandemic because of the increased burden on the community infrastructure. For example, repair or replacement of assistive devices may be delayed. This could lead to other problems, such as mobility or transportation challenges. Individual preparedness planning for these people must include consideration of assistive devices.

**BEHAVIORAL HEALTH CONDITIONS:** The capacity of the US mental healthcare system is strained, even without the added burden of an influenza pandemic. A significant portion of the US population – 26.2 percent – has a diagnosed mental disorder.<sup>66</sup> In 2005, four million people sought care for mental disorders at emergency departments, 7.1 million at outpatient units, and 51.7 million at ambulatory care clinics. Many people required hospitalization; the average length of stay in hospitals for mental disorders was 6.9 days.<sup>67</sup> While many people with mental illness are able to meet the demands of daily life, some people require extensive and regular psychological interventions to maintain functionality. These interventions may include medications, therapy, or participation in programs designed specifically for persons with mental illness or addictive behavior.<sup>68</sup>

Other people function at a much higher level during periods of normalcy, but deteriorate in times of stress or unpredictability. Food and water shortages, a decreased sense of safety, and changes in how society functions may exacerbate psychological stress during a pandemic. Such events may affect all persons, regardless of baseline mental functioning.

Approximately five million people in the United States have Alzheimer's disease. Individuals with Alzheimer's disease will have a variety of health-related and emotional needs during a pandemic. They may also be highly dependent on others to perform tasks of daily living. Alzheimer's patients often experience memory loss; difficulty eating, bathing, and communicating; hallucinations; and behavior that might include aggression, suspicion of others, and wandering. During a public health emergency, the symptoms of Alzheimer's disease may be exacerbated and interfere with an individual's ability to comprehend emergency information, seek assistance, or care for oneself.<sup>69</sup> Planners should be aware of the variety of resources and services on which populations such as Alzheimer's patients depend.

Clearly behavioral health resources will be in higher demand during an influenza pandemic. As with other healthcare services, there may be reduced services due to staff shortages and interruptions in pharmaceutical supplies. It is important to note that sudden withdrawal from certain medications for mental illness can cause harmful physical symptoms or death.

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<sup>65</sup> Jans, L. (2000, November 14). *State-level estimates: A tool for eliminating disparities in access to assistive technology (AT)*. Presented at the 128<sup>th</sup> American Public Health Association Annual Meeting, Boston, MA.

<sup>66</sup> National Institute of Mental Health. *The Numbers Count: Mental Disorders in America*. Retrieved March 24, 2008, from <http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america.shtml>.

<sup>67</sup> Centers for Disease Control and Prevention, National Center for Health Statistics. *Mental Health Disorders*. Retrieved March 24, 2008, from <http://www.cdc.gov/nchs/fastats/mental.htm>.

<sup>68</sup> United States Department of Health and Human Services. (2000, November). *Mental Health and Mental Disorders. Healthy People 2010*. Retrieved March 6, 2008, from [http://www.healthypeople.gov/Document/HTML/Volume2/18Mental.htm#\\_Toc486932699](http://www.healthypeople.gov/Document/HTML/Volume2/18Mental.htm#_Toc486932699).

<sup>69</sup> The Alzheimer's Association. *Disaster Preparedness*. Retrieved March 26, 2008, from [http://www.alz.org/living\\_with\\_alzheimers\\_disaster\\_preparedness.asp](http://www.alz.org/living_with_alzheimers_disaster_preparedness.asp).

Behavioral health services also will be in high demand *after* an influenza pandemic. People who did not have behavioral health issues prior to a pandemic may experience consequences from the event, increasing the patient load on mental health service providers. Ensuring continuity of behavioral health services and medications during an influenza pandemic should be a priority for pandemic planners.

### ***Non-Clinical Essential Services***

An influenza pandemic may compromise a range of non-clinical services. Many CBOs, FBOs, and disability service providers have not been integrated into pandemic plans, yet they provide a variety of services necessary to daily survival and well-being, such as lodging, low-cost meals, language interpretation, and care for service animals. Key groups – such as those serving people with developmental, cognitive, and sensory disabilities; the elderly; and people with mental illnesses – are often not involved in preparedness discussions and activities. Lack of integration between local government and community agencies may exacerbate the shortages in a pandemic. Community groups may be unaware that they are expected to provide services; planners may be unaware of the resources available in CBOs and FBOs.

Non-clinical services encompass an array of potential resources, many of which may be specific to a local jurisdiction and population. One non-clinical service – transportation – is essential to daily function and community involvement for many at-risk populations throughout the United States. Public transportation availability and options may vary tremendously from one community to another. Community mitigation measures and worker absenteeism may reduce the availability of public transportation, requiring consideration of alternative methods to provide transportation services for people to go to doctors' appointments or maintain other necessary activities.

Specialized services provide a means of transporting individuals who would otherwise lack access. These services may include paratransit for people with disabilities and the elderly and other transportation provided by nursing homes and assisted-living facilities.

Several issues may influence continuation of transportation services during a pandemic, including: availability of drivers; liability protection for companies and drivers; fuel availability; and potential risks to health and independence involved in transporting at-risk individuals.<sup>70</sup> During one public meeting, some individuals with disabilities mentioned that arranging transportation to a hospital or clinic was often difficult, a situation that could worsen or become impossible during a health emergency.<sup>8</sup>

Several at-risk populations obtain food from services such as Meals On Wheels, community food shelves or kitchens, faith-based missions, or services that provide meals for people on restricted diets. Food and volunteer staff may be significantly limited or unavailable in an influenza pandemic, and at-risk individuals may not know of alternative food sources. A reduction in food provision services may particularly affect homebound individuals who cannot access grocery stores and people on restricted diets (e.g., individuals with congestive heart failure, diabetes, or renal failure).

Public health agencies will need to connect and have discussions with a variety of service providers to ensure that at-risk populations receive the essential services they need to survive an influenza pandemic.

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<sup>70</sup> National Council on Disability. (2008, January). Transportation. In *National Disability Policy: A Progress Report*. Retrieved March 3, 2008, from <http://www.ncd.gov/newsroom/publications/2008/pdf/RevisedProgressReport.pdf>.

### **OHIO BOLSTERS PREPAREDNESS FOR PEOPLE WITH FUNCTIONAL NEEDS**

The Emergency Management Be Prepared Initiative is a collaborative between the Ohio Department of Health, the Ohio Legal Rights Service, other state agencies, academic institutions, and the Governor's Council on People with Disabilities. The Initiative developed an all-hazards preparedness workbook for people with functional needs. The workbook considers the specific needs of various types of at-risk populations and barriers to preparedness, while emphasizing the importance of individual preparedness and resiliency during emergencies. Language is targeted to a general population, and the purpose of each activity is clearly stated. More than 100,000 copies of the kit have been distributed to numerous state agencies that serve special needs populations.

To learn more: <http://www.pandemicpractices.org/practices/resource.do?resource-id=272&state-id=41>

### **Essential Service Providers**

Providing services to at-risk populations relies strongly on the availability and specialized knowledge of providers and community groups. There are several groups of essential service providers that public health agencies should convene as part of pandemic planning efforts. Of particular relevance are:

- At-risk individuals and people who support them;
- CBOs and FBOs;
- Organizations and clinics that provide care and services to the underserved, indigent, migrant, and undocumented;
- Agencies providing essential services not specifically focused on healthcare, including homeland security, local emergency management agencies (EMAs), transportation agencies, and others;
- Providers of health outreach in general emergencies;
- Personal care and home health attendants; and
- Healthcare providers and healthcare systems.

Agencies, organizations, and businesses such as these would benefit greatly from planning for how they and their at-risk clients may be affected by a pandemic, including what services are generally provided and what might need to change.

Public health agencies can encourage organizations to: develop a continuity of operations (COOP) plan; determine how they would train volunteers or other personnel if they lacked staff; and teach staff, volunteers, and at-risk clients about personal preparedness. There are people with chronic medical conditions whose situations demand special medications, diets, and/or devices. Planners need to provide materials and information to help such individuals develop personal preparedness plans. Finally, public health can encourage organizations that will work closely with government agencies to learn the National Incident Management System (NIMS) approach to emergency management.

Public health agencies provide a wide range of services to at-risk populations. They also can convene the following agencies, groups, and organizations to determine overarching planning recommendations and policies. The list below identifies some responsibilities of each group to help public health agencies develop pandemic plans and procedures.

- **At-Risk Individuals and People Who Support Them:** Individual preparedness is vitally important in weathering an influenza pandemic. Community organizations and local planners can help by reaching out to individuals with pandemic preparedness messages and information. Individuals need to understand the importance of self-care and ensuring that they are prepared. They also need to talk with the people and groups who support them, including family, friends, CBOs, FBOs, and paid caregivers about their needs and expectations for help. Families can also coordinate with these groups and individuals to develop their own family emergency preparedness plans (particularly important for families with children with special needs). It is important for people to identify and plan for possible gaps in clinical or nonclinical services and to enhance their ability to prevent or endure those problems. Training people in basic home

healthcare may better enable them to perform minor tasks, such as rehydration or blood pressure monitoring, for their families.

- ***CBOs and FBOs:*** Community organizations may include commissions on the blind, deaf services organizations, mental health providers, senior social services, property owners' associations, multicultural groups, food pantries, and regional Centers for Independent Living. FBOs can assist in providing many with spiritual and psychological care to help people cope with the effects of the event. Many CBOs and FBOs know where at-risk clients live and what they need, but those organizations may need help in planning how to maintain services during a pandemic.
- ***Organizations and Clinics that Provide General Services to At-Risk Populations:*** Several organizations provide clinical services to people who may otherwise experience difficulties obtaining healthcare, such as: uninsured individuals, the homeless, refugees, immigrants, illegal drug users, undocumented workers and visitors to the area. They may rely on services provided by a variety of agencies or organizations, including: community health centers (CHCs), free clinics, language interpretation services, and methadone treatment facilities. In a pandemic, organizations may be forced to limit hours of operation or even close their doors.

CHCs are likely to be primary points of triage and care for a significant proportion of at-risk and un/under-insured ill individuals during an influenza pandemic. A recent study in California found that 51 percent of uninsured Latinos (N=1000) sought care from a CHC during non-emergency times.<sup>71</sup>

Public health must also work with non-traditional partners to effectively assist at-risk populations. For instance, a project between Boston Emergency Medical Services and city domestic violence shelters resulted in the development of operational disaster plans for approximately 99 percent of shelters. The Boston Metropolitan Medical Response System (MMRS) contributed computer equipment to shelters so that shelter staff could back up essential documents that might be lost during an emergency. MMRS staff members are currently planning to incorporate emergency confidentiality measures, secondary communication systems, and employee personal preparedness training in domestic violence shelters.<sup>72</sup>

- ***Governmental Agencies Providing Essential Services Other than Healthcare:*** Many agencies provide essential services that are not necessarily or exclusively health-related. These agencies include departments that focus on transportation and housing. Although their services are not explicitly health-related, many at-risk populations may depend heavily on those services and resources during a pandemic.

Partners that work closely with public health departments include state homeland security departments and EMAs. State homeland security departments conduct numerous planning and response activities that address the needs of many at-risk populations. State homeland security is also responsible for conducting a wide array of training programs and emergency exercises that may provide opportunities to engage at-risk populations in the emergency response framework.<sup>73</sup>

State EMAs also work closely with homeland security departments and community members. Since EMAs respond to all natural and man-made disasters in each state, they may have

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<sup>71</sup> Greenwald, H.P., O'Keefe, S., & DiCamillo, M. (2004). The Importance of Public Sector Health Care in an Underserved Population. *Journal of Health and Human Services Administration*, 142.

<sup>72</sup> Gabriel, E. and Serino, R. (2008, February 21). *Engaging Boston's DV Shelter Communities in Emergency Preparedness Planning*. Presented at the 2008 Public Health Preparedness Summit, Atlanta, GA.

<sup>73</sup> National Conference of State Legislatures. *State Offices of Homeland Security*. Retrieved March 26, 2008, from <http://www.fema.gov/about/contact/statedr.shtm>.

significant knowledge of the community's needs and skill sets. Close collaboration, both with state homeland security departments and EMAs, may ensure that roles and responsibilities for service provision to at-risk populations are clearly delineated and understood before the onset of a pandemic.

- **Providers of Health Outreach in General Emergencies:** At-risk populations, along with the general public, rely on standard emergency services such as MedicAlert, emergency medical services, and informational phone lines such as 2-1-1 or 3-1-1.

For example, many individuals are members of the MedicAlert Foundation, and their health and prescription drug information is catalogued in the MedicAlert Foundation database. If a member experiences a medical emergency, the foundation will provide information on his or her medications and health issues to appropriate responders. The MedicAlert Foundation works closely with law enforcement, emergency medical technicians (EMTs), healthcare providers, and agencies on aging. The foundation's ability to locate at-risk individuals and quickly provide their medical information to responders may make them a valuable resource during a pandemic.

Currently, three-quarters of the US population has access to a 2-1-1-type center to call for important community information. Much of the information delivered by 2-1-1 lines relates to basic services for at-risk populations. The 2-1-1 call centers provide information on community resources for food banks, shelters, maternal healthcare, Meals on Wheels, home healthcare, transportation, and child protective services. Florida 2-1-1 call centers also provided emergency response information during the 2004 hurricane season.<sup>74</sup> Where 2-1-1 lines are heavily used by at-risk individuals, they may be a strong channel for information during a pandemic.

States and localities may also have active community emergency response teams (CERTs) that act in collaboration with first responders and emergency services. CERTs are composed of community members; therefore, they may be able to effectively access resources, spread information quickly, and significantly augment the professional emergency workforce during a pandemic.<sup>75</sup>

- **Personal Care and Home Health Attendants:** The role of specialized home caretakers presents an unusual preparedness challenge. Many at-risk individuals with disabilities or chronic illnesses rely on a home caretaker. Caretakers may be unwilling or unable to work if they are not protected against infection, insured against liability, or reimbursed for services during a pandemic. If a caretaker is unavailable, at-risk individuals may face significant barriers to care. This threatens the independence and safety of people who would be able to live in their homes during a pandemic if their caretakers were present.
- **Healthcare Providers and Healthcare Systems:** Healthcare systems and providers can plan for the rapid onset and prolonged stress that an influenza pandemic will place on healthcare entities. Many hospitals face daunting challenges in responding to staff absenteeism during seasonal influenza epidemics. Hospitals should be equipped and ready to diagnose and care for the limited number of patients initially infected with a pandemic virus, and have surge capacity plans to address large numbers of patients when the pandemic escalates. Important components of this planning include fair distribution of scarce healthcare resources, effective delivery of pandemic care in outpatient and alternative settings, criteria for triaging people to alternate sites or home care, capacity and staff training to address mental health issues, and incorporation of plans that address the needs of at-risk individuals during a pandemic.

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<sup>74</sup> United Way of America. *2-1-1*. Retrieved March 3, 2008, from <http://www.211.org>.

<sup>75</sup> Federal Emergency Management Agency, Citizen Corps. *Community Emergency Response Team: About CERT*. Retrieved March 26, 2008, from <https://www.citizencorps.gov/cert/about.shtm>.



A significant number of at-risk individuals also seek primary and urgent care at “high-burden emergency departments,” which treat a large percentage of uninsured people and Medicaid beneficiaries. A CDC study found that patients at high-burden emergency departments are more likely to be impoverished, unemployed, or children. Geographic disparities also contribute to the burden. While only 36 percent of emergency departments in the United States are considered high-burden, in the Southern United States, 61 percent of emergency departments are considered high-burden. High-burden emergency departments are more likely to close or restrict services due to funding constraints, and to be overwhelmed during an emergency.<sup>76</sup>

During a meeting with national stakeholders, participants noted that some urban-dwelling at-risk populations may leave urban areas to seek care in tribal or rural health systems.<sup>10</sup> Planners may need to collaborate with the Indian Health Service (IHS) facilities, IHS contract health services, and rural health systems to develop policies on care provision and stockpiling supplies.

- **Volunteers:** Volunteers are integral to any disaster response. They may fit into a number of categories above and should be considered in the planning process and formalized in emergency plans. Examples may include Medical Reserve Corps (MRC) and Citizen Emergency Response Team (CERT) members who are not otherwise deployed, and many others.

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<sup>76</sup> Centers for Disease Control and Prevention. (2004, May). *Characteristics of Emergency Departments Serving High Volumes of Safety-net Patients: United States, 2000*. Retrieved March 3, 2008, from [http://www.cdc.gov/nchs/data/series/sr\\_13/sr13\\_155.pdf](http://www.cdc.gov/nchs/data/series/sr_13/sr13_155.pdf).



## **Recommended Planning Activities**

The primary recommendations for public health planners to implement are included here. Additional recommendations that should be undertaken as time and resources allow are included in the next section.

- Convene the appropriate agencies and provide the framework for the necessary planning activities for clinical and non-clinical services for at-risk populations.

Public health's role is to convene stakeholders and frame the issue for those who deliver services. The recommendations listed below are divided into two sections: 1. Direct Public Health Activities that public health agencies can perform themselves; and, 2. Public Health Facilitated Activities that reflect activities that public health agencies can promote among their partners.

Numerous opportunities exist for agencies to provide services to at-risk populations during an influenza pandemic. These recommendations are intended to guide public health planners as they collaborate with diverse agencies and assess their capabilities to provide essential services.

***Staff and funding vary tremendously among state, territorial, tribal and local entities, so not all of the potential planning activities listed below will be feasible for all agencies. However, preparedness planners should identify which of the following steps would help them achieve the recommendation listed above.***

### **DIRECT PUBLIC HEALTH ACTIVITIES**

- Engage organizations that represent at-risk individuals.
- Emphasize the importance of psychological first aid and other mental health services in a pandemic. Offer materials and training to partners, as appropriate.
- Local and state public health should collaborate with the Indian Health Service (IHS) facilities and IHS contract health services, and vice versa.
- Emphasize that medical and clinical planning should include key social service functions such as transportation, food provision, and shelter for ill homeless individuals, impoverished individuals, or travelers.
- Include at-risk individuals' needs in planning and exercising the Strategic National Stockpile.
- Develop specific plans for antiviral medication and vaccine distribution and administration.
- Work with partners to identify and plan for gaps in clinical or nonclinical services.
- Provide preparedness workshops for people who support at-risk individuals, including family, friends, CBOs, FBOs and paid caregivers about their needs and expectations in a pandemic.
- Integrate disability transportation providers into emergency planning.
- Identify and coordinate with non-traditional partners that serve potentially at-risk populations (e.g., domestic violence shelters).
- Involve agencies in planning that already deliver emergency response services, such as: state homeland security departments; emergency management agencies; the MedicAlert Foundation; and 2-1-1 call centers.
- Engage businesses in pandemic preparedness planning.
- Encourage at-risk individuals to develop personal preparedness plans that may include:
  - Learning basic homecare skills;
  - Working with providers and social support networks to develop contingency plans in a pandemic;
  - Developing food and fluid supply lists for special dietary needs (e.g., individuals with diabetes, congestive heart failure, or kidney failure);
  - Stockpiling food and water;
  - Carrying a wallet card containing a list of medications; and
  - Maintaining food and supplies for the health and well-being of service animals.

- Assist in providing planning and training to community groups delivering essential services.
- Encourage COOP planning in partners. For example, Minnesota and Massachusetts have used the following process:
  - Identify groups and organizations that should have COOP plans. State and county associations may be able to identify such groups, which include paratransit providers; senior transportation services; social services; free and community clinics; and regional Centers for Independent Living. Established networks in the community may also provide resources. For instance, an active senior center may provide access to homecare aides and certified nursing assistants. Other community resources may include commissions for the blind, commissions for the disabled, property owners' associations, police and fire departments, emergency medical service providers, community health centers, free clinics, methadone treatment providers, and the National Association of County and City Health Officials' Advanced Practice Centers.

#### **BROOKLINE HEALTH DEPARTMENT CONVENES PARTNERS FOR PLANNING**

The Brookline Health Department in Massachusetts assembled numerous governmental and community organizations in 2006 to discuss at-risk populations and emergency planning. Organizations included those providing essential services to the community, such as police, fire, Emergency Medical Services, the Council on Aging, the Housing Authority, Recreation, Human Relations, the state Department of Public Health, and the Cambridge Health Alliance. Participants decided that the health department and its partners should develop forms that describe emergency preparedness supplies for at-risk individuals, caregivers, and social workers.

After numerous service providers evaluated the forms, the Brookline Health Department developed several programs and tools to address the needs of at-risk populations in their town. Planners focused on caregivers and their clientele. In response to feedback from partners, the department and its partners developed a special populations training for first responders, healthcare staff, and volunteers. Participants in these trainings also received personal preparedness education and an emergency preparedness supply form. Planning staff coordinated the use of the File of Life and emergency cell phones for residents, and planners have re-designed their town's 9-1-1 disability indicator form to meet local needs. The town has also increased outreach to life-service providers, group homes, and medical facilities about the need for COOP and personal preparedness planning.

#### **PUBLIC HEALTH FACILITATED ACTIVITIES**

- When applicable, encourage appropriate CBOs and FBOs to develop contracts or memoranda of understanding to provide essential or specialized supplies and services during a pandemic. Incorporate as much information as possible on potential weaknesses or strengths in the organizations' supply chains or stockpiles.
- Discuss plans with shelters and hotels regarding whether they will provide shelter for homeless individuals and travelers who become ill.
- Investigate developing a voluntary community registry in which at-risk populations describe the services and equipment they will need during a pandemic. Collaborate with first responders to ensure that the registry provides emergency workers with useful information (see Chapter 2).
- Encourage partners to investigate contracts with medical equipment vendors to ensure that durable medical equipment can be requested or transported if needed. Meet with various groups in a community to assure that not everyone has the same contract with the same vendors.
- Talk with stakeholders about options to maintain availability of psychotropic medications.

**Sample Tools and Practices**

Material	Description	URL
<b>CBO/FBO Continuity of Operations</b>		
Pandemic Influenza Continuity of Operations Guide and Template for San Mateo County Faith-Based Congregations and Community Organizations (San Mateo County Health Department – CA)	The guide lists action steps for building CBO/FBO continuity in areas such as organization and operations, communication, staff, policy, protective resource allocation, and coordination. The guide also includes numerous templates, including forms for activation, essential operations, finances, telecommuting processes, vendors, stockpiling, and infection control.	<a href="http://www.smhealth.org/vgn/images/portal/cit_609/18/21/898818660template_CBO-011607finaldraftandforms.pdf">http://www.smhealth.org/vgn/images/portal/cit_609/18/21/898818660template_CBO-011607finaldraftandforms.pdf</a>
Emergency Response Planning for Child Care Providers (Montgomery County Department of Health and Human Services – Maryland)	A 154-page guidebook for child care providers was written to be applicable to all hazards; much of the information may not apply to an influenza pandemic. However, the guidebook contains some good information on: roles and responsibilities of child-care providers; sheltering in place; stockpiling first aid and other essential materials; and special pediatric needs. The book also includes a fairly lengthy, in-depth training on trauma responses in children.	<a href="http://www.montgomerycountymd.gov/content/hhs/phs/APC/childcaremanual.pdf">http://www.montgomerycountymd.gov/content/hhs/phs/APC/childcaremanual.pdf</a>
Emergency Preparedness Checklist for Nursing Homes, Assisted Living Facilities, and Group Homes (Montgomery County Department of Health and Human Services – Maryland)	The Emergency Preparedness Checklist was developed for nursing homes and large assisted living facilities in Montgomery County, Maryland. Licensure and Regulatory Services has since incorporated the checklist into their annual quality-of-care surveys. The booklet includes space for facility contact information; an assessment of the building, its stockpiles (fuel, oxygen, generators), and its suppliers; staff training; and community outreach.	<a href="http://www.montgomerycountymd.gov/content/hhs/phs/APC/apcursinghomeassess.pdf">http://www.montgomerycountymd.gov/content/hhs/phs/APC/apcursinghomeassess.pdf</a>
Emergency Preparedness Checklist for Case Management and Home Care Services (Montgomery County Department of Health and Human Services – Maryland)	The Emergency Preparedness Checklist was developed for and tested with case managers and Certified Nursing Assistants in Montgomery County, Maryland. The brief booklet provides questions to encourage conversations about preparedness between clients and case managers; space for contact information, pet information, meeting places, and medications; essential items to stockpile; and additional supplies that may be needed depending on the client's situation. Evaluation showed significant increases in personal stockpiles among at-risk clients.	<a href="http://www.montgomerycountymd.gov/content/hhs/PHS/APC/mc-casemgmtcklist_fnl_med2.pdf">http://www.montgomerycountymd.gov/content/hhs/PHS/APC/mc-casemgmtcklist_fnl_med2.pdf</a>
Hennepin County Pandemic Influenza Planning Guide (Hennepin County Human Services and Public Health – MN)	The brief planning guide provides CBOs with information and templates on staff roles, prioritization of services, necessary supplies, and staff protection during a pandemic.	<a href="http://www.hennepin.us/images/HCInternet/YCG/Doing%20Business%20With%20Hennepin/Human%20Services%20Provider%20Relations/HSPH%20Files/Template_Part%20Pandemic%20Influenza%20Planning%20Guide.doc">http://www.hennepin.us/images/HCInternet/YCG/Doing%20Business%20With%20Hennepin/Human%20Services%20Provider%20Relations/HSPH%20Files/Template_Part%20Pandemic%20Influenza%20Planning%20Guide.doc</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
Agency Emergency Plan: A Simplified Version for Community-Based Organizations (Collaborating Agencies Responding to Disasters – CA)	The planning template provides community-based organizations with forms on which they can describe potential emergency activities such as volunteer use, identification of needs and resources, facility preparation, nearest emergency resources, communication tools, Incident Command Structure organization, financial resources, and service providers.	<a href="http://www.metrokc.gov/health/VPAT/documents/business-continuity-template.pdf">http://www.metrokc.gov/health/VPAT/documents/business-continuity-template.pdf</a>
<b>Clinical Services</b>		
Tips for First Responders for People with Special Needs (University of New Mexico Center for Development and Disability)	The pocket guide offers brief tips for first responders on addressing the needs of people who have service animals, mobility impairments, autism, cognitive disabilities, multiple chemical sensitivities, and mental illness. The guide also addresses the needs of seniors, people who are deaf/hard-of-hearing, and blind/visually impaired.	<a href="http://pandemicpractices.org/files/115/115_guide.pdf">http://pandemicpractices.org/files/115/115_guide.pdf</a>
Ready, Willing, & Able (University of Kansas Research and Training Center on Independent Living)	A Web-based course provides training on working with disabled individuals during a disaster. The two-hour course discusses etiquette, unfamiliar terms, communications and techniques, and disabled individuals' potential needs. Participants must register on the Web site before taking the course. The course name (“Ready, Willing, & Able”) and number (1010882) are necessary to access the materials.	<a href="http://www.train.org">http://www.train.org</a>
Preparing for Emergencies: A Guide for People on Dialysis (Centers for Medicare and Medicaid Services)	The guide discusses how to function during an interruption in dialysis services and provides food stockpiling suggestions that are specifically tailored to individuals on dialysis.	<a href="http://pandemicpractices.org/files/229/229_guide.pdf">http://pandemicpractices.org/files/229/229_guide.pdf</a>
Medical Advice for People with Diabetes in Emergency Situations (American Diabetes Association)	The brief guide describes ways in which people with diabetes can monitor their condition and prevent side effects during an emergency. Much of the information was developed after Hurricanes Katrina and Rita, yet some of the guidance is appropriate for an influenza pandemic.	<a href="http://www.diabetes.org/uedocuments/ADAEmergencyMedicalAdvice.pdf">http://www.diabetes.org/uedocuments/ADAEmergencyMedicalAdvice.pdf</a>
Diabetes Disaster Preparedness (Hunterdon Healthcare – New Jersey)	The guide describes several all-hazards preparedness steps for people with diabetes. Included are lists of food and supplies to stockpile, insulin storage tips, tips on foot care and ketone maintenance, lists of food to avoid, and symptoms that signal a need for medical intervention.	<a href="http://www.hunterdonhealthcare.org/services/diabetes_health/disaster_prep.asp?">http://www.hunterdonhealthcare.org/services/diabetes_health/disaster_prep.asp?</a>
Emergency Information Forms (American Academy of Pediatrics)	Emergency information forms for children with special healthcare needs allow parents to document relevant facts about their child's condition. The forms inquire about diagnoses, procedures, baseline physical findings, vital signs, prostheses/appliances, allergies, procedures to be avoided, and specific individual or familial issues.	Blank emergency information form: <a href="http://www.aap.org/advocacy/blankform.pdf">http://www.aap.org/advocacy/blankform.pdf</a> . Interactive emergency information form: <a href="http://www.aap.org/advocacy/eif.doc">http://www.aap.org/advocacy/eif.doc</a>
Pediatric Disaster Preparedness Guidelines (Illinois Emergency Medical Services for Children)	The guidelines describe disaster preparedness considerations relevant to children, including unique vulnerabilities, medication and titration, equipment, surge capacity, mental health, and organizational partnerships.	<a href="http://www.luhs.org/depts/emsc/peddisasterguide.pdf">http://www.luhs.org/depts/emsc/peddisasterguide.pdf</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
Women and Infants Service Package (National Working Group for Women and Infant Needs in Emergencies in the United States)	The WISP guidance details preparedness activities that should occur to protect women, children, and infants during an emergency. Guidelines focus on key steps for coordinating and implementing plans, preventing morbidity and mortality, analyzing information and conducting surveillance. The guidance also includes an out-of-hospital birth kit supply list for health professionals and families, breastfeeding tips, and specific maternal and infant disaster planning considerations from the March of Dimes.	<a href="http://www.whiteribbonalliance.org/Resources/Documents/WISP.Final.07.27.07.pdf">http://www.whiteribbonalliance.org/Resources/Documents/WISP.Final.07.27.07.pdf</a>
Workbook for Healthcare Providers in Rural Communities (USA Center for Rural Public Health Preparedness – Texas)	The USA Center and the Texas A&M School of Rural Public Health have been working with rural populations since 1999 and have developed several strategies for engaging this population in preparedness planning. The workbook contains information on collaborative planning, ICS roles and responsibilities, clinic COOP plans, rural models from around the country, triage, surge, and transport. Tools include MOU templates, hazard vulnerability analysis templates, clinic readiness assessments, questionnaire and focus group templates for at-risk populations, and alternate care site tools.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=318&amp;state-id=51">http://www.pandemicpractices.org/practices/resource.do?resource-id=318&amp;state-id=51</a>
Clinical Care Guidelines (Health and Social Service Planning – Wales)	Wales’ clinical care guidelines address planning needs for several at-risk populations, including children, pregnant women, and residents of long-term care facilities. The document describes risks of influenza infection, potential diagnostic and care pathways, surveillance, and staff training programs for these key populations.	<a href="http://pandemicpractices.org/files/90/90_overview.doc">http://pandemicpractices.org/files/90/90_overview.doc</a>
<b>Equipment Services</b>		
The Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)	RESNA provides several resources that assist states in accessing assistive technology and durable medical equipment. Through the National Assistive Technology Technical Assistance Partnership (NATTAP), RESNA provides a list of state agencies that were funded under the Assistive Technology Act of 1998. The Act allows states to provide loans of durable medical equipment and conduct other activities to ensure that people with disabilities have access to necessary technology. The RESNA loan program provides data on states that conduct short-term loans of assistive technology, and an index of device reuse programs allows users to search for used assistive technology by state.	<a href="http://www.resna.org/projects/index.php">http://www.resna.org/projects/index.php</a>
<b>Non-Clinical Services</b>		
Administration on Aging and Centers for Medicare and Medicaid Services: Aging and Disability Resource Centers (ADRCs)	ADRCs serve the needs of seniors and people with disabilities in 43 states. ADRCs maintain existing networks of information and providers, and they act as a link between providers to ensure that their clients receive necessary and continued care. ADRCs currently serve 28 percent of the US population, and they provide services such as: long-term care information, benefits and options counseling, and referrals to other community and government services. ADRCs also serve as a link between their clients and emergency personnel, and they helped to maintain service continuity to their members who were affected by Hurricane Katrina in 2005.	<a href="http://www.adrc-tae.org">http://www.adrc-tae.org</a>
Centers for Independent Living Directory	The directory is searchable by state and county. Several state centers have loan banks or closets for used and new durable medical equipment.	<a href="http://www.ilru.org/html/publications/directory/index.html">http://www.ilru.org/html/publications/directory/index.html</a>

<b>Material</b>	<b>Description</b>	<b>URL</b>
Community Emergency Response Teams (CERT)	CERTs are local entities that educate and train citizens about disaster preparedness, basic life saving skills, and personal safety.	<a href="https://www.citizen corps.gov/cc/CertIndex.do?submitByState">https://www.citizen corps.gov/cc/CertIndex.do?submitByState</a>
National Voluntary Organizations Active in Disaster (NVOAD)	NVOAD coordinates the planning efforts for numerous member voluntary organizations that respond to disasters. Each state has its own VOAD to coordinate voluntary organizations' efforts at the state level.	National member organization directory: <a href="http://www.nvoad.org/membersd b.php?members=National">http://www.nvoad.org/membersd b.php?members=National</a> State VOAD directory: <a href="http://www.nvoad.org/membersd b.php?members=State">http://www.nvoad.org/membersd b.php?members=State</a>
<b>Mental Health Services</b>		
Disaster Mental Health Intervention Field Guide (Indiana Division of Mental Health and Addiction)	The field guide provides a brief training on disaster behavioral health intervention. It describes an exposure hierarchy that lists at-risk groups and prioritizes them for intervention.	<a href="http://pandemicpractices.org/files/223/223_Guide.pdf">http://pandemicpractices.org/files/223/223_Guide.pdf</a>
Self-Care Tips (Minnesota Department of Health)	Two brief brochures discuss self-care tips for healthcare and human services personnel who respond to an influenza pandemic. The brochures discuss symptoms of mental distress and coping strategies that may accompany a pandemic response.	Self-Care Tips for Healthcare Responders during a Pandemic Influenza: <a href="http://www.health.state.mn.us/oe p/responsesystems/selfcareresponders.pdf">http://www.health.state.mn.us/oe p/responsesystems/selfcareresponders.pdf</a> Self-Care Tips for Human Services Providers during a Pandemic Influenza: <a href="http://www.health.state.mn.us/oe p/responsesystems/selfcarehumanerv.pdf">http://www.health.state.mn.us/oe p/responsesystems/selfcarehumanerv.pdf</a>
Psychological First Aid: Field Operations Guide (US Department of Veterans Affairs: National Center for Posttraumatic Stress Disorder)	The Psychological First Aid guide is used to provide training on disaster behavioral health interventions.	<a href="http://www.ncptsd.va.gov/ncmain/ncdocs/manuals/nc_manual_ps yfirstaid.html">http://www.ncptsd.va.gov/ncmain/ncdocs/manuals/nc_manual_ps yfirstaid.html</a>
Minnesota Psychological First Aid materials	The Minnesota Department of Health adapted the Veterans Affairs Psychological First Aid (PFA) course into a brief training for emergency responders. Minnesota shortened the original training to a 2-4 hour course that could meet core competency requirements for disaster behavioral health responders and address the needs of specific local audiences. Two presentations were tailored to K-12 schools and local health departments.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=306&amp;state-id=28">http://www.pandemicpractices.org/practices/resource.do?resource-id=306&amp;state-id=28</a>



Material	Description	URL
<b>Home Care</b>		
Caring for the Sick at Home When It's the Only Option (Public Health – Lincoln County, Wyoming)	The hour-long DVD provides practical, detailed information on caring for ill persons, including those with influenza, at home. It is aimed at non-medical care providers. The DVD provides information on: infection control (including hand washing and disinfection); personal protective equipment (PPE) for care providers; basic nursing skills (including bathing, nutrition and feeding, monitoring intake and output, monitoring vital signs, postural drainage, etc.); signs and treatment of dehydration; and management of death, dying, and grief.	<a href="http://pandemicpractices.org/practices/resource.do?resource-id=86&amp;interest-id=4">http://pandemicpractices.org/practices/resource.do?resource-id=86&amp;interest-id=4</a>
Home Care Guide: Providing Care at Home during Pandemic Flu (Santa Clara County Public Health Department – California)	The Home Care Guide provides the public with extensive descriptions of how to care for family members at home during a pandemic. It is an excellent guidance, both comprehensive and well written. It includes several practical tips on assessing, isolating, and treating ill family members at home; gathering food; storing water; and assembling essential supplies to care for the ill. Fact sheets on pandemic and avian influenza, isolation and quarantine, and social distancing also provide clearly written and accurate education.	<a href="http://pandemicpractices.org/practices/resource.do?resource-id=187&amp;interest-id=4">http://pandemicpractices.org/practices/resource.do?resource-id=187&amp;interest-id=4</a>
Home Care for Pandemic Flu (American Red Cross)	Home Care for Pandemic Flu is a short primer for lay people on how to care for family members at home during a pandemic. It provides an excellent, comprehensive resource for people who must provide home care when healthcare facilities are overwhelmed. The brochure includes a list of home care supplies, guidelines on recognizing and treating fever and dehydration, and a recipe for oral rehydration solution (ORS).	<a href="http://pandemicpractices.org/practices/resource.do?resource-id=187&amp;interest-id=4">http://pandemicpractices.org/practices/resource.do?resource-id=187&amp;interest-id=4</a>
Stay at Home Toolkit for Influenza (Montgomery County Department of Health and Human Services – Maryland)	Montgomery County's Advanced Practice Center published a toolkit to help people manage influenza at home. This simple toolkit represents an effort to orient the public to that reality and provide some helpful guidelines on home care. It includes sections on preventing the spread of influenza, covering one's cough, general health, and more detailed items such as a disinfection formula and a personal care log. It is a user-friendly guide meant for family reference.	<a href="http://pandemicpractices.org/practices/resource.do?resource-id=234&amp;interest-id=4">http://pandemicpractices.org/practices/resource.do?resource-id=234&amp;interest-id=4</a>
Nebraska Home Care for Pandemic Flu (East Central District Health Department – Nebraska)	The home care guide from Nebraska provides a variety of information on caring for an ill person, as well as for protecting the caregiver from infection. Information includes risk for people with chronic conditions, tips for isolation, testing for and treating fever, recognizing and treating dehydration, age-appropriate rehydration, when to seek medical advice or treatment, home care supplies, food supplies to stockpile, and water purification techniques.	<a href="http://eastcentraldistricthealth.com/documents/homecareguide.pdf">http://eastcentraldistricthealth.com/documents/homecareguide.pdf</a>
Centers for Disease Control and Prevention (CDC)	Tools for diabetes control during disasters. This site includes links to health advice, as well as insulin, drug, and equipment advice that may be relevant during an influenza pandemic.	<a href="http://www.cdc.gov/diabetes/new/docs/hurricanes.htm">http://www.cdc.gov/diabetes/new/docs/hurricanes.htm</a>

## **Chapter 5: How to Test, Exercise, Measure, and Improve Preparedness of At-Risk Populations**

### ***Introduction and Background***

Testing, exercising, measuring, and improving preparedness is important to reduce risk before, during, and after an influenza pandemic. By testing, exercising, and measuring the processes and outcomes of pandemic influenza planning activities, communities will improve their preparedness levels both in the general population and among at-risk populations.

The objectives for this chapter are to define a uniform method for testing and exercising the response systems' preparedness capabilities for at-risk populations; and to ensure that methods are measurable to promote improvements in future response.

Evaluating exercises and emergency events enables individuals and organizations to test, exercise, measure, and improve preparedness for an event. By evaluating tasks, activities, systems, policies, or attitudes, preparedness planners will be able to gauge community and organizational readiness. Effective assessment will help improve overall preparedness by guiding decisions to shift resources and by identifying knowledge gaps that must be addressed. Improving preparedness will help prevent and mitigate the effects of an emergency.<sup>77</sup>

Assessing public health activities geared toward the general population is important; however, evaluation is particularly important for understanding the unique barriers that at-risk populations face. Effective evaluation that incorporates factors that place people at risk will make public health departments better able to address identified barriers.

Evaluating pandemic influenza preparedness should include pandemic influenza-specific measures, which can be a challenge for planners when the onset, severity, and duration of a future pandemic are unknown. The varying degrees of severity of a pandemic call for different preparations, making it difficult to have a general preparedness measure for all stages and waves of influenza pandemics. Moreover, the event is rare, which makes it difficult to define what individuals and organizations need to do or know based on previous experiences.

Testing, exercising, and measuring preparedness for at-risk populations can be incorporated into current planning and routine organizational quality assurance activities. A quality assurance program ensures the quality of services delivered by monitoring performance, identifying opportunities for improvement, and planning effective strategies for improving services.<sup>78</sup> Planning may include a variety of activities, from keeping checklists, periodically analyzing existing databases, and taking minutes of meetings, to tracking joint efforts with community organizations, surveying staff, implementing pre- and post-tests for education discussion-based and operations-based exercises, and conducting after-action reviews following real-world incidents.

### ***Barriers to the Evaluation Process and Options to Overcome Those Barriers***

Collaborative barriers and administrative difficulties pose two significant challenges to strengthening preparedness. Collaborative barriers include insufficient organizational resources and a lack of inter-agency coordination. Administrative difficulties include a lack of templates and baseline data.

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<sup>77</sup> World Health Organization. (2007). *Risk reduction and emergency preparedness: WHO six-year strategy for the health sector and community capacity development*. Retrieved June 24, 2008, from [http://www.who.int/hac/techguidance/preparedness/emergency\\_preparedness\\_eng.pdf](http://www.who.int/hac/techguidance/preparedness/emergency_preparedness_eng.pdf).

<sup>78</sup> Centers for Disease Control and Prevention, National Breast and Cervical Cancer Early Detection Program (NBCCEDP). *Program Component Chapter Overviews*. Retrieved May 13, 2008 from <http://www.cdc.gov/cancer/nbccedp/bccpdfs/overview.pdf>.

Many CBOs and FBOs lack the staff and/or the financial flexibility to commit to long-term evaluation projects. Nonetheless, it is of critical importance to include such groups in the exercise process; if excluded, it may prove more difficult to determine collaboration opportunities (see Chapter 1 for more on partnering with these organizations).

A lack of inter-agency coordination can be a significant barrier to the evaluation process. Pandemic influenza planning responsibilities have frequently been placed on public health entities; however, public health cannot and should not plan for pandemic influenza without extensive collaboration with other agencies (e.g., public transportation, education, food distributors, commerce, hospitals, tribes), because the impact of a pandemic will be felt broadly in every aspect of civic life.

Options exist to address collaborative barriers. States can: require certain planning activities of the agencies they fund; award grants to assist with program continuity; provide abbreviated versions of the Homeland Security Exercise and Evaluation Program (HSEEP; discussed below) that are applicable to local entities; offer technical assistance; and partner with outside agencies to develop inclusive plans for pandemic influenza. For example, Public Health – Seattle and King County (PHSKC) has successfully implemented small, one-time grants to fund emergency preparedness activities for non-hospital healthcare agencies to enhance organizational resiliency in an emergency. To make the overall exercise and evaluation process easier to understand and implement, there are two simplified versions of HSEEP available from PHSKC and the Columbia University School of Nursing Center for Health Policy in the resources [table](#) at the end of this chapter.

Another option for addressing collaborative barriers is to encourage efforts across other types, and through various levels, of agencies. Planning and evaluation processes should include an array of essential stakeholders, such as commerce, schools, and community representatives. Representatives from organizations that serve at-risk populations and members of the at-risk community also need to be included in creating and conducting the evaluation process. Involving the community in emergency preparedness planning and evaluation can significantly reduce the negative consequences of an emergency event.<sup>79</sup>

Administrative barriers to the evaluation process include a lack of evaluation templates and baseline data. Evaluation templates, such as preparedness checklists or surveys on the effectiveness of risk communication messages, are useful because they provide a ready-to-use set of questions for agencies unable to develop their own tools. Agencies may need to add questions or materials that address the unique demographics of their jurisdiction or local at-risk populations. Nonetheless, adopting or adapting existing evaluation templates into HSEEP and other evaluation exercises may reduce the staffing, financial, and time constraints associated with creating an evaluation tool (see the resource [table](#) at the end of the chapter for tools).

Developing meaningful baseline data on the preparedness capabilities of response systems or preparedness levels of individuals and applying a consistent set of measurements over time is essential to successful evaluation. Once an evaluation tool is developed and pilot-tested (e.g., to measure the effectiveness of a risk-communication campaign), it should be implemented to collect baseline data. Baseline, or reference, data is necessary to measure improvement, determine valuable activities, and set target values for improvement over time. Ideally the tool should be used consistently over time to monitor change; however, evaluators need to acknowledge variables that change or arise over time.

### ***Methods for the Evaluation Process***

This section addresses the approach to testing, exercising, measuring, and improving preparedness of at-risk populations. There is a predominant focus on HSEEP because it is federally mandated. The purpose

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<sup>79</sup> Enders, J. (2001). Measuring community awareness and preparedness for emergencies. *Australian Journal of Emergency Management*, 52-58.

of this section is to provide public health agencies with some information on how to incorporate at-risk populations into their ongoing HSEEP activities.

Although a variety of evaluation strategies should be used, health departments focus heavily on exercises as a means to evaluate preparedness and response systems. Exercises built using HSEEP provide a nationally used, functional framework for the design, implementation, and evaluation of emergency preparedness and response exercises. Evaluation strategies may vary among agencies other than health departments depending on need, standards within disciplines, levels of measurement, and emergency preparedness system variability – the National Association of State Directors of Developmental Disabilities Services (NASDDDS) created a self-assessment tool specific to state developmental disabilities agencies (see resource [table](#) at the end of the chapter).

HSEEP is a framework to develop, not drive, exercises. As a result, the program provides direction on procedural steps to take when creating exercises and explicitly tells planners how to evaluate responses to scenarios presented in the exercise – the program does not prescribe standard exercise activities for all jurisdictions. The specifics on tailoring and performing an exercise, plus details on how to address at-risk populations, is left to the discretion of local health departments. A table of examples for both [discussion-based](#) and [operations-based](#) exercises is provided at the end of this chapter.

HSEEP is commonly used by traditional emergency responders (e.g., law enforcement, fire departments), but can be adapted to other disciplines, such as public health and commerce. While still relatively new to public health agencies, using the program is required for receipt of federal preparedness funds. Agencies and organizations not obligated to use HSEEP to receive funding (such as CBOs and FBOS) can still apply HSEEP concepts to their preparedness activities; doing so will simplify collaborations with agencies receiving federal preparedness funds. The benefits of HSEEP are that its format includes: feedback for corrective action; it can be integrated into existing organizational structures; its use is widely mandated in public health and emergency preparedness; it can be applied and adapted to various disciplines; and it can be tailored to address at-risk populations.

Using HSEEP for exercise design, implementation, and evaluation will help to address the administrative barriers described above. HSEEP provides a framework to help agencies develop baseline data through exercises, allowing comparison within and among jurisdictions in the future. Analyzing additional, locally relevant objectives is required to understand the needs of each community’s at-risk populations (suggestions for pandemic influenza exercise objectives pertaining to at-risk populations are located in a [table](#) at the end of the chapter). Ideally, national baseline data will be developed one day; however, simply incorporating the findings of after-action reports and the results of pre- and post-tests that measure the objectives of pandemic preparedness education and planning exercises into pandemic influenza planning is also useful.

**ESSENTIAL ASPECTS OF EVALUATION:** There are four essential aspects of evaluation: defining roles and responsibilities; defining “preparedness;” establishing a uniform approach; and using both quantitative and qualitative tools. Each must include consideration of at-risk populations.

Public health entities need to understand who is responsible for conducting evaluation activities, analyzing data, and reporting results. Defining roles throughout the evaluation process will clarify ambiguity about responsibilities and create a more robust measuring system. Defining roles and responsibilities also encourages agencies to assume responsibility for measuring preparedness, to improve inter-organizational communication, and to build or strengthen relationships with other entities. In general, planners need to include community organizations, non-health agencies, and members of at-risk populations in communicating, organizing, planning, and evaluating. As a starting point, discussion-based exercises can be used as a mechanism to assist organizations in clarifying roles and responsibilities.

Having multiple definitions of preparedness makes measuring across jurisdictions difficult. As one work group member pointed out, “since all response is applied locally, preparedness for response should be

locally appropriate and sustainable as well, and most importantly, performance should be measured in a way that reflects local realities and expectations, not national expectations.”<sup>80</sup> While acknowledging the importance of a locally-appropriate preparedness definition, work group members felt that it was important to adopt a broadly shared definition of preparedness to enhance evaluation. In the interests of fostering a standard definition nationwide, this guidance follows the 2008 US National Response Framework definition:

“Preparedness: Actions that involve a combination of planning, resources, training, exercising, and organizing to build, sustain, and improve operational capabilities. Preparedness is the process of identifying the personnel, training, and equipment needed for a wide range of potential incidents, and developing jurisdiction-specific plans for delivering capabilities when needed for an incident.”<sup>81</sup>

Defining preparedness establishes consistent measures to compare activities within and among jurisdictions over time. Using consistent measures as guideposts is essential; currently, many federal, state, territorial, tribal, and local entities follow similar but varying standards. Standardizing basic preparedness guidelines across localities, while allowing room for local interpretation, will ensure that organizations are directed toward the essential preparations that need to be addressed for at-risk populations, helping them to prioritize often-limited resources.

Communicating information needed to prepare and evaluating whether the target audience understood and followed up with preparedness activities can be an effective method for evaluating preparedness activities. In order to obtain a full spectrum of data from exercises, a combination of quantitative and qualitative data gathering methods should be used. Participants should be asked for qualitative feedback during the post-exercise “hot wash” and evaluators can provide their data in debriefing sessions that follow an exercise, as well as in their write-ups. Qualitative data can be collected through direct observation during exercises, as well as through focus groups and interviews outside of exercises. As an example of quantitative and qualitative data, the HSEEP framework may include a checklist of preparation actions that at-risk individuals should take; however, planners may also need to know: “What is your greatest worry about how you will get through an emergency?”

**TAILORING HSEEP TO AT-RISK POPULATIONS AND PANDEMIC INFLUENZA:** DHS provides jurisdictions with HSEEP guidelines through a five-volume set of Web-based manuals for conducting exercises (see the Public Health Emergency Exercise Toolkit and the Public Health – Seattle and King County Exercise Steps in the resource [table](#) at the end of the chapter for abbreviated versions of HSEEP). The exercise cycle, and HSEEP in general, do not specifically address the needs of at-risk populations; however, there are five major steps health departments can take to address this gap:

1. Identify at-risk populations in the local jurisdiction.
2. Develop relationships with and involve community organizations serving at-risk populations and members of at-risk populations in exercise planning, design, implementation, and evaluation.
3. Incorporate exercise objectives, exercise injects, and customized exercise evaluation guides for at-risk populations into HSEEP exercise planning, training, implementation, evaluation, and assessment (some examples are included in the [table](#) at the end of the chapter).
4. Outline corrective actions in an improvement plan.
5. Make the indicated corrective actions in preparedness planning.

Traditionally, HSEEP has been used for brief, finite events; however, HSEEP’s scalable format allows health departments to extend evaluation and exercises to prolonged events such as pandemic influenza. Planners developing HSEEP exercises for pandemic influenza preparedness need to consider the extended

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<sup>80</sup> McCuddin, C (2008, February 6). Personal communication.

<sup>81</sup> U.S. Department of Homeland Security. (2008). *NRF Resource Center: Glossary/Acronyms*. Retrieved February 28, 2008, from <http://www.fema.gov/emergency/nrf/glossary.htm>.



timeline of a pandemic, its effect on at-risk populations, and adjust evaluation exercises and measures accordingly. A simulated exercise timeframe of weeks or months will require more general evaluation measures than a shorter exercise timeframe of hours. Real-time operations-based exercises for pandemic influenza may prove challenging due to the event's long-term nature. To accommodate time span concerns, an exercise can simulate months in the span of hours. Measures for exercises and scenarios need to specifically address the impact of a lingering public health emergency on at-risk populations in which little external support and assistance are available. Health departments should also realize that other agencies may be planning to work with the same CBOs and FBOs in their preparedness plans, which may affect the efficacy of the health department's plans.

HSEEP's flexible framework also enables health departments and other agencies to establish an effective plan for pandemic influenza preparedness by tailoring exercises to incorporate the needs of at-risk populations. Health departments need to ensure that the exercise scenarios, objectives, and injects have details that focus on locally relevant at-risk populations (see the [table](#) at the end of the chapter for examples). Planners should consider developing additional evaluation criteria specific to at-risk populations to complement the federal exercise evaluation guides. The best way to develop accurate and appropriate exercise scenarios, objectives, and injects is to directly involve at-risk populations. Participants from both public engagements held for this project strongly felt that at-risk populations should be included in the planning and implementation of drills and exercises.<sup>8,9</sup> Holding exercises at the appropriate time in planning is also important – at-risk populations, CBOs, and FBOs should be involved from the beginning. If they have not assisted in developing appropriate plans before an exercise is held, the exercises may not be as effective in evaluating the plans for at-risk populations.

Exercise objectives, injects, and evaluation guides addressing the needs and characteristics of at-risk populations need to build off the *factors* listed in the proposed definition for at-risk populations given in this guidance. Objectives and measures should be simple, measurable, attainable, realistic, and task-oriented (SMART). The initial quantifiable target for measures should be based on baseline data or an arbitrary goal until baseline data is collected (e.g., 80 percent of alternate care sites are accessible via public transportation). Targets for measures should be raised as they are attained. Additional tools should be included in the evaluation process to provide an overall quality assurance program.

The broad topic areas for exercises, listed below, are modified from the National Response Framework and include suggested objectives for organizational exercises to address the needs of at-risk populations. More specific and detailed objectives for exercises are located in the tables at the end of the chapter.

- *Transportation*: Assess the availability of transportation services
- *Communication* (including use of and communication with the media): Assess the availability of messages in appropriate languages; appropriate reading levels; multiple formats; and for unaccompanied people
- *Medical Staff and Supplies*: Assess the availability of hard medical equipment (e.g., walkers, crutches); affordable or free supplies for people with low or no incomes; services for individuals with a physical, cognitive, or sensory disability; medical staff; availability of vaccines and appropriate medical staff to administer them
- *Isolation and Quarantine*: Assess the organization's ability to successfully isolate or quarantine individuals, if necessary



## **Recommended Planning Activities**

The primary recommendations for public health planners to implement are included here. Additional recommendations that should be undertaken as time and resources allow are included in the next section.

- Include at-risk populations in evaluation as planners, participants, and part of scenario development in exercise design, implementation, and evaluation.
- Implement a quality assurance program for at-risk populations and pandemic influenza planning that tests, evaluates, exercises, and improves the process of providing services for at-risk populations.

*Staff and funding vary tremendously among state, territorial, tribal and local entities, so not all of the potential planning activities listed below will be feasible for all agencies. However, preparedness planners should identify which of the following steps would help them achieve the recommendations listed above.*

### **HSEEP-SPECIFIC RECOMMENDATIONS**

- Use HSEEP as a framework for exercise design, implementation, and evaluation.
- Add exercise objectives, exercise injects, and customized exercise evaluation guides to HSEEP exercises to address the needs of at-risk populations at the local level.
- Specifically address the long-term nature of an influenza pandemic in measures for exercises and scenarios.
- Conduct after-action reviews with exercise participants.
- Use evaluation findings to outline corrective actions in an improvement plan. Make the indicated corrective actions in preparedness planning.
- Provide abbreviated versions of HSEEP that are applicable to local collaborating agencies and organizations that are not generally familiar with HSEEP.

### **GENERAL EVALUATION RECOMMENDATIONS**

- Fund evaluation activities.
- Incorporate evaluation into current planning and routine organizational activities.
- Define which entities are responsible for conducting evaluation activities, analyzing data, and reporting results.
- Gather both quantitative and qualitative data to complement and focus data.
- Identify a standard set of questions to measure preparedness levels across all audiences, modifying questions to address the needs of at-risk populations.
- Develop pandemic influenza-specific objectives for at-risk populations that address the varying degrees of pandemic severity, the estimated time-span of an influenza pandemic, and pandemic influenza preparedness activities.
- Use the same tool consistently to compare preparedness over time. Acknowledge variables that may change or arise over time, therefore potentially affecting your tool and data.
- Use trusted messengers when conducting assessments.
- Include caregivers or conduct household-level surveys if you suspect individuals may have barriers to completing the survey tool.
- Gather baseline data on objectives for exercise activities and programs wherever possible in order to measure improvement over time.
- Adopt or adapt existing evaluation templates to exercises and programs.
- Address collaborative barriers, such as requiring certain planning activities of state-funded agencies; awarding grants to agencies to assist with program continuity; offering technical assistance to organizations; and taking time to directly meet and establish relationships with organizations.

### **Sample Tools and Practices**

The first table below contains sample primary and supplemental evaluation tools. The second table provides examples for both discussion-based and operations-based exercises components that address at-risk populations.

<b>Material</b>	<b>Description</b>	<b>URL</b>
<b>Primary Evaluation Tool</b>		
Homeland Security Exercise and Evaluation Program (HSEEP)	HSEEP is an exercise-based program for state and local health departments to assess public health system capabilities through standardized exercise design, development, implementation, evaluation, and improvement planning.	<a href="https://hseep.dhs.gov/">https://hseep.dhs.gov/</a>
Public Health Emergency Exercise Toolkit, Columbia University School of Nursing	This toolkit is intended to guide local public health agency staff in (1) developing, implementing, and evaluating emergency drills and exercises, and (2) facilitating the public health aspects of larger, multiagency emergency exercise events. The information provided in this document acknowledges the approaches recommended by the US Department of Homeland Security’s (DHS) Office of Domestic Preparedness (ODP) and by the Homeland Security Exercise and Evaluation Program (HSEEP).	<a href="http://www.nursing.columbia.edu/pdf/PublicHealthBooklet_060803.pdf">http://www.nursing.columbia.edu/pdf/PublicHealthBooklet_060803.pdf</a>
Public Health – Seattle and King County Exercise Steps	This is a scaled-down version of HSEEP that makes the overall exercise and evaluation process easier to follow.	<ol style="list-style-type: none"> <li>1. Conduct a needs assessment: <i>Why do we need this exercise? What do we want to accomplish that will improve our plan, enhance our capability, improve our operations, etc.</i></li> <li>2. Define the scope of the exercise: <i>What actions do we want participants to perform? This helps define the invitation list.</i></li> <li>3. Develop and advertise a purpose statement: <i>Articulate a clear need for the exercise and what will result from participation in it.</i></li> <li>4. Issue an exercise directive: <i>Although an invitation from “on high,” use this step to alleviate common fears.</i></li> <li>5. Develop and advertise objectives: <i>Start with a verb. Make them smart, measurable, achievable, realistic and task-oriented. The reaction to the objectives will itself improve your operational readiness.</i></li> <li>6. Develop a Master Scenario Events List: <i>Develop the story line or table of contents. List the events that must happen for the story to unfold.</i></li> <li>7. Develop an introductory narrative: <i>Write the story. Make it believable.</i></li> </ol>

Material	Description	URL
		<ol style="list-style-type: none"> <li>8. Develop a list of expected actions: <i>Events should be designed to drive certain actions. Identify the actions to help you evaluate the exercise.</i></li> <li>9. Develop problem statements or messages: <i>These are the pieces of dialog that make your story real and engaging.</i></li> <li>10. Conduct the exercise: <i>Flexibility is key – no one learns anything being either overwhelmed or bored. Pace the action to enhance problem-solving.</i></li> <li>11. Evaluate the exercise: <i>Observe and document whether the plans worked; the purpose of the exercise is to test plans, not people.</i></li> <li>12. Compile an after-action report (AAR): <i>Participants and senior leadership will want to know what was learned from this experience – both good and bad.</i></li> <li>13. Compose a corrective action report: <i>Once we have learned what needs to be improved, <u>who</u> will do <u>what</u>, <u>how</u> and by <u>when</u>?</i></li> </ol>
<b>Supplemental Evaluation Tools for General Populations</b>		
Indiana State Department of Health Individual/Family, Workplace and School Pandemic Influenza Preparedness Evaluation	The three separate Indiana State Department of Health pandemic influenza preparedness evaluations measure the preparedness level of individuals/families, workplaces, and schools.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=96&amp;state-id=19">http://www.pandemicpractices.org/practices/resource.do?resource-id=96&amp;state-id=19</a>
National Association of County and City Health Officials (NACCHO) Pandemic Influenza Table-Top Exercise Template	This template is intended to be a guide to create tabletop exercises that can be easily adjusted to meet the needs of exercise planners. The template includes objectives, points of review, local events and discussion questions for three pandemic response functions: <i>Business Continuity, Epidemiology and Surveillance, and Community Containment.</i>	<a href="http://www.naccho.org/topics/emergency/Pandemic_TabletopNACCHO.cfm">http://www.naccho.org/topics/emergency/Pandemic_TabletopNACCHO.cfm</a>
US Department of Homeland Security Lessons Learned Information Sharing	This site contains documents relating to Lessons Learned, Best Practices, innovative ideas, preparedness information, and after-action reports for emergency response professionals.	<a href="http://www.llis.gov/">http://www.llis.gov/</a>
<b>Supplemental Evaluation Tools for At-Risk Populations</b>		
At-risk population exercise injects	<i>(see samples in table below)</i>	

<b>Material</b>	<b>Description</b>	<b>URL</b>
Deaf Smart Project	The Deaf Smart materials provide an overview for planners on an exercise that consulted with the deaf and hard of hearing community to determine the best communication strategies during an emergency.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=307&amp;state-id=28">http://www.pandemicpractices.org/practices/resource.do?resource-id=307&amp;state-id=28</a>
Kansas Vulnerable Populations Outreach	This toolkit is a four-tiered grouping that includes forms for communities, agencies, and households. It provides detailed assessments for needs experienced by the elderly; disabled; non-English speakers; and people who live in shelters, institutional facilities, and other specialized housing. Some of the tools are translated into Spanish.	<a href="http://www.pandemicpractices.org/practices/resource.do?resource-id=291&amp;state-id=20">http://www.pandemicpractices.org/practices/resource.do?resource-id=291&amp;state-id=20</a>
National Association of State Directors of Developmental Disabilities Services (NASDDDS) Emergency Response Preparedness Self-Assessment Instrument	The NASDDDS tool assists state developmental disabilities officials in assessing how their current preparedness plans incorporate the needs and characteristics of people with intellectual and developmental disabilities during an emergency.	<a href="http://rtc.umn.edu/erp/main/index.asp">http://rtc.umn.edu/erp/main/index.asp</a>
Template for District Health Department Health Preparedness Coordination with Indian Tribes in Idaho	This template helps districts evaluate tribal preparedness and their own coordination with tribal preparedness coordinators.	<a href="http://www.naccho.org/_toolbox/Coordination%20with%20Indian%20Tribes_Southwest_R2.pdf">http://www.naccho.org/_toolbox/Coordination%20with%20Indian%20Tribes_Southwest_R2.pdf</a>
<b>Tools for Organizations</b>		
Public Health – Seattle and King County Non-Hospital Provider Emergency Preparedness Grants	Public Health – Seattle and King County developed an RFP in early 2008 that would allow non-hospital providers to build their resiliency and maintain operations during an emergency. As part of the process, the county provided financial and technical assistance (i.e., small grants and continuity workshops) to non-hospital providers.	Region 6 Healthcare Preparedness Newsletter detailing the RFP process: <a href="http://www.metrokc.gov/health/hccoalition/updates/March2008-update.pdf">http://www.metrokc.gov/health/hccoalition/updates/March2008-update.pdf</a>
Ready in 3, Missouri Department of Health and Senior Services	Ready in 3 materials provide a free emergency preparedness curriculum aimed at motivating students and their parents to prepare in advance of an emergency. Tools include a lesson plan, teacher’s guide, and student quiz.	Lesson plan is available at: <a href="http://www.dhss.mo.gov/Ready_in_3/LessonPlanVideo.pdf">http://www.dhss.mo.gov/Ready_in_3/LessonPlanVideo.pdf</a>

### Discussion-based Exercises

Discussion-based exercises are normally used as a starting point in the building-block approach of escalating exercise complexity. Discussion-based exercises include seminars, workshops, tabletop exercises, and games. These types of exercises typically highlight existing plans, policies, interagency/inter-jurisdictional agreements, and procedures. Discussion-based exercises are valuable tools for familiarizing agencies and personnel with current or expected capabilities of an entity. Discussion-based exercises typically focus on strategic, policy-oriented issues. Facilitators and/or presenters usually lead the discussion, keeping participants on track toward meeting exercise objectives.

Basic Exercise Scenario	Sample Exercise Scenario Prompt	Issues for Discussion	Potential Players	Risk Factor(s) Addressed
<b>Sample Exercise Objective: Assess the jurisdiction’s capability to anticipate and effectively address challenges posed by transportation system infrastructure changes during an influenza pandemic.</b>				
<ul style="list-style-type: none"> <li>• The jurisdiction has moved from suspected cases to a limited outbreak to widespread cases in the course of a few weeks.</li> <li>• Based upon available epidemiologic data, CDC has declared a Pandemic Severity Index 1 with the following recommended response actions:                             <ul style="list-style-type: none"> <li>- Voluntary home isolation of ill adults and children</li> <li>- No other social distancing recommended</li> </ul> </li> </ul>	Transportation system administrators in the jurisdiction report a significant worker shortage due to influenza-related illnesses. This shortage will require an immediate reduction in public transportation services until worker attendance levels increase or replacement workers can be deployed.	<ul style="list-style-type: none"> <li>• How are public transportation priorities set and by whom?</li> <li>• What criteria and data will be used to make those decisions?</li> <li>• How will changes in public transportation availability be communicated to the public?</li> <li>• What are the predicted effects on people who rely on public transportation for employment, essential medical visits, etc.?</li> <li>• Are those predicted effects distributed evenly across your community or are some groups of people affected more severely than others?</li> <li>• If the impact is disproportionate, what issues does that raise in your community?</li> <li>• How will your department or agency work to minimize those effects and with whom will you work?</li> <li>• Are there pre-event planning activities that could prevent or minimize this problem?                             <ul style="list-style-type: none"> <li>- What are the roles and responsibilities of various local and state government agencies to address the challenges posed by this scenario?</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Public health</li> <li>• Human services</li> <li>• Public transportation</li> <li>• CBOs/FBOs</li> <li>• Members of at-risk populations</li> <li>• Others</li> </ul>	<ul style="list-style-type: none"> <li>• Economic disadvantage</li> <li>• Needing support to be independent</li> <li>• Absence of a support network</li> </ul>

<b>Basic Exercise Scenario</b>	<b>Sample Exercise Scenario Prompt</b>	<b>Issues for Discussion</b>	<b>Potential Players</b>	<b>Risk Factor(s) Addressed</b>
<ul style="list-style-type: none"> <li>• The jurisdiction has moved from suspected cases to a limited outbreak to widespread cases in the course of a few weeks.</li> <li>• Based upon available epidemiologic data, CDC has declared a Pandemic Severity Index 5 with the following recommended response actions:                             <ul style="list-style-type: none"> <li>– Voluntary home isolation of ill adults and children</li> <li>– Voluntary quarantine of household members in homes with ill persons</li> <li>– Child and adult social distancing for a period of 12 weeks</li> </ul> </li> </ul>	<p>Aggressive social distancing recommendations have led to the imminent suspension of public transportation in the jurisdiction.</p>	<ul style="list-style-type: none"> <li>• What public transportation modes in the jurisdiction will be affected by this suspension?</li> <li>• What information is available about the size and characteristics of the population affected by the suspension?</li> <li>• In what languages, through which spokespeople, in what formats and through which channels will information about the suspension be shared with the public?</li> <li>• What alternative modes of transportation, if any, are available?</li> <li>• What are the predicted effects on persons who rely on public transportation for employment, essential medical visits, etc.?</li> <li>• What are the roles and responsibilities of various local and state government agencies to address the challenges posed by this scenario?</li> <li>• Are there pre-event planning activities that could prevent or minimize this problem?</li> </ul>	<ul style="list-style-type: none"> <li>• Public health</li> <li>• Human services</li> <li>• Public transportation</li> <li>• CBOs/FBOs</li> <li>• Members of at-risk populations</li> <li>• Others</li> </ul>	<ul style="list-style-type: none"> <li>• Economic disadvantage</li> <li>• Needing support to be independent</li> <li>• Absence of a support network</li> </ul>



Basic Exercise Scenario	Sample Exercise Scenario Prompt	Issues for Discussion	Potential Players	Risk Factor(s) Addressed
<b>Sample Exercise Objective: Assess the jurisdiction’s capability to anticipate and effectively address healthcare and human service system overloads during an influenza pandemic.</b>				
<ul style="list-style-type: none"> <li>• The jurisdiction has moved from suspected cases to a limited outbreak to widespread cases in the course of a few weeks.</li> <li>• Based upon available epidemiologic data, CDC has declared a Pandemic Severity Index 3 with the following recommended response actions:                             <ul style="list-style-type: none"> <li>– Voluntary home isolation of ill adults and children</li> <li>– Voluntary quarantine of household members in homes with ill persons</li> <li>– Child and adult social distancing for a period of 4 weeks</li> </ul> </li> </ul>	<p>Due to public concern over the rapidly escalating situation, a sudden increase of incoming calls comes through the 9-1-1 system and significantly overloads the system.</p>	<ul style="list-style-type: none"> <li>• What plans are in place in the jurisdiction to address 9-1-1 system overload?</li> <li>• What other proactive communication systems will be used to prevent overuse of the 9-1-1 system by those with concerns about influenza symptoms?</li> <li>• How are 9-1-1 calls in languages other than English handled?</li> <li>• What specific information will be provided to the public in this situation?</li> <li>• What modes of communication will be used to ensure that important information is provided to all citizens?</li> </ul>	<ul style="list-style-type: none"> <li>• Public health</li> <li>• Emergency medical services</li> <li>• Human services</li> <li>• CBOs/FBOs</li> <li>• Members of at-risk populations</li> <li>• County Sheriff, local police</li> <li>• Poison control center or other health information offices with large phone bank capacity</li> <li>• Health department</li> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Needing support to be independent</li> <li>• Trouble reading, speaking, or understanding English</li> </ul>
	<p>Several home health care agencies have contacted local hospitals and local public health agencies indicating that they are unable to meet the needs of their client population.</p>	<ul style="list-style-type: none"> <li>• What information is available about the size and characteristics of the population that will be affected this development?</li> <li>• What surge capacity plans are available for this important service?</li> <li>• In what languages, through which spokespeople, in what formats and through which channels will this new information be communicated to client populations?</li> </ul>	<ul style="list-style-type: none"> <li>• Home health care agencies</li> <li>• Healthcare systems</li> <li>• Public health</li> <li>• Human services</li> <li>• Members of at-risk populations</li> <li>• Others</li> </ul>	<ul style="list-style-type: none"> <li>• Needing support to be independent</li> <li>• Absence of a support network</li> </ul>

## Operations-based Exercises

Operations-based exercises provide a simulated test of response system capabilities and activities. Operations-based exercises include drills, functional exercises, and full-scale exercises. These exercises typically test existing plans, policies, interagency/inter-jurisdictional agreements, and procedures, as well as existing capabilities, staffing characteristics and resource coordination capabilities. Operations-based exercises are valuable tools for simulating emergency-driven response activities. Operations-based exercises typically focus on procedural and functional issues.

**Target Capability: Develop, coordinate, and disseminate accurate alerts and emergency information to the media and the public prior to an impending emergency and activate warning systems to notify those most at-risk in the event of an emergency. By refining its ability to disseminate accurate, consistent, timely, and easy-to-understand information about emergency response and recovery processes, a jurisdiction can contribute to the well-being of the community during and after an emergency.**

**Sample Exercise Objective: Assess the jurisdiction’s capability to rapidly and effectively disseminate risk communication information to stakeholder partners in order to reach at-risk populations identified in local planning assessments.**

Basic Exercise Scenario	Sample Exercise Inject	Tasks Observed	Customized Evaluation Guide	Risk Factor(s) Addressed
<ul style="list-style-type: none"> <li>• H5N1 influenza cases have been reported from a number of areas in Asia with documented human-to-human transmission.</li> <li>• The World Health Organization officially declares the onset of an influenza pandemic.</li> <li>• Suspect cases of influenza are under review in a number of major cities in the United States.</li> </ul>	<p>Due to the anticipated pandemic activity in the US and reported widespread misinformation and public concern, jurisdictional officials order the immediate implementation of a broad-based public information effort.</p>	<ul style="list-style-type: none"> <li>• Emergency public information is provided to at-risk populations identified through local planning assessments.</li> </ul>	<ul style="list-style-type: none"> <li>• Information is provided in multiple languages, formats, and technologies.</li> <li>• Communication directories are in place for appropriate contacts in isolated communities and populations. The information has been transmitted and receipt has been confirmed by stakeholder partners.</li> <li>• Stakeholder partners confirm that they have provided the information to their constituents through appropriate communication channels.</li> </ul>	<ul style="list-style-type: none"> <li>• Economic disadvantage</li> <li>• Needing support to be independent</li> <li>• Absence of a support network</li> <li>• Trouble reading, speaking, or understanding English</li> </ul>

## **Afterword**

Many laudable projects to protect at-risk populations have been undertaken from the community level to the federal level across the United States, yet holes remain in the safety nets meant to protect the most vulnerable individuals. The guidance document is intended to fill a key gap in pandemic influenza preparedness involving those most at risk.

This guidance is the result of research to assess federal, state, territorial, tribal, and local pandemic preparedness activities pertaining to at-risk populations, and to identify promising practices and approaches being developed across the country and US territories. In addition to developing a series of recommendations in five key planning areas, this project has also been used to model, to the extent possible, the collaboration and engagement activities recommended in its pages.

The Association of State and Territorial Health Officials (ASTHO), working under a cooperative agreement from the Centers for Disease Control and Prevention (CDC) reached out to many organizations: the National Association of County and City Health Officials (NACCHO) in Washington, DC; to the Keystone Center in Keystone, CO; to the Center for Infectious Disease Research and Policy at the University of Minnesota; to the Massachusetts, Boston, Kansas and Missouri health departments; and to the civic engagement organization One KC Voice. Those groups collaborated to convene extraordinary groups of experts:

- 19 Advisory Panel members who guided this project;
- 66 work group members with professional expertise whose input led to creation of the chapters in this guidance document;
- Representatives of key national stakeholder organizations who help at-risk clients and members; and
- More than 120 individuals from the Boston and Kansas City areas who are at risk or who directly assist others at risk.

Input from all of those people was used to develop the draft guidance. It was then made public so that anyone with an interest could comment on the document and offer additional suggestions. This guidance is not the end of pandemic planning for at-risk populations; planning is fluid and influenced by numerous moving parts. This guidance is the result of a fruitful and intensive collaboration using best collective professional judgment and drawing upon many real world experiences and lessons learned to determine how to protect at-risk populations during an influenza pandemic. We hope that this document, informed through a combination of expertise and experience, helps you and your organization further that mission.

## Appendices

### Appendix A: Acknowledgments

The following agencies, organizations, and individuals each held a distinct and integral role in the overall At-Risk Populations Project and, without whom, this guidance would not be possible.

<b>Participating Agencies, Organizations, and Groups</b>	
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## **Appendix B: Glossary**

*\*Terms not specifically cited were gleaned from discussions within the Work Groups\**

**Antiviral medications:** Medications presumed to be effective against potential pandemic influenza virus strains. These antiviral medications include the neuraminidase inhibitors oseltamivir (Tamiflu<sup>®</sup>) and zanamivir (Relenza<sup>®</sup>).<sup>1</sup>

**At-risk populations:** In an influenza pandemic, everyone will be at risk of infection. Therefore, the definition used in this guidance does not focus on who is most at risk of infection, but who is most **at risk of severe consequences** from the pandemic. This guidance does not solely address direct impacts from the pandemic, but also the secondary or tertiary effects that at-risk populations may experience even without being infected with the virus. Community mitigation strategies may result in resources being unavailable, causing consequences on populations' health, safety, and well-being.

Federal, state, territorial, tribal or local governments will not have the resources to provide care for everyone during an influenza pandemic. As a result, many educational materials and guidance documents have been produced that encourage individuals and families to plan to care for themselves. However, there will be people who are unable to take care of themselves. These are the people who are considered to be the at-risk populations during and after<sup>82</sup> an influenza pandemic. They may, for example, have more difficulty understanding health messages, reaching medical services, or stockpiling food, and require assistance to meet basic needs or obtain routine or emergency medical care.

*Certain factors will increase a person's risk of negative outcomes on essential health, safety, and well-being; they may experience significant barriers, and therefore need help maintaining medical care, food, and shelter. Factors that increase the risk of harm during an influenza pandemic include:*

- A. *Economic disadvantage (e.g., having too little money to stockpile supplies, or to stay home from work for even a short time)*
- B. *Absence of a support network (e.g., some children; homeless; travelers; and the socially, culturally, or geographically isolated)*
- C. *Needing support to be independent in daily activities because of:*
  - a. *Physical disability*
  - b. *Developmental disability*
  - c. *Mental illness or substance abuse/dependence*
  - d. *Difficulty seeing or hearing*
  - e. *Medical conditions*
- D. *Trouble reading, speaking, or understanding English*

People may fall into more than one factorial grouping, potentially increasing their risk of consequences during an influenza pandemic.

**Cadastral databases:** Cadastral maps describe the characteristics and structure of US property parcels; and they can be helpful in locating physical infrastructure (e.g., schools, transportation) within a community.

**Catastrophic health event:** Any natural or manmade incident, including terrorism, that results in a number of ill or injured persons sufficient to overwhelm the capabilities of immediate local and regional emergency response and healthcare systems.<sup>2</sup>

**Collaboration:** Working in conjunction with others.<sup>3</sup> Collaboration may be pursued simultaneously at two levels:

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<sup>82</sup> *While the focus of this definition is on the impacts during and after an influenza pandemic some preparedness activities specifically for at-risk populations will need to occur before a pandemic in order to fully assist these populations.*

1. Collaborative and educational efforts that focus on preparing individuals and the organizations that serve them to respond to an influenza pandemic, and;
2. Efforts to ensure at-risk individuals shape the pandemic influenza planning and policies that affect their lives.

**Collaborative network:** An effective network that 1) exists between at-risk individuals and the community organizations that serve them; 2) typically addresses the needs of at-risk individuals; and 3) consists of collaborative partners who are trusted by community members.

**Community-based organization (CBO):** [Groups, including 501(c) 3 nonprofits] which have social services as a major part of their mission and are headquartered in the social community to which they provide these services.<sup>4</sup>

**Communication channels/vehicles:** Means, methods and formats through which messages to at-risk populations can be disseminated.

**Community engagement:** Structured dialogue, joint problem-solving, and collaborative action among formal authorities, citizens at-large, and local opinion leaders around a pressing public matter.<sup>5</sup>

**Community mitigation strategy:** A strategy for the implementation at the community level of interventions designed to slow or limit the transmission of a pandemic virus.<sup>1</sup>

**Community Outreach Information Network (COIN):** A grassroots network of people and trusted leaders who can help with emergency planning and serve to give information to at-risk populations in emergencies.<sup>6</sup>

**Community resiliency:**

1. The ability of a community to provide for the needs of its residents, as indicated by the amount of resources present within a community and the ability of the community to mobilize those resources in order to satisfy needs.
2. Where local civic leaders, citizens, and families are educated regarding threats and are empowered to mitigate their own risk, where they are practiced in responding to events, where they have social networks to fall back upon, and where they have familiarity with local public health and medical systems, there will be community resilience that will significantly attenuate the requirement for additional assistance.<sup>7</sup>

**Continuity of Operations Plan (COOP):** Effort within individual organizations to assure continuance of their minimum essential functions across a wide range of potential emergencies.<sup>8</sup>

**Cough etiquette:** Covering one's mouth and nose while coughing or sneezing; using tissues and disposing in no-touch receptacles; and washing your hands to avoid spreading an infection to others.<sup>1</sup>

**Countermeasures:** Refers to pre-pandemic and pandemic influenza vaccine and antiviral medications.<sup>1</sup>

**Cultural broker:** One who serves to bridge, link or mediate between groups or persons of differing cultural backgrounds for the purpose of reducing conflict or producing change.<sup>9</sup>

**Deaf/deaf:** "deaf" in general refers to those who are unable to hear well enough to rely on their hearing and use it as a means of processing information. "Deaf" refers to a particular group of deaf people who share a language, American Sign Language (ASL), and a culture.<sup>10</sup>

**Disability:**

1. Applies to characteristics that are noticeable (reliance on wheelchairs, blindness, deafness) but also to people with heart disease, emotional or psychiatric conditions, arthritis, significant allergies, asthma, multiple chemical sensitivities, respiratory conditions, some visual, hearing, and cognitive disabilities.<sup>11</sup>
2. The presence of a physical, cognitive, sensory, emotional, or other condition that impacts/influences that person's level of functioning such that assistance/accommodation may be

needed to maintain safety and independence. The person's level of independence or functioning may vary given the situation.<sup>12</sup>

**Faith-based organization (FBO):** Religious or religiously affiliated organizations, including religious congregations (such as churches, synagogues, temples, or mosques), affiliates of national religious organizations, or independent religiously inspired or expressly religious service organizations, [and non-profits].<sup>13</sup>

**Fotonovelas:** Comic-style novels that use photos instead of illustrations.

**Geographic quarantine:** The isolation, by force if necessary, of localities with documented disease transmission from localities still free of infection.

**Hand hygiene:** Hand-washing with either plain soap or antimicrobial soap and water and use of alcohol-based products (gels, rinses, foams) containing an emollient that do not require the use of water.<sup>1</sup>

**Hard of hearing:** A person with mild to moderate hearing loss.<sup>8</sup>

**Homeland Security Exercise and Evaluation Program (HSEEP):** A capabilities- and performance-based exercise program that provides a standardized methodology, and terminology for exercise design, development, conduct, evaluation, and improvement planning in emergency preparedness and response.<sup>14</sup>

**Independent living center (ILC):** Non-residential, private, non-profit, consumer-controlled, community-based organizations providing services and advocacy by and for persons with all types of disabilities.<sup>15</sup>

**Infection control:** Hygiene and protective measures to reduce the risk of transmission of an infectious agent from an infected person to uninfected persons (e.g., hand hygiene, cough etiquette, use of personal protective equipment, such as face masks and respirators, and disinfection).<sup>16</sup>

**Influenza pandemic:** A worldwide epidemic caused by the emergence of a new or novel influenza strain to which humans have little or no immunity and which develops the ability to infect and be transmitted efficiently and sustainably between humans.<sup>1</sup>

**Isolation:**

1. Separation of infected individuals from those who are not infected.<sup>1</sup>
2. People in remote rural areas and in dense urban areas who are outside the “mainstream” of contemporary American life, by choice, or by simple fact of life<sup>17</sup>

Examples of isolated people include: rural populations of ranchers, farmers, and people who live in sparsely populated mountain and hill communities; temporary residents (on a military base, a college campus, or in migrant workers' camps); undocumented immigrants; single parents and caregivers; and certain religious groups, such as Amish and Mennonite communities.<sup>6</sup>

**Limited English Competency:** Persons who do not speak English as their primary language and who have a limited ability to read, speak, write, or understand English may have limited English competency. This is different from “limited English proficiency” which infers a greater ability with the language than having competency.

**Medical condition:** A chronic or acute condition (e.g., laceration, broken bone, asthma, diabetes, etc.) requiring professional medical supervision or attention. The person's level of independence or functioning may vary given the situation.

**Memorandum of understanding (MOU):** A document that formalizes collaboration between two or more persons or entities; it frequently clarifies the roles and responsibilities of all interested parties.

**Messengers:** Trusted individuals and organizations within an at-risk community who can communicate with and educate at-risk populations before, during and after a pandemic. Messengers are sometimes referred to as communication *partners*. A messenger may differ from a *spokesperson*, who is usually a designated individual assigned to play a specific communication role on behalf of a particular group.

**Nonpharmaceutical interventions (NPI):** Mitigation measures implemented to reduce the spread of an infectious disease (e.g., pandemic influenza) that do not include pharmaceutical products, such as vaccines and medicines. Examples include social distancing, hand-washing, and wearing masks.

**Pandemic (influenza):** A worldwide epidemic caused by the emergence of a new or novel influenza strain to which humans have little or no immunity and which develops the ability to infect and be transmitted efficiently and sustainably between humans.<sup>1</sup>

**Pictograms:** Illustrations that symbolize particular actions or ideas. In relation to pandemic influenza preparedness, they can be beneficial in communicating and educating low-literacy or limited-English proficiency populations, the deaf and hearing-impaired, and those with cognitive disabilities, as well as suitable for a more general audience.

**Policy-focused engagement:** Engagement activities that are designed to include community members in policy decision-making processes.

**Preparedness:** The 2008 US National Response Framework definition: Actions that involve a combination of planning, resources, training, exercising, and organizing to build, sustain, and improve operational capabilities. Preparedness is the process of identifying the personnel, training, and equipment needed for a wide range of potential incidents, and developing jurisdiction-specific plans for delivering capabilities when needed for an incident.<sup>18</sup>

**Prophylaxis:** Prevention of disease or of a process that can lead to disease. With respect to pandemic influenza this specifically refers to the administration of antiviral medications to healthy individuals for the prevention of influenza.<sup>1</sup>

**Public health and medical preparedness:** The existence of plans, procedures, policies, training, and equipment necessary to maximize the ability to prevent, respond to, and recover from major events, including efforts that result in the capability to render an appropriate public health and medical response that will mitigate the effect of illness and injury, limit morbidity and mortality to the maximum extent possible, and sustain societal, economic, and political infrastructure.<sup>2</sup>

**Quarantine:**

1. Separation of individuals who have been exposed to an infection but are not yet ill from others who have not been exposed to the transmissible infection.<sup>1</sup>
2. A restraint upon the activities or communication (e.g., physical separation or restriction of movement within the community/work setting) of an individual(s) who has been exposed to an infection but is not yet ill to prevent the spread of disease; quarantine may be applied voluntarily (preferred) or on compulsory basis dependent on legal authority.<sup>12</sup>

**Respiratory hygiene messages:** Messages that focus on controlling infection and preventing the spread of influenza, such as covering your cough and hand-washing and sanitation.

**Reverse 9-1-1<sup>®</sup>:** A phone and computer based notification system that sends automatic phone messages to specified numbers within a database. The system can also be used for TTY calling for the hearing impaired.<sup>19</sup>

**Risk-abatement activities:** Specific activities, such as the development of personal preparedness goals, which allow an individual to decrease the probability that he or she will face adverse outcomes in the event of an emergency.

**Risk communication:** An interactive process of exchanging information and opinion among individuals, groups, and institutions; often involves multiple messages about the nature of risk or expressing concerns, opinions, or reactions to risk messages or to legal and institutional arrangements for risk management.<sup>20</sup>

**Risk message:** A written, verbal, or visual statement containing information about risk; may or may not include advice about risk reduction behavior; a formal risk message is a structured written, audio, or visual package developed with the express purpose of presenting information about risk.<sup>17</sup>

**Section 508 compliance:** An amendment to the Rehabilitation Act that requires federal agencies to make their electronic and information technology accessible to people with disabilities. It requires that when Federal agencies develop, procure, maintain, or use electronic and information technology, Federal employees with disabilities have access to and use of information and data that is comparable to the access and use by Federal employees who are not individuals with disabilities, unless an undue burden would be imposed on the agency.<sup>21</sup>

**Social distancing:**

1. Infection-control strategies that reduce the duration and/or intimacy of social contacts and thereby limit the transmission of influenza. There are two basic categories of intervention: transmission interventions, such as the use of facemasks, may reduce the likelihood of casual social contacts resulting in disease transmission; contact interventions, such as closing schools or canceling large gatherings, eliminate or reduce the likelihood of contact with infected individuals.<sup>1</sup>
2. Measures to increase the space between people and decrease the frequency of contact among people.<sup>12</sup>
3. Non-pharmaceutical intervention implemented to discourage or prohibit close social contact between individuals in schools, sports facilities, churches, and other places of public gathering. These measures may be advertised to the public as voluntary, or they may involve closing public gathering places or prohibitions of public events and gatherings.<sup>22</sup>

**Standard of care:** The level of care that is reasonably expected under the extant circumstances.<sup>1</sup>

**Surge capacity:** Refers to the ability to expand provision of services beyond normal capacity to meet transient increases in demand. Surge capacity within a medical context denotes the ability of health care or laboratory facilities to provide care or services above their usual capacity, or to expand manufacturing capacity of essential medical materiel (e.g., vaccine) to meet increased demand.<sup>1</sup>

**Telenovelas:** Spanish language television mini-series soap operas. In reference to pandemic influenza, this format can be used to communicate and educate at risk populations about preparedness.

**Train-the-trainer programs:** Programs that are designed 1) to educate participants about a particular topic or skill; and 2) to ensure that these participants can proficiently deliver the course content to others.

**Glossary Endnotes**

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## Supplement: Proposed Timeline for Enacting Recommendations

This grid<sup>83</sup> describes specific pandemic planning and response actions identified in the *At-Risk Populations and Pandemic Influenza: Planning Guidance for State, Territorial, Tribal, and Local Health Departments* by pandemic phase and severity. The grid should be used as a complement to the guidance. Details of the actions suggested in the grid can be found in the guidance chapter with the same title.

It is important to note that the primary recommendation for public health planners to implement is included in each section in bold type. Additional recommendations follow. The authors recognize that staff and funding vary tremendously among state, territorial, tribal and local entities. Clearly not all of the activities listed under the primary recommendations will be feasible for all agencies. However, preparedness planners should identify which activities are useful to help them address the primary recommendations.

GRID A	
WHO Phase 1-3, US Stage 0: <i>Low risk of human cases; Higher risk of human cases; No, or very limited, human-to-human transmission</i>	
<b>Collaboration with and Engagement of the At-Risk Community</b>	<ul style="list-style-type: none"> <li>• <b>Join an existing network or create a network with representation from at-risk individuals, FBOs, CBOs and additional key partners, such as media outlets, which brings together partners to conduct pandemic and all-hazards planning.</b></li> <li>• Contribute to network resiliency by providing tools such as COOP planning and personal preparedness training and materials.</li> <li>• Identify and reach out to non-traditional leaders who may not occupy obvious or formal roles.</li> <li>• Consider funding opportunities for CBOs or FBOs through mini-grants to promote collaboration.</li> <li>• Incorporate pandemic influenza-specific initiatives into ongoing risk-abatement activities to foster preparedness and meet partners' needs.</li> <li>• Designate a staff member to build and maintain relationships.</li> <li>• Disseminate preparedness information as part of existing outreach efforts, emphasizing that preparedness allows community members to fulfill their mission.</li> <li>• Use networks for routine and emergency activities and communication.</li> <li>• Involve at-risk populations in all phases of the planning process and policy development and conduct engagement meetings to address specific policy questions.</li> <li>• Determine how to approach engagement, which partners may enhance the process, and whether the goal is best met through inviting the general populations or only at-risk populations.</li> <li>• Obtain buy-in for engagement meetings from key leaders.</li> <li>• Consider using a model that can be adjusted based upon engagement goals, such as the PACE model.</li> <li>• In meetings, provide participants with necessary information for discussion and decision making. Keep information simple and relevant.</li> </ul>

<sup>83</sup> *The response grid format was developed by the Academic Health Center Office of Emergency Response at the University of Minnesota to provide a framework for campus-level response efforts. These grids integrate pandemic phases and various severity levels. The University of Minnesota grid format is used here, with permission, as a means to present activities related to at-risk populations before, during and after a pandemic.*

<p><b>Identifying At-Risk Populations</b></p>	<ul style="list-style-type: none"> <li>• <b>Find and use data sources that identify the at-risk populations in the jurisdiction, based on the guidance’s definition.</b></li> <li>• <b>Prioritize planning for populations at economic disadvantage and other large populations it is feasible to address in the initial planning cycle. Develop an approach for adding other at-risk populations in later planning cycles.</b></li> <li>• <b>Identify areas or populations of greatest need in order to effectively allocate funds.</b></li> <li>• Identify relevant demographic data through federal Census databases.</li> <li>• Arrange training sessions with state training centers so state and local employees can increase their familiarity with available data sources.</li> <li>• Use data from transportation and mass transit planners to identify at-risk populations who require assistance with transportation.</li> <li>• Consider the pros and cons of a voluntary registry before determining whether to establish one.</li> <li>• Collaborate with local agencies, organizations, and CBOs and FBOs that can and will contact their clients or members in an emergency.</li> <li>• Assess non-health-related data, such as information from police and fire departments, Chambers of Commerce, or universities, as available.</li> <li>• Engage local businesses and CBOs on their COOP plans to understand how at-risk populations are included.</li> <li>• Explore methods to address capturing data on homeless, undocumented, or highly mobile populations and attempt to quantify these transitory populations.</li> <li>• Identify local characteristics or resources that may affect or predict population movement.</li> <li>• Encourage healthcare providers to inquire about functional needs on a patient intake form.</li> <li>• Use aggregate data from community service providers and foundations, such as Meals on Wheels, as available.</li> <li>• Engage neighborhood associations, CBOs, FBOs, caregiver networks, and providers to identify people with functional needs in the community.</li> <li>• Map at-risk individuals in settings where people live together, such as long-term care homes, prisons etc.</li> <li>• Use information about processes of mapping at-risk populations during non-emergency situations and consider applications to pandemic periods.</li> <li>• Use national GIS mapping data to identify resources and populations. (Recognize limitations of data mapping to track mobile populations and compliance with social distancing recommendations)</li> <li>• Identify state or local organizations that collect GIS-compatible data.</li> </ul>
<p><b>Communications with and Education of At-Risk Populations</b></p>	<ul style="list-style-type: none"> <li>• <b>Use effective methods to reach priority at-risk populations, including appropriate risk communication techniques, trusted messengers, appropriate technologies, media, and formats.</b></li> <li>• <b>Establish and follow a protocol for evaluating risk communication messages for at-risk populations.</b></li> <li>• Develop audience-appropriate messages to assist people during all pandemic phases.</li> <li>• When possible, adapt existing materials to at-risk populations; however, recognize that materials must be developed in the appropriate linguistic and cultural context.</li> <li>• Identify which times to use which messages. In the pre-pandemic period, focus on messages of respiratory hygiene</li> </ul>

	<p>and cold/flu prevention and all-hazards preparedness.</p> <ul style="list-style-type: none"><li>• Coordinate messages among levels of government for clarity and consistency.</li><li>• Time messages according to trigger events already identified by federal planners (see chapter text).</li><li>• Review demographics and vital statistics of intended audience prior to a pandemic.</li><li>• Be inclusive of all people in message design.</li><li>• Repeat important messages regularly.</li><li>• Craft messages that are clear and easy to follow using simple language that is suitable for different levels of literacy.</li><li>• Assure that examples or suggestions are relevant to the community.</li><li>• Tailor messages to existing cultural attitudes and beliefs; and religious observances, attitudes, and beliefs.</li><li>• Address audience risk based on pandemic severity.</li><li>• Educate at-risk populations before a pandemic about how and when to seek medical care during a pandemic.</li><li>• Educate people on where and how to receive information and answers to their questions.</li><li>• Messages should empower people to act.</li><li>• Include recommendations, alternatives, and solutions that are audience-appropriate.</li><li>• Address underlying assumptions that affect how people may react to a message.</li><li>• Develop pre-recorded media messages in various languages.</li><li>• Test messages and seek feedback from at-risk populations on message effectiveness.</li><li>• Determine feasible methods for reaching priority at-risk groups using appropriate technologies and formats.</li><li>• Include multiple ways to convey messages to at-risk populations.</li><li>• Use simple formats such as checklists and adopt alternate formats such as visual messaging, large print messaging and Braille.</li><li>• Develop accessible Web sites (<a href="http://www.w3.org">www.w3.org</a>).</li><li>• Use visual aids and creative messaging methods (such as skits) for in-person communications.</li><li>• Distribute and display materials in places frequented by at-risk individuals.</li><li>• Ensure that call-in information lines, such as 2-1-1, have information applicable and accessible to at-risk groups</li><li>• Identify, educate and empower appropriate and trusted messengers willing to collaborate on communications for at-risk groups, and begin training them on risk communication.</li><li>• Train messengers to deliver risk-communication messages and ensure they have the appropriate materials.</li><li>• Identify clear plans and alternatives on how to communicate with partners, especially during crises. Identify backup contacts.</li><li>• Develop a plan to use interpreters and in-language phone lines, allowing time for education of interpreters when feasible.</li><li>• Consider cultural preferences when selecting messengers.</li><li>• Ensure that messengers from outside a community are culturally competent and are provided guidelines for culturally competent communication.</li><li>• Identify evaluation tools for risk-communication messages.</li><li>• Test communication networks through drills, exercises or other means to evaluate effectiveness.</li></ul>
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	<ul style="list-style-type: none"> <li>• Identify questions to measure whether the objectives of the risk communication messages are being measured for all audiences.</li> <li>• Use tools to evaluate messages both within and independent of evaluation exercises.</li> <li>• Evaluate individual preparedness levels by assessing knowledge, attitudes and actions.</li> <li>• Evaluate message characteristics such as message content, channel, clarity and appropriateness of messenger.</li> <li>• Use evaluation as a method to identify follow-up activities.</li> </ul>
<p><b>Provision of Services</b></p>	<ul style="list-style-type: none"> <li>• <b>Convene the appropriate agencies and provide the framework for the necessary planning activities for at-risk populations.</b></li> <li>• Engage organizations that represent at-risk individuals.</li> <li>• Emphasize the importance of psychological first aid and other mental health services, while offering materials and training to partners, as appropriate.</li> <li>• Build collaborations with Indian Health Service facilities and health services.</li> <li>• Emphasize the inclusion of key social service functions into clinical planning.</li> <li>• Include at-risk individuals’ needs in planning and exercising the Strategic National Stockpile (SNS).</li> <li>• Develop plans for antiviral and vaccine distribution and administration.</li> <li>• Work with partners to identify and plan for gaps in clinical or non-clinical services.</li> <li>• Provide preparedness workshops for people who support at-risk individuals to discuss their needs and expectations for help during a pandemic.</li> <li>• Integrate disability transportation providers into emergency planning.</li> <li>• Identify and coordinate with non-traditional partners that serve potentially at-risk populations (e.g., domestic violence shelters).</li> <li>• Involve agencies that are already delivering emergency response services (e.g., state DHS, EMA, MedicAlert, 2-1-1 centers).</li> <li>• Engage businesses in pandemic preparedness planning.</li> <li>• Encourage at-risk individuals to develop personal preparedness plans that may include learning homecare skills, maintaining health of service animals, developing contingency plans with providers and social support, developing supply lists for special dietary needs, and carrying a list of medications on a wallet card.</li> <li>• Encourage COOP planning and assist in providing training resources to community groups that provide essential services.</li> <li>• Encourage CBOs and FBOs to develop contracts or MOUs to provide essential or specialized supplies and services during a pandemic.</li> <li>• Discuss sheltering plans for homeless individuals and ill travelers with shelters and hotels.</li> <li>• Investigate developing a voluntary registry in which at-risk populations describe the services and equipment they require.</li> <li>• Encourage partners to investigate contracts with medical equipment vendors to ensure that durable medical equipment can be requested or transported if individuals need to leave their homes.</li> <li>• Talk with stakeholders about options for addressing the need for continued availability of psychotropic medications.</li> </ul>

<p><b>How to Test, Exercise, Measure, and Improve Preparedness of At-Risk Populations</b></p>	<ul style="list-style-type: none"><li>• <b>Develop and implement a quality assurance program for pandemic influenza planning that tests, evaluates, exercises and improves the process of providing services for at-risk populations.</b></li><li>• <b>Include at-risk populations in evaluation as planners, participants, and part of scenario development in exercise design, implementation, and evaluation.</b></li><li>• Allocate funding for evaluation activities.</li><li>• Incorporate evaluation into current planning and routine organizational activities.</li><li>• Define which entities are responsible for conducting evaluation activities, analyzing data and reporting results.</li><li>• Gather both quantitative and qualitative data to complement and focus data.</li><li>• Identify a standard set of questions to measure preparedness levels across all audiences, modifying questions to address the needs of at-risk populations.</li><li>• Develop pandemic influenza-specific measures for at-risk populations that address the varying degrees of pandemic severity, the estimated time-span of a pandemic, and pandemic influenza preparedness activities.</li><li>• Use the same tool consistently to compare preparedness over time. Acknowledge variables that may change or arise over time, therefore potentially affecting your tool and data.</li><li>• Use trusted messengers when conducting assessments.</li><li>• Include caregivers or conduct household-level surveys if you suspect individuals may have barriers to completing the survey tool.</li><li>• Gather baseline data on objectives for exercise activities and programs wherever possible.</li><li>• Adopt or adapt existing evaluation templates to exercises and programs.</li><li>• Address collaborative barriers.</li><li>• Use HSEEP as a framework for exercise design, implementation, and evaluation.</li><li>• Add exercise objectives, exercise injects, and customized exercise evaluation guides to HSEEP exercises to address the needs of at-risk populations at the local level.</li><li>• Address the long-term nature of an influenza pandemic in objectives for exercises and scenarios.</li><li>• Conduct after-action reviews with exercise participants.</li><li>• Use evaluation findings to outline corrective actions in an improvement plan. Make the indicated corrective actions in preparedness planning.</li><li>• Provide abbreviated versions of HSEEP that are applicable to local collaborating agencies and organizations that are not generally familiar with HSEEP.</li></ul>
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<b>GRID B</b>	
<b>WHO Phase 4, US Stage 2-3: <i>Confirmed, sustained human-to-human transmission overseas</i></b>	
<b>Collaboration with and Engagement of the At-Risk Community</b>	<ul style="list-style-type: none"> <li>• <b>Strengthen partnerships with members of organizations that serve at-risk populations, as well as additional key partners, such as media outlets.</b></li> <li>• Continue to seek collaboration with persons in non-traditional leadership roles among at-risk groups to engage the most appropriate group members.</li> <li>• Continue to promote and assist with preparedness planning and COOP plans.</li> <li>• Continue to disseminate preparedness information as part of existing outreach efforts, emphasizing that preparedness allows community members to fulfill their mission.</li> <li>• Continue to use networks for routine and emergency activities and communication.</li> <li>• Involve at-risk populations in all phases of the planning process and policy development and have meetings to address specific policy questions.</li> <li>• In meetings, provide participants with necessary pandemic-specific information for discussion and decision-making. Keep information simple and relevant.</li> </ul>
<b>Identifying At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Find and use data sources that identify the at-risk populations in the jurisdiction, based on the guidance’s definition.</b></li> <li>• <b>Prioritize planning for populations at economic disadvantage and other large populations it is feasible to address in the initial planning cycle. Develop an approach for adding other at-risk populations in later planning cycles.</b></li> <li>• <b>Identify areas or populations of greatest need in order to effectively allocate funds.</b></li> <li>• Identify relevant demographic data through federal Census databases.</li> <li>• Use data from transportation and mass transit planners to identify at-risk populations who require assistance with transportation.</li> <li>• Consider the pros and cons of a voluntary registry before determining whether to establish one.</li> <li>• Collaborate with local agencies, organizations, and CBOs and FBOs that can and will contact their clients or members in an emergency.</li> <li>• Assess non-health-related data such as information from police and fire departments, Chambers of Commerce or universities as available.</li> <li>• Engage local businesses and CBOs on their COOP plans to understand how at-risk populations are included.</li> <li>• Explore methods to address capturing data on homeless, undocumented or highly mobile populations and attempt to quantify these transitory populations.</li> <li>• Identify local characteristics or resources that may affect or predict population movement.</li> <li>• Encourage healthcare providers to inquire about functional needs on a patient intake form.</li> <li>• Use aggregate data from community service providers and foundations such as Meals On Wheels as available.</li> <li>• Engage neighborhood associations, CBOs, FBOs, caregiver networks, and providers to identify people with functional needs in the community.</li> <li>• Map at-risk individuals in settings where people live together, such as long-term care homes, prisons etc.</li> </ul>



	<ul style="list-style-type: none"> <li>• Use information about processes of mapping at-risk populations during non-emergency situations and consider applications to pandemic periods.</li> <li>• Use national GIS mapping data to identify resources and populations. (Recognize limitations of data mapping to track mobile populations and compliance with social distancing recommendations)</li> <li>• Identify state or local organizations that collect GIS-compatible data.</li> </ul>
<p><b>Communications with and Education of At-Risk Populations</b></p>	<ul style="list-style-type: none"> <li>• <b>Use effective methods to reach priority at-risk populations, including appropriate risk communication techniques, trusted messengers, appropriate technologies, media, and formats.</b></li> <li>• As a pandemic becomes imminent, use audience-appropriate pre-planned messages that focus on preparedness, response, and recovery.</li> <li>• When possible, adapt existing materials to at-risk populations; however, recognize that materials must be developed in the appropriate linguistic and cultural context.</li> <li>• Coordinate messages among levels of government for clarity and consistency.</li> <li>• Time messages according to trigger events already identified by federal planners (see chapter text).</li> <li>• Be inclusive of all people in message design.</li> <li>• Craft or update clear and easy to follow messages using simple language that is suitable for different levels of literacy.</li> <li>• Tailor messages to existing cultural attitudes and beliefs; and religious observances, attitudes, and beliefs.</li> <li>• Assure that examples or suggestions are relevant to the community.</li> <li>• Address audience risk based on pandemic severity.</li> <li>• Educate at-risk populations about how and when to seek medical care during a pandemic.</li> <li>• Educate people on where and how to receive information and answers to their questions.</li> <li>• Messages should empower people to act.</li> <li>• Include recommendations, alternatives, and solutions that are audience-appropriate.</li> <li>• Address underlying assumptions that affect how people may react to a message.</li> <li>• Determine feasible methods for reaching priority at-risk groups using appropriate technologies and formats.</li> <li>• Include multiple ways to convey messages to at-risk populations.</li> <li>• Use simple formats such as checklists and adopt alternate formats such as visual messaging, large print messaging and Braille.</li> <li>• Use developed accessible Web sites (<a href="http://www.w3.org">www.w3.org</a>).</li> <li>• Use visual aids and creative messaging methods (such as skits) for in-person communications.</li> <li>• Distribute and display materials in places frequented by at-risk individuals.</li> <li>• Use interpreters and in-language phone lines, educating them on pandemic influenza and having them practice in the pre-pandemic period.</li> <li>• Ensure that call-in information lines, such as 2-1-1, have information applicable and accessible to at-risk groups.</li> <li>• Continue training trusted messengers for at-risk groups who are willing to collaborate on communications.</li> <li>• Update communication plans created with partners and backup contacts.</li> <li>• Repeat important messages regularly, using more than one communication modality.</li> </ul>

	<ul style="list-style-type: none"> <li>• Share important information early.</li> </ul>
<p><b>Provision of Services</b></p>	<ul style="list-style-type: none"> <li>• <b>Convene the appropriate agencies and provide the framework for the necessary planning activities for at-risk populations.</b></li> <li>• Continue to engage organizations that represent at-risk individuals.</li> <li>• Emphasize the importance of psychological first aid and other mental health services, while offering materials and training to partners, as appropriate.</li> <li>• Build collaborations with Indian Health Service facilities and health services.</li> <li>• Emphasize the inclusion of key social service functions into clinical planning.</li> <li>• Include at-risk individuals’ needs in planning and exercising the SNS.</li> <li>• Develop plans for antiviral and vaccine distribution and administration.</li> <li>• Work with partners to identify and plan for gaps in clinical or non-clinical services.</li> <li>• Provide preparedness workshops for people who support at-risk individuals to discuss their needs and expectations for help during a pandemic.</li> <li>• Continue to integrate disability transportation providers into emergency planning.</li> <li>• Identify and coordinate with non-traditional partners that serve potentially at-risk populations (e.g., domestic violence shelters).</li> <li>• Involve agencies that are already delivering emergency response services (e.g., state DHS, EMA, MedicAlert, 2-1-1 centers).</li> <li>• Engage businesses in pandemic preparedness planning.</li> <li>• Encourage at-risk individuals to develop personal preparedness plans that may include homecare skills, maintaining health of service animals, developing contingency plans with providers and social support, developing supply lists for special dietary needs, and carrying a list of medications on a wallet card.</li> <li>• Encourage COOP planning and assist in providing training resources to community groups that provide essential services.</li> <li>• Encourage CBOs and FBOs to develop contracts or MOUs to provide essential or specialized supplies and services during a pandemic.</li> <li>• Discuss sheltering plans for homeless individuals and ill travelers with shelters and hotels.</li> <li>• Investigate developing a voluntary registry in which at-risk populations describe the services and equipment they require. Collaborate with first responders to ensure that the registry provides them with useful information.</li> <li>• Encourage partners to investigate contracts with medical equipment vendors to ensure that durable medical equipment can be requested or transported if individuals need to leave their homes.</li> <li>• Talk with stakeholders about options for addressing the need for continued availability of psychotropic medications.</li> </ul>
<p><b>How to Test, Exercise, Measure, and Improve Preparedness of At-Risk</b></p>	<ul style="list-style-type: none"> <li>• <b>Implement a program of quality assurance for pandemic influenza planning that tests, evaluates, exercises and improves the process of providing services for at-risk populations.</b></li> <li>• <b>Include at-risk populations in evaluation as planners, participants, and part of scenario development in exercise design, implementation, and evaluation.</b></li> <li>• Allocate funding for evaluation activities.</li> </ul>

<b>Populations</b>	<ul style="list-style-type: none"><li>• Incorporate evaluation into current planning and routine organizational activities.</li><li>• Review which entities are responsible for conducting evaluation activities, analyzing data and reporting results.</li><li>• Gather both quantitative and qualitative data to complement and focus data.</li><li>• Implement a standard set of questions to measure preparedness levels across all audiences, modifying questions to address the needs of at-risk populations.</li><li>• Use pandemic influenza-specific measures for at-risk populations that address the varying degrees of pandemic severity, the estimated time-span of a pandemic, and pandemic influenza preparedness activities.</li><li>• Use the same tool consistently to compare preparedness over time. Acknowledge variables that may change or arise over time, therefore potentially affecting your tool and data.</li><li>• Use trusted messengers when conducting assessments.</li><li>• Include caregivers or conduct household-level surveys if you suspect individuals may have barriers to completing the survey tool.</li><li>• Gather baseline data on objectives for exercise activities and programs wherever possible.</li><li>• Adopt or adapt existing evaluation templates to exercises and programs.</li><li>• Address collaborative barriers.</li><li>• Use HSEEP as a framework for exercise design, implementation, and evaluation.</li><li>• Add exercise objectives, exercise injects, and customized exercise evaluation guides to HSEEP exercises to address the needs of at-risk populations at the local level.</li><li>• Address the long-term nature of an influenza pandemic in objectives for exercises and scenarios.</li><li>• Conduct after-action reviews with exercise participants.</li><li>• Use evaluation findings to outline corrective actions in an improvement plan. Make the indicated corrective actions in preparedness planning.</li><li>• Provide abbreviated versions of HSEEP that are applicable to local collaborating agencies and organizations that are not generally familiar with HSEEP.</li></ul>
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GRID C	
WHO Phase 4-5, US Stage 4: <i>Suspected or confirmed human cases in North America</i>	
Pandemic Severity Index >1	
<b>Collaboration with and Engagement of the At-Risk Community</b>	<ul style="list-style-type: none"> <li>• <b>Strengthen partnerships with members of organizations that serve at-risk populations, as well as with additional key partners, such as media outlets.</b></li> <li>• Continue to seek collaboration with persons in non-traditional leadership roles among at-risk groups to engage the most appropriate group members.</li> <li>• Continue to promote and assist with preparedness planning and COOP plans.</li> <li>• Continue to disseminate preparedness and pandemic-specific information as part of existing outreach efforts, emphasizing that preparedness allows community members to fulfill their mission.</li> <li>• Continue to use networks for routine and emergency activities and communication.</li> </ul>
<b>Identifying At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Continue to find and use data sources that identify the at-risk populations in the jurisdiction, based on the guidance’s definition.</b></li> <li>• <b>Continue to prioritize planning for populations at economic disadvantage, as well as other large at-risk populations if feasible.</b></li> <li>• <b>Continue to identify areas or populations of greatest need in order to effectively allocate funds.</b></li> <li>• Identify relevant demographic data through federal Census databases.</li> <li>• Use data from transportation and mass transit planners to identify at-risk populations who require assistance with transportation.</li> <li>• Collaborate with local agencies, organizations, and CBOs and FBOs that can and will contact their clients or members in an emergency.</li> <li>• Assess non-health-related data such as information from police and fire departments, Chambers of Commerce or universities as available.</li> <li>• Attempt to capture data on homeless, undocumented or highly mobile populations and attempt to quantify these transitory populations.</li> <li>• Encourage healthcare providers to inquire about functional needs on a patient intake form.</li> <li>• Use aggregate data from community service providers and foundations such as Meals On Wheels as available.</li> <li>• Engage neighborhood associations, CBOs, FBOs, caregiver networks, and providers to identify people with functional needs in the community.</li> <li>• Map at-risk individuals in settings where people live together, such as long-term care homes, prisons etc.</li> <li>• Use national GIS mapping data to identify resources and populations. (Recognize limitations of data mapping to track mobile populations and compliance with social distancing recommendations)</li> </ul>
<b>Communications with and Education of At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Use effective methods to reach priority at-risk populations, including appropriate risk communication techniques, trusted messengers, appropriate technologies, media, and formats.</b></li> <li>• As a pandemic becomes imminent, use audience-appropriate pre-planned messages that focus on preparedness, response and recovery.</li> <li>• Coordinate messages among levels of government for clarity and consistency.</li> </ul>

	<ul style="list-style-type: none"> <li>• Time messages according to trigger events already identified by federal planners (see chapter text).</li> <li>• Be inclusive of all people in message design.</li> <li>• Craft messages that are clear and easy to follow using simple language that is suitable for different levels of literacy.</li> <li>• Tailor messages to existing cultural attitudes and beliefs; and religious observances, attitudes, and beliefs.</li> <li>• Assure that examples or suggestions are relevant to the community.</li> <li>• Address audience risk based on pandemic severity.</li> <li>• Messages should empower people to act.</li> <li>• Educate at-risk populations about how and when to seek medical care during a pandemic.</li> <li>• Educate people on where and how to receive information and answers to their questions.</li> <li>• Include audience-appropriate recommendations, alternatives, and solutions.</li> <li>• Address underlying assumptions that affect how people may react to a message.</li> <li>• Use methods for reaching priority at-risk groups through appropriate technologies and formats.</li> <li>• Use simple formats such as checklists and adopt alternate formats such as visual messaging, large-print messaging and Braille.</li> <li>• Use developed accessible Web sites (<a href="http://www.w3.org">www.w3.org</a>).</li> <li>• Use visual aids and creative messaging methods (such as skits) for in-person communications.</li> <li>• Distribute and display materials in places frequented by at-risk individuals.</li> <li>• Use interpreters and in-language phone lines, educating them on pandemic influenza and having them practice in the pre-pandemic period.</li> <li>• Ensure that call-in information lines, such as 2-1-1, have information applicable and accessible to at-risk groups.</li> <li>• Continue training trusted messengers for at-risk groups who are willing to collaborate on communications.</li> <li>• Update communication plans created with partners and backup contacts.</li> <li>• Repeat important messages regularly, using more than one communication modality.</li> <li>• Share important information early.</li> </ul>
<p><b>Provision of Services</b></p>	<ul style="list-style-type: none"> <li>• <b>Convene the appropriate agencies and provide the framework for the necessary planning activities for at-risk populations.</b></li> <li>• Continue to engage organizations that represent at-risk individuals, if applicable.</li> <li>• Emphasize the importance of psychological first aid and other mental health services, while offering materials and training to partners, as appropriate.</li> <li>• Strengthen collaborations with Indian Health Service facilities and health services.</li> <li>• Include key social service functions in clinical planning.</li> <li>• Include at-risk individuals' needs in planning and exercising the SNS.</li> <li>• Develop plans for antiviral and vaccine distribution and administration.</li> <li>• Work with partners to identify and plan for gaps in clinical or non-clinical services.</li> <li>• Identify and coordinate with non-traditional partners that serve potentially at-risk populations (e.g., domestic violence shelters).</li> <li>• Involve agencies that are already delivering emergency response services (e.g., state DHS, EMA, MedicAlert, 2-1-1)</li> </ul>

	<p>centers).</p> <ul style="list-style-type: none"> <li>• Engage businesses in pandemic preparedness planning.</li> <li>• Encourage at-risk individuals to develop personal preparedness plans that may include homecare skills, maintaining health of service animals, developing contingency plans with providers and social support, developing supply lists for special dietary needs, and carrying a list of medications on a wallet card.</li> <li>• Encourage COOP planning and assist in providing training resources to community groups that provide essential services.</li> <li>• Encourage CBOs and FBOs to develop contracts or MOUs to provide essential or specialized supplies and services during a pandemic.</li> <li>• Discuss sheltering plans for homeless individuals and ill travelers with shelters and hotels.</li> <li>• Encourage partners to confirm that contracts with medical equipment vendors to ensure that durable medical equipment can be requested or transported if individuals need to leave their homes.</li> <li>• Talk with stakeholders about maintaining the availability of psychotropic medications.</li> </ul>
<p><b>How to Test, Exercise, Measure, and Improve Preparedness of At-Risk Populations</b></p>	<ul style="list-style-type: none"> <li>• <b>Implement a program of quality assurance for pandemic influenza planning that tests, evaluates, exercises and improves the process of providing services for at-risk populations.</b></li> <li>• <b>Include at-risk populations in evaluation as planners, participants, and part of scenario development in exercise design, implementation, and evaluation.</b></li> <li>• Fund evaluation activities.</li> <li>• Incorporate evaluation into current planning and routine organizational activities.</li> <li>• Review which entities are responsible for conducting evaluation activities, analyzing data and reporting results</li> <li>• Gather both quantitative and qualitative data to complement and focus data.</li> <li>• Implement a standard set of questions to measure preparedness levels across all audiences, modifying questions to address the needs of at-risk populations.</li> <li>• Use pandemic influenza-specific measures for at-risk populations that address the varying degrees of pandemic severity, the estimated time-span of a pandemic, and pandemic influenza preparedness activities.</li> <li>• Use the same tool consistently to compare preparedness over time. Acknowledge variables that may change or arise over time, therefore potentially affecting your tool and data.</li> <li>• Use trusted messengers when conducting assessments.</li> <li>• Include caregivers or conduct household-level surveys if you suspect individuals may have barriers to completing the survey tool.</li> <li>• Gather baseline data on objectives for exercise activities and programs wherever possible.</li> <li>• Adopt or adapt existing evaluation templates to exercises and programs.</li> <li>• Address collaborative barriers.</li> <li>• Use HSEEP as a framework for exercise design, implementation, and evaluation.</li> <li>• Add exercise objectives, exercise injects, and customized exercise evaluation guides to HSEEP exercises to address the needs of at-risk populations at the local level.</li> <li>• Address the long-term nature of an influenza pandemic in objectives for exercises and scenarios.</li> </ul>

	<ul style="list-style-type: none"><li>• Conduct after-action reviews with exercise participants.</li><li>• Use evaluation findings to outline corrective actions in an improvement plan. Make the indicated corrective actions in preparedness planning.</li><li>• Provide abbreviated versions of HSEEP that are applicable to local collaborating agencies and organizations that are not generally familiar with HSEEP.</li></ul>
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<b>GRID D</b>	
<b>WHO Phase 6, US Stage 5: Widespread cases throughout the US</b>	
<b>Pandemic Severity Index 1: Voluntary home isolation of ill adults and children recommended. No other social distancing recommended.</b>	
<b>Collaboration with and Engagement of the At-Risk Community</b>	<ul style="list-style-type: none"> <li>• <b>Strengthen partnerships with members of organizations that serve at-risk populations, as well as with additional key partners, such as media outlets.</b></li> <li>• Continue to seek collaboration with persons in non-traditional leadership roles among at-risk groups to engage the most appropriate group members.</li> <li>• Continue to promote and assist with preparedness planning and COOP plans.</li> <li>• Continue to disseminate preparedness information as part of existing outreach efforts, emphasizing that preparedness allows community members to fulfill their mission.</li> <li>• Continue to use networks for routine and emergency activities and communication.</li> <li>• Involve at-risk populations in all phases of the planning process and policy development and include meetings to address specific policy questions.</li> <li>• In meetings, provide participants with necessary information for discussion and decision making. Keep information simple and relevant.</li> </ul>
<b>Identifying At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Continue to use data sources that identify the at-risk populations in the jurisdiction, based on the guidance’s definition.</b></li> <li>• <b>Continue to prioritize planning for populations at economic disadvantage, as well as other large at-risk populations if feasible.</b></li> <li>• <b>Continue to identify areas or populations of greatest need in order to effectively allocate funds.</b></li> <li>• If a voluntary registry of individuals who may need additional help during a pandemic is being used, ensure that the limits and confidentiality requirements are addressed.</li> <li>• Review data from transportation and mass transit planners to identify at-risk populations who require assistance with transportation.</li> <li>• Continue to collaborate with local agencies, organizations, and CBOs and FBOs that can and will contact their clients or members in an emergency.</li> <li>• Continue to review data on homeless, undocumented, or highly mobile populations.</li> <li>• Review aggregate data and information from community service providers, CBOs, FBOs, caregiver networks, and providers to identify functional needs in the community.</li> <li>• Use national GIS mapping data to identify resources and populations. (Recognize limitations of data mapping to track mobile populations and compliance with social distancing recommendations)</li> </ul>
<b>Communications with and Education of At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Use effective methods to reach priority at-risk populations, including appropriate risk communication techniques, trusted messengers, appropriate technologies, media, and formats.</b></li> <li>• Use audience-appropriate pre-planned messages that focus on preparedness, response and recovery.</li> <li>• Coordinate messages among levels of government for clarity and consistency.</li> <li>• Time messages according to trigger events already identified by federal planners (see chapter text).</li> <li>• Be inclusive of all people in message design.</li> </ul>

	<ul style="list-style-type: none"> <li>• Use messages that are clear and easy to follow using simple language suitable for different levels of literacy.</li> <li>• Tailor messages to existing cultural attitudes and beliefs; religious observances, attitudes, and beliefs; as well as audience risk based on pandemic severity.</li> <li>• Assure that examples or suggestions are relevant to the community.</li> <li>• Educate at-risk populations about how and when to seek medical care during a pandemic.</li> <li>• Educate people on where and how to receive information and answers to their questions.</li> <li>• Include recommendations, alternatives, and solutions that are audience-appropriate.</li> <li>• Address underlying assumptions that affect how people may react to a message.</li> <li>• Use methods for reaching priority at-risk groups through appropriate technologies and formats.</li> <li>• Use developed accessible Web sites (www.w3.org).</li> <li>• Distribute and display materials in places frequented by at-risk individuals.</li> <li>• Use created in-language phone lines and interpreter services.</li> <li>• Ensure that call-in information lines, such as 2-1-1, have information applicable and accessible to at-risk groups.</li> <li>• Continue training trusted messengers for at-risk groups who are willing to collaborate on communications.</li> <li>• Ensure communication plans are in place with partners and backup contacts.</li> <li>• Repeat important messages regularly, using more than one communication modality.</li> <li>• Share important information early.</li> <li>• Messages should empower people to act.</li> </ul>
<p><b>Provision of Services</b></p>	<ul style="list-style-type: none"> <li>• <b>Convene the appropriate agencies and provide the framework for the necessary planning activities for at-risk populations.</b></li> <li>• Emphasize the importance of psychological first aid and other mental health services, while offering materials and training to partners, as appropriate.</li> <li>• Strengthen collaborations with Indian Health Service facilities and health services.</li> <li>• Emphasize the inclusion of key social service functions into clinical services.</li> <li>• Work with partners to identify and plan for gaps in clinical or non-clinical services.</li> <li>• Continue to integrate disability transportation providers into emergency planning.</li> <li>• Continue to involve agencies that are already delivering emergency response services (e.g., state DHS, EMA, MedicAlert, 2-1-1 centers).</li> <li>• Continue to discuss sheltering services for homeless individuals and ill travelers with shelters and hotels.</li> </ul>
<p><b>How to Test, Exercise, Measure, and Improve Preparedness of At-Risk Populations</b></p>	<ul style="list-style-type: none"> <li>• <i>Other activities are expected to take priority over this area in a pandemic this severe.</i></li> </ul>

<b>GRID E</b>	
<b>WHO Phase 6, US Stage 5: Widespread cases throughout the US</b>	
<b>Pandemic Severity Index 2 and 3: Voluntary home isolation of ill adults and children recommended. Voluntary quarantine of household members in homes with ill persons recommended. Child and adult social distancing recommended by CDC for a period of 4 weeks.</b>	
<b>Collaboration with and Engagement of the At-Risk Community</b>	<ul style="list-style-type: none"> <li>• <b>Sustain partnerships with members of organizations that serve at-risk populations, as well as with additional key partners, such as media outlets.</b></li> <li>• Make accommodations to maintain links despite changes that may come about due to social distancing recommendations, such as conference calls or e-mails in lieu of in-person meetings.</li> <li>• Continue to seek collaboration with persons in non-traditional leadership roles among at-risk groups to engage the most appropriate group members.</li> <li>• Continue to disseminate preparedness and pandemic-specific information as part of existing outreach efforts, emphasizing that preparedness allows community members to fulfill their mission.</li> <li>• Continue to use networks for routine and emergency activities and communication.</li> <li>• Provide at-risk individuals with necessary pandemic-specific information for discussion and decision-making. Keep information simple and relevant.</li> </ul>
<b>Identifying At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Continue to use data sources that identify the at-risk populations in the jurisdiction, based on the guidance’s definition.</b></li> <li>• <b>Continue to prioritize planning for populations at economic disadvantage, as well as other large at-risk populations if feasible.</b></li> <li>• <b>Continue to identify areas or populations of greatest need in order to effectively allocate funds.</b></li> <li>• Use data from transportation and mass transit planners to identify at-risk populations who require assistance with transportation.</li> <li>• If a voluntary registry of individuals who may need additional help during a pandemic is being used, ensure that the limits and confidentiality requirements are addressed.</li> <li>• Continue to collaborate with local agencies, organizations, and CBOs and FBOs that can and will contact their clients or members in an emergency.</li> <li>• Use methods to capture data on homeless, undocumented or highly mobile populations and attempt to quantify these transitory populations.</li> <li>• Review aggregate data and information from community service providers, foundations, CBOs, FBOs, caregiver networks, and providers to identify functional needs in the community.</li> <li>• Use national GIS mapping data to identify resources and populations. (Recognize limitations of data mapping to track mobile populations and compliance with social distancing recommendations)</li> </ul>
<b>Communications with and Education of At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Use effective methods to reach priority at-risk populations, including appropriate risk communication techniques, trusted messengers, appropriate technologies, media, and formats.</b></li> <li>• Coordinate messages among levels of government for clarity and consistency, employing existing message timing according to trigger events already identified by federal planners (see chapter text).</li> <li>• Describe appropriate options in social distancing messages.</li> </ul>

	<ul style="list-style-type: none"> <li>• Use messages that are clear and easy to follow using simple language that is suitable for different levels of literacy.</li> <li>• Tailor messages to existing cultural attitudes and beliefs, as well as audience risk based on pandemic severity.</li> <li>• Use methods for reaching priority at-risk groups through appropriate technologies and formats.</li> <li>• Use developed accessible Web sites (www.w3.org).</li> <li>• Distribute and display materials in places frequented by at-risk individuals.</li> <li>• Use created in-language phone lines and interpreter services.</li> <li>• Ensure that call-in information lines, such as 2-1-1, have information applicable and accessible to at-risk groups.</li> <li>• Use trusted messengers for at-risk groups who are willing to collaborate on communications.</li> <li>• Repeat important messages regularly, using more than one communication modality.</li> <li>• Emphasize resiliency.</li> <li>• Inform people of how, where and when they can receive information and obtain medical care.</li> <li>• Share important information.</li> <li>• Messages should empower people to act.</li> </ul>
<p><b>Provision of Services</b></p>	<ul style="list-style-type: none"> <li>• <b>Convene the appropriate agencies and provide the framework for the necessary planning activities for at-risk populations.</b></li> <li>• Emphasize the importance of psychological first aid and other mental health services, while offering materials and training to partners, as appropriate.</li> <li>• Emphasize the inclusion of key social service functions into clinical services.</li> <li>• Continue to integrate disability transportation providers into emergency planning.</li> <li>• Continue to involve agencies that are already delivering emergency response services (e.g., state DHS, EMA, MedicAlert, 2-1-1 centers).</li> <li>• Continue to discuss sheltering services for homeless individuals and ill travelers with shelters and hotels.</li> </ul>
<p><b>How to Test, Exercise, Measure, and Improve Preparedness of At-Risk Populations</b></p>	<ul style="list-style-type: none"> <li>• <i>Other activities are expected to take priority over this area in a pandemic this severe.</i></li> </ul>

<b>GRID F</b>	
<b>WHO Phase 6, US Stage 5: Widespread cases throughout the U.S</b>	
<b>Pandemic Severity Index 4 and 5: Voluntary home isolation of ill adults and children recommended. Voluntary quarantine of household members in homes with ill persons recommended. Child and adult social distancing recommended by CDC for a period of 12 weeks.</b>	
<b>Collaboration with and Engagement of the At-Risk Community</b>	<ul style="list-style-type: none"> <li>• <b>Sustain partnerships with members of organizations that serve at-risk populations, as well as with additional key partners, such as media outlets.</b></li> <li>• Make accommodations to maintain links despite changes that may come about due to social distancing recommendations, such as conference calls or e-mails in lieu of in-person meetings.</li> <li>• Continue to seek collaboration with persons in non-traditional leadership roles among at-risk groups to engage the most appropriate group members.</li> <li>• Continue to disseminate preparedness and pandemic-specific information as part of existing outreach efforts, emphasizing that preparedness allows community members to fulfill their mission.</li> <li>• Continue to use networks for routine and emergency activities and communication.</li> <li>• Provide at-risk individuals with necessary pandemic-specific information for discussion and decision-making. Keep information simple and relevant.</li> </ul>
<b>Identifying At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Continue to use data sources that identify the at-risk populations in the jurisdiction, based on the guidance’s definition.</b></li> <li>• <b>Continue to prioritize planning for populations at economic disadvantage, as well as other large at-risk populations if feasible.</b></li> <li>• <b>Continue to identify areas or populations of greatest need in order to effectively allocate funds.</b></li> <li>• Use data from transportation and mass transit planners to identify at-risk populations who require assistance with transportation.</li> <li>• If a voluntary registry of individuals who may need additional help during a pandemic is being used, ensure that the limits and confidentiality requirements are addressed.</li> <li>• Continue to collaborate with local agencies, organizations, and CBOs and FBOs that can and will contact their clients or members in an emergency.</li> <li>• Use methods to capture data on homeless, undocumented or highly mobile populations and attempt to quantify these transitory populations as resources allow.</li> <li>• Review aggregate data and information from community service providers, foundations, CBOs, FBOs, caregiver networks, and providers to identify function needs in the community.</li> <li>• Use national GIS mapping data to identify resources and populations, as resources allow. (Recognize limitations of data mapping to track mobile populations and compliance with social distancing recommendations).</li> </ul>
<b>Communications with and Education of At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Use effective methods to reach priority at-risk populations, including appropriate risk communication techniques, trusted messengers, appropriate technologies, media, and formats.</b></li> <li>• Coordinate messages among levels of government for clarity and consistency, employing existing message timing according to trigger events already identified by federal planners (see chapter text).</li> <li>• Describe appropriate options in social-distancing messages.</li> </ul>

	<ul style="list-style-type: none"> <li>• Use messages that are clear and easy to follow using simple language that is suitable for different levels of literacy.</li> <li>• Tailor messages to existing cultural attitudes and beliefs, as well as audience risk based on pandemic severity.</li> <li>• Use methods for reaching priority at-risk groups through appropriate technologies and formats.</li> <li>• Use developed accessible Web sites (www.w3.org).</li> <li>• Distribute and display materials in places frequented by at-risk individuals.</li> <li>• Use created in-language phone lines and interpreter services.</li> <li>• Ensure that call-in information lines, such as 2-1-1, have information applicable and accessible to at-risk groups.</li> <li>• Use trusted messengers for at-risk groups willing to collaborate on communications.</li> <li>• Repeat important messages regularly, using more than one communication modality.</li> <li>• Emphasize resiliency.</li> <li>• Inform people of how, where and when they can receive information and obtain medical care.</li> <li>• Share important information.</li> </ul>
<p><b>Provision of Services</b></p>	<ul style="list-style-type: none"> <li>• <b>Convene the appropriate agencies and provide the framework for the necessary planning activities for at-risk populations.</b></li> <li>• Emphasize the importance of psychological first aid and other mental health services, while offering materials and training to partners, as appropriate.</li> <li>• Emphasize the inclusion of key social service functions into clinical planning.</li> <li>• Continue to integrate disability transportation providers into emergency planning.</li> <li>• Continue to involve agencies that are already delivering emergency response services (e.g., state DHS, EMA, MedicAlert, 2-1-1 centers).</li> <li>• Continue to discuss sheltering plans for homeless individuals and ill travelers with shelters and hotels.</li> </ul>
<p><b>How to Test, Exercise, Measure, and Improve Preparedness of At-Risk Populations</b></p>	<ul style="list-style-type: none"> <li>• <i>Other activities are expected to take priority over this area in a pandemic this severe.</i></li> </ul>

<b>GRID G</b>	
<b>US Stage 6: Recovery and preparation for subsequent waves</b>	
<b>Collaboration with and Engagement of the At-Risk Community</b>	<ul style="list-style-type: none"> <li>• Work within existing collaborative networks to determine current needs.</li> <li>• Identify and implement any changes needed to make partnerships more effective/mutually beneficial.</li> <li>• Assess the lessons learned in collaboration through this pandemic or pandemic wave.</li> <li>• Use results of assessment to inform and enhance the next planning cycle.</li> </ul>
<b>Identifying At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• Assess effectiveness of efforts to locate and quantify at-risk populations; modify strategies as needed.</li> </ul>
<b>Communications with and Education of At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Establish and follow a protocol for evaluating risk communication messages for at-risk populations.</b></li> <li>• Assess effectiveness of risk-communication messages; modify message content and delivery as needed.</li> <li>• Identify questions to measure whether the objectives of the risk communication messages are being measured for all audiences.</li> <li>• Evaluate message characteristics such as message content, channel, clarity and appropriateness of messenger; modify for next wave as indicated.</li> <li>• Use evaluation as a method to identify follow-up activities.</li> </ul>
<b>Provision of Services</b>	<ul style="list-style-type: none"> <li>• Assess effectiveness of efforts to provide services; modify strategies as needed.</li> </ul>
<b>How to Test, Exercise, Measure, and Improve Preparedness of At-Risk Populations</b>	<ul style="list-style-type: none"> <li>• <b>Include at-risk populations in evaluation as planners, participants, and part of scenario development in exercise design, implementation, and evaluation.</b></li> <li>• <b>Assess effectiveness of the quality assurance program developed to test, evaluate, exercise and improve the process of providing services for at-risk populations.</b></li> <li>• Assess effectiveness of testing, exercising, measuring and improving preparedness of at-risk populations as you are able.</li> <li>• Use assessment results to inform and enhance the next planning cycle. Integrate relevant results into all-hazards preparedness planning.</li> </ul>