

Home Health Care During an Influenza Pandemic: Issues and Resources

Agency for Healthcare Research and Quality
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Executive Summary

Introduction

The Context. During the past several years, concerns have grown in the United States and around the world about the potential emergence of an influenza virus of pandemic proportions. Such concerns have prompted influenza pandemic planning and preparedness initiatives in the United States and abroad. These efforts are led at the global level by the World Health Organization and are supported by the efforts of individual countries.

Influenza pandemics are recurring natural disasters, having struck during the twentieth century in 1918, 1957, and 1968. Both the onset and the magnitude of influenza pandemics are difficult to predict. The 1918 "Spanish flu," the deadliest pandemic in history, is estimated to have killed more than 50 million people worldwide. Given that the current world population is more than three times as large as that of 1918, an influenza pandemic, regardless of its severity, could result in millions of deaths. Morbidity rates during past pandemics reached 25 - 35 percent of the total population. A similar morbidity rate in a future influenza pandemic could result in millions of Americans seeking medical care. Such a pandemic could quickly overwhelm U.S. hospitals and emergency departments.

To assist communities planning for a pandemic, the Federal Government has developed a Pandemic Severity Index. The Index uses 5 categories of increasing severity (Category 1 to Category 5) to characterize a pandemic. The categories are primarily determined by case fatality ratio, i.e., the rate of death among persons who already have a particular disease. Communities will have different combinations of responses and interventions depending on the severity of a pandemic.

Every sector of the U.S. health care system must be prepared for the challenge of increased demand for services in the face potentially scarce resources and possible disruptions in infrastructure. Preparedness will mean different things for different sectors. Hospitals, clinics, emergency medical services, private practice, longterm care institutions, hospices, and home health care agencies, for example, all will have distinct challenges. Federal Government agencies have been working together to help ensure that each health care sector has information necessary to that specific sector on how to prepare for and respond to a pandemic.

This report serves as a discussion piece for home health care agencies and others to consider; this is not a Department of Health and Human Services (HHS) guidance. The Agency for Healthcare Research and Quality (AHRQ), with funding by the HHS Office of the Assistant Secretary for Preparedness and Response (ASPR) and in collaboration with the Centers for Disease Control and Prevention (CDC), convened an expert panel meeting on July 12-13, 2007, in Washington, DC. The meeting brought together governmental and nongovernmental experts in the fields of home health care and emergency and disaster planning.

During the meeting, the expert panel reviewed the work currently being done in home health care planning and preparedness and explored the key issues and

challenges of providing home health care services during an influenza pandemic. This report had its genesis in the rich discussion among these experts. It is hoped that the information and resources here will be of value not only to home health care agencies, but also to State and local pandemic influenza planners.

Overview of the Home Health Care Industry. Home care agencies and organizations include home health care agencies (public and private), home care aide organizations, and hospices. Currently approximately 17,700 such provider agencies and organizations operate in the United States. These agencies employ a variety of licensed and nonlicensed home health providers, including registered nurses, licensed practical and vocational nurses, home health aides, social workers, physical therapists, respiratory therapists, durable medical equipment providers, and personal caregivers among others.

The overwhelming majority of home health agencies and hospice care providers overall are nongovernmental: 90.7 percent of home health agencies are considered either proprietary or voluntary nonprofit.

Home health care agencies overall provide in-home care and services to individuals with acute illness, chronic health conditions, permanent disability, or terminal illness. In 2007, approximately 7.6 million individuals received formal home care. The number of home care patients is nearly three times the number of hospitalized patients (approximately 500,000) on any given day. The large majority (70.5 percent) of home health care patients is more than 65 years of age.

What to Expect During a Pandemic. In the event of an influenza pandemic, because of anticipated shortages of health care professionals and widespread implementation of social distancing techniques, it is expected that the large majority of individuals infected with the influenza virus will be cared for in the home by family members, friends, and other members of the community - not by trained health care professionals. Given these circumstances, home health care workers can expect to be called on to provide care for two main populations of patients:

- Those medical and surgical patients, not hospitalized because of the pandemic, who are well enough to be discharged early from hospitals to free up hospital beds for more severely ill patients.
- Patients who become or already are dependent on home health care services (predominantly elderly persons with chronic disease) and will continue to need in-home care during the influenza pandemic whether or not they become infected with the influenza virus.
- The demand for home health care services during a pandemic influenza outbreak is likely to exceed the home health care industry's current capacity to respond. Indeed, the overall surge capacity and preparedness levels of the home health care sector that will be necessary to respond effectively to a public health emergency such as pandemic influenza are significant unknowns.

The Need for Community Collaboration and Business Continuity

Emergency planners preparing for an influenza pandemic have the goal of maximizing positive outcomes for the greatest number of people in an environment of scarce resources. Collaboration is at the foundation of these preparedness efforts; pandemic response plans are most effective when they are integrated across jurisdictions and health care sectors. The home health care agency, in collaboration with other local stakeholders in pandemic planning, should assess its own internal readiness. This will help both to ensure the agency's business continuity during a pandemic and to provide community planners with the information they need to integrate the agency into an influenza pandemic plan.

Role Clarification. The role of the home health care sector in a pandemic, like the roles of all sectors, ultimately will be defined by State laws and regulations and by the needs of the community as determined by community planning groups. Ideally, each partner's role will be clearly outlined in the community's pandemic influenza response plan and will reflect real capacities and constraints.

Identifying Community Partners. Participation in community planning for an influenza pandemic will mean involvement with many nongovernmental and governmental organizations. To facilitate the process, the home health care agency will need to gather and/or update contact information for these organizations.

Internal Readiness Assessment. An internal assessment should include development or review of a continuity of operations or business continuity plan to measure and understand strengths and constraints of the home health care agency in the event of a pandemic. The agency should take the necessary steps to be prepared for potential challenges to business continuity including breakdowns in communications, supply chains, payroll service issues, and staffing shortages (clinical and nonclinical).

Supplies and Equipment. Maintaining a flow of supplies sufficient to continue operations, protect healthcare workers, and meet patient needs throughout a pandemic is an obvious necessity and a complicated issue for the home health care agency. Normal supply sources may be overwhelmed or disrupted, resulting in supply shortages.

Involvement in local planning efforts will help home health care providers accurately assess supply sources, delivery mechanisms, and backup systems from local, State, and national sources. Through this involvement, agency management will learn the process for requesting and obtaining any supplies that will be available through its community's response plan.

In addition to maintaining adequate stocks of usual supplies and equipment, there will be other supply needs specific to a pandemic, such as supplies specifically needed for surge patients and supplies for surge and existing patients that are not usually provided, such as food, water, or medications. The agency must determine the degree to which it will be expected or required to supply patients with necessities

such as these and what the sources would be for them. Agencies also need to ensure that their workforce has the personal protective equipment necessary to safely care for patients.

Finally, agencies need to ensure that their workforce has the essential protective equipment needed to safely care for patients, including NIOSH-certified N-95 filtering face-pieces or higher rated respirators as feasible. Respirators need to be used in the context of a comprehensive respiratory protection program as specified in the Occupational Safety and Health Administration's respiratory protection standard.

Reimbursement. Medicare is the primary payment source for most home care patients (52 percent), followed by Medicaid (20 percent) and private sources (17 percent). The Centers for Medicare & Medicaid Services (CMS) determines Medicare reimbursement via the Outcome and Assessment Information Set (OASIS), an automated data collection tool. In addition, CMS uses information that home health care agencies enter in the OASIS database to assess adult home care patients and measure patient outcomes. CMS determines compliance with the home health conditions of participation through inspections of home health agencies conducted at least once every three years. During declared public health emergencies such as a pandemic, the Secretary of HHS may alter or waive OASIS regulations for home health care agencies located in geographic areas in which the President has declared an emergency or disaster. Altered or abbreviated data entry may be allowed. Home health care agencies should be alert to any changes to OASIS requirements in the event of a pandemic.

Information for Community Planners. Especially in communities where the home health care sector is newly involved in pandemic planning, home health care agencies can become important sources of information on the industry. As these agencies prepare to participate in community planning, they may be able to identify sources of current data. As these agencies prepare to participate in community planning, they need to identify sources of current data on the sector to assist with planning and coordination efforts.

Understanding the Community Planning Process

As home health care agency management begins to engage in emergency response planning, it will be necessary to understand existing emergency preparedness processes and programs in the community and how they work. Home health care planners can expect to take part in developing, testing, and exercising the community's pandemic influenza response plan.

The home health care agency must expect and prepare for planning to be an ongoing process, with continued efforts to coordinate, build relationships, and adapt to changing conditions. The agency should use this opportunity to become more familiar with the overall disaster response plan for its community, as well as the roles, responsibilities, and assets of the other emergency preparedness stakeholders.

Command and Control. To be most effective, a pandemic influenza response plan should clearly assign responsibility to appropriate participants and provide details of the local incident command structure for a pandemic influenza outbreak. Partners in the planning and emergency response process, including representatives from home health care, need to be familiar with the incident command structure associated with their area.

The National Incident Management System (NIMS) was developed so that emergency responders from different jurisdictions and disciplines can work together better to respond to natural disasters and emergencies. The system provides a standardized incident command structure and nomenclature to enable all private sector, government, and nongovernment organizations to provide mutual aid and manage resources. Given that NIMS is used by offices of emergency management and may come into play to respond to a pandemic influenza outbreak, home health care agency staff should familiarize themselves with its structure and terminology.

Communication. Communication strategies and messages, to the public and to home health care patients and their families, should be developed and rehearsed ahead of time as part of emergency response planning, and they should be centralized through the State's joint information center and local incident command systems. Clear prescribed messages should be developed for a variety of potential scenarios with plans for ways they will be transmitted through official channels.

Relationships with public media outlets also should be developed in advance, and mechanisms of transmittal should be in place to facilitate coordination and dissemination through various media channels (e.g., television, radio, Internet) and telephone call-in information numbers. Home health care agencies may play an important role in pandemic influenza communication since home health care workers interact routinely with home care patients and family members. This interaction presents an opportunity to provide information on influenza and contagion and to reinforce public health messages and answer questions that may arise from such messages.

A national resource for communications during an influenza pandemic is the Health Alert Network (HAN), a nationwide computer network developed by CDC. HAN links local health departments to one another and to other organizations critical for preparedness and response. As a key communications resource for health care providers and other emergency preparedness stakeholders, HAN may be widely used during an influenza pandemic to provide health care providers with treatment guidelines and information regarding the pandemic. In addition, CDC's Public Health Information Network is a national initiative to improve the capacity of public health to use and exchange information electronically by promoting the use of standards, defining functional and technical requirements.

Addressing Workforce Issues

All the factors below will play into the ability of the home health care industry to meet the demands of an influenza pandemic on its workforce.

Recruitment and Retention. Research indicates that, in some areas, the home health care industry faces challenges in recruiting and retaining workers. For example, a study of home care agencies in New York State shows that more than 61 percent of the agencies surveyed reported high turnover rates for home health aides, based on the number of employees who left employment compared with the number who began employment in 2004.

Any challenges in the recruitment and retention of home health care workers that may be present at the time of an influenza pandemic are likely to strain the existing home health care workforce. A home health care agency with recruitment and retention problems could be severely limited in the numbers of surge patients for which it can provide care.

Ability of Health Care Workers to Report to Work During a Pandemic. A 2005 study in the New York City metropolitan area examined health care workers' ability to work in the event of a catastrophic disaster. The survey presented participants with a series of disaster scenarios. Less than two-thirds (63.5 percent) of survey respondents indicated that they would be able to report to work in the event of an infectious disease outbreak such as SARS.

Another obvious factor in the ability of the workforce to work during a pandemic is infection. A significant share of the home health care workforce likely will become infected with the influenza virus and be unable to report to work. Estimates based on past pandemics suggest that at least 25 percent of the workforce overall will become infected with the influenza virus. Today these estimates likely would be mitigated in the event of a pandemic by government use of antivirals. An HHS proposed guidance as of June 2008 (not an agency determination or policy), recommends that healthcare workers who have direct high-risk exposures to pandemic influenza patients as well as front-line emergency services (e.g., law enforcement, fire, and emergency medical services personnel) receive pre-exposure prophylactic antivirals.

Availability of transportation also may affect workers' ability to work if public transit systems and fuel supplies are limited because of high absenteeism. Community planning groups may need to formulate contingency plans for providing health care providers, including home care providers, transportation during an emergency. The home health care agency should be aware of how many of its employees use public transportation and should share those numbers with local planners.

In addition, plans to mitigate a severe influenza pandemic may include dismissal of students from schools and daycare centers. And of course, children also may need to stay home because of influenza infection. Either case could result in some home health care workers needing to stay home with children.

Willingness of Health Care Workers to Report to Work During a Pandemic. The New York City survey cited above indicated that less than half (48 percent) of the workers would be willing to report to work during an infectious disease outbreak. The most commonly cited reasons included fear and concern for their own and their families' health and well-being (31.1 percent and 47.1 percent respectively). A

survey of more than 300 employees of three county health departments in Maryland yielded similar results. Slightly more than half (53.8 percent) of the workers surveyed indicated that they would report to work during a pandemic influenza-related emergency.

The Maryland survey findings also indicated a significant variation in a worker's willingness to report to work depending on the worker's perception of his or her role in a pandemic. For example, those who indicated that they would not have an important role to play in a local pandemic influenza outbreak were least likely to say that they would be willing to report to work.

The ongoing New York survey also asked 217 registered nurses (RNs) working in home health care in New York City if they were willing to provide care (using personal protective equipment) to a patient who was infected with avian influenza. More than one-third (37 percent) of the surveyed RNs responded that they would provide care, and the same percentage said that they were not sure. More than one-quarter of the RNs (27 percent) responded that they would not provide care to a patient infected with avian influenza.

Measures that home care agencies can take to increase workers' willingness to report to work include:

- Ensuring that workers have appropriate personal protective equipment and providing training on its appropriate use, including fit testing.
- Helping employees identify backup informal child-care and adult-care arrangements in the event of school and day care center closures.
- Providing psychological support during a pandemic, including incorporating psychological support of health care workers into pandemic planning and reinforcing to workers their value to the community.

Workforce Training Needs for an Influenza Pandemic. Many legal issues surround the issue of training home health care and other health care workers for a pandemic influenza outbreak, such as home health care workers' scope of practice and worker liability. Within these legal and regulatory boundaries, training the home health care workforce to assume necessary new roles during an influenza pandemic can help ensure an optimal pandemic response while offering the long-term advantages of enhancing workforce skills. A variety of training needs may surface for home health care agencies during an influenza pandemic.

- All staff will need training on identification of the symptoms of pandemic influenza, its modes of transmission, and infection control measures for reducing exposure to the pandemic virus. In addition, training will be necessary to determine where the agency fits in the local response to a pandemic outbreak.
- Given that some home health care workers may be asked to provide in-home care to medical and surgical patients discharged early from hospitals and that such care may be of a higher acuity than many are accustomed to providing, those workers will need just-in-time clinical skills training.

- Workers will need to be educated on respiratory precautions.
- Home health aides may need to be trained in medication dispensing under emergency conditions.
- Workers may benefit from training in psychological first aid and palliative care to cope more effectively with their own stress and that of their patients and family.
- Workers may also need training on how to handle increased numbers of deaths in the home.

Changes in Parameters of Patient Care

The parameters of home patient care will change during an influenza pandemic. Both new and existing patients may have needs and concerns that they would not have under normal circumstances. These issues need to be addressed as part of planning for a pandemic. Some of these issues may be addressed by the use of telehealth technologies.

New Patients and New Needs. The home health care worker on the job during an influenza pandemic will face a number of new patient care issues. Among the most challenging may be the influx of new patients released early from hospitals. These patients may need a higher acuity of care than the home health care worker normally provides. In addition, some existing patients may become seriously ill with the influenza virus. For elderly patients with pre-existing conditions, this infection may be life-threatening.

Some existing patients may become seriously ill with the influenza virus. For elderly patients with pre-existing conditions, this infection may be life-threatening. In a pandemic, because systems may be overwhelmed, the normal avenues of hospitalization and hospice care may not be available for these patients. Home health care workers will need to be well prepared and trained to provide, or arrange for a provider of, palliative care to these patients.

Patients may seek information, advice, and assistance beyond what the worker normally provides. Whether or not patients or their family members have contracted the influenza virus, they may seek information on the virus specifically and the pandemic overall. They may seek advice or help on obtaining necessities such as food, water, or medical supplies. Family members who normally would do the family shopping are ill or family members do not want to risk exposure to infection. They also will need information about infection control. Part of pandemic influenza preparedness for the home health care agency is to establish processes by which workers either can address such concerns or can communicate to patients the limitations of care that the agency can provide.

While home health care workers may not be able to meet every need voiced by patients during an emergency, they certainly can offer patients helpful resources and useful information. Community planning groups may have public information materials already prepared. Regardless of the source, materials should be

appropriate for the needs of the patient and in the language and at the reading level that will serve the agency's patient populations.

Supporting Patient Care with Telehealth Technologies. Telehealth (also known as telemedicine) refers to the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health, and health administration. More than a dozen States currently provide Medicaid reimbursement for services provided through home telehealth.

Telehealth technologies are being used increasingly in the home health care industry. During an influenza pandemic, by supporting patient care, they can help address home health care workforce shortages, maximize home health care staff resources, reduce hospitalizations, and limit both health care worker and general public exposure. Specifically, home telehealth technologies have the potential to:

- Allow one nurse to monitor many patients from a central location.
- Establish a basis for intervention and home visitation based on the patient's individual time- sensitive clinical needs.
- Reduce emergency department visits and hospitalization by allowing for data-driven earlier interventions.
- Improve health outcomes through improved education, monitoring, and medication prompting.
- Alleviate patient fear and anxiety by giving patients access to their own health data and reassurance that they will receive appropriate intervention if they require it, in the form of a telephone call or home visit.

Overall, telehealth represents a strategy that could help expand the reach of home health care during a pandemic. Remote vital-sign monitoring units would allow health care workers to monitor and trend individual patient data regularly without unnecessarily exposing either workers or patients to the virus. Interactive voice response systems, already in wide use in health care and other industries, enable callers to use their touch-tone phones to retrieve information automatically during a public health emergency. Although video monitoring currently is being used primarily to help with wound management, several States are now using it to assist with syndromic surveillance by uploading videos and photographs to the HAN. Web cameras and photo cell phones offer visual clues along with patient self-reporting. Digital photography, which is uploaded to the Internet, would prove useful in monitoring a wound care patient to reduce the number of home care visits required.

Legal and Ethical Concerns

Legal and ethical considerations need to be given to what can be done to facilitate effective home health care services in an emergency. By involvement in planning, agency management will better understand the myriad issues that need to be considered in advance of a public health emergency such as an influenza pandemic.

Declarations of Emergency. The threat of an influenza pandemic may result in Federal, State, and local declarations of emergency or public health emergency. Emergency declarations can quickly and drastically change the legal environment to facilitate emergency responses for the duration of the declaration. These changes give rise to multiple legal options that would not be possible in nonemergency events.

The Federal government has emergency declaration powers that operate independently or in conjunction with State and local emergency response efforts. States may:

- Feature a comprehensive set of government powers arising from the declaration of a public health emergency.
- Predicate their emergency powers on the declaration of a general emergency or disaster.
- Allow for the dual declaration of public health emergencies and general emergencies.

Key Legal and Ethical Issues. The Presidential declaration of a national emergency or disaster, along with the declaration of a public health emergency by the Secretary of HHS, may be the basis for the Secretary to invoke a waiver authority under the Social Security Act, which permits increased regulatory flexibility for home treatment and patient transfers. It is important for the home health care sector to anticipate legal concerns that may emerge during a declared public health emergency and begin to consider potential solutions to these issues in advance.

Legal parameters differ from State to State and may change during a declared emergency. Home health care agencies should consult their State and local governments, professional organizations, or local pandemic influenza planners to learn about laws and regulations that may affect their operations and staff during an influenza pandemic.

- **Allocation of scarce resources.** Determine with local planners how to use resources most efficiently and under which priority the agency will be allocated specific patient treatment resources.
- **Scope of practice.** Determine whether scope of practice restrictions set forth by the State or political subdivision will be extended to allow, for example, more home health care workers to provide vaccinations or medications.
- **Addressing medical personnel licensure requirements.** Determine appropriate legal approaches to adapting normal licensing requirements for volunteer health personnel to more readily support declared emergencies.
- **Reimbursement.** Learn who, if anyone, is legally required to pay for services during an emergency.
- **Human resource policies.** Policies will need to deal effectively with issues such as failure to report to work.

- **Workers compensation.** Determine whether workers compensation carriers will provide the same protections that they provide under standard conditions.
- **Patient release policies.** Learn what policies are for releasing patients from standard hospital care to home-based care.
- **Protections for at-risk populations.** Learn what enhanced protections are for at-risk populations.
- **Health care worker liability protections.** Learn the agency's liability for harms that arise to patients from home health care services during emergencies
- **Patient abandonment.** Determine under which circumstances a home health care provider's failure to treat existing patients may result in penalties.
- **Parameters and processes for public health emergency declaration.** Know who has the authority and responsibility for declaring an emergency and who ends the declaration. Learn what the results of a declaration of a public health emergency will be on the provision of home health care services (e.g., new powers or limitations or temporary suspension of regulatory conditions of participation for Medicare and Medicaid).
- **Other process issues.** Consider what other process issues may need to be addressed, such as the process for pronouncing death in the agency's State or any similarly regulated process.

Conclusion

Several overarching themes emerge from this discussion of home health care during an influenza pandemic. First, the home health care industry will serve as an essential component of surge capacity in the event of a pandemic influenza outbreak. Second, it is critical that home health care agencies are actively involved in planning and collaboration across all sectors of the health care continuum. Third, the anticipated surge of patients will strain the home health care workforce. And fourth, strategies involving home-based care and monitoring technologies should be considered to expand the options for patient care during a pandemic.

Recommendations for Further Research. Research opportunities on this topic include examining the surge capacity of the home health care sector; researching the development of training programs for home care workers specific to a pandemic; examining scope-of-practice issues for home health care professionals; investigating the development of an assessment tool for home health care agencies to use to evaluate business readiness for a pandemic; and conducting a review of the legal issues related to sharing supplies and equipment during a public health emergency such as a pandemic.

Recommendations for Action at the Federal, State, Tribal, and Community Levels. Include home health care preparedness efforts, such as continuity of operations planning, drills and exercises, staff training, and patient education, among preparedness efforts being supported by the Federal government.

Federal agencies could support home health care preparedness efforts using seasonal flu as a model situation, and programs that emphasize individual and family preparedness for all types of emergencies, including an influenza pandemic.

States could include home health care representatives in State emergency functions and explore and employ telehealth technologies for use during public health emergencies.

Communities could integrate home health care representatives into State, tribal, county, and local emergency preparedness planning groups, create planning and training tools that support community and patient preparedness, and establish relationships with volunteer groups and provide training on specific caretaker and home care responsibilities.

Chapter 1. Introduction

The Context

During the past several years, concerns have grown in the United States and around the world about the potential emergence of an influenza virus of pandemic proportions. Such concerns have prompted influenza pandemic planning and preparedness initiatives in the United States and abroad. These efforts are led at the global level by the World Health Organization and are supported by the efforts of individual countries.

Influenza Definitions

Seasonal (or common) flu is a respiratory illness that can be transmitted person to person. Most people have some immunity, and a vaccine is available.

Avian (or bird) flu (AI) is caused by influenza viruses that occur naturally among wild birds. Low pathogenic AI is common in birds and causes few problems. Highly pathogenic H5N1 is deadly to domestic fowl, can be transmitted from birds to humans, and is deadly to humans. There is virtually no human immunity and human vaccine availability is very limited.

Pandemic flu is virulent human flu that causes a global outbreak, or pandemic, of serious illness. Because there is little natural immunity, the disease can spread easily from person to person. Currently, there is no pandemic flu.

Source: www.pandemicflu.gov.

Influenza pandemic planning efforts in the United States gained momentum with President George Bush's announcement before the United Nations General Assembly in September 2005 of an International Partnership on Avian and Pandemic Influenza, followed by the release of *The National Strategy for Pandemic Influenza* by the U.S. Government in November 2005. The *Implementation Plan for the National Strategy for Pandemic Influenza*, which translates the national strategy into more than 300 concrete actions to be undertaken by agencies of the U.S. Government was released in May 2006. The National Strategy also advises States and communities to develop pandemic preparedness plans to respond to an outbreak within their jurisdictions. In addition, a Federal Pandemic Influenza Healthcare Steering Committee has been established for interagency coordination on pandemic preparedness efforts, which includes representatives from the Departments of Defense, Health and Human Services (HHS), Homeland Security (DHS), Transportation, and Veterans Affairs (VA). Finally, the *Pandemic and All-Hazards Preparedness Act*, which was signed into law in December 2006, has broad implications for U.S. preparedness and response initiatives.

RESOURCES

To view the National Strategy for Pandemic Influenza, go to <http://www.whitehouse.gov/homeland/pandemic-influenza.html>.

To view the Implementation Plan for the National Strategy for Pandemic Influenza, go to <http://www.pandemicflu.gov/plan/federal/stratergyimplementationplan.html>.

The Pandemic and All-hazards Preparedness Act (S3678) can be viewed at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=109_cong_public_laws&docid=f:publ417.109

Influenza pandemics are recurring natural disasters, having struck during the 20th century in 1918, 1957, and 1968. Both the onset and the magnitude of influenza pandemics are difficult to predict.¹ The 1918 "Spanish flu," the deadliest pandemic in history, is estimated to have killed more than 50 million people worldwide.² Given that the current world population is more than three times as large as that of 1918, an influenza pandemic, regardless of its severity, could result in millions of deaths.² Morbidity rates during past pandemics reached 25 - 35 percent of the total population.³ A similar morbidity rate in any future influenza pandemic could result in millions of Americans seeking medical care. Such a pandemic could quickly overwhelm U.S. hospitals and emergency departments, which have little if any surge capacity.⁴ Given that a pandemic influenza outbreak may overwhelm the resources of a community's health care system, it is necessary to make plans for the allocation of scarce resources in a manner that is appropriate for such an emergency.⁵ It is critical to examine, prior to a pandemic outbreak, the most appropriate and efficient ways in which care can be provided to the largest numbers of the ill.

To assist communities planning for a pandemic, the Federal Government has developed a Pandemic Severity Index. The Index uses 5 categories of increasing severity (Category 1 to Category 5) to characterize a pandemic. The categories are primarily determined by case fatality ratio, i.e., the rate of death among persons who already have a particular disease. Communities will have different combinations of responses and interventions depending on the severity of a pandemic. The Pandemic Severity Index provides U.S. communities a tool for scenario-based contingency planning to guide pre-pandemic planning efforts. The Index will help communities match the intensity of their interventions to the severity of a pandemic.

RESOURCE

A full description of the Pandemic Severity Index is available in the Centers for Disease Control and Prevention's Community Strategy for Pandemic Influenza Mitigation, which provides interim planning guidance for communities focusing on measures other than vaccination and drug treatment that might be useful during an influenza pandemic to reduce its harm. Go to <http://www.pandemicflu.gov/plan/community/commitigation.html#IV>

Every sector of the U.S. health care system must be prepared for the challenge of increased demand for services in the face potentially scarce resources and possible disruptions in infrastructure. Preparedness will mean different things for different sectors. Hospitals, clinics, emergency medical services, private practice, longterm care institutions, hospices, and home health care agencies, for example, all will have distinct challenges. Federal Government agencies have been working together to help ensure that each health care sector has information necessary to that specific sector on how to prepare for and respond to a pandemic.

This report serves as a discussion piece for home health care agencies and others to consider; this is not a Department of Health and Human Services (HHS) guidance. The Agency for Health Care Research and Quality, with funding from the HHS Office of the Assistant Secretary for Preparedness and Response and in collaboration with the Centers for Disease Control and Prevention (CDC), convened an expert panel meeting on July 12-13, 2007, in Washington, DC. The meeting brought together 26 experts in the fields of home health care and emergency and disaster planning, and representatives from key Federal and State agencies and professional organizations. Appendix A on page 63 provides the list of panelists.

During the meeting, the expert panel reviewed the work currently being done in the area of home health care planning and preparedness and explored the key issues and challenges home health care agencies have during a pandemic influenza outbreak. This report had its genesis in the rich discussion among these experts. It is hoped that the information and resources here will be of value not only to home health care agencies, but also to State and local pandemic influenza planners. The report highlights available resources both throughout the text and at the end of each chapter. Its ultimate goal is to provide useful information on the role of home health care agencies in pandemic preparedness and response and to strengthen the Nation's ability to provide home health care in the event of an influenza pandemic.

Overview of the Home Health Care Industry

The home care sector includes, in addition to home health care agencies (public and private), home care aide organizations and hospices. Currently approximately 17,700 such provider agencies and organizations operate in the United States.⁶ These organizations employ a variety of licensed and nonlicensed home health providers, including registered nurses, licensed practical and vocational nurses, home health aides, social workers, physical therapists, respiratory therapists, durable medical equipment providers, and personal caregivers among others. Indeed, the term "home health care provider" belies significant differences among home health care nurses, home health aides, personal caregivers, and durable medical equipment providers.

Home health nurses have skills training, are licensed, and work within the scope of a State Nurse Practice Act. Home health aides are trained and certified but may or may not be licensed (depending on the State) and have limited skills training. Personal caregivers generally are not licensed; may not have technical skills training; and generally provide cooking, cleaning, and/or bathing assistance to people with mental or physical limitations. Durable medical equipment providers do not possess clinical licensure. They deliver health care equipment (e.g., walkers, wheelchairs, oxygen tanks) and consumable medical supplies (e.g., bandages, catheters, gloves) to home health care recipients. It is important to note that consumable medical supplies are not covered as a Medicare durable medical equipment benefit. Finally, many home health care services are provided informally by family members.

Home health care agencies can be categorized based on their affiliation with an acute care facility and their Medicare and Medicaid certification. Home health agencies and

hospice providers overall overwhelmingly possess Medicare certification (93.2 percent and 99.0 percent, respectively) and are fairly equally split between having an affiliation with an inpatient facility and having no affiliation (65.4 percent and 59.6 percent, respectively).⁶ The overwhelming majority of home health agencies and hospice care providers overall are nongovernmental: 90.7 percent of home health agencies and 95.6 percent of hospice providers are considered either proprietary or voluntary nonprofit.

Home health care agencies provide in-home care and services to individuals with acute illness, chronic health conditions, permanent disability, or terminal illness. In 2007, approximately 7.6 million individuals received formal home care.⁷ The number and characteristics of the home care patient population have been affected by legislation, including the 1965 enactment of Medicare and the extension of certain home care services in the 1970s to Americans with disabilities.

According to the National Center for Health Statistics, in 2000, approximately 1.4 million home care patients were cared for by professional home care providers on any given day in the United States.⁶ The number of home care patients is nearly three times the number of hospitalized patients (approximately 500,000) on any given day.⁸ The large majority (70.5 percent) of home health care patients is older than 65, with more than one-fifth (21.9 percent) of all home care patients older than 85.6 Women older than 85 represent more than one-quarter (25.6 percent) of all home health care patients.

The National Home & Hospice Care Survey (2000) shows approximately half of all home care patients receive assistance with activities of daily living (ADLs) such as bathing, dressing, eating, and walking.⁶ Less than half of all home care patients receive assistance with instrumental activities of daily living (IADLs), such as doing light housework, shopping, preparing meals, and taking medications.⁶ In terms of requirements for medical devices, of the total home care patient population in 2000, ten percent required blood glucose monitoring, two percent required enteral (tube) feeding, four percent required IV therapy, eight percent required oxygen, and three percent required other respiratory therapy.

While slightly more than 30 percent of home care recipients live alone, nearly 81 percent of all home care patients have a primary caregiver (informal, usually a family member) and 75.9 percent of individuals who have a primary caregiver actually live with their caregiver.⁶ This fact may allow Emergency Planning Committees or other community planning groups preparing their pandemic influenza plans to assign a potentially larger care-giving role to these in-home informal caregivers in the event of an influenza pandemic. Conversely, professional home health care services become even more important to patients without access to informal caregivers or patients whose caregivers become ill or are unable to provide care during an influenza pandemic.

What to Expect During an Influenza Pandemic

In the event of an influenza pandemic, because of anticipated shortages of health care professionals and widespread implementation of social distancing techniques, it is expected that the large majority of individuals infected with the influenza virus will be cared for in the home by family members, friends, and other members of the community - not by trained health care professionals.⁹ Nevertheless, hospitals will experience a surge in patients and may be overwhelmed by the number of patients requiring critical care services. It is expected that hospitals will implement surge plans. Given these circumstances, home health care workers can expect to be called on to provide care for two main populations of patients:

- Those medical and surgical patients not hospitalized because of the pandemic who are well enough to be discharged early from hospitals to free up hospital beds for more severely ill patients.
- Patients who become or already are dependent on home health care services (predominantly elderly persons with chronic disease) and will continue to need in-home care during the influenza pandemic whether or not they become infected. Elderly patients who become infected with influenza often may need to be admitted to hospitals because their age and preexisting conditions could make their influenza infection especially severe.

Although home health care agencies respond annually to a surge in hospital discharges during the annual flu season, the demand for home health care services during a pandemic influenza outbreak is likely to exceed the home health care industry's current capacity to respond. Indeed, the overall surge capacity and preparedness levels of the home health care sector that will be necessary to respond effectively to a public health emergency such as pandemic influenza are significant unknowns.¹⁰

"Home health care is an industry built on staff and transportation, not bricks and mortar. Each year in New York alone, a total of more than 400,000 patients, many of whom are nursing home eligible, receive health services in their homes. This requires a massive, coordinated, and organized effort. This existing home health care infrastructure can prove invaluable in disaster response, providing it has needed resources."

Alexis Silver
Home Care Association of New York State, Inc.

In a study conducted by the Center for Health Workforce Studies at the University of Albany School of Public Health, one-half of all surveyed home health care agencies indicated that they could increase their capacity by no more than 10 percent during an emergency. Forty percent of the agencies surveyed were unable to determine the extent to which patient capacity could be increased during an emergency.¹¹

"It will be critical to establish a definition of 'surge capacity' for the home health care sector. An emergency will require a shift away from traditional one-on-one thinking to surge capacity thinking.

Barbara Citarella, R.N., B.S.N., M.S., C.H.C.E.
RBC Limited

In assessing the overall preparedness of the home health care sector to respond to pandemic influenza, consideration needs to be given to the likelihood that available staff will be reduced significantly as these health care workers become infected with the influenza virus themselves. In addition, because even seemingly healthy workers may be vectors for the virus, the advisability of sending workers into homes must be considered. Home care visits may need to be limited, as a means of infection control, to those that are absolutely necessary. Planners must be prepared to deal with these and other issues related to health care workers' inability to work because of illness or infection control measures.

RESOURCE

"Pandemic Influenza: Where Are We Now? A National Update on Home Care Preparedness," in *Caring Magazine*. May 2007, focuses on current best practice preparedness models in the home health and hospice industries.

A surge in patients and reduction in available home health care workers, as well as potential public transit disruptions, make it unlikely that the traditional approach to providing health care services will be possible during an influenza pandemic. In addition to providing direct patient care during, home health care agencies may have a primary role working with community organizations and families to teach them how to provide care to patients, both those infected with the influenza virus and existing home care patients, with limited if any assistance from health care professionals. These changes in approach reinforce the necessity of advance planning.

Chapter 2. The Need for Community Collaboration and Business Continuity

Emergency planners preparing for an influenza pandemic have the goal of maximizing positive outcomes for the greatest number of people in an environment of scarce resources.⁵ Collaboration is at the foundation of these preparedness efforts; pandemic response plans are most effective when they are integrated across jurisdictions and health care sectors.⁵ The home health care agency, in collaboration with other local stakeholders in pandemic planning, should assess its own internal readiness. This will help both to ensure the agency's business continuity during a pandemic and to provide community planners with the information they need to integrate the agency into an influenza pandemic plan.

Role Clarification

The role of the home health care sector in a pandemic, like the roles of all sectors, ultimately will be defined by State laws and regulations and by the needs of the community as determined by community planning groups. Ideally, each partner's role will be clearly outlined in the community's pandemic influenza response plan and will reflect real capacities and constraints. This clarification of roles will enable all partners to have a firm understanding of the tasks that they may be asked to perform and to prepare for them.

To determine its role, the home health care agency will work with Local Emergency Planning Committees (LEPC) or other community planning groups. LEPCs are made up of emergency management agencies, responders, industry, and the public. There is an LEPC in each of the more than 3,000 local emergency planning districts across the country.¹²

Role assignment should focus on efficiencies, not only in filling gaps and avoiding unnecessary duplication but also in planning for necessary redundancies and back-up measures. Thus, the goal of role clarification in community response planning is to establish a system that most efficiently brings together and takes advantage of the strengths and value of each participating group. The home health care agency that collaborates closely with Local Emergency Planning Committees and other community planning groups will have helped to guarantee that its assigned roles match its capabilities.

Role clarification is particularly important in the event that more than one home health care agency is present in the community. Roles and responsibilities may differ from agency to agency based on varying response capabilities, and these different roles should be clearly articulated during the planning process. Role clarification is ongoing with roles changing as plans are tested and refined and new stakeholders become involved.

One potential role that will have important implications for most home health care agencies is the distribution of information, infection control supplies, food, medications, and other necessities to home care patients and their families.

Role clarification extends to the agency's internal pandemic planning as well. The agency should assign a pandemic response coordinator from among agency staff. A planning committee, which may be as small as two persons or much larger depending on company size, should be assigned to work on planning under the leadership of the response coordinator.¹³

Identifying Community Partners

Participation in community planning for an influenza pandemic will mean involvement with many nongovernmental and governmental organizations. In the course of its participation, the home health care agency will want to gather and/or update contact information for these organizations. The following information could be useful, depending on the circumstances (This list is adapted from the HHS [Home Health Care Services Pandemic Influenza Planning Checklist](#).)

- Names, titles, and contact information for key public health points of contact for pandemic influenza planning at local and State health departments and local emergency management. In most communities, this will be the public health department or office of emergency management. Local pandemic influenza planning committees can be identified through these offices. However, some communities may not yet have a pandemic influenza planning committee. Pandemic influenza planning may be conducted as part of an all-hazards public health emergency approach.
- Other home health care services providers in the area and their points of contact to learn about their pandemic influenza planning efforts and to evaluate the possibility of coordination. A call to the State home health association may help in determining whether other home health care agencies and organizations already are engaged in local and State pandemic influenza planning.
- Other health care entities and their points of contact, including local hospitals, residential care facilities, social service agencies, emergency medical services providers, and others with which it may be necessary to coordinate during an influenza pandemic. Examples of potential planning partners include representatives from public and private health care and mental health services providers, including Federally Qualified Health Centers, law enforcement, emergency management, 9-1-1 public safety answering points, local public health departments, community health centers, professional health associations, school systems, the Red Cross, the business community, faith-based and other community organizations, volunteer and civic associations, palliative care professionals, ethicists, and legal experts.

RESOURCE

The National Association for Home Care & Hospice compiles a list of current State home care associations. Go to www.nahc.org/stateforum/ and click on "Find Your State Association."

Internal Readiness Assessment

Some key internal assessment issues that were considered by the expert panel are discussed here. Planning and assessment issues related to the workforce and patient care during a pandemic are included in Chapters 4 and 5 respectively; legal and ethical issues are included in Chapter 6.

An internal assessment should include development or review of a continuity of operations or business continuity plan to measure and understand strengths and constraints of the home health care agency in the event of a pandemic. The agency should take the necessary steps to be prepared for potential challenges to business continuity including breakdowns in communications, supply chains, payroll service issues, and staffing shortages (clinical and nonclinical).

RESOURCES

"[Home Health Care Services Pandemic Influenza Planning Checklist](#)," developed by CDC, outlines the steps involved in home health care agency planning for an influenza pandemic. The checklist is available at <http://www.pandemicflu.gov/plan/healthcare/healthcare.html>.

The Federal Emergency Management Agency offers the Pandemic Influenza Preparedness, Response, and Recovery Guide as a practical tool for business owner-operators and their contingency planners to enhance pandemic planning. The guide assembles the primary government and pandemic influenza-specific background material, references, and contacts all in one place. The site includes a continuity of operations guide for pandemic influenza. To see the guide, go to <http://www.ready.gov/business/index.html> and search by title.

The Centers for Medicare & Medicaid Services (CMS) Office of Clinical Standards and Quality is developing an omnibus emergency preparedness proposed regulation that would affect participating Medicare/Medicaid-certified providers, including home health agencies. The draft Notice of Proposed Rulemaking is expected to be issued in the summer of 2008.

The Occupational Safety and Health Administration's Pandemic Influenza Preparedness & Response Guidance for Healthcare Workers & Healthcare Employers addresses precautions and practices that could help protect who would be on the front lines of a health crisis. Go to <http://www.osha.gov/Publications/3328-05-2007-English.html>.

The National Association for Home Care and Hospice offers *Pandemic Operational Planning and Infection Control Handbook for Home Health and Hospice*. For information, go to <http://www.nahc.org>.

The Visiting Nurse Associations of America offers *VNAA Pandemic Influenza Preparation: A Resource Guide for Homecare Agencies*. For information, go to <http://www.vnaa.org>.

The Home Care Association of New York State's *Home Care Aware* Web site, produced with funding from the New York State Department of Health, can help home health care providers in emergency planning, response, and recovery efforts. Go to <http://www.homecareaware.org>.

School nurses worked through the National Association of School Nurses to determine their role in the larger emergency medical planning efforts, offering a possible model for home health agencies. Go to <http://www.nasn.org/Default.aspx?tabid=221>.

"Code Flu: Common Sense Steps to Develop an Agency Pandemic Flu Plan for Home Care" by Sharon Dezzani Martin, published in *Home Healthcare Nurse*, Volume 25, Issue 9, 2007, outlines issues that home health care agencies need to consider when preparing their own "code flu" plans.

A *Business Pandemic Influenza Planning Checklist*, developed by HHS' CDC, identifies important activities businesses can undertake to prepare. The list is aimed at large businesses, but small businesses can use it as a reference as well. Available at www.pandemicflu.gov.

Supplies and Equipment

Maintaining a flow of supplies sufficient to continue operations and meet patient needs throughout a pandemic is an obvious necessity and a complicated issue for the home health care agency. Normal supply sources may be overwhelmed or disrupted, resulting in supply shortages when surpluses are needed. In addition to supplies, the agency also will need to plan for availability of the durable medical equipment on which many home-based patients with chronic illnesses or disabilities rely.

"We need to look from the perspective of the home health care patient. A lot of them will be depending on supplies not only from the home care nurses but also from the durable medical equipment vendors. Will we be able to cover that during a pandemic? Will they still be able to get supplies?"

Shelley Ludwick, R.N.
Visiting Nurse Associations of America

The HHS [Home Health Care Services Pandemic Influenza Planning Checklist](#) recommends that agencies think about whether plans should include at least a week's supply of resources when there is evidence that the potential for pandemic influenza has reached the United States. This will provide a base until the agency is able to receive direction from its local, State, and Federal government agencies on how and where to access necessary supplies.

Involvement in local planning efforts will help home health care providers accurately assess durable medical equipment needs, supply sources, delivery mechanisms, and backup systems from local, State, and national sources. Through this involvement,

agency management will learn the process for requesting and obtaining any supplies that will be available through its community's response plan.

In addition to maintaining adequate stocks of usual supplies and equipment, there will be other supply needs specific to a pandemic. These include:

- **Supplies for surge patients.** Supplies will be needed to cover a likely influx of medical and surgical patients who are sent home to free up beds for more severely ill patients and who may need home health care. It may be difficult to identify in advance the exact type and quantity of supplies that will be needed to care for these patients, but agencies and community planners alike need to be alert to this potential need.
- **Supplies not normally provided to patients.** A pandemic may result in normal supply channels being disrupted for home health care patients. Patients or community planners may look to home health care workers to provide their patients with supplies such as food, water, or medications in cases when, for example, family members who normally would do the family shopping are ill or family members do not want to risk exposure to infection. The agency must determine the degree to which it will be expected or required to supply patients with necessities such as these and what the sources would be for them.
- **Respiratory protection.** Agencies need to ensure that their workforce has the essential protective equipment needed to safely care for patients. Home health care workers who are performing aerosol-generating procedures on patients with confirmed or suspected pandemic influenza will need NIOSH-certified N-95 filtering face-pieces or higher-rated (i.e., N-99 or N-100 respirators) as feasible. Although P- and R-rated respirators are designed for use when exposure to oil is likely, they may be substituted when N-95 respirators are not available or in short supply. If supplies of N-95 or higher rated respirators are not available, surgical masks can provide benefits against large droplet exposures.¹⁴ Establishment of a comprehensive respiratory protection program as specified in OSHA's Respiratory Protection Standard will provide the highest level of protection for employees. Such a program would include a written program, fit testing, medical clearance, and training.

RESOURCES

Further information on the type of masks to use is available at the www.pandemicflu.gov site under "Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Health Care Settings during an Influenza Pandemic" at <http://www.pandemicflu.gov/plan/healthcare/maskguidancehc.html>.

OSHA has drafted a "Proposed Guidance on Workplace Stockpiling of Respirators and Facemasks for Pandemic Influenza" As of July 2008, the proposal is available for comment at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=NEWS_RELEAS&p_id=16130.

Information on the elements of a comprehensive respiratory protection program is available at <http://www.osha.gov/SLTC/respiratoryprotection/index.html>.

OSHA's Respiratory Protection Standard is available at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=12716.

Reimbursement

Medicare is the primary payment source for most home care patients (52 percent), followed by Medicaid (20 percent) and private sources (17 percent).⁶ CMS determines Medicare reimbursement via the Outcome and Assessment Information Set (OASIS), an automated data collection tool. In addition, CMS uses information that home health care agencies enter in the OASIS database to assess adult home care patients and measure patient outcomes. CMS determines compliance with the home health conditions of participation through inspections of home health agencies conducted at least once every three years. During declared public health emergencies such as a pandemic, the Secretary of HHS may alter or waive OASIS regulations for home health care agencies located in geographic areas which the President has declared an emergency or disaster.¹⁵ Home health care agencies should be alert to any changes to OASIS requirements in the event of a pandemic.

RESOURCE

For OASIS information, go to http://www.cms.hhs.gov/OASIS/02_Background.asp.

Information for Community Planners

Especially in communities where the home health care sector is newly involved in pandemic planning, home health care agencies can become important sources of information on the industry. As these agencies prepare to participate in community planning, they may be able to identify sources of current data on the sector to assist with planning and coordination efforts.

Sources of such information could include State-level OASIS data, which can be used by both the home health care agency and local planners to help estimate potential demands on the home health care sector, prioritize patient care, and allocate resources during an influenza pandemic.¹⁵ OASIS data address sociodemographic, environmental, support system, health status, functional status, and health service utilization characteristics of the patient. Each State Survey Agency has an OASIS Automation Coordinator to supply "real-time" OASIS data.

AHRQ's Medical Expenditure Panel Survey (MEPS) provides information on home health care for a nationally representative sample of the U.S. noninstitutionalized civilian population and can be used to make estimates of the utilization and expenditures associated with home health care during the 2005 calendar year. Information on expenditures for home health visits includes mean and median expenditures per person and sources of payment.

RESOURCE

For MEPS data, go to

http://www.meps.ahrq.gov/mepsweb/about_meps/survey_back.jsp.

What Is Needed

- Home health care agencies need to be aware that it is critical to have adequate essential supplies and that additional supplies will be needed for the medical and surgical patients who are discharged early from hospitals to free up hospital beds for more severely ill patients.
- Home health care agencies need to assess and clarify their possible roles in and contributions to pandemic influenza planning and response efforts. These roles need to be clearly conveyed to local medical planners.

Chapter 3. Understanding the Community Planning Process

As home health care agency management begins to engage in emergency response planning, it will be necessary to understand existing emergency preparedness processes and programs in the community and how they work.

Tests and Exercises

Home health care planners involved in local pandemic influenza planning can expect to take part in developing, testing, and exercising the community's pandemic influenza response plan. Agencies should participate in all exercises as well as in corrective action plans.

As emergency plans are developed, tested, and refined, the information will need to be captured in a written community response plan to allow for greater understanding and coordination among stakeholders. The emergency response plan should be tested through either tabletop or simulated exercises, and continued planning efforts should stem from the lessons learned from these exercises and from revised best-practice recommendations put forth as more is learned about viruses with the potential to create a pandemic. This process will serve to further refine the specific roles and response activities of the stakeholders. Exercises and planning efforts may be broadened to include neighboring jurisdictions that may have very different response plans, which, in turn, may require additional coordination and adjustments.

The home health care agency must expect and prepare for planning to be an ongoing process, with continued efforts to coordinate, build relationships, and adapt to changing conditions. The agency should use this opportunity to become more familiar with the overall disaster response plan for its community, as well as the roles, responsibilities, and assets of the other emergency preparedness stakeholders.

RESOURCES

A "[State and Local Pandemic Influenza Planning Checklist](http://www.pandemicflu.gov/plan/states/statelocalchecklist.html)" identifies specific activities pandemic planners can conduct. Many are specific to pandemic influenza, but a number also pertain to any public health emergency. Go to <http://www.pandemicflu.gov/plan/states/statelocalchecklist.html>.

AHRQ's *Mass Medical Care with Scarce Resources: A Community Planning Guide* contains a wealth of information on emergency planning measures, home care, and issues related to the provision of palliative care. Go to <http://www.ahrq.gov/research/mce/>.

"Promising Practices For Pandemic Planning: Collaborations Ensure Local Needs Met in City's Pandemic Planning," by Natalie C. Vestin, describes the process by which the city of Alexandria, VA, incorporated Federal, State, and county structures into its pandemic plan. Go to <http://www.cidrap.umn.edu/cidrap/content/influenza/panflu/news/nov1907alexandriapp.html>.

Command and Control

The issue of command and control is central to effective planning and coordination of an emergency response, particularly when the response will require collaboration among groups that do not typically work together and may represent competing institutional, financial, and professional interests. A pandemic influenza response plan should clearly assign responsibility to appropriate participants and provide details of the local incident command structure for a pandemic influenza. Partners in the planning and emergency response process, including representatives from home health care, need to be familiar with this structure.

The National Incident Management System (NIMS) was developed so that emergency responders from different jurisdictions and disciplines can work together better to respond to natural disasters and emergencies. The system provides a standardized incident command structure and nomenclature to enable all private sector, government, and nongovernment organizations to provide mutual aid and manage resources. Given that NIMS is used by offices of emergency management and may come into play to respond to a pandemic influenza outbreak, home health care agency staff should familiarize themselves with its structure and terminology.

RESOURCES

NIMS has a national training curriculum for public and private sectors on emergency planning and preparedness. For curriculum and other information about NIMS, go to <http://www.fema.gov/emergency/nims>.

The Medical Surge Capacity and Capability Handbook, designed to help medical and health systems coordinate with one another and integrate with fire service and law enforcement agencies, offers guidance in developing medical response that is consistent with NIMS. Go to http://www.hhs.gov/aspr/opeo/documents/mscc_handbook.html.

Communication

Coordinated communication is critical to diminishing the risks of negative outcomes such as panic, chaos, and hospital and emergency department crowding during an event as serious as an influenza pandemic. Clearly defined procedures are needed for rapid dissemination of pandemic information among home healthcare, emergency medical services, public health, 9-1-1 public safety answering points, and emergency management officials. This should include coordination with CDC's Health Alert Network.

Ideally, communication strategies and messages should be developed and rehearsed ahead of time as part of planning, and they should be centralized through the State's joint information center and local incident command systems. Clear prescribed messages, such as that the home is the "safe haven" in the event of a pandemic, should be developed for different scenarios with plans for ways they will be transmitted through official channels.

RESOURCE

For risk communication materials and resources, go to <http://www.pandemicflu.gov/news/rcommunication.html>.

Relationships with public media outlets should be developed in advance, and mechanisms of transmittal should be in place to facilitate coordination and dissemination through various media channels (e.g., television, radio, Internet) and telephone call-in information numbers. Home health care agencies may play an important role in pandemic communication since home health care workers interact routinely with home care patients and family members. This interaction presents an opportunity to provide information on influenza and contagion and to reinforce public health messages and answer questions that may arise from such messages.

A national resource for communications during an influenza pandemic is the Health Alert Network (HAN), a nationwide computer network developed by CDC. HAN links local health departments to one another and to other organizations critical for preparedness and response, including: community first responders, hospital and private laboratories, State health departments, and CDC and other Federal agencies.

As a key communications resource for health care providers and other emergency preparedness stakeholders, HAN establishes the communications, information, distance learning, and organizational infrastructure for defense against health threats.¹⁶ During an influenza pandemic, HAN may be widely used to provide health care providers with timely treatment guidelines and information regarding a potentially rapidly evolving disease outbreak.

Some States, such as New York, have made it mandatory for home health care providers to have access to HAN. Other States, such as North Carolina, Missouri, Pennsylvania, and Washington, also are taking steps to ensure that home health care providers have access to HAN.

Facts About the HAN System

- High-speed, continuous, secure connection to the Internet, access to public health information, and front-line staff skilled in the use of electronic information and communications technology.
- Distance-learning capacity, via satellite- and Web-based technologies, for continuous upgrading of skills in preparedness for bioterrorism and other health threats.
- Early warning systems, such as broadcast fax, to alert local, State and Federal authorities and the media about urgent health threats and necessary prevention and response actions.
- Enables local health officials nationwide to instantaneously access and share disease reports, response plans, and CDC diagnostic and treatment guidelines.
- Strengthens local health departments and their links to critical community health organizations -- such as hospitals, laboratories, Emergency Medical

Systems (EMS), and clinicians -- that need to form a coordinated public health response to bioterrorism.

- Enables local, State, and Federal health authorities to communicate and coordinate rapidly and securely with each other and with law enforcement agencies.

From: <http://www.bt.cdc.gov/DocumentsApp/HAN/han.asp>.

An additional communications resource is CDC's Public Health Information Network (PHIN), a national initiative to improve the capacity of public health to use and exchange information electronically by promoting the use of standards, defining functional and technical requirements. PHIN strives to improve public health by enhancing research and practice through best practices related to efficient, effective, and interoperable public health information systems.

Models of Effective Collaboration with Home Health Care

The State of North Carolina and the Seattle King County Healthcare Coalition serve as examples of effective integration of home health care into emergency response planning at the State and county levels.

North Carolina and the Association for Home & Hospice Care of North Carolina. The State of North Carolina and the Association for Home & Hospice Care of North Carolina work closely on emergency preparedness projects. The State of North Carolina involves the home health care and hospice sectors in a range of emergency planning activities and exercises. In turn, the Association for Home & Hospice Care of North Carolina works to reach out to all members of the health care and disaster management sectors to bridge the gap between home health care and these groups, and to inform emergency management and hospitals of the role that the home health care sector can assume in a public health emergency such as a pandemic influenza outbreak. Examples of cooperative activities include:

- Development of an emergency preparedness handbook complete with checklists and a host of reference materials and information.
- The State's creation of an organizational framework for two-way communication and information sharing among home health care, public health, medical facilities, and State- level emergency response agencies.
- The State's involvement of home health care in a large Medical Evacuation Triage and Treatment Assessment exercise, which transformed a local community college into a medical shelter with discrete levels of care, such as long-term care, acute care, and home and hospice care. The Association for Home & Hospice Care was involved in every phase of the exercise, from planning to care coordination and the development of a followup plan.
- The involvement of home health care in the State Medical Response System subunits known as State Medical Assistance Teams (SMAT). SMAT Type II teams deploy 50-bed portable hospital units to help State, regional, and local

responders provide surge capacity for medical personnel and equipment for triage, treatment, tracking and transport of patients during an emergency. Each 53-foot long trailer is staffed by medical teams of doctors, nurses, pharmacists, and other allied health care professionals including subspecialties such as burns, cardiac, neonatal intensive care, and obstetrics. Home care and hospice care providers take the place of paramedics and emergency room nurses to operate durable medical equipment and provide care to patients with chronic illnesses who are normally cared for in the home.

RESOURCES

Contact information for the North Carolina Office of Emergency Medical Services is at <http://www.ncdhhs.gov/dhsr/EMS/ems.htm>.

The Association for Home & Hospice Care of North Carolina's Disaster Preparedness Info Center has a wide variety of resources information about North Carolina emergency preparedness. Go to <http://www.homeandhospicecare.org/disaster/home.html>.

King County Healthcare Coalition. King County in Washington serves as an example of an effective model of cross-sector collaboration that includes home health care. The Coalition is a network of health care organizations and providers committed to strengthening the health care system for emergencies. The Coalition includes representatives of:

- Home health and palliative care providers.
- Hospitals.
- Long-term care providers.
- Medical groups.
- Mental health providers.
- Pediatrics (inpatient and outpatient).
- Safety net clinics.
- Specialty providers.
- Tribal clinics.

The Coalition works to develop a coordinated and effective medical and public health system response to all hazards through:

- Effective communications systems and protocols.
- Strategic acquisition and management of resources.
- Collaborative response planning.

RESOURCE

For Information on the King County Health Care Coalition, go to www.metrokc.gov/health/hccoalition/#rr.

To further explore these and other models of cross-sector coordination that include the home health care industry, CDC is conducting several workshops on collaborative approaches to pandemic influenza planning efforts. CDC's Division of Healthcare Quality Promotion is working with the Oak Ridge Institute for Science and Education to conduct these workshops. The first two workshops were held in April and June 2008 and included communities in North Carolina and Illinois. The workshops aim to enhance collaboration among community partners on the following topics:

- Developing strategies to deliver health care to those at home, within the community, and up to and including the emergency room.
- Identifying issues and obstacles likely to occur during a health care system's response in the event of a pandemic influenza.
- Identifying gaps in existing community pandemic influenza preparedness plans.

The anticipated outcome of these workshops is a diagram that depicts the community's model of health care and identifies strategies for delivering care across the healthcare and supporting sectors (i.e., public health, emergency management, 9-1-1 call centers, other call centers, emergency medical services, emergency departments, hospital administration, outpatient/walk-in clinics, urgent care centers, home health/hospice, long term care/skilled care/assisted living, private physicians, and pharmacists, and the Veterans Administration (VA) health center (if the community has one) . It also will include an outline to serve as the basis for a future narrative document explaining the methods, processes, opportunities, and challenges in the development of the model of care depicted in the diagram. The narratives and diagrams will be converted into a tool to be shared with other communities to assist them with their healthcare delivery planning efforts.

A third workshop is planned for September 2008 and will focus on the implementation of an alternative care system at the community level, which will incorporate changes in clinical care delivery protocols and the use of alternative care sites. The process for implementing such a system will be captured and subsequently developed into a tool for use by other communities.

What Is Needed

- Home health care agencies need to develop and sustain relationships with partners and stakeholders (e.g., Federal, State, and local public health agencies, including Federally Qualified Health Centers and primary care associations) to build collaboration and establish clear channels of communication to be used in the case of a public health emergency.
 - Community planners must provide home health care agencies and all partners in the planning process with a firm understanding of the tasks that they may be asked to perform so that all partners have an opportunity to prepare for their roles in advance.
- 

RESOURCE

A model memorandum of understanding is available from The Centers for Law and the Public's Health: A Collaborative at Johns Hopkins and Georgetown Universities. Go to <http://www.publichealthlaw.net/Resources/Modellaws.htm#MSEHPA> .

Further Resources

- The Center for Infectious Disease Research and Policy at the University of Minnesota maintains a database of articles, resources, and materials on pandemic influenza at <http://www.cidrap.umn.edu/> and a best-practices site with more than 100 peer-reviewed promising practices and tools available at <http://www.pandemicpractices.org/>.
- *We Can Do Better: Lessons Learned for Protecting Older Persons in Disasters*, a report developed by AARP, contains recommendations to better protect older persons and persons with disabilities during disasters and describes promising practices and helpful resources. Available at <http://www.aarp.org/research/assistance/lowincome/better.html>.

"Roundtable Report: Promoting Partnerships for Regional Healthcare Preparedness and Response," published in *Biosecurity and Bioterrorism*, vol. 5, no. 2, 2007, identifies strategies for building regional partnerships for health care prepare.

Chapter 4. Addressing Workforce Issues

The home health care industry currently employs 6 percent of all the professional health care workers employed in the United States.¹⁷ Home health aides make up the majority of the industry's workers: Approximately 238,000 home care aides, 124,000 registered nurses, and 56,000 licensed practical and vocational nurses work in the home health care industry.¹⁸ Some or all of the factors below will play into the ability of the industry to meet the demands of an influenza pandemic on its workforce.

RESOURCE

"Guidance on Preparing Workplaces for an Influenza Pandemic" at http://www.osha.gov/Publications/influenza_pandemic.html offers information on workplace issues during a pandemic.

Recruitment and Retention

Research indicates that, in some areas, the home health care industry faces challenges in recruiting and retaining workers. For example, a study of home care agencies in New York State shows that more than 61 percent of the agencies surveyed reported high turnover rates for home health aides, based on the number of employees who left employment compared with the number who began employment in 2004. More than 54 percent of agencies surveyed reported high turnover rates for registered nurses.¹¹ Nearly one-third reported high vacancy rates for registered nurses, and more than one-quarter reported high vacancy rates for home health aides.¹¹ New York home health agencies reported that on average it took more than three months to fill registered nurse vacancies.¹¹

Any challenges in the recruitment and retention of home health care workers that may be present at the time of an influenza pandemic are likely to strain the existing home health care workforce. A home health care agency with recruitment and retention problems could be severely limited in the numbers of surge patients for which it can provide care.

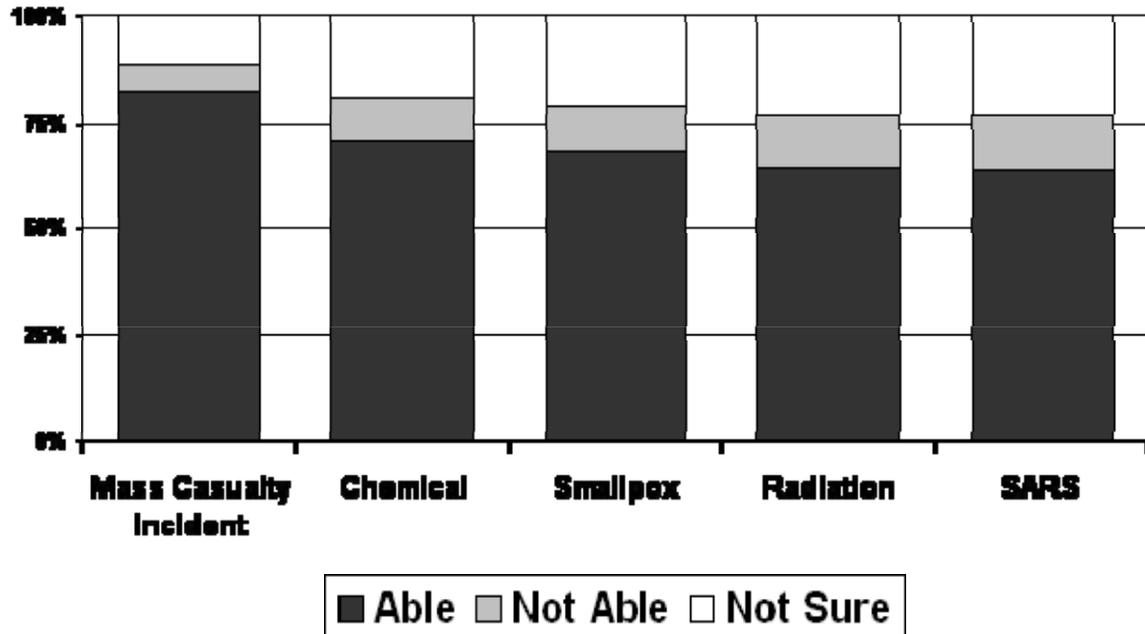
Ability of Health Care Workers to Report to Work During a Pandemic

One of the key determinants of the size of the health care workforce that will be available to respond in the event of an influenza pandemic will be the workers' ability to report to work. To examine workers' ability to work in the event of a catastrophic disaster, a survey was conducted of more than 6,400 employees in 47 hospitals, long-term care facilities, and outpatient centers in the New York City metropolitan area in 2005.¹⁹

The survey presented participants with a series of disaster scenarios. More than 80 percent of respondents indicated they would be able to report to work in the event of a mass casualty incident. (The scenario presented was that of an explosion in Yankee Stadium with 2,000 seriously injured people transported to hospitals.) (See Figure 1).¹⁹ In contrast, less than two-thirds (63.5 percent) of survey respondents indicated

that they would be able to report to work in the event of an infectious disease outbreak such as SARS.¹⁹ Similar "able to report" response rates were given for smallpox (68.6 percent) and radiation (63.8 percent) scenarios.¹⁹

Figure 1. Health Care Workers' Ability to Report to Work, by Disaster Scenario



N = 6,428 health care workers in 47 facilities

Source: Qureshi K, Gershon RRM, Sherman MF, Straub T, Gebbie E, McCollum M, Erwin MJ, Morse SS. Health care workers' ability and willingness to report to duty during catastrophic disasters. *Journal of Urban Health*. 2005;82(3): 378-388.

The survey indicated that the two most significant structural barriers to workers' ability to report to work in a catastrophic emergency situation were transportation issues (33.4 percent) and child care (29.1 percent).¹⁹

An obvious factor in the ability of the workforce to work during a pandemic is infection. A significant share of the home health care workforce likely will become infected with the influenza virus and be unable to report to work. Estimates based on past pandemics suggest that at least 25 percent of the workforce overall will become infected.²⁰ Today these estimates likely would be mitigated in the event of a pandemic by government use of antivirals.

An HHS proposed guidance as of June 2008 (not an agency determination or policy), recommends that healthcare workers who have direct high-risk exposures to pandemic influenza patients as well as front-line emergency services (e.g., law enforcement, fire, and emergency medical services personnel) receive pre-exposure prophylactic antivirals. The proposed guidance reasons that workers in these

occupational settings will be exposed to persons with pandemic illness and be at increased risk of acquiring infection. In addition, the burdens on healthcare and emergency services will be increased in a pandemic, and prophylaxis will reduce absenteeism due to illness as well as from fear of becoming infected while at work.

In the event of an influenza pandemic, all staff should be screened for illness before contact with patients or other health-care workers. Planning should include processes to screen employees, track ill health care staff, and reintegrate staff into the workplace after recovery.²¹

RESOURCES

A sample form to screen employees for signs and symptoms of infection over multiple days to ensure that exposed individuals are symptom-free before contact with patients and staff is available from World Health Organization. Go to http://www.who.int/csr/disease/avian_influenza/guidelinetopics/en/index3.html.

A discussion of the circumstances under which employers may track ill health care staff is available at http://www.pandemicflu.gov/faq/workplace_questions/equal_employment/i8.html.

Availability of transportation also may affect workers' ability to work if public transit systems and fuel supplies are limited because of high absenteeism. Community planning groups may need to formulate contingency plans for providing health care providers, including home care providers, transportation during an emergency. The home health care agency should be aware of how many of its employees use public transportation and should share those numbers with local planners.

In addition, the agency may want to make arrangements for the transport of its own workers. For example, agencies could consider approaching local schools to see if, in the event of a pandemic severe enough for school closures, school buses might be redeployed to transport home health care workers to their jobs while schools are closed.

On the other hand, if schools and daycare centers are closed or children need to stay home because of influenza infection, either case could result in some home health care workers needing to stay home with children.

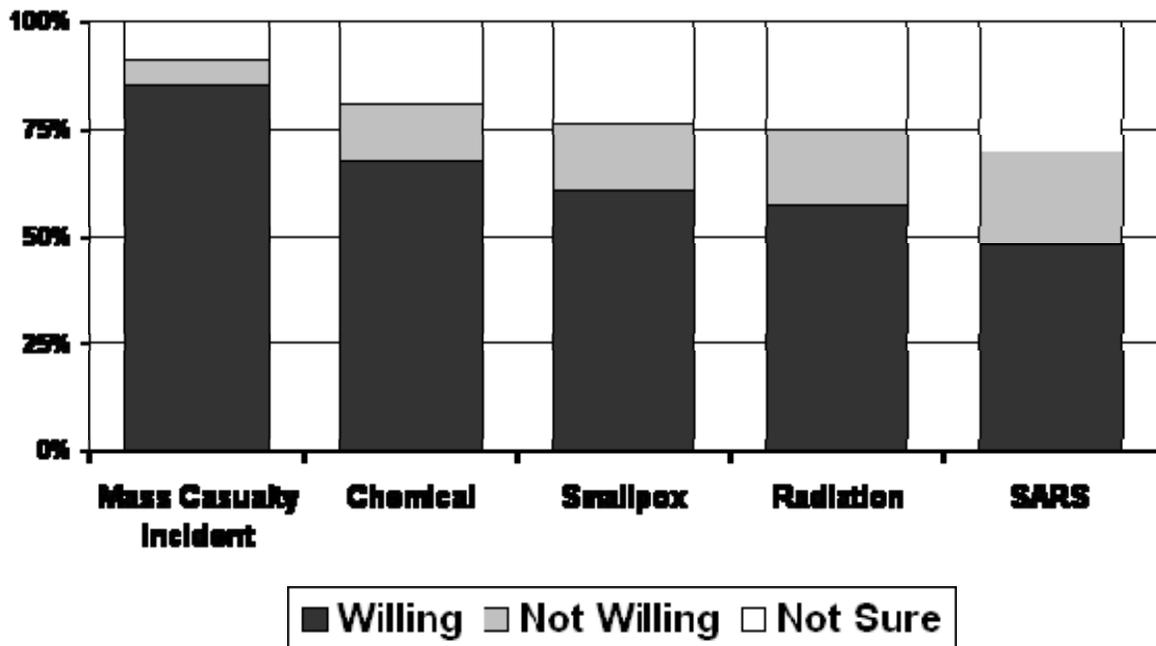
Another issue related to workers' ability to work is the possibility that some may be employed by other health care facilities as well. The other employer may have a need for them during a pandemic that conflicts with that of the home health care agency.

Willingness of Health Care Workers to Report to Work During a Pandemic

Research indicates a distinct difference between the concepts of ability to work and willingness to work, with the first referring to a worker's capability and the latter referring to a worker's attitudes and intentions regarding reporting to work.¹⁹

Surveys indicate that a significant number of health care workers may be unwilling to report to work during an infectious disease-related emergency. The New York City survey cited above indicated that less than half (48 percent) of the workers would be willing to report to work during an infectious disease outbreak (see Figure 2).¹⁹ The most commonly cited reasons that workers gave for not being willing to respond to an emergency included fear and concern for their own and their families' health and well-being (31.1 percent and 47.1 percent respectively).¹⁹

Figure 2. New York City Health Care Workers' Willingness to Report to Work, by Scenario



N = 6,428 health care workers in 47 facilities.

Source: Qureshi K, Gershon RRM, Sherman MF, Straub T, Gebbie E, McCollum M, Erwin MJ, Morse SS. Health care workers' ability and willingness to report to duty during catastrophic disasters. *Journal of Urban Health*. 2005;82(3): 378-388.

"Individuals are willing to put themselves at risk. We see it in every disaster and emergency. What they're not willing to do is carry that risk back home to their families."

Joseph Cappiello, M.A.
The Joint Commission

A survey of more than 300 employees of three county health departments in Maryland yielded similar results. The survey examined local health department workers' risk perceptions and likelihood of reporting to work during an influenza

pandemic.²² Slightly more than half (53.8 percent) of the workers surveyed indicated that they would report to work during a pandemic influenza-related emergency.²²

The Maryland survey findings also indicated a significant variation in a worker's willingness to report to work depending on the worker's perception of his or her role in a pandemic. For example, those who indicated that they would not have an important role to play in a local pandemic influenza outbreak were least likely to say that they would be willing to report to work. Such findings point to the importance of ensuring in advance that all public health workers are fully aware of the importance of their roles in a potential pandemic influenza outbreak.²²

The ongoing New York survey also asked 217 registered nurses (RNs) working in home health care in New York City if they were "willing to provide care to a home care patient (using personal protective equipment) if the patient were infected with avian influenza." More than one-third (37 percent) of the RNs who were surveyed responded that they would provide care, and the same percentage said that they were not sure.¹⁰ More than one-quarter of the RNs (27 percent) responded that they would not provide care to a patient infected with avian influenza.¹⁰

Measures that home care agencies can take to increase workers' willingness to report to work include:

- Ensuring that workers have appropriate personal protective equipment and providing training on its appropriate use, including fit testing. Knowing how and when to use such equipment may lessen some of the workers' concerns, thus increasing their willingness to report to work in a public health emergency.²³
- Helping employees identify backup informal child-care and adult-care arrangements in the event of school and day care center closures.¹⁰
- Providing psychological support during a pandemic, including incorporating psychological support of health care workers into pandemic planning, reinforcing to workers their value and importance to the community; possibly extending resources to cover workers' families, and offering psychological resources to workers for an extended time after the pandemic subsides.²⁴

RESOURCE

The Substance Abuse and Mental Health Services Administration offers *A Guide to Managing Stress in Crisis Response Professions*, which provides a framework for stress management strategies for crisis response workers and managers. The strategies are sufficiently broad that individuals and groups can select those that best fit their needs and circumstances. Go to <http://mentalhealth.samhsa.gov/disasterrelief/publications/allpubs/SMA-4113/introduction.asp>.

Workforce Training Needs for an Influenza Pandemic

Many legal issues surround the issue of training home health care and other health care workers for a pandemic influenza outbreak, such as home health care workers' scope of practice and worker liability. Within these legal and regulatory boundaries, training the home health care workforce to assume necessary new roles during an influenza pandemic can help ensure an optimal pandemic response while offering the long-term advantages of enhancing workforce skills. A variety of training needs may surface for home health care agencies during an influenza pandemic.

- All staff will need training on identification of the symptoms of pandemic influenza, its modes of transmission, and infection control measures for reducing exposure to the pandemic virus. In addition, training will be necessary to determine where the agency fits in the local response to a pandemic outbreak.
- Workers will need just-in-time clinical skills training given that some home health care workers may be asked to provide in-home care to medical and surgical patients discharged early from hospitals and that such care may be of a higher acuity than many home health care workers may be accustomed to providing.
- Home health aides may need to be trained in medication dispensing under emergency conditions.
- Workers may benefit from training in psychological first aid and palliative care to cope more effectively with their own stress as well as that of their patients, their patients' families, and their own family.
- Workers may also need training on how to handle increased numbers of deaths in the home.

RESOURCES

CDC offers free courses to train professionals on aspects of pandemic influenza. Go to www.cdc.gov/flu/professionals/training/.

CDC has issued interim guidance for the use of face masks and respirators during a pandemic. Go to <http://www.pandemicflu.gov/vaccine/mask.html> and <http://www.pandemicflu.gov/plan/community/commitigation.html>.

CDC has updated its infection control core curriculum, which is currently being formatted into learning system software. In addition, appendices are being created to address infection control in resource-limited settings. The updated curriculum is expected to be available in the summer of 2008.

The Department of Labor's Occupational Safety & Health Administration has released guidance for protection of employees against pandemic influenza and provides quick cards for reference. Though not specifically designed for the home health care industry, the cards provide a useful reference point to assist home health care agencies in creating their own informational materials. Available at <http://www.osha.gov/dsg/guidance/avian-flu.html>.

AHRQ has produced a DVD titled *Cross Training Respiratory Extenders for Medical Emergencies (Project XTREME)* to train health care professionals who are not respiratory care specialists to provide basic respiratory care to patients during a public health emergency. For information, go to <http://www.ahrq.gov/prep/projxtreme>.

The roles of home care workers as trainers and teachers are also likely to expand during a pandemic. Home health care nurses historically have had a vital role in health education and training, including showing family members how to care for patients and manage procedures such as infusion, dispensing of medications, use of oxygen nebulizers and telemonitoring devices, and wound care. During a pandemic influenza outbreak, family members also must be trained to cope with infectious disease and the risk of respiratory spread.

A train-the-trainer model would help to tap into the professional skills of the home health care workforce and could help address workforce shortages as well. The State of Massachusetts Department of Public Health's education program, for example, relies on State public health nurses to provide train-the-trainer classes in teaching self care to people in the community. Those trainers, in turn, will expand the education program even further in the community. The State is starting with Medical Reserve Corps (MRC) volunteers, local health department personnel, and school nurses. The training will focus on family members taking care of other family members.

RESOURCE

Flu: What You Can Do - Caring for People at Home is a Massachusetts statewide education and training initiative to support ongoing efforts to educate residents about flu and pandemic flu. The training course for health professionals includes a video, a presentation, and booklets to educate residents about flu care at home. Go to http://www.mass.gov/dph/cdc/epii/flu/flu_caring_at_home.htm.

The annual flu season presents a valuable opportunity for providing information and training on pandemic influenza. It is a choice time to educate family members and the general public on basic sanitary measures such as hand washing and cough and sneeze etiquette, as well as on key differences between seasonal flu and pandemic influenza.

What Is Needed

- Further training will be required to ensure that the home health care workforce can meet the needs of higher-acuity patients and cope with the stresses of a pandemic influenza outbreak.
- Home health care agencies need to conduct regular assessments of the PPE training to provide training opportunities as needed to ensure effective use of PPE and all safety equipment. Respirator training and use should be in the context of a complete respiratory protection program in accordance with OSHA regulations.

- Home health care agencies need to address all appropriate human resource policies, such as liberal leave policies and transportation alternatives, in a continuity of operations or business contingency plan for maintaining business operations during an influenza pandemic.
- Train-the-trainer modules that can tap into the skills and existing resources of the home health care workforce to train other home care workers and patients' families and increase surge capacity need to be developed and employed.
- Home health care agencies need a tool to enable them to assess structural facilitators (e.g., transportation, child care, elder care) and determine what is needed to ensure that their staff are able to report to work in an emergency.
- Home health care agencies need emergency preparedness plan templates, including off- the-shelf training programs and drill exercises.

Chapter 5. Changes in Parameters of Patient Care

The parameters of home health patient care will change during an influenza pandemic. Both new and existing patients may have needs and concerns that they would not have under normal circumstances. These issues are complex and need to be addressed as part of planning for a pandemic. Some issues may be addressed by the use of telehealth technologies.

New Patients and New Needs

The home health care worker on the job during an influenza pandemic will face a number of new patient care issues. Among the most challenging could be the influx of new patients released early from hospitals. These patients may need a higher acuity of care than the home health care worker normally provides.

It is difficult to predict or plan for the level of care that hospital patients released early may need at home without knowing how ill the patient will be. Some researchers are developing a classification system to guide hospital personnel in determining which patients can be released early from hospitals. The system ranks patients according to their risk for a consequential medical event, including unexpected death, irreversible impairment, or reduction in function within 72 hours of hospital discharge for which an in-hospital critical intervention would be initiated to stabilize or ameliorate the patient's condition.²⁵ A system such as this may help the community know what to expect to some extent. Other factors, such as the severity of the influenza pandemic and a given hospital's surge capacity, will ultimately determine the numbers and categories of patients that hospital will need to release early.

Some existing patients may become seriously ill with the influenza virus. For elderly patients with pre-existing conditions, this infection may be life-threatening. In a pandemic, because systems may be overwhelmed, the normal avenues of hospitalization and hospice care may not be available for these patients. Home health care workers will need to be well prepared and trained to provide, or arrange for a provider of, palliative care to these patients.

Patients may seek information, advice, and assistance beyond what the worker normally provides. Whether or not patients or their family members have contracted the influenza virus, they may seek information on the virus specifically and the pandemic overall. They may seek advice or help on obtaining necessities such as food, water, or medical supplies. They will need information about infection control.

Part of pandemic influenza preparedness for the home health care agency is to establish processes by which workers either can address such concerns or can communicate effectively and tactfully to patients the limitations of care that the agency can provide. The home health care agency must prepare workers to communicate to patients:

- The role and responsibility of the agency and the worker regarding worker safety and health, distribution of infection control supplies (such as face masks, respirators, and hand hygiene materials), food, medications, and other necessities to home care patients and their families.
- The scope of patient services that the worker can provide and the reasons, including legal limitations, that some services must be denied or referred to other providers.
- Information on the use of personal protective equipment and infection control within the household.
- As needed, the processes that have been established in the community to manage increased numbers of deaths in the home during a pandemic.

While home health care workers may not be able to meet every need voiced by patients during an emergency, they certainly can offer patients helpful resources and useful information. Community planning groups may have public information materials already prepared. Regardless of the source, materials should be appropriate for the needs of the patient and in the language and at the reading level that will serve the agency's patient populations. The resources below are a few examples. Federal agencies such as HHS's CDC, and Substance Abuse and Mental Health Services Administration; the U.S. DHS' Federal Emergency Management Agency; and the VA have educational materials available on pandemic influenza.

RESOURCES

A list of health and safety information concerning pandemic influenza, with material targeted for specific groups such as families, travelers, workers, communities, and health professionals, is available at: <http://www.pandemicflu.gov/health/index.html>.

Guidance for the home use of masks is provided at www.pandemicflu.gov/vaccine/mask.html.

The American Red Cross (ARC) has useful information for patients, including:
 Family Preparedness Fact Sheet (English and Spanish)
 Home Care for Pandemic Flu (English and Spanish)
 Preparing for a Flu Pandemic Fact Sheet: Coping and Emotional Well-Being
 Go to <http://www.redcross.org/news/ds/panflu/>.

CDC is developing a document titled *Taking Care of a Sick Person in Your Home During a Flu Pandemic*. The guide is targeted to the general public and expected to be available in the summer of 2008.

The American College of Nurse-Midwives offers *Giving Birth in Place: A Guide to Emergency Preparedness for Childbirth*, which provides assistance for parents who may need to deliver a baby during emergencies such as an influenza pandemic. Go to www.midwife.org/siteFiles/about/givingbirthinplacerevised.pdf.

The Montgomery County, MD, Advanced Practice Center for Public Health Emergency Preparedness and Response developed the *Emergency Preparedness Checklist for Case Management and Home Care Services* for home care workers as part of a planning and education effort to integrate emergency preparedness into daily public health functions and to prepare vulnerable populations. The checklist can be accessed from the list at <http://www.montgomerycountymd.gov/hhstmpl.asp?url=/content/hhs/phs/APC/preplanning.asp>.

Supporting Patient Care with Telehealth Technologies

Telehealth (also known as telemedicine) refers to the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health, and health administration.²⁶ Federal agencies such as the Health Resources and Services Administration and the VA use telehealth technologies to support patient care. More than a dozen States currently provide Medicaid reimbursement for services provided through home telehealth.²⁷

Telehealth technologies are being used increasingly in the home health care industry. During an influenza pandemic, by supporting patient care, they can help address home health care workforce shortages, maximize home health care staff resources, reduce hospitalizations, and limit both health care worker and general public exposure. Specifically, home telehealth technologies have the potential to:

- Allow one nurse to monitor many patients from a central location and, in many cases, from any remote location with Internet access.
- Establish a basis for intervention and home visitation based on the patient's individual time- sensitive clinical needs (as opposed to preset, calendar-driven visits).
- Reduce emergency department visits and hospitalization by allowing for data-driven earlier interventions.
- Improve health outcomes through improved education, monitoring, and medication prompting.
- Alleviate patient fear and anxiety by giving patients access to their own health data and reassurance that they will receive appropriate intervention if they require it, in the form of a telephone call or home visit.
- Provide information to family members caring for other family members ill with influenza.

Overall, telehealth represents a strategy that could help expand the reach of home health care during a pandemic. Some care and monitoring technologies that may be of benefit during a pandemic influenza outbreak follow:

Remote Vital-Sign Monitoring Units. These small units provide health care workers with the ability to monitor and trend individual patient data on a regular schedule without unnecessarily exposing either workers or patients to the virus. The

units operate with standard phone lines and electricity to transmit patient data to a central server or Web site where vital signs are monitored by a trained clinician. Critical changes or values are flagged for immediate attention. This technology is being adopted increasingly in New York, Pennsylvania, and several other States.

Interactive Voice Response Systems. IVR systems enable callers to use their touch-tone phones to retrieve information automatically during a public health emergency. IVR systems can be used for information exchange and can be programmed to ask specific questions and respond with pre-recorded information on next steps. The systems already are in wide use. Financial institutions use them to dispense account information to customers, pharmacy customers use them to renew prescriptions, and community health call centers -- such as poison control centers, nurse advice lines, and health hotlines -- use them to dispense and collect information.

IVR systems already in place for community health call centers can be adapted to support care, monitoring, and information dissemination during an influenza pandemic. Existing staff are experienced at responding to medical questions and are capable of meeting the demand for information during a public health emergency. Information could be provided both by recorded message and directly by an experienced health care professional.

Specifically, call centers could disseminate public health messages, help patients and caregivers at home with symptom triage and provide symptom and disease management support, assist with monitoring and supporting patients at home, provide information about points of dispensing and medications being dispensed, and report adverse events.²⁸

RESOURCES

Adapting Community Call Centers for Crisis Support: A Model for Home-Based Care and Monitoring, an AHRQ report, details how to adapt community health call centers, such as poison control centers, nurse advice lines, and other hotlines, to support home-management and shelter-in-place approaches in public health emergency events such as an influenza pandemic. Go to <http://www.ahrq.gov/prep/callcenters/>.

AHRQ's *Health Emergency Assistance Line and Triage Hub (HEALTH) Model* can help planners determine the requirements and resources needed to develop an emergency contact center. Go to <http://www.ahrq.gov/research/health/>.

Video Monitoring. Although video monitoring is being used primarily to help with wound management, several States are now using it to assist with syndromic surveillance by uploading videos and photographs to the HAN.

Web cameras and photo cell phones offer visual clues along with patient self-reporting.

Digital photography, which is uploaded to the Internet, would prove useful in monitoring some patients to reduce the number of home care visits required.

Text messaging provides a means of communication not dependent on the Internet.

Resources

For more information on home telehealth, go to the Health Resources and Services Administration Web site at <http://www.hrsa.gov/telehealth/>.

The Missouri Telehealth Network, which includes a home health agency, was one of the first public-private telehealth networks in the U.S. For information, go to http://telehealth.muhealth.org/about%20mtn/about_projects.html.

What Is Needed

- Further exploration of the value of home-based care and monitoring technologies in public health emergencies should be conducted through researching existing health issues such as seasonal influenza. Home health care agencies should implement home-based care and monitoring technologies more widely, in advance of an influenza pandemic, to become more familiar with these technologies and the reimbursement structure for telehealth.
- Home health care agencies should encourage their workforce to become more comfortable with new technologies through in-services and training opportunities.

Chapter 6. Legal and Ethical Concerns

Legal and ethical considerations need to be given to what can be done to facilitate effective home health care services in an emergency. These issues are important reasons for the home health care agency to become involved in community planning for an influenza pandemic. By involvement in planning, agency management will better understand the myriad issues that need to be considered in advance of a public health emergency such as an influenza pandemic.

Declarations of Emergency

Legal authorities during public health emergencies have been a focus of all levels of government since the attacks on September 11, 2001. Legal authorities for emergency declarations are vested at all levels of government and may include standards for the declaration.

The threat of an influenza pandemic may result in Federal, State, and local declarations of emergency or public health emergency.⁵ Emergency declarations do more than announce a state of emergency. They can quickly and drastically change the legal environment to facilitate emergency responses for the duration of the declaration. These changes can give rise to multiple legal options that would not be possible in nonemergency events.⁵

The Federal government has emergency declaration powers that operate independently or in conjunction with State and local emergency response efforts. States may:

- Feature a comprehensive set of government powers arising from the declaration of a public health emergency.
- Predicate their emergency powers on the declaration of a general emergency or disaster.
- Allow for the dual declaration of public health emergencies and general emergencies.

Key Legal and Ethical Issues

The Presidential declaration of a national emergency or disaster, along with the declaration of a public health emergency by the Secretary of HHS, may be the basis for the Secretary to invoke a waiver authority under the Social Security Act, which permits increased regulatory flexibility for home treatment and patient transfers. Because of increased demand for ambulance services, patient transfers may be significantly delayed compared with normal or may be unavailable in some areas.

Negative consequences may result if legal counsel and health care practitioners do not understand fully the altered legal environment during a declared public health emergency. For this reason, it is important for the home health care sector to anticipate legal concerns that may emerge during a public health emergency,

whether it is declared by Federal, State or local government, and begin to consider potential solutions to these issues in advance.

The expert panel identified the legal and ethical issues below as key issues that the home health care industry should consider in advance of a pandemic. Legal parameters differ from State to State and will change during a declared emergency. Home health care agencies should consult their State and local governments, professional organizations, local pandemic influenza planners, and their own lawyers to learn about laws and regulations that may affect their operations and staff during an influenza pandemic.

- **Allocation of scarce resources.** Determine with local planners how to use resources most efficiently and under which priority the agency will be allocated specific patient treatment resources. Agencies also will need to consider how to allocate staff time for patients in an equitable, nondiscriminating manner, although it is anticipated that prioritization may be expected for the receipt of vaccination or antiviral prophylaxis.
- **Scope of practice.** Determine whether scope of practice restrictions set forth by the State or political subdivision will be extended to allow, for example, more home health care workers to provide vaccinations or medications or to deliver nontraditional medical care in the home.
- **Addressing medical personnel licensure requirements.** Determine appropriate legal approaches to adapting normal licensing requirements for volunteer health personnel to more readily support declared emergencies.
- **Reimbursement.** Learn who, if anyone, is legally required to pay for services during an emergency.
- **Human resource policies.** Policies will need to deal effectively with issues such as failure to report to work.
- **Workers compensation.** Determine whether workers compensation carriers will provide the same protections that they provide under standard conditions.
- **Patient release policies.** Learn what policies are for releasing patients from standard hospital care to home-based care.
- **Protections for at-risk populations.** Learn what enhanced protections are for at-risk populations.
- **Health care worker liability protections.** Learn the agency's liability for harms that arise to patients from home health care services during emergencies.
- **Patient abandonment.** Determine under which circumstances a home health care provider's failure to treat existing patients may result in penalties.
- **Parameters and processes for public health emergency declaration.** Know who has the authority and responsibility for declaring an emergency and who ends the declaration. Learn what the results of a declaration of a public health emergency will be on the provision of home health care services (e.g., new powers or limitations, new focus on public health provisions, or temporary suspension of regulatory conditions of participation for Medicare and Medicaid).

- Other process issues. Consider what other process issues may need to be addressed, such as the process for pronouncing death in the agency's particular State or any similarly regulated process.

What Is Needed

- A sophisticated look at how to improve and clarify the legal paths for home health care reimbursement should be undertaken in advance of an emergency situation. A way to create strong legal grounds and corresponding expectations for reimbursement for home health care services provided during an emergency should be explored.
- An understanding by home health care agencies about laws and regulations, especially those conditions that will change under a declaration of emergency, that may affect their businesses during an influenza pandemic.

Further Resources

- *Mass Medical Care with Scarce Resources: A Community Planning Guide*, published by AHRQ, has detailed chapters on legal and ethical considerations. Go to <http://www.ahrq.gov/research/mce/>.
- *The VA Staff Discussion Forums on Ethics Issues in Pandemic Influenza Preparedness: A Guide* published by the National Center for Ethics in Health Care can be found at http://www.ethics.va.gov/ETHICS/docs/net/NET_Topic_20060627_Influenza_Pandemic_Preparedness_Planning_Ethics_Concerns.doc.
- A project for the State of California Department of Homeland Security led by the California Department of Public Health has examined alternative means to provide services in a surge capacity environment, including alternative resources and alternative care facilities. (Home health care was identified as an alternative care site). The project has identified reimbursement codes for home health care and examined issues related to surge capacity including scope of practice and reimbursement. The financial tool section of the project identifies waiver options and many of the regulations that allow or restrict reimbursement. Go to <http://bepreparedcalifornia.ca.gov/EPO/CDPHPrograms/PublicHealthPrograms/EmergencyPreparednessOffice/EPOProgramsServices/Surge/>.
- WHO *Global Consultation on Addressing Ethical Issues in Pandemic Influenza Planning*. A summary of this international meeting is available at http://www.who.int/csr/resources/publications/influenza/WHO_CDS_EPR_GIP_2007_1/en
- The Institute of Medicine has a report on *Ethical and Legal Considerations in Mitigating Pandemic Influenza*. Available at <http://www.iom.edu/CMS/3783/3924/43490.aspx>.
- "Ethics in a Pandemic: a Survey of the State Pandemic Influenza Plans" by James Thomas, Nabarun Dasgupta, and Amanda Martinot in *American Journal of*

Public Health, April 2007, (S26-S31.), identifies ethical issues addressed in State pandemic influenza plans.

- "Ethical Guidelines in Pandemic Influenza," a CDC Website, identifies ethical considerations relevant to public health decision-making during planning for and responding to pandemic influenza. Go to <http://www.cdc.gov/od/science/phec/guidelinesPanFlu.htm>.

Chapter 7. Conclusion

Several overarching themes emerge from this discussion of home health care during an influenza pandemic.

- The home health care industry will serve as an essential component of surge capacity in the event of a pandemic influenza outbreak.
- It is critical that home health care agencies are actively involved in planning and collaboration across all sectors of the health care continuum. The anticipated surge of patients will strain the home health care workforce. Strategies involving home-based care and monitoring technologies should be considered to expand the options for patient care during a pandemic.
- This report identified a number of areas that require attention in the form of either research or actions on the Federal, State and local levels. Recommendations are outlined below.

Recommendations for Further Research

- Research the development of training programs for home care workers specific to a pandemic influenza outbreak, including the appropriate and effective use of personal protective equipment and just-in-time training programs (in languages and literacy levels appropriate to the composition of the workforce).
- Examine scope-of-practice issues for home health care professionals, including regulatory limitations to allowable levels of service and whether these should be relaxed in the event of an emergency.
- Investigate the development of an assessment tool for home health care agencies to use to evaluate staff and material resources (including issues surrounding a reduced workforce), business readiness, and potential response roles that the agency is capable of assuming during a pandemic.
- Conduct a review of the legal issues related to the sharing of supplies and equipment during a public health emergency such as a pandemic.

In addition to the above research needs, consideration should be given to initiatives that can be taken at the Federal, State, tribal, and community levels to enhance the ability of the home health care industry to provide an effective response in the event of a pandemic influenza outbreak. These recommendations are outlined below.

Recommendations for Action at the Federal, State, and Community Levels

Federal

- Include home health care preparedness efforts, such as continuity of operations planning, drills and exercises, staff training, and patient education, among preparedness efforts being supported by the Federal government.
- Support research projects that study mitigation and prevention efforts using seasonal flu as a model situation.

- Support programs that emphasize individual and family preparedness for all types of emergencies, including an influenza pandemic.

State

- Include home health care representatives in State emergency functions such as planning, drills, and exercises. Work to improve coordination between the home health care sector and State and local offices of emergency management.
- Explore and employ telehealth technologies for use during public health emergencies to support patient care, maximize home health care and other health care sector staff resources, maximize family participation in home health care, and reduce home health care worker and patient exposure risk. Such technologies also can reduce hospital surge and demands on transportation systems.

Community

- Integrate home health care representatives into tribal, county, and local emergency preparedness planning groups and include in planning and exercises.
- Consider establishing voluntary emergency identification lists of potentially vulnerable populations currently receiving home care to allow local planners to allocate resources to these populations in an emergency. Such lists should gather only essential information such as address, general age (for elderly), a general statement of support that may be required, whether power-dependent equipment such as oxygen is used, and how they receive any additional services (Medicare/Medicaid, family). The lists should avoid gathering personal identifying information.
- Create planning and training tools that support tribal, community, and patient preparedness. Use local civic groups to distribute information. Involve home health care agencies in this process.
- Establish relationships with volunteer groups and provide training on specific caretaker and home care responsibilities. These volunteers could augment home health care staff during an influenza pandemic, allowing more highly trained staff to perform other duties.

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Appendix B. [Home Health Care Services Pandemic Influenza Planning Checklist](#)

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