PREPARED OR Unprepared

FOR PANDEMIC Flu?

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ARE YOU PREPARED for a pandemic flu outbreak?

Is your family prepared? How about your church family? How can your faith community prepare for a flu outbreak?

What do we know about pandemic flu, and how can healthcare professionals help their faith communities be a "house of the wise?" Proverbs 21:20 states, "In the house of the wise are stores of choice food and oil, but a foolish man devours all he has" (NIV). These words written in the 10th century B.C. offer solid advice today. Healthcare professionals and church leaders need to face pandemic flu questions *today* to be prepared for what is expected to happen *tomorrow*.

UNDERSTANDING PANDEMIC FLU

The word *pandemic* refers to a global outbreak of a disease. A flu pandemic occurs when an especially virulent new influenza virus emerges, people have little or no immunity, and no vaccine has been developed to combat the virus. In such outbreaks, disease spreads quickly, causing serious illness and death even among healthy people. In the past century, three major pandemic flu outbreaks occurred: in 1918, when more than 50 million people died worldwide (H1N1 "Spanish Flu"), in 1957, when 1 to 2 million deaths occurred (H2N2 "Asian Flu"), and in 1968, when 700,000 deaths occurred worldwide (H3N2 "Hong Kong Flu").

In previous pandemics, waves of the epidemic came 6 to 8 weeks apart, closing schools, overwhelming hospitals, and bringing essential services to a halt. A vaccine may not be available for 4 to 6 months after a pandemic starts, and even then, quantities of the vaccine may be limited.

When an influenza pandemic occurs, the whole world is at risk. Countries may delay contamination through border closures and travel restrictions, but no one can stop the virus from eventually entering and spreading. The devastation caused by pandemic flu is extensive, from social and economic disruption due to illness and fear to overload of healthcare systems to widespread fatalities (Department of Health & Human Services [DHHS], 2008a, 2008e).

What is the difference between pandemic flu and other types of flu? *Seasonal* or common flu is a respiratory illness of fairly short duration transmitted person-to-person. Most people have some immunity to seasonal flu, and a vaccine typically is available (DHHS, 2008b). Symptoms of pandemic flu likely will be similar to those of seasonal flu but will last longer and be more severe. Antiviral drugs such as oseltamivir/Tamiflu (administered orally), zanamivir/Relenza (administered by inhaler), and the new peramivir (administered parenterally) are effective in treating seasonal flu and may be helpful in a flu pandemic (DHHS, 2007).

Although seasonal epidemic influenza spreads rapidly and imposes economic burden in the form of healthcare costs and lost productivity, the impact is not as severe as that of a global pandemic. Only 5% to 15% of the world's population is affected in annual flu epidemics, with hospitalization and deaths occurring primarily in high-risk groups (very young, elderly, chronically ill, immunosuppressed). In developed countries, seasonal flu epidemics are thought to result in 3 to 5 million cases of severe illness worldwide, with 250,000 to 500,000 known deaths, mostly among those older than 65 years. Little is known about influenza in the developing world (World Health Organization [WHO], 2003).

Bird or *avian* flu infects poultry and wild birds. Low pathogenic avian flu is common in birds and causes few problems, whereas highly pathogenic H5N1, first identified in 1996, is deadly to domestic fowl, can be transmitted from birds to humans, and is deadly to humans. Virtually no human immunity to H5N1 avian flu exists. A vaccine has been developed for only one of two known H5N1 strains and availability is limited. Health professionals are

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a Glance

- **Pandemic flu** *occurs when an influenza virus emerges that is especially virulent, people have little or no immunity, and no vaccine exists*
- **A pandemic** *is expected that will cause worldwide mass devastation*
- **A survey** *of faith-based organizations (FBOs) revealed dismal preparation for pandemic flu*
- **FBOs can** *play a major role and need healthcare professionals' help in preparing people for pandemic flu*

concerned that the continued spread of a highly pathogenic avian H5N1 virus in birds across eastern Asia and recently in Europe and the Middle East represents a significant threat to human health. The H5N1 flu strain raises concern because it is especially virulent, is spreading through migratory birds, has been transmitted from birds to mammals including humans, and continues to evolve. Although it is believed that most human cases of H5N1 viruses have been caused by direct exposure to infected poultry, scientists believe H5N1 will evolve into a virus capable of human-to-human transmission (DHHS, 2008b, 2008c).

PLANNING FOR PANDEMIC FLU

Dr. Julie Gerberding, director of the Centers for Disease Control (CDC), states that although the type of flu is difficult to predict, a pandemic "will happen someday" (DHHS, 2008c). If a pandemic similar in severity to the flu of 1918 occurred today, it is estimated that 90 million Americans and hundreds of millions worldwide could become ill, requiring a massive need for hospitalization and respirators for assisted ventilation. Nearly 2 million Americans and millions worldwide could die (DHHS, 2008a; 2008e). How can faith-based organizations (FBOs) plan and help people prepare for such a serious health threat?

Planning for a pandemic flu by FBOs currently is at the intersection of *increased awareness* that there will be a pandemic flu (World Health Organization [WHO], 2005) and *augmented federal funding* for planning and FBO projects (The White House, 2008). Since 2001, billions of dollars have gone to support FBO projects (The White House, 2008), and since 2005, billions more have been invested in planning for a pandemic flu (DHHS, 2008d). Lessons learned from prior pandemics are directing planning for a future pandemic.

Recognition that FBOs play an important role in disaster relief is well known and accepted, but it is unknown how congregational FBOs (churches) are preparing for a pandemic flu event. A research project explored the impact of an educational program targeted at churches and FBO readiness for a pandemic flu event.

EXPLORING FBO PREPAREDNESS

Jasper County, Missouri sits in the southwest corner of the state and includes the cities of Joplin (population 49,000) and Carthage (population 13,000). The Joplin/Jasper Pandemic Planning Committee is preparing, as most local governments are doing, for the inevitable occurrence of a pandemic flu. As a part of countywide planning, the Pandemic Planning Committee has created a Web site (http://jascoflu.com), aired public service announcements, and created a guide for FBOs to use in preparation for pandemic flu. The guide includes a DVD with a presentation by a local faith-based community leader and a CD with additional information regarding preparation and planning. A handbook includes information from the CDC, WHO, and other organizations active in disaster planning and response (including FBOs).

The Pandemic Planning Committee mailed guide materials to 211 churches (FBOs) in Jasper County in early April, 2008. Of the 211 guides mailed, 23 were returned undeliverable, for a total of 188 FBOs that received the planning materials. The list of FBOs compiled by the Committee was thought to be a nearly complete list of congregational FBOs.

A research project was designed to determine the effectiveness of the educational materials provided to the FBOs and to determine educational barriers to preparation and planning. The theoretical models used included elements of the Health Belief Model (Becker, 1978) and Social Cognitive Theory (Bandura, 1977). These models seemed particularly useful because the components include interaction with the environment and learning theory related to improving health-related behaviors. The Jasper County region bore the brunt of two devastating ice storms in 2007 and 2008. A series of tornados in the preceding 2 years also affected the area, so the possibility that residents might be receptive to disaster preparation guided the choice of theory.

Three weeks after the educational mailing, a survey, including a self-addressed stamped envelope, was sent to FBO recipients. The survey was developed by the authors with input from the Jasper County Pandemic Planning Committee members and University of Missouri Kansas City faculty. The survey items included demographic questions; characteristics of the FBOs, leaders, and congregants; use of the educational

CHARACTERISTICS of the Faith-Based Organizations (FBOs)

Table 1.

Characteristic	Yes	No
Board or governing body?	37	2
Citizen emergency response team?	5	34
Participate in foreign missions?	37	2
Participate in local missions?	37	2
Operate a food pantry?	14	25
Leadership involvement in disaster relief?	20	19
Membership involvement in disaster relief?	20	19
Disaster relief during recent ice storms?	23	16

materials; size of the congregation; experience of the leader in disaster relief; whether the FBO had a citizen emergency response team (CERT) or not; and experience of the congregants in disaster relief. Other items included whether or not an FBO participated in foreign or local missions, operated a food pantry, or had participated in the relief efforts from recent local ice storms. An additional section of the survey allowed respondents to comment about the needs of the FBOs and barriers to preparation for a pandemic flu. A postcard reminder was sent 2 weeks after the survey was mailed.

DISMAL PREPARATION

Only 39 of the 188 surveys were completed and returned by the FBOs. The low response rate of 21% may have been related to the fact that the envelopes were addressed generally to the church and the materials inside to the "Dear faith community leader." Other reasons for the low response rate may have been that returning the survey was a low priority or simply that the human tendency is to avoid planning for disaster.

Most of the responding FBOs averaged 50 to 200 congregants on Sundays, described themselves as combining rural and urban congregants, and had fewer than five employees. Four FBOs reported attendance exceeding 500, and two had more than 20 employees. Other demographic characteristics of the FBOs are given in Table 1.

A total readiness score (range, 1–100) was calculated based on eight survey items relating to pandemic preparedness:

1. Number of people who had seen the planning materials
2. Plans for continued operations during a pandemic event
3. Published information about pandemic preparedness in church publications
4. Time given in organized meetings to pandemic preparedness
5. Whether the leadership had taken the Professional Quality of Life Scale (Massey, 2006) or not
6. Backup lines of communication established
7. Pandemic preparation drills conducted
8. Materials stockpiled for personal protection.

Each item was given a possible high score of 12.5 and weighted equally in the determination of the total readiness score. A score of 12.5 was chosen so that scores would reflect a typical scoring system in which 100 is a perfect score (12.5 x 8 = 100). For some of the items, partial credit was given for the response. For example, there were three choices for the amount of time spent in organized meetings, with a higher score given for more time spent in meetings. Similarly, an increasing score was given as more people saw the planning materials.

Each FBO that responded was given a minimum score of 3.5. The total readiness scores for the 39 churches are given in Table 2.

The majority of the FBOs (n = 23, 56%) indicated no planning. Eight FBOs (20.5%) indicated only one planning item completed. One church had shared the material with more than 200 people. Four (10.3%) had made contingency plans for continued operations. Eight (20.5%) had established backup communications, and one (2.6%) had stockpiled "some" materials for personal protection. None of the churches had performed any drills. However, this may have been due to lack of time between receiving the educational materials and completing the survey (3 to 5 weeks).

Comments about barriers faced in preparing for a pandemic event included: "lacking a sense of urgency" and "time to prepare." Five respondents

TOTAL Readiness Scores Reflecting Pandemic Flu Preparedness*

Table 2.

Score Range	n†	Actual Score
87.5-100	0	
75-87.5	1	75
62.5-75	0	
50-62.5	0	
37.5-50	3	Various
25-37.5	4	Various
12.5-25	8	16
0-12.5	23	3.5

*A score of 3.5 was given if the survey was returned.
†Number of churches in the score range; total sample, N = 39.

indicated that they were considering the materials and how to plan for the future. One expressed concern about recommendations in the CDC literature that use of a common chalice for the Lord's Supper (Communion) be avoided during pandemics. It was not clear in this study whether a difference in preparation occurred by church denomination, and it was not known whether regional or national denominational organizations for the participating FBOs had prepared plans for their respective denominations.

Survey findings indicate dismal preparations for a pandemic flu and limited use of the Pandemic Planning Committee materials. Although 3 weeks may not have been enough time for the churches to implement some of the recommendations (i.e., publish in church publications), the survey should have captured any previous preparations an FBO had in place before receiving the materials, thus reflecting overall planning that had occurred.

Interestingly, it was clear that energy and interest exists in FBOs to help others through times of trial. According to the survey, 60% of the respondents had leaders and members who participate in disaster relief activities, and 95% of the churches participated in both local and foreign mission efforts. Yet similar assistance and planning activity was not reflected in preparation of the churches for a disaster. The survey data did not have the statistical power to indicate correlation between FBO characteristics and preparation for a pandemic, but the findings suggest that an interest in helping outside the church did not translate to disaster preparedness within the church.

Table 3. RECOMMENDED Preparations for Pandemic Flu

STOCK UP on food, medicines, and supplies (2-week supplies) to make it easier to stay at home
- Store nonperishable foods and bottled water
- Store necessities (paper towels, tissues, toilet paper, garbage bags, soap, hand sanitizer, manual can opener, flashlight, batteries, portable radio)
- Have a supply of over-the-counter and prescription drugs and other health supplies (bandages, face masks, alcohol, ointments)

IMPROVE HEALTH HABITS *NOW* to lower infection risk and slow the spread of disease during a pandemic
- Flu germs are spread by droplets from coughs/sneezes that move through the air to people nearby, or by touching surfaces that contain flu droplets
- Cover your nose and mouth when you cough or sneeze
- Sneeze and cough into a tissue or sleeve, not bare hands
- Use tissues only once (especially when ill) and discard in trash receptacle
- Keep distance of 3 feet from someone who is ill, coughing, or sneezing (spatial separation)
- Wash hands with a 20-second scrub using soap/running water, and/or use a waterless alcohol-based hand sanitizer after blowing your nose, sneezing, coughing, going to the bathroom; before and after handling food; after using items used by others
- Clean frequently touched surfaces regularly with alcohol or diluted bleach solution (phones, remotes, keyboards, computers, door handles, equipment)

PLAN for what you will do if
- Social distancing is implemented (e.g., schools dismissed, work stoppage, church canceled)
- A family member becomes sick and needs care
- The elderly, pregnant, new moms/infants, or frail persons in congregation need care

MOTIVATING CHURCHES TO PREPARE

The question raised by this study is how can churches be motivated to prepare for an inevitable pandemic flu disaster? The responses and reasons given for lack of preparation by the Jasper County churches parallel the findings of other researchers on why we do not prepare for disasters. Sociologist Thomas Drabek (1986) in his work on the human response to disaster notes three things that prevent disaster preparation: a sense of fatalism, the fact that disasters are low probability events competing with the priorities of daily living, and a reliance on technology giving a false sense of security.

Emergency medicine physician Craig Goolsby and medical readiness consultant Jerry Mothershead (2008) report that in the United States, only 10 disaster events have resulted in more than 1,000 deaths between 1865 and 2005. By world standards, this makes multiple casualty events extremely rare. Despite the increase in general awareness with recent worldwide and U.S. disasters (Indian Ocean tsunami, South Asia earthquake in Pakistan, Hurricane Katrina), the relative infrequency of major catastrophes leads to complacency and underestimation of the impact such an event can have. The result is reluctance to devote necessary resources for adequate disaster preparedness. Goolsby and Mothershead concur with other authors that the best time to propose changes in disaster preparedness is immediately after a major disaster.

This study implies that efforts of pandemic planning groups need to be redirected, revised, and refined. Planning information should be sent to specific individuals at a church and followed up by a series of personal contacts. Church leaders need to be invited to planning events, whether face-to-face or electronic (e.g., e-mails, blogs, chat rooms). Where possible, funding (even small amounts) should be available to assist FBOs with planning initiatives. When the next inevitable disaster occurs somewhere in the world, planning committees should seize the moment and contact churches about their disaster planning preparedness.

Will pandemic flu planning be more successful if conducted within the various church denominations? The North American Mission Board (2007), an umbrella missionary group for Southern Baptists, has a Web page to be used by churches for pandemic flu planning. The site offers education and planning suggestions, but it is unknown how much the information is influencing the denomination.

The Church of Jesus Christ of Latter Day Saints offers an ideal model for preparation. This denomination has created a pamphlet available in 23 languages urging members to store food, clothing, water, and a small financial reserve; has created storehouses for people in need, has prepositioned supplies throughout the world in areas of high risk; has created a network within each local congregation so every family can be contacted using the Internet and shortwave radio; has agreements with the Red Cross and other health organizations to use church meetinghouses during a time of emergency; has a central plan so operations will continue during a disaster; communicates about pandemic preparedness to local church leaders, urging them to teach others; and regularly publishes articles about family and personal preparedness (Nelson, 2007).

Perhaps if this research is repeated following national governmental campaigns currently underway to promote pandemic preparedness, there will be evidence of more significant FBO planning in the future.

HELPING YOUR CONGREGATION PREPARE

Church members with healthcare backgrounds are encouraged to be involved actively in pandemic flu planning. The best way to help your congregation prepare is to prepare yourself. Personal preparation adds context and helps us prepare others after first preparing ourselves. "Preparation" means putting together a plan, storing food, and preparing to be isolated for a time. Recommendations for preparation are outlined in Table 3, and detailed planning information and checklists are available at www.pandemicflu.gov. Healthcare professionals need to become familiar with available information and toolkits.

Churches can begin planning by creating a "disaster committee" to identify essential services and key personnel to perform critical activities. Calling trees, Internet contact trees, and multiple layers of backup for essential services should be organized and tested in mock disaster drills. When many in the congregation are sick or services are canceled, tithing and giving decreases, so financial contingency plans need to be developed for the church as well as needy congregants. To raise church awareness, preparedness information should be communicated through print and informal meetings. "Disaster kits" could be raffled at church events and posters created encouraging personal hygiene practices.

With growing impetus by the federal government to include FBOs in pandemic flu planning and disaster relief, increased efforts by FBOs should become more commonplace. May the Apostle Peter's words in 1 Peter 4:10–11 (NIV) inspire us as we consider helping our churches prepare for a pandemic flu disaster: "Each one should use whatever gift he has received to serve others, faithfully administering God's grace in its various forms. If anyone speaks, he should do it as one speaking the very words of God. If anyone serves, he should do it with the strength God provides, so that in all things God may be praised through Jesus Christ."

Web Resources

- Pandemic and avian flu resources (www.pandemicflu.gov)
- *Take the Lead: Working together to prepare now* (http://www.pandemicflu.gov/takethelead/index.html)
- *Pandemic influenza storybook: Personal recollections from survivors, families, and friends* (http://www.pandemicflu.gov/storybook/index.html)
- Jasper County flu (http://Jascoflu.com)

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