Running head: PANDEMIC EVENTS: DEVELOPING READINESS

Executive Analysis of Fire Service Operations in Emergency Management

Pandemic Events: Developing Clay County Fire/Rescue's Readiness to Respond to the Challenge

Lori Fehr

Clay County Fire/Rescue

Green Cove Springs, Florida

April 2008

CERTIFICTION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed:_____

Abstract

Pandemic events such as influenza pose a threat not only to the community health, but to the internal operations of emergency response groups. The problem is that there has been no evaluation as to the operational readiness of Clay County Fire/Rescue's (CCFR) personnel to carry out the emergency operations plan as it pertains to pandemic events. This could result in an inability of CCFR to provide the crucial functions of their service to the community and to protect the department personnel themselves. The purpose of this research was intended to develop both CCFR's level of preparedness in handling a pandemic event and their capability to actually carry out any currently established plan. This research was also intended to provide a component of continued review and revision. Descriptive research was used to answer four research questions. What health agency recommendations on first responder preparedness were considered when establishing the EOP? What are the assumptions made by the current EOP on the ability of both the managers and the responders to make decisions and anticipate results at their given levels? In the face of a pandemic event, what consideration has been given to responder's willingness to carry out the EOP? Beyond the creation of an EOP, what training or research have other agencies carried out to evaluate their department's ability to execute their plan? Research revealed that even departments claiming to have an EOP on pandemic events generally have only a cursory plan at best. These plans were part of broad governmental directives and fell short of meeting operational needs. Recommendations were made for CCFR to produce a comprehensive plan to include a continuity of operations component as well as education, training of all employees, exercise, review and revision.

Table of Contents

Appendices

PANDEMIC EVENTS: DEVELOPING READINESS

Introduction

"It is not a question of if, but of when" states Connie Wolfe (personal communication, March 5, 2008) of the Clay County Health Department (CCHD) in reference to the likelihood of a pandemic outbreak. Ms. Wolfe serves as an epidemiologist for Clay County and is tasked with tracking diseases including potential pandemics. "A pandemic is a global disease outbreak" (U.S. Department of Health and Human Services [HHS], n.d.). Ms. Wolfe goes on to explain that there are generally two serious pandemic events per century and that we are overdue. Because no one can precisely predict when a pandemic event will occur we must be vigilant with our preparedness (World Health Organization [WHO], 2005).

Pandemic events such as influenza pose a threat not only to community health, but to the internal operations of emergency response groups (CCHD, 2006). The problem is that there has been no evaluation as to the operational readiness of Clay County Fire/Rescue's (CCFR) personnel to carry out their emergency operations plan (EOP) as it pertains to pandemic events. This could result in an inability of CCFR to provide the crucial functions of service to the community and protection of the personnel themselves.

The purpose of this research is to develop both CCFR's level of preparedness in handling a pandemic event and their capability to actually carry out any currently established plan. This research is also intended to provide a component of continued review and revision so to keep the EOP functional.

Descriptive research will be used to answer the following research questions:

1. What health agency recommendations on first responder preparedness were considered by CCFR when establishing the EOP?
2. What are the assumptions made by the current EOP on the ability of both the managers and the responders to make decisions and anticipate results at their given levels?
3. In the face of a pandemic event, what consideration has been given to the responder's willingness to carry out the established EOP?
4. Beyond the creation of an EOP, what training or research have other agencies carried out to evaluate their department's ability to execute their plan?

Background and Significance

Clay County Fire/Rescue (CCFR) is a combination department providing both fire and emergency medical services (EMS) to its community. According to CCFR's Administrative Assistant, Debbie Gillies (personal communication March 5, 2008) the department is comprised of 184 career personnel including field, administrative and communications staff. Volunteer Coordinator Richard Darby (personal communications, March 5, 2008) states there are 55 active volunteers augmenting the career staff at this time. The department operates on a three battalion system with 24 hours constituting one shift. The current minimum staffing levels are outlined in the collective bargaining agreement with the Clay County Fire/Rescue Professionals Local 3362. The staffing

article requires a minimum of two personnel on all rescue (transport) units, three personnel on all staffed engine companies, one person on all staffed water tenders, and 4 personnel on the ladder truck (Clay County Fire/Rescue Professionals, 2007, p. 87). There are no minimum staffing requirements on the volunteer units for their response.

CCFR provides both fire and EMS services to the community. There are 11 career stations within the county. Six of these stations house both an ALS engine company and an ALS rescue, three stations house only an ALS engine company, and the remaining two stations house only an ALS rescue crew. According to the statistics provided by Communications Supervisor, Lt. Lisa Mancino (personal communications, March 5, 2008) in 2007 there were approximately 20,263 calls for service, and of those calls 17,030 were medical calls. Lt. Mancino provided further information that Clay County units completed approximately 8,182 medical transports in 2007. This indicates that typically about 40% of our calls for service result in patient transports. These numbers were also consistent with the statistics from 2006. As for the communications center itself, Lt. Mancino states that the two on duty communication technicians answer approximately 350 calls a day, though some of these are administrative calls and all do not result in a request for service.

Clay County itself is a suburban community of just over 601 square miles (U.S. Census Bureau, 2008). It is located just south of the more metropolitan area of Jacksonville, Florida, and the entire eastern boarder of the county lies along the St. Johns River. According to the Census Bureau (2008) in 2007 Clay County had a population of just over 178,000 people. According to Eve Szymanski, Director of Tourism and Film Development, Clay County Chamber of Commerce (personal communications, March

27, 2008) there are currently no accurate or approximated numbers available on total visitors in Clay County annually.

Clay County has a small port located in the Green Cove Springs area which supports some light industrial work (Reynolds Park, 2005). There are future plans for this port to house large yachts and even small cruise ships. There is one airport in the extreme southern end of the county in Keystone Heights (Keystone Airpark Authority, n.d.). This is a small airport which is occupied by both fixed wing and helicopter training schools. This airport accommodates many privately owned aircraft and hosts period air shows. There are also a handful of private airfields within Clay County (Florida Department of Transportation, 2003).

There are several community health partners within Clay County. The Clay County Health Department would serve as the lead agency if there were a true pandemic event (CCHD, 2006). There is one community hospital, Orange Park Medical Center (OPMC). According to Director of Emergency Services, Don Breeding (personal communications, March 30, 2008), the emergency department (ED) has a capacity of 24 rooms, 12 hallway beds, and 12 “express” beds. Mr. Breeding states that the hospital has a total bed capacity of just over 250. Vencor is a specialty hospital within Clay County serving patients with specialized respiratory needs. According to Leigh Wilsey, Preparedness Coordinator with the CCHD (personal communications, March 5, 2008), Vencor could not be expected to serve influenza patients during an event. There are a number of nursing homes, assisted living facilities, and retirement communities within the county which would be of major cause for concern during a pandemic event.

Pandemics can be expected to affect 15 to 40 percent of a given population (Barry, 2005, p. 114). How though does a particular influenza move past typical seasonal severity to cause a world siege? Every season influenza viral antigens mutate slightly (Connie Wolfe, personal communication, March 5, 2008). An antigen is "any substance that, as a result of coming in contact with appropriate cells, induces a state of sensitivity and/or immune responsiveness after a latent period…" (Physicians Desk Reference [PDR], 1995, p. 103). Staying ahead of these antigen changes is the challenge in combating the seasonal strain of influenza. In fact, Ms. Wolfe states that "…last year's viruses generally give us this year's vaccine." Even with this vigilance, sometimes there are mutations that are so significant within a given season, that previously acquired antibodies are no longer effective to the same given strain (Barry, 2005). These mutations within the same season prevent the a person from acquiring the normal immunity that is expected after recovering from a bout of influenza or that would be expected after vaccination. Barry identifies this type of mutation as "antigen drift" (p. 110).

These antigen drifts explain how we can have a particularly difficult flu season or even one of epidemic proportion. An epidemic is "the occurrence in a community or region of cases of an illness, specific health-related behavior, or other health-related events clearly in access of normal expectancy" (PDR, 1995, p. 582). But to cause a world wide pandemic event takes an even more serious change in the disease. When an antigen change occurs that is so radical that it changes the gene coding of the influenza in such a way that it bears little to no resemblance to any other strain previously experienced, then there is no existing immunity. This extreme change is called "antigen shift" (Barry, 2005,

p. 111). Because of the lack of previously acquired immunity on any level, the new virus can move through populations at an explosive rate. This is how a pandemic event can occur.

There have been many books written and much discussion about the H5N1 Avian Virus or "Bird Flu". Truth be told though, it is impossible to predict what the next pandemic will be (Connie Wolfe, personal communication, March 5, 2008). Ms. Wolfe states it could be a virus that has to this point not even been explored. The point of pandemic preparedness at the first responder level is to plan for the event, not for the particular strain of virus. The U. S. Fire Administration (USFA) states as the second operational objective in their established strategic plan, "Help communities develop comprehensive all-hazard risk reduction plans" (USFA, 2007b). This is germane to the planning for pandemic events. Planning for the reduction of spread of the disease and the reduction in the loss of life as a result should be the considerations given at the community level (CCHD, 2006).

The Federal Emergency Management Agency (FEMA, 2007) states as its vision "A Nation prepared". This is a simple vision statement, but it has an incredibly vast meaning. As examined in the Executive Analysis of Fire Service Operations in Emergency Management (EAFSOEM) course at the National Fire Academy, one of the identified enabling objectives is to "Identify capability shortfalls in a community" (USFA, 2007a, p. sm 4-1). To be a nation prepared, we must know our shortfalls so that we can bridge the gap between planning and action. This is especially true in planning for events that are extremely unpredictable such as pandemics.

Over the last few decades, the fire service has seen a change in the communities' expectations in their service (USFA, 2007a, p. sm 4-8). The fire service has become synonymous with emergency medical services in many areas. "Victims of any incident became patients" (USFA, 2007a, p. sm 4-8). In as much, the fire service is expected to know what to do and to have a planned response to any type of event. In case of a pandemic when traditional resources can be expected to be extremely scarce, the fire service can too expect to be strained in meeting their community expectation as the pre-hospital provider. This research is intended to increase CCFR's preparedness to meet these challenges.

Literature Review

"The center of gravity of the pandemic response…will be in communities"(Homeland Security Council, 2006, p. 9). Local community preparedness is a central theme to most of the reference materials available on pandemic event planning. The Homeland Security Council goes on to liken a pandemic event to a global war rather than comparing it to any other natural disaster. The pandemic is unique in that it has no natural boarders. It has no area of containment to work with, no hot/warm zones.

What can be expected though, from a pandemic? According to the Department of Health and Human Services (HHS)(n.d.) under the planning and response subsection, assumptions common to pandemic events are listed. According to this list when a pandemic outbreak hits a community, it will last from 6 to 8 weeks. There will be multiple waves or "periods during which community outbreaks occur across the country"

(HHS, n.d.). These waves can last from 2 to 6 months each, and according to Connie Wolfe of the CCHD (personal communications, March 5, 2008) the pandemic itself could last 8 to 10 months.

It is anticipated that when the pandemic occurs, 30% to 40% of the population may be infected (Connie Wolfe, personal communications, March 5, 2008). Of those infected, at least 50% can be expected to seek medical care (HHS, n.d.). It can be expected that the disease may have a mortality rate as high as 15% of those infected (Connie Wolfe, personal communications, March 5, 2008).

As mentioned earlier, there is no way to predict with complete accuracy what virus will be the next pandemic (WHO, 2005, p. 11). There are three "types" of the influenza virus that cause disease in general (CCHD, 2006, p.10). Only the first two, types A and B are reported to cause illness in humans (HHS, n.d.). Of these two, only the type A viruses are known to cause moderate to severe illness in all age groups. According to the HHS, of the four known subtypes of human influenza A viruses currently circulating (H1N1, H1N2, H3N2, and H7N2) it is thought very likely that at least some of their genetic parts originally came from birds. The transmission of earlier pandemic influenza viruses such as the 1918 "Spanish Flu" are also thought to have had some origin with birds (Homeland Security Council, 2006). This gives reason as to why such high suspicion has been placed on the H5N1 avian virus as the next pandemic culprit.

It takes more than bird to human transmission, though, for a virus to reach pandemic proportions (HHS, n.d.). The virus must mutate in such a way as to have persistent human to human transmission capabilities. According to the HHS there have

been no sustained cases of human to human transmission of the current H5N1 avian virus. Health professionals do remain concerned about its possible role in a pandemic event for the following reasons:

- It is especially virulent
- It is being spread by migratory birds
- It can be transmitted from birds to mammals and in some limited circumstances to humans and
- Like other influenza viruses, it continues to evolve

According to WHO our communities must be prepared before the impact of a pandemic event arrives. "They [the public] need to be consulted, involved and reliably informed of what a pandemic will mean and what they can do to reduce its impact" (WHO, 2005, p.8). Barry (2004) gives an account of life across the nation during the influenza outbreak of 1918. He describes a nation ill prepared for the ravages that a pandemic can cause. Many of the items discussed by today's planners were also addressed in this earlier catastrophe. Barry discusses how pamphlets, posters and circulars were used to attempt to educate the public on social distancing and the prevention of disease spread (2004, p.339). Because of its proximity to the event this attempt at education was of little avail, and as the disease continued to spread and people realized that there was no help, no additional nurses, doctors, or supplies coming, general panic set in.

As the wave of the pandemic started to sweep the country, Barry (2004) relates that hundreds of ill and dying showed up at doctor's homes when they could not be seen at hospitals. Patients could not be seen because the hospitals were either full, or so

severely understaffed that they could not treat patients. As to the missing staff he states, "…evil and crises do not make all men rise above themselves. Crises only make them discover themselves. And some discover a less inspiring humanity" (Barry, 2006, p. 343). This was in reference to the staff and health care workers who refused to report to work due to fear. But it was also detailed that despite the bleak consequences many physicians, nurses, scientists and other workers did continue to do their jobs. And many, many of them died as a result.

In 1918, the pandemic engulfed the world much like an unstoppable wave moving through the country from town to town (Altshuler, 2006). A pandemic today could be very different. "Given today's highly mobile population, disease outbreaks may occur simultaneously throughout the country making the reallocation of human and material resources more difficult than in other disaster or emergency situations" (U.S. Department of Homeland Security [DHS], 2006, p. 6). This statement brings up several issues that are unique to the circumstance of pandemic event planning. First, there is the shear unpredictability of the availability of resources once a pandemic breaks out. The DHS (2006) stresses the importance of private sector involvement in the planning for such an event. While Federal guidelines are intended to form a framework for response, DHS emphasizes the importance of State and local agencies having their own comprehensive plans in place. These plans must take into consideration the critical infrastructures that our communities depend upon everyday so that a continuity of services can be maintained. This is important not only to have some sense of normalcy for the citizens in their day to day life as they attempt to deal with the event as it evolves, but also to serve as a foundation for responders so that they can continue to provide their services.

Mobility is a major concern for epidemiologists charged with mapping and predicting the progression of a pandemic. "Given the speed and volume of international air travel today, the virus could spread more rapidly, possibly reaching all continents in weeks or months" (Centers for Disease Control [CDC], 2008, p. 20). To wait and try to combat the virus as it arrives at our boarders, ports and airports would be irresponsible. Acknowledging this, in 2005 President Bush announced the United States participation in The International Partnership on Avian and Pandemic Influenza (U.S. Department of State, 2006). This was part of a $251 million initiative to arrest potential pandemics as they are identified around the world. Additionally, in 2006 the Avian Influenza Action Group was formed under The Department of State to serve as a point of coordination between the international effort and the Departments of Health and Human Services, Agriculture, Homeland Security, and other involved agencies.

Despite these efforts on surveillance, isolation, and containment of the virus, because of its potential gravity we must prepare for even the possibility of the pandemic. Cindy Lesinger of the Center for Emergency Preparedness, Alabama Department of Public Health states that local planning and preparedness for this type of an event must start at the most basic level (South Central Center for Public Health Preparedness, 2008). She goes on to explain that by this, she means that all critical infrastructure and key element services must start by preparing their individual employees for such an event. She states that this includes not only public services such as fire/rescue and police, but other critical infrastructure such as food, electrical and waste services. Employees must be educated and encouraged to form their own personal pandemic plan. Ms. Lesinger stresses that this is where the break down in services will begin, with the inability of the

individuals who provide those services to report to work due either to an illness to themselves or to a family member. Ms. Lesinger states that this element is so important that personal preparedness should come first even before the organizations Continuity of Operations Plan (COOP).

In the *Pandemic Influenza Continuity of Operations (COOP) Annex Template Instructions* (FEMA, 2006) it is stated that "…all government Departments and Agencies should have plans to continue to operate their core mission" (p. 4). FEMA actually provides both an "all hazards" COOP template, and an additional pandemic influenza COOP which is intended to be an adjunct to it. The COOP was developed as a tool to be used by departments and agencies to aid them in planning so that they may continue to perform their vital functions during unusual circumstances that would otherwise be expect to disrupt their normal operations (FEMA, 2004). The COOP delineates responsibilities, essential functions, and specific predetermined actions so that critical decisions are not being made during a time of crises.

In addition to the COOP, FEMA provides a checklist for preparedness based on the WHO pandemic phases (2006, pp. 18-20). Many of the departmental policies and agency recommendations reviewed use these pandemic phases to augment their policies as a "trigger" for progression to the next level of their plan. This is a way to incrementally create a plan that can escalate as the need arises.

The information from this literature review was found primarily from governmental, agency and association websites. Other books were used for historical insights on pandemics events as well.

Procedures

Research Methodology

The descriptive method was used to carry out the research for this project. The purpose of this ARP is to develop both CCFR's level of preparedness as it pertains to handling a pandemic event and their capability to actually carry out any currently established plan. To accomplish this, pertinent information on the subject of pandemic events including recognized recommendations for first-responders was reviewed. Pandemic event planning is a dynamic topic which is continually evolving. Much of the information gathered was through the internet so that the most recent data on the topic could be reviewed. A survey instrument was also used to determine how other agencies have addressed these challenges. These procedures along with interviews of key stakeholders served to provide the information needed to address the problem of pandemic preparedness planning.

Literature Review

The literature review for this research project began with a search of pertinent websites providing information on both pandemics and planning. An interlibrary loan was also accomplished between Flagler College, St. Augustine, Florida and the National Fire Academy (NFA), Emmitsburg, Maryland. This allowed the review of other applied

research projects on this subject. Other readings were purchased to provide sufficient depth of information on the subject.

Policies, procedures and emergency operations plans from the following departments and agencies were referenced during the composition of the recommendations for CCFR:

- Alachua County Department of Health, FL
- Albany County Department of Health, NY
- The City of Kingman, AZ
- The City of Longmont, CA
- The City of North Lauderdale (Broward County Department of Health), FL
- The City of Sugar Land Health Authority, TX

Interviews

The first interview was actually conducted prior to research beginning for this ARP. When selecting a topic for research, several key members of the Clay County Department of Public Safety were briefly and informally asked if CCFR even had an EOP for pandemic events. James Corbin, Director of Emergency Management, Maria Haney, Emergency Management Planning Technician, and Deputy Chief Allen Blocker all agreed that there was a plan in existence.

A formal interview was conducted with Connie Wolfe, Epidemiologist and Leigh Wilsey, Preparedness Coordinator both with the Clay County Department of Health. This interview was scheduled directly with Ms. Wolfe and was held at the Clay County Department of Health Annex Building in Green Cove Springs, Florida on Wednesday,

March 5, 2008 at 11:00am. A list of questions was prepared prior to the meeting (Appendix A). The interview lasted just over one hour and both members of the Health Department were very forthcoming with information significant to this research.

A second formal interview was held with Fire Chief Frank Ennist and Deputy Chief Allen Blocker, both of CCFR (Appendix B). Chief Ennist also serves as the Director of the Department of Public Safety for Clay County. The Public Safety Department includes the Fire/Rescue Division and the Department of Emergency Management. The interview was scheduled directly with Chief Blocker and was conducted at the Department of Public Safety on March 13, 2008 at 11:00am. This interview lasted approximately 90 minutes. The information gleaned from the earlier interview with the Health Department representatives was heavily referenced in this interview.

A phone interview was conducted with Dr. Pete Gianas, Medical Director for CCFR (Appendix C). The interview was conducted on March 30, 2008 at 11:30 am. Dr. Gianas was interviewed to address concerns on the possibility of temporarily altering transport protocols and shifting department focus during a pandemic event.

Thursday, March 27, 2008 this author participated in a satellite conference and live webcast entitled *The Reasons for and Key Elements of Continuity of Operations Planning* provided by the South Central Center for Public Health Preparedness in partnership with the Alabama Department of Public Health. The faculty providing information during the broadcast was Dr. Andrew Rucks, PHD who is an Associate Professor of Public Health, Health Care Organization and Policy, University of Alabama at Birmingham and Cindy Lesinger, Disease Intervention Director, Pandemic Influenza

and Smallpox Coordinator, Center for Emergency Preparedness, Alabama Department of Public Health. The 90 minute session spoke primarily to organizations of all types having a need for Continuity of Operations Planning (COOP).

Survey

A survey was created to gather information on how other departments across the nation have handled the subject of pandemic preparedness (Appendix D). The online survey tool SurveyMonkey was used to assist in the creation of the instrument. Tim Curtis, Secretary/Great Lakes Director of the National Society of Executive Fire Officers (NSEFO) and Diane Holley, Director of Membership Services of the Florida Fire Chief Association (FFCA) were contacted and a request was made to distribute the survey electronically through their e-mail systems. This allowed for both a statewide and national request for information. According to Mr. Curtis the total survey population for the NSEFO is 355 members. According to Ms. Holley the survey population for the FFCA is approximately 1800. The surveys were distributed on March 5, 2008 and had a response deadline of March 15, 2008. Of the total 2155 surveys sent by e-mail, there were 53 responses. Of the 53 who participated in the survey, only 25 indicated that their department currently had an EOP for pandemic events. These 25 respondents were then contacted again by e-mail and a copy of their plan was requested for review. Of the 25 contacted, six responded affirmatively by providing their plans, one participant responded negatively that they were unable to share the plan, and the remaining 18 participants did not respond.

Assumptions and Limitations

Prior to beginning research on this ARP, it was assumed from conversations with key administrators that there was an actual EOP in place for CCFR. During research it was discovered that, while there was a document from the CCHD that serves as a broad guide to the county government as a whole, there was actually no comprehensive plan in place for CCFR. The expressly stated purpose of this ARP was to develop both CCFR's level of preparedness as it pertains to handling a pandemic event and their capability to actually carry out any currently established plan. This is limited in that there is currently no established plan.

It was assumed that the websites referenced and the data contained there in were credible and accurate. It was further assumed that the websites would remain available for further review by other researchers. It is also assumed that the information provided during the interviews was true, inclusive and provided without prejudice. The discussion of these documents, readings and facts collected are intended to be a correct representation of their original intend and meaning.

A limitation affecting the research itself was the limited responses to the survey instrument. While this author did not expect an extraordinary response to the survey, 53 of 2155 is well below the anticipated response.

Results

Research question 1: What Health agency recommendations on first responder preparedness were considered by CCFR when establishing the EOP?

Upon receiving what was considered by the department to be CCFR's EOP for Pandemic Events, it was realized that there was truly no EOP at all. What was provided was a copy of the CCHD's Emergency Operations Plan: Infectious Disease Outbreak Annex. While this document does give some cursory references to first responders, it certainly does not include a comprehensive plan for preparedness for our department. Some could argue then that the answer to this ARP question is that the CCHD recommendations were considered. There may be a stronger argument that no real consideration has yet been given to any health agency recommendations for an EOP for CCFR.

To expound on this question, in the survey (Appendix D) the 47.2% of respondents who answered affirmatively that their department has a current EOP for pandemic events were asked if they had considered other health agency recommendations on first responder preparedness. Not surprisingly 94.7% responded that they had. They were then asked what agencies they had referenced. In large, the respondents all included their local health department as a source of reference. Many also included their state department of health and the Centers for Disease Control (CDC). But of the six plans that were made available for review, it was clear that of this extremely small sampling, most of these departments were in the same situation as CCFR. Their plans were actually

part of a broad city or county initiate, usually authored by the local health department, and falling quite short of any comprehensive or continuity of operations plan recommended by lead authorities.

During the March 5, 2008 interview with Leigh Wilsey and Connie Wolfe (Appendix A), first responder preparedness was discussed at length. One of the many questions posed was if there has been any discussion of altering the traditional role of the fire department to assist the health department and other agencies in the event of a pandemic? This would include specifically such functions as aiding with the deliver of vaccines, or transporting patients to alternate flu treatment sites. Ms. Wilsey states that there was some preliminary discussion, but that the current situation in Clay County precludes this from being a necessity. She states that if we are speaking specifically of a pandemic influenza outbreak that the truth is vaccines and antivirals will be arriving with such scarcity that they will never reach mass delivery. She also states that there have been multiple discussions within her discipline about establishing alternate flu treatment sites, but that no permanent agreements have been reached. Even if the facilities were secured to serve as alternate sites, there would not be staff available to open them.

Ms. Wilsey suggested that the fire departments focus be directed more to alternate triage protocols rather than alternate transport destinations. She states that in a true pandemic OPMC is not going to be able to handle the surge created on the ED. She states that we can anticipate OPMC to alter their triage and perhaps even their treatment protocols to try and keep influenza patients out of the facility. As it becomes apparent to the public that the emergency department is unable to process them in the manner to meet their expectations, the emergency medical system (EMS) can expect to be called up as

quick access to health care. Ms. Wilsey predicts that in a true pandemic event, it would take less than 24 hours for our EMS system to begin to feel the strain.

Ms. Wilsey states that the Health Department will be advising the public that home care of their sick is the best course of action. In as much, she states that consideration should be given to altering our response protocols. She recommends more rigorous phone triage and that potential flu patients should be given the information being provided by the Health Department on home care. Ms. Wilsey points out that as our system is flooded with calls regarding influenza patients, our regular calls for service will continue as well. If a patient is transported to the ED by rescue for influenza, it places both the responders and subsequent patients being transported in the rescue unit at risk for contamination. She also advises that if your employees are truly exposed, there is the need for the consideration of their quarantine as well.

A further argument for the use of telephone triaging and treatment consultation is the imminent lack in availability of personal protective equipment (PPE). When asked if the CCHD has a sufficient amount of PPE to sustain their employees during a pandemic, Ms. Wilsey states that they do not. She states that if the pandemic hit our nation, she does not expect that vendors would be able to keep up with the demand for these supplies. She also does not expect to receive supplies from the national stockpile sufficient enough to make a substantial difference.

Another question was posed to Ms. Wilsey about the use of “flu units” by EMS. These “flu units” would be placed into service and would be the only rescues responding to calls for service that resemble influenza. This would be an extension of the early phone triaging. This would limit your number of personnel exposed to possible influenza

patients and prevent your other units from becoming contaminated. She states that there had not been previous discussion of such a unit. She states that this may be a good alternative for the purposes of providing a sense of security to the community, providing additional information, and providing an additional source of surveillance to the CCHD. She goes on to stress though, that to every extent that is possible, home care, not transport, should be the focus.

During the same interview, Connie Wolfe states that there may have to be a paradigm shift in the community's level of expectation of services. She states that it will be a difficult task for those on the front line explaining to citizens that it is not in the best interest of public health for their loved one to be transported to the hospital. She states that as the "front line" our staff will definitely be placed in a most difficult position and that training and preparing them for these circumstances is of paramount importance.

In the March 30, 2008 phone interview with Dr. Pete Gianas, CCFR's Medical Director he expressed that he did not feel comfortable with the CCHD's suggestion on phone triage of patients because the personnel in the communications center are not necessarily medical personnel. There were several of the suggestions made by the CCHD that Dr. Gianas did not necessarily find tenable. He states that he understands the concern of contamination to employees and other patients, but he expects that we will continue to handle calls on a "first come, first served" basis. It was clear that the expectations of the medical director and those of the CCHD were not in alignment. Dr. Gianas did state that this was certainly an important issue for the department and that he would support possible policy changes through the departments EMS committee.

Research question 2: What are the assumptions made by the current EOP on the ability of both managers and the responders to make decisions and anticipate results at their given levels?

There is a "…need to transform fire and emergency services organizations from being reactive to proactive…" (USFA, 2005, p. 3). When examining ARP question 2 it became obvious that CCFR was still addressing the subject of pandemic planning from a "reactive" perspective. Since there is no formal EOP for pandemic events, questions were posed to this subject during the March 13 2008 interview with Fire Chief Frank Ennist and Deputy Chief Allen Blocker. Questions such as trigger events for closing the fire stations to the public, safety and security concerns for the stations and personnel, alternative staffing considerations in the face of a potential 40% absenteeism rate, food, supplies, quarantine, and even challenges of alternative triage and transport protocols were discussed. It was quite obvious that both Chief Ennist and Chief Blocker had strong conceptual ideas of how they would handle the event. But when the question was posed as to if they felt that other staff members had a strong enough sense of the plan to carry it out in their absence, there was a consensus that they probably did not.

During the March 27, 2008 live webcast titled The Reasons for and Key Elements to Continuity of Operations Planning delivered by the South Central Center for Public Health Preparedness, Dr. Andrew Rucks, Associate Professor of Public Health, Health Care Organizations and Policies, University of Alabama at Birmingham was the key speaker. Dr. Rucks emphasized that while continuity of operations planning does involve as a main element strong executive leadership, of equal importance is the involvement of

the front line, day to day, personnel responsible for carrying out the plan. He states that a plan can only be successful if it is executed by a staff capable of operating the system. The only way to be assured of their capacity is to have a formal plan that is exercised through training.

In answer to question 2 of this ARP, it seems that the assumption has been made that managers and responders will make decisions much as they do in their normal day to day delivery of service. This implies a "heuristic" approach to decision making. Heuristics is the mind's ability to make complex decisions in a seemingly effortless manner drawing rapidly from past inferences and information stored from experiences (Baron, Branscombe & Byrne, 2008, p. 39). It explains how we are able to go from a complete sleep into a virtually instinctive mode of treatment decision making or scene size up. Personnel can do this because in essence, they've been there before. But dealing with the requirements of a pandemic event is not something that can be referenced in relation to past events. It will take cognitive processes which are deliberate and thoughtful considerations of situations to select the appropriate response (Baron, et al, 2008, p. 38). Since there is no past experience of such an event to draw upon, personnel must be given the tools to reference for these deliberations.

Research question 3: In the face of a pandemic event, what consideration has been given to the responder's willingness to carry out the established EOP?

The CCHD (2006) EOP refers to an expected absenteeism rate as high as 40% during a full blown event. During the March 5, 2008 interview with Leigh Wilsey of the

CCHD the question of employees' unwillingness to report to work due to fear was brought up. Ms. Wilsey states that the majority of employee absenteeism is expected to be due to illness either to themselves or a direct family member. She states that even the CCHD is aware that despite education and stringent infection control policies, even they can expect some employees to decline their responsibilities.

Ms. Wilsey does state that the best tool to combat unnecessary employee absenteeism is their confidence in the department's policies and infection control procedures. She states that these are assurances that must be built over time prior to an event. It is important to have a vigorous infection control plan that is routinely practiced and monitored. Having policies in place for employee surveillance so that co-workers exhibiting any signs of exposure or infection can be sent home immediately is also important.

Ms. Wilsey's comments parallel the International Association of Fire Fighters (IAFF) suggestions in their influenza pandemic checklist (2006, p. 2). The IAFF encourages the maintenance of a rigorous infection control plan including seasonal vaccinations, up to date immunization records and the enforcement of routine infection control practices (such as simple hand washing) at all levels. Ultimately, the comments made by Barry (2005) hold true. Until faced with true crises of this magnitude it will be difficult to predict how health care workers will respond to their call for service. But education and planning can certainly aid to quell irrational fears.

What of those who do refuse their duty? This question was posed to Chief Allen Blocker during the March 13, 2008 interview. Chief Blocker first expressed the difficulty in proving that someone was derelict in their duties as opposed to simply

reporting ill and unable to work. If faced with obvious cases of employees simply refusing to report to work, he states some due consideration would have to be given to this. He states that his initial instinct is to handle the occurrence as he would any other abandonment of duty issue, through the progressive discipline procedure. As for the operational side of a dwindling staff, Chief Blocker states that he and Chief Ennist have an operational plan for the reduction of staff. This would include the reduction of manpower on given units, the possible reduction of units themselves, and in a worse case scenario moving from a three battalion to a two battalion system. The plan would also stagger the release of personnel needing to go and check on their families. Again these are conceptual plans and have not been formalized or exercised with other staff members.

Question 7 of the survey tool (Appendix D) asks the respondents to indicate if they feel their department's EOP adequately addresses the concern of their responders willingness to carry out their duties during a pandemic event. Of the 25 respondents who answered affirmatively to having an EOP, only 19 answered this question. Of the 19 who responded, 17 of them (89.5%) stated that their policy did address this issue. Of the six plans that were made available for review, none of them specifically addressed employee abandonment. Perhaps the respondents, like Ms. Wilsey of CCHD, simply consider this population of employees included in the expected 40% absenteeism rate.

Research question 4: Beyond the creation of an EOP, what training or research have other agencies carried out to evaluate their department's ability to execute their plan?

Questions number 8, 9, 10 and 11 on the survey (Appendix D) addressed this ARP question. Survey question 8 inquired as to whether the departments had conducted

any training with other agencies and partners (such as the health department) to evaluate their ability to execute their existing pandemic plan. Again, of the 25 claiming to have an EOP, only 19 responded to this question. Of those responding, 15 (78.9%) responded that they had conducted training. Question number 9 then asked them to explain the type of training performed. Several cited table top exercises and classroom drills reviewing the existing plan. Others were involved in points of disbursement (POD) exercises with the local health departments. One respondent even mentioned participating in a surge hospital set up.

When question 10 asked nearly the same information, but inquiring as to internal training conducted within their department to evaluate their own personnel's ability to carry out their plan, the response was much lower. Of the 19 responding to this question, only 7 (36.8%) had conducted any type of internal training with their employees. When asked to expound on the training in question 11, most referred to lectures or review of policies. Others discussed inoculation site drills. These drills were likely attended by the employees involved with the above mentioned multi-agency drills, not by the entire personnel population.

During the March 5, 2008 interview Ms. Wilsey of the CCHD states that there had been a county wide table-top exercise on pandemic events conducted in late 2007. She states that all of the members who would be present during the activation of the Emergency Operations Center were in attendance. She states that the exercise was conducted by having prepared questions for each of the agencies so that they could discuss how their department would handle specific issues during an event. At the March 13, 2008 interview, Chief Ennist was asked how he felt about the table-top exercise

hosted by the CCHD. He stated that the training was a success in that it ran well and did bring together a number of agencies for collaboration. He did feel, however, that it fell short in moving towards any real level of preparedness.

In Dr. Rucks' webcast (South Central Center for Public Health Preparedness, 2008) he stressed that everyone in the organization must be trained. Dr. Rucks stated that the training must be formal, recorded and documented for it to serve as any type of learning tool for efficiency and revision. Dr. Rucks also encourages governmental agencies not to just include the typical partners when considering pandemic preparedness. Because the event can last for months you must know in advance what emergency plan your vendors have. He encourages agencies to arrange with their vendors in advance how they will be prioritized when a crippling amount of requests are being received. He encourages that agencies not just have inter-local agreements, as other departments may not be able to help, but have agreements with the private sector as well. Dr. Rucks posed the question if you are expecting your employees to serve for extended periods of time, how will you provide food when even the food suppliers will be affected by the 40% expected absenteeism rate caused by the disease? Dr. Rucks encourages the use of the Federal Emergency Management COOP template for all organizations, both public and private.

Discussion

The purpose of this ARP was to develop both CCFR's level of preparedness as it pertains to handling a pandemic event and their capability to actually carry out any

currently established plan. As a component of this the question was posed as to what health agency recommendations on first responder preparedness were considered in the creation of the EOP. As discovered, there is no specific EOP to CCFR. The purpose of the ARP, to develop preparedness, is still served by examining these health agency recommendations.

When the pandemic event occurs, everyone is susceptible (CCHD, 2006). But there are things that can be done as a department and a community to decrease the impact of the disease. These recommendations seem to be fairly universal. As Cindy Lesinger stated (South Central Center for Public Health Preparedness, 2008) your organizational plan must start with the individual employees. This means encouraging your personnel to establish their own personal influenza preparedness plan. Agencies should give the employees information on how to plan for their family when they may be required to be away from home for extended periods of time.

Leigh Wilsey of the CCHD echoed this as well. She emphasizes that in addition to personal preparedness, the department should engage in routine infection control procedures training with their employees. Administering annual flu shots, maintaining immunization records and having an aggressive infection control plan including formal policies that are regularly enforced gives your employees confidence in your system (Leigh Wilsey, personal communications, March 5, 2008). This is also one of the main themes in the IAFF's (2006) checklist.

Creating a formal plan for the organization is critical. Most of the federal agencies recommend that departments have a plan, but suggest that the plan be created on the local level so that it is individualized to that department's unique needs. This leaves

smaller departments and agencies feeling a bit overwhelmed on where to start. FEMA's COOP template appears to be an efficient guide to this planning. In addition to the template, FEMA provides guidelines complete with suggested wording for each section so that the organization can understand the intent. Dr. Rucks (South Central Center for Disease Preparedness, 2008) suggests that this COOP is not just applicable to governmental agencies, but to any organization both public and private. He encourages the inclusion of these private vendors and stakeholders in every agency's COOP.

Dr. Rucks further suggests that these COOP plans must be developed through continuous training that is formal, recorded and documented. He states that it is impossible to know if a plan is operationally sound if it is not exercised. Dr. Rucks' statements lend to the next question of the ARP. What are the assumptions made by the current EOP on the ability of managers and responders to make decisions and anticipate results at their given levels? During the interview with Chief Blocker on March 13, 2008, it was apparent that there was an assumption that employees would make decisions much as they do everyday. There seemed to be an extreme underestimation as to the extraordinary circumstances that an event such as a pandemic would present. Dr. Rucks states that even the most exceptionally devised plan can only be carried out when there are knowledgeable and competent employees on the front lines. This will not come instinctively, but must be practiced and trained.

As to the third question of the ARP concerning responders willingness to carry out the EOP, the recommendations made from the agencies to include employee preparation as an element of the departments plan will serve as a means to decrease unnecessary absenteeism (Leigh Wilsey, personal communication, March 5, 2008). It is

understood that it will be impossible to eliminate this completely, but efforts should be made to reduce employees fear. Regardless of the cause of absenteeism, if we use the currently accepted 40% as the number of employees we can expect to loose at the height of the event, it will be debilitating to the department. There are 184 personnel employed with CCFR. This is an expected loss of 74 employees for approximately two weeks. This will require well thought out and prepared reduction in staff policies.

Additionally, both Ms. Wilsey and Dr. Gianas agree that including in the departments plan a policy of daily employee evaluation will help to calm fears and keep staff in place. If the employees are formally monitored daily for signs and symptoms, and released from duty immediately if any are found, it may help keep a sense of well being in the stations. Because of the communal living conditions, it is important to make attempts at preventing exposure. The opinions did vary between the CCHD and medical director, however, when it came to discussion on what to do with the employees once they are found to be symptomatic. If the employee becomes ill as a result of performing their duties, do you then relieve them and allow them to return to their home where they are very likely to expose their family? These are issues that should be considered in full in the COOP plan.

As to the fourth question of the ARP concerning training and research on departmental ability to execute an established plan, all of the aforementioned increments must be considered. When these considerations are coupled with the estimations in increased calls for service, the personnel's ability to perform on any level is suspect. There are 178,000 citizens residing in Clay County. If we accept the 30% estimation on the virus attack rate, this means 53,400 citizens will fall ill. According to the HHS, at

least 50% of those afflicted will seek medical attention, which translates to 26,700 patients. This will most certainly overwhelm the ED at OPMC with their maximum bed capacity of 48 (when considering express and hall beds). Once the system is strained there, and your acute care centers also begin to close due to employee absenteeism and the lack of supplies available, the EMS system can expect to become overwhelmed almost immediately (Leigh Wilsey, personal communications, March 5, 2008).

Table top meetings and review of policies are a positive starting point for composing a plan. Including the review of policies for familiarity as a portion of a formal training plan seems prudent. These reviews certainly seem to fall short of any valuable evaluation of the personnel's ability to execute the plan. From information gathered from the survey instrument it would appear that policy review and discussions are the most common forms of training on this topic used by fire and rescue departments. This is certainly not how we learn the skills that we use everyday in providing our traditional services. Training for an infrequent event creates perishable skills. To maintain an acceptable performance level, there must be a continued process of exercise, review and revision.

When even beginning to consider the preparation needed for a pandemic event, it can quickly become overwhelming. But the fact that it is a tremendous task for local departments to endure will not slow the event when it occurs. All of the experts seem to agree, it is not if but when. Knowing this, we can not allow the enormity of the job to obstruct our efforts for preparation.

Recommendations

In order to develop both CCFR's level of preparedness as it pertains to handling a pandemic event and their capability to carry out any established plan, the following suggestions are made:

- Form an ad hoc committee charged with the purpose of creating both an all-hazards and adjunct pandemic influenza COOP as modeled by FEMA. Items to be included in the COOP will be:
    - Vendor contingency plans
    - Decision matrix specific to pandemic phases as identified by WHO
    - Consideration of the IAFF's Influenza checklist
    - Special contracts that may need to be established with private sector partners (such as food, housing for quarantined employees, etc)
    - Alternate protocols and policies as provided by the EMS committee
- Schedule a series of meetings with the CCHD Preparedness Coordinator, CCFR Medical Director, member(s) of the EMS committee, and CCFR Union Local 3362 representative(s) for the express purpose of forming a unified vision of the critical functions and services that will be maintained by CCFR during a declared emergency pandemic event
- Use the information gathered at the above meetings to consider forming policies addressing the following:
    - Alternative phone triage system

    - Creation of “Flu units” as to not contaminate the entire fleet
    - Alternative transport procedures
    - Employee monitoring and evaluation guidelines
    - Quarantine policies for exposed employees
    - Formal emergency reduction in staffing procedures
- Review of the current Infection Control Plan and revise as needed
- Continued vigilance with the flu and immunization program
- Once the COOP is created, establish a formal training schedule that will include all personnel, will be documented and serve as a tool for review and revision

References

Altshuler, L. H. (2006). *The bird-flu primer.* New York: Sterling and Ross Publishers.

Baron, R. A., Branscombe, N. R., & Byrne, D. (2008). Social psychology. Boston, MA: Pearson

Barry, J. M. (2005). *The great influenza.* New York: Penguin Books.

Centers for Disease Control. (2008). CDC influenza pandemic operational plan. Retrieved from http://www.cdc.gov/flu/pandemic/OPLAN/BaseOPLAN.pdf

Clay County Fire/Rescue Professionals. (2007). Union Contract. Green Cove Springs, FL: Clay County Fire/Rescue Professionals

Clay County Health Department. (2006). Emergency Operations Plan; Infectious disease outbreak annex. Green Cove Springs, FL: Clay County Health Department.

Federal Emergency Management Agency. (2004, July). Homeland security issues COOP guidance for federal departments and agencies. Retrieved February 28, 2008, from http://www.fema.gov/news/newsrelease.fema?id=12846

Federal Emergency Management Agency. (2006). Pandemic influenza continuity of operations (COOP) annex template instructions. Retrieved March 25, 2008, from http://www.fema.gov/pdf/government/coop/influenza_coop_annex.pdf

Federal Emergency Management Agency. (2007). Strategic Plan. Retrieved January 6, 2008, from http://www.fema.gov/pdf/library/in_brief-fema_strat_plan_fy03-08.pdf

Florida Department of Transportation. (2003, March). Florida's fly-in communities. Retrieved December 12, 2007, from http://www.dot.state.fl.us/Aviation/Publications/Airparks2003.pdf

Homeland Security Council. (2006). National strategy for pandemic influenza implementation plan. Retrieved December 12, 2008, from www.whitehouse.gov/homeland/nspi_implementation.pdf

International Association of Fire Fighters. (2006, January). IAFF influenza pandemic checklist. Retrieved February 29, 2008, from http://www.iaff.org/ET/PandemicFlu/media/IAFFpandemicfluchecklist.pdf

Keystone Airpark Authority. (n.d.) About us. Retrieved December 12, 2007, from http://www.keystoneairport.com/id17.htm

Physicians Desk Reference. (1995). Medical dictionary. Montvale, NJ: Medical Economics.

Reynolds Park Yacht Center. (2005). Future development plans. Retrieved December 12, 2007, from http://www.rpyc.info/about.html

South Central Center for Public Health Preparedness. (2008, March). The reasons for and key elements of continuity of operations planning. Retrieved March 27, 2008 (via live webcast), from www.adph.org/alphtn

U.S. Census Bureau. (2008). State and county quick facts. Retrieved, January 12, 2008, from http://quickfacts.census.gov/qfd/states/12/12019.html

U.S. Department of Health and Human Services. (n.d.). Pandemic flu: General information. Retrieved January 13, 2008, from http://www.pandemicflu.gov/index.html

U. S. Department of Homeland Security. (2006). Pandemic influenza preparedness, response, and recovery guide for critical infrastructure and key resources. Retrieved November 11, 2007, from http://www.pandemicflu.gov/pan/pdf/CIKRpandemicInfluenzaGuide.pdf

U.S. Department of State. (2006). Avian influenza action group to coordinate U.S. international effort. Retrieved February 12, 2008, from http://www.state.gov/r/pa/prs/ps/2006/65770.htm

United States Fire Administration. (2005). Executive fire officer program; Operational policies and procedures. Retrieved December 13, 2007, from http://www.usfa.dhs.gov/downloads/pdf/efop-guidelines.pdf

United States Fire Administration. (2007a). Executive analysis of fire service operations in emergency management EAFSOEM-student manual (2nd ed.). Emmitsburg, MD: United States Fire Administration.

United States Fire Administration. (2007b). Strategic plan. Retrieved January 6, 2008, from http://www.usfa.dhs.gov/about/strategic/

World Health Organization. (2005, March). Pandemic influenza preparedness planning. Retrieved February 11, 2008, from http://www.euro.who.int/Document/E86578.pdf

Appendix A: CCHD Interview Notes

March 5, 2008 Interview; Clay County Health Department, Green Cove Springs, FL
Leigh Wilsey, Preparedness Coordinator
Connie Wolfe, Epidemiologist

In case of a true pandemic event, can we expect to have vaccine available?

Wilsey – No. It is not expected that we will receive any significant amount from the national stockpile. Vaccine will be sent to large cities first. The vaccine will come in at such a small and sporadic rate that it will not reach mass distribution rate.

Is the FD included in your vaccine POD plan?

Wilsey – Not really (because of the answer to question #1). In the case of pandemic flu- we don't expect to be conducting mass vaccinations.

Wolfe – If there was a small pox scare, or anthrax, we would set up "drive through" PODs for mass vaccination. In this case, we may call upon the FD to assist, but there has been no real conversations on it yet.

What are the POD sites and what is the plan for directing people to the sites? (not considering the use of fire stations for service delivery are you?)

Wilsey – Again, with pandemic flu we have not established POD sites. The plan for informing the citizens of the situation is through flyers, PSA's on radio and TV and through news papers. The information will be more towards social distancing and home care of the ill.

Wofle – If we were to set up POD sites, the only one discussed in Clay County at this time is the Fair Grounds.

In the plan, it talks about 50% to 75% of Clay County's population possibly being effected, but also talks about a 15% - 35% attack rate- what is the difference?

Wolfe – Actually you can expect 30% to 40% of your population to become ill with the pandemic influenza. Of those that become ill, up to 50% - 75% will seek medical care. 50% will be treated on an outpatient bases. We can expect 80-100 thousand citizens will become ill- it will occur in 4-6 month waves.

Appendix A: CCHD Interview Notes

Number of expected deaths?

Wolfe – 15%-20% of those infected

What are some of the alternate treatment sites- Vencor for vents?

Wilsey – we have discussed alternative influenza treatment sites, but we have not secured any facilities. Even if we could secure alternate facilities we would have no staff to man them. We can not count on other physicians or nurses because it is anticipated that the local physician's offices and acute care centers will close quickly due to staff absenteeism and lack of supplies.

Wilsey – Vencor (the respiratory specialty hospital) can not be counted on to treat influenza patients. Because of the compromise that their patients are already in, they will not want to allow influenza into the facility.

It is understood that there can be an absentee rate as high as 40% due to direct illness or illness of family members, but does your plan or any internal policies address your staffs reluctance to deliver services or give care due to fear of becoming ill?

Wilsey –There is nothing specifically mentioned about absenteeism due to fear- but we know it will happen. This is calculated into the anticipated 40% absenteeism rate. To keep as many employees coming to work as possible, you should have an aggressive infection control plan. You have to have this already in place and practiced so that the staff understands it and as faith in it. (expounded on this quite a bit)

Do you have sufficient stock piles of PPE for the expected waves? If there is a pandemic, can we expect vendors to keep up with demand of PPE

Wilsey – No. Like the vaccine, if there is a true pandemic outbreak you can expect vendors to be overwhelmed. Nation stockpile supplies will go to larger cities. We can expect to receive some, but not enough to make a real difference. We do not have the budget to maintain a large stockpile under normal circumstances. We would probably run out ourselves within a few weeks.

Appendix A: CCHD Interview Notes

When it comes to vaccinations, can we expect that in addition to the obvious target groups of fire/police/rescue, that their families would also be included in the early delivery of prophalaxis as to diminish the chance of absenteeism due to family illness?

(Answered with question 1- do not expect large amounts of vaccine)

Has there been any discussion during your training exercises for EMS to staff "Flu units" that would respond to calls triaged through the communications center?

Wilsey – No, but this sounds like a good idea to inspire confidence in the community and to give out information to the public on home care.

Both Wolfe and Wilsey spoke extensively about the fact that the FD protocols may have to be adjusted – the shift should be from our normal transport of patients to a possible phone triage system.

Wilsey – The bottom line is we don't want you to transport influenza patients because there will be no where to take them. Home care is the focus. Hospitals will be changing their protocols to keep influenza patients out of their facilities (like tent triage in the parking lots).

Wolfe – there may have to be a paradigm shift as to what the public expects from all of the health care services including EMS- your employees may be put in the position where they have to tell people we just can't take you to the hospital. Employees should be prepared for this because the public will be in a panic.

Has there been any reporting system set up for EMS to report potential outbreak areas where patients are not necessarily transported to a hospital or an alternate flu treatment site?

Wilsey – We have discussed this, and in fact, the dispatcher center is supposed to call us now when there are a noted number of the same chief complaints coming in from a given area – but it doesn't happen.

Wolfe – If there is a pandemic – part of our job (epidemiology) will be to call the dispatch center every day and track how many "flu related" calls they have received and where they may be.

There was some discussion among the three of us – that counting on the communications personnel "recall" at the end of the day will not be reliable – We discussed perhaps creating a dispatch code that can be tracked by the Computer Automated Dispatch (CAD) so that a report could be printed at the end of the day.

Appendix A: CCHD Interview Notes

It was noted in the plan that there was discussion on not closing schools unless absolutely necessary. Discuss a bit the plan for social distancing as a tool to reduce the spread of the pandemic flu.

Wilsey – It absolutely will depend on the impact of the disease to our area. Extensive education will be provided to the community to stay home if you are ill. Stay away from others that are ill. Hand washing, hygiene, and other infection control measures will be the focus. If we are hit with a severe outbreak, we will of course have to close schools. But as much as possible- we need to keep essential services running. If you close schools, parents can't go to work. (Wilsey also said another side that is unrelated to the pandemic itself is that for some of these children, especially of elementary age- the 8 hours they are in school is the only safe 8 hours they have of the day, and the 1 meal they receive at lunch is their only meal- she says these are facts that weigh heavy on their mind when closing schools).

How does the HD plan on accounting for transient populations during a pandemic outbreak?

Wolfe – This is a tough subject- because officially, we (the two on staff epidemiologist) are to track every patient in Clay County who contracts the influenza. So, if we are aware of a homeless person who has become ill, we are to go out and make contact with them. Realistically, with the numbers estimated to fall ill if there is a pandemic outbreak, the two of us will become overwhelmed very quickly – so that population will probably fall short of tracking.

The "Federal Guidance to assist states in improving state level pandemic influenza operating plans" states "state governments must have robust operating plans that have been sufficiently tested and improved by staff who understand and perform proficiently their supporting activities" – based on the exercises carried out within Clay County, do you feel that this has happened?

Wolfe and Wisley – No. The exercise brought together departments.

Wilsey – The table top exercise last year involved each department replying to a list of questions that was specifically focused on their agency. Did it serve as any real comprehensive planning tool- no.

Appendix B: CCFR Interview Notes

March 13, 2008 Interview; Clay County Department of Public Safety, Green Cove Springs, FL
Frank Ennist, Fire Chief
Allen Blocker, Deputy Chief

What discussion has there been about using FD personnel at vaccine POD?

Chief Ennist – None. In a pandemic we simply will not have the personnel to commit to any other departments.

Has there been discussion about using fire stations?

Ennist – Absolutely not

What is the plan for increased security at the stations when the initial pandemic wave hits and it becomes obvious to the general public that there is going to be a strain on the medical systems ability to care for all of the sick?

Blocker – There really hasn't been any discussion as to this- it hasn't been a distinct consideration.

At what point (pandemic level) can we expect the fire stations to be closed to the public?

Blocker – same as above answer

Has there been discussion with the medical director about implementing alternate transport SOPs during a pandemic event?

Blocker – Some informal discussion – but nothing serious. It is expected that we will need to alter policies. (He encouraged me to contact Dr. Gianas directly).

Has there been discussion with the medical director about having dispatch triage calls for "non-essential" calls for service?

Blocker – same as above answer

Appendix B: CCFR Interview Notes

Has there been discussion with the medical director about placing "flu units" in service and allowing transport to alternate flu treatment sites rather than to EDs?

Ennist and Blocker – No.

Blocker – this is not a bad idea except that we barely have any "spare" units that we could use for this.

Ennist – recommends that we perhaps look at making arrangements with other agencies, like the Daytona speedway, who has transport units on their grounds, and certainly wouldn't be using them in a time of declared emergency (due to events canceling for social distancing).

According to most accepted figures, it can be expected that as much as 40% of any given work force may be absent at the peak of the first pandemic wave. Is there a plan in place for alternate shifts and scheduling? What is the plan?

Blocker – Yes- we would simply go to staffing reductions, whether that be reducing minimum manpower, closing specific units, or worst case scenario go to a two shift system.

(Follow up question was asked as to what the policy was on the reduction of staffing- it was obvious a concept that he and Chief Ennist felt comfortable with, but what if this had to be executed by other staff members).

Blocker- If there were unexpected absences, I expect that they would be filled as any other day. He posed the question to me- "you are a Battalion Chief, would you know how to fill tomorrows shift if half your manpower called out?" I expressed that I would for that day, mandatory overtime, but what if this occurs every day for 6 weeks. Do you have confidence that in your absence all of the staff below you would be able to carry out the plan that you anticipate employing without any sort of direction?

Blocker and Ennist agreed that they probably could not.

This spawned extensive conversation about having other contingent policies such as co-worker monitoring for infection, SOPs on closing the stations to the public, making decisions outside of our normal policies and procedures.

Appendix B: CCFR Interview Notes

(Cont'd) Blocker expressed that he felt most officers would do fine- you handle situations as they come. I expressed that they do a good job of handling situations as they come because it's what they do everyday- but under extraordinary circumstances, with no formal guidance would they feel competent in making difficult decisions about circumstances that they have no previous experience with. Chief Blocker agreed that formal guidance was probably needed.

Has there been any consideration given to how many of the employees could be absent due to illness of other family members (ie- single parents, employees who are sole providers for elderly parents, etc….)?

Blocker – No. This would probably be good information to have in conjunction with the alternate staffing plan

Has there been any consideration in the plan for employees who are absent due to reluctance to carry out their duties because of fear of becoming infected themselves?

Blocker – No. States his instinct answer would be to handle it as we do other occurrences of AWOL employees but admits some additional thought may have to be given to this. (Appeared to seem as though there hadn't really been a lot of thought as to employees just simply refusing to come to work).

The pandemic can be expected to move in 3-4 week waves and can last from 4-6 months. Do we have sufficient PPE for our personnel to sustain such an event?

Blocker – No. I know that we have some supplies (several cases) of masks. Believe that there is a supply on the MCI trailer and on the Haz-Mat truck.

(follow-up called to Capt Philemon – in charge of the MCI trailer – absolutely no masks on truck; Called Capt Hildum – in charge of HazMat trailer – 2 cases of masks on truck)

What about other vendor contracts such as for drinking water, food, etc…?

Blocker – Once an emergency is declared, our purchasing policy is set aside and we can purchase supplies without a vendor contract.

Explained to Chief Blocker that the suppliers are going to be experiencing the pandemic as well, and that food suppliers, truck drivers, etc may also be experiencing a 40% absenteeism rate. If you wait until the emergency is actually declared, supplies may no longer be available.

Appendix B: CCFR Interview Notes

(Cont'd) Blocker – This had actually not been previously considered. Agreed that this needs to be explored, especially if we expect crews to be kept at work for extended periods of times or under quarantine conditions.

The "Federal Guidance to assist states in improving state level pandemic influenza operating plans" states "state governments must have robust operating plans that have been sufficiently tested and improved by staff who understand and perform proficiently their supporting activities" – based on the exercises carried out within Clay County, do you feel that this has happened?

Ennist- No. He states that he feels the "table top" exercise was ran successfully in that it went well, but that he did not feel it served as any real planning and preparedness tool

Do you feel that Clay County Fire/Rescue personnel would be properly prepared to carry out their supporting activities if a pandemic event were to occur today?

Ennist and Blocker – No.

Appendix C: Medical Director Interview Notes

March 30, 2008 Interview; Conducted by Phone (Dr. Gianas at Shands at Starke ED)
Dr. Pete Gianas, Medical Director

The Interview began by reviewing the information from the CCHD and FD interviews.

Considering the CCHD's recommendation on phone triaging patients and encouraging home care over transport, has there been any consideration in changing the response and transport protocols?

Gianas – No. States he does not feel comfortable having communications personnel doing any type of triage other than what is provided in the Emergency Medical Dispatch (EMD) protocol because they are not necessarily medical personnel.

Follow up question- based on the shear number of calls, do you not think we will be forced to do some phone triage and be forced to decline services for some "non-essential" transports?

Gianas – We may be willing to open additional phone lines through the EOC that people can call if they think they have the flu – and man these lines with physicians, PA's and nurses so that they can hand out medical advice

Follow up question – the CCHD has recommended that we handle flu patients with information on home care and discourage sending our people out if not absolutely necessary because they will in turn be exposed. CCHD also discourages transport because ultimately there will be no facilities (flu treatment sites) to take them to. Also, would you consider the use of "flu units" to prevent the contamination of all crews and units?

Gianas – I do not anticipate declining any call for service. We will still handle calls as we always do on a "First come, first served" basis. I don't think that we can do anything else.

Follow up question – Even if there is a declaration of emergency you have no plan to alter response or transport protocols even realizing that the CCHD anticipates that it will take less than 24 hours after an outbreak for our service to be nearly debilitated due to calls for service?

Gianas – it is certainly something that we need to examine perhaps through the EMS committee. There could be some consideration given to altering transport protocols, but after the patient has been evaluated by one of our personnel. He agrees that this is an intricate subject and that we are certainly in need of planning.

Appendix D: Survey Results

Responding to Pandemic Events

1. Please provide the following information:

	Response Percent	Response Count
Name:	**100.0%**	53
Company:	**100.0%**	53
Address:	**100.0%**	53
Address 2:	7.5%	4
City/Town:	**100.0%**	53
State:	**100.0%**	53
ZIP/Postal Code:	**100.0%**	53
Country:	**100.0%**	53
Email Address:	98.1%	52
Phone Number:	96.2%	51
	answered question	**53**
	skipped question	**0**

2. The total population served by our department is:

	Response Percent	Response Count
Under 100,000	**75.5%**	40
100,000 to 250,000	11.3%	6
250,000 to 500,000	3.8%	2
Over 500,000	9.4%	5
	answered question	**53**
	skipped question	**0**

Appendix D: Survey Results

3. Our department currently has an emergency operations plan in place to deal with a pandemic event.

	Response Percent	Response Count
Yes	47.2%	25
No	52.8%	28
answered question		53
skipped question		0

4. Our department considered other health agency recommendations on first responder preparedness when developing our emergency operations plan for pandemic events.

	Response Percent	Response Count
Yes	94.7%	18
No	5.3%	1
answered question		19
skipped question		34

5. If you answered question 1 "yes" please list the other agencies referenced in your plan.

	Response Count
	18
answered question	18
skipped question	35

Appendix D: Survey Results

6. Our department's plan adequately provides for employees who may be directly effected by the pandemic event (such as an illness to themselves or an immediate family member).

	Response Percent	Response Count
Yes	78.9%	15
No	21.1%	4
answered question		19
skipped question		34

7. There have been examples in the past of responders abandoning their departmental responsibilities when faced with catastrophic events. Our department's policy adequately considers our responders willingness to carry out their duties and the emergency operations plan during a pandemic event.

	Response Percent	Response Count
Yes	89.5%	17
No	10.5%	2
answered question		19
skipped question		34

8. Our department has conducted training with other agencies and partners (such as the health department) to evaluate our ability to execute our existing emergency operations plan regarding pandemic events.

	Response Percent	Response Count
Yes	78.9%	15
No	21.1%	4
answered question		19
skipped question		34

Appendix D: Survey Results

9. If you answered question 5 "Yes", please describe the training.

	Response Count
	15
answered question	**15**
skipped question	**38**

10. Our department has conducted internal training with our responders to evaluate their ability to execute our existing emergency operations plan regarding pandemic events.

	Response Percent	Response Count
Yes	36.8%	7
No	**63.2%**	12
answered question		**19**
skipped question		**34**

11. If you answered question 7 "Yes", please describe the training.

	Response Count
	7
answered question	**7**
skipped question	**46**

Appendix D: Survey Results

	Company:	Have an EOP		Considered health agencies	
		Yes	No	Yes	No
1	Alachua County Emergency Management	Yes		Yes	
2	Little Rock Fire Department	Yes		Yes	
3	McHenry Township Fire Protection District	Yes		Yes	
4	Leawood Fire Dept.	Yes		Yes	
5	Tampa Fire Rescue	Yes		Yes	
6	Longmont Fire Department	Yes		Yes	
7	Reedy Creek Emergency Services	Yes			
8	Stuart Fire Rescue	Yes		Yes	
9	Indian River County Fire Rescue	Yes		Yes	
10	Nassau County Fire rescue	Yes		Yes	
11	Seabrook Fire Dept	Yes		Yes	
12	Clermont Fire Department	Yes			
13	Cohoes Fire Department	Yes		Yes	
14	Coral Gables Fire Department	Yes			
15	Sugar Land Fire Department	Yes		Yes	
16	Salt River Fire Department	Yes		Yes	
17	Fort Lauderdale Fire Rescue	Yes			
18	Delaware Fire Department	Yes		Yes	
19	North Lauderdale Fire Rescue	Yes		Yes	
20	City of Melbourne Fire Department	Yes			
21	White River Township Fire Depart	Yes		Yes	
22	Orange County Fire Authority	Yes		Yes	
23	Kingman Fire Department	Yes			No
24	VILLAGE OF KEY BISCAYNE FIRE RESCUE	Yes			
25	Macclenny Fire/Rescue	Yes		Yes	

Appendix D: Survey Results

	If "yes" please list the agencies Open-Ended Response
1	Alachua County Public Health Department
2	Arkansas Dept of Health, Emergency Management(City, State, County) EMS provider, Hospital assoc., Law enforcement
3	County Plan, Medical system plan, CDC
4	CDC, Local County Health Dept.
5	Florida State plan and Hillsborough County Health Department
6	Boulder County Health Department
7	
8	CDC
9	EMS, Health Department, Environmental
10	County/State Health Department; Emergency Mangement
11	NH Dept Health and Human Services,CDC,NH EMS, Area hospitals
12	
13	New York State Dept. of Health, Albany County Dept. of Health
14	
15	Texas Department of Health Fort Bend County Office of Emergency Management Fort Bend County Department of Health and Human Services Centers for Disease Control Sugar Land Health Authority
16	Public Health Police Department Department of Corrections
17	
18	County Fire Chiefs Assn. County EMA County Health Department
19	Broward (County) Emergency Management Agency, State of Florida, CDC.
20	
21	Health Department-Local hospitals
22	Orange County EMSA Orange County Department of Health US Department of Health
23	
24	
25	Lead Baker County Health Depat., Ed Fraser Hospital, Baker VFD, Baker EMS, Sheriff's Office

Appendix D: Survey Results

	Training with other agencies		Describe training.
1	Yes	No	Open-Ended Response
2	Yes		Four different tabletop exercises specifically related to Pandemic Flu.
3	Yes		Seminars
4	Yes		County-wide drill for drug distribution.
5		No	Presentation by local health dept. reps as well as physician input.
6	Yes		Surge Hospital set up
7			
8	Yes		Not so much training, as meetings conducted with affected parties, i.e. health dept.,. local hospitals, etc
9	Yes		Table Top training
10	Yes		Computer Generated training put together by Florida State University. (2 sessions)
11		No	
12			
13	Yes		A mass inoculation drill was conducted for employees using flu shots to test the plan
14			
15		No	
16	Yes		Innoculation site drill
17			
18		No	
19	Yes		Classroom review of existing plans. Peer review of plans.
20			
21	Yes		Table top exercise
22	Yes		Table top excercises MCI exercises
23	Yes		Local, County and State agencies worked together to formulate the plans at each government level. The plan was exercised twice using a table top event.
24			
25	Yes		Drive in pod at fair ground, system was even tested by sending two on-duty fire crews into it demanding shoots and meds

Appendix D: Survey Results

	Internal training		Describe training. Open-Ended Response
1	Yes	No	
2		No	
3	Yes	No	Review of policies.
4		No	
5		No	
6		No	
7		No	
8		No	
9		No	
10	Yes		Tabletop exercises mostly to determine familiarity with roles/responsibilities
11			
12	Yes		Lecture and hands on traing at the above drill
13			
14		No	
15	Yes		Innoculation site drill
16			
17		No	
18		No	
19			
20		No	
21	Yes		Inservice Table top
22	Yes		The policy and procedures were reviewed. The responders were included in the table top exercise program to consider the aspects of their response.
23			
24	Yes		class room dealing with SOP's and actions to be taken
25			