

Everybody Was Bird Flu Fighting

Harvey's Wallbangers

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Introduction

Influenza is a highly infectious disease of mammals and birds that causes seasonal global epidemics in human populations resulting in thousands of deaths. Every 25-40 years antigenic shifts in the sequence of an influenza virus produce a strain that is novel to the human immune system and highly virulent. In the absence of natural or acquired immunity these new strains can rapidly infect vast numbers of people, causing massive casualties while crippling economies, disrupting governments, and overwhelming health care systems. In the 1918 influenza pandemic it is estimated that as many as 100 million individuals fell victim to the deadly virus. Many of these victims were young, healthy adults whose naïve immune systems produced a lethal overreaction to the new virus.

An effective and decisive response to the next influenza pandemic will require strong public health leaders at the local level. Such leaders will need to excel in crisis situations and possess diagnostic and investigative skills related to the essential public health function of assessment. Local public health leadership must also develop detailed action plans and foster community partnerships to achieve the cross-agency coordination efforts required to prevent unnecessary morbidity and mortality when a new influenza strain arises.

Background

Stickenmud County Health Department (SCHD) is located in western Michigan and serves approximately 600,000 residents who take the county's motto, "Settle in and stay awhile" very seriously. Jack A. D'Aisical was a public health "lifer" who had been promoted to the health officer position in 1999 as the most senior employee in the health department. SCHD employees enjoyed working for him, and he was very good at responding to current public health needs in Stickenmud County. Since Mr. D'Aisical became health officer, the rate of teen pregnancies in Stickenmud County decreased by 15% and the rates of chlamydia and gonorrhea infection were dramatically reduced. Awareness of the county's childhood obesity problem prompted Jack to implement physical activity and healthy eating initiatives throughout the county. Most recently, Mr. D'Aisical's attention had been focused on 2004 statistics indicating that Stickenmud had the highest infant mortality in Michigan and the greatest disparity in the rate of infant survival when comparing Caucasians and African Americans.

As Jack devoted himself to planning and strategizing how to reduce Stickenmud's infant mortality rate, ominous news reports began to trickle out of China and Vietnam about a

new avian influenza virus (also known as H5N1 influenza and bird flu) that was infecting humans and causing deadly disease in a high percentage of them. In January, 2004 reports out of Vietnam indicated that H5N1 was the cause of severe respiratory disease with high fatality in humans. By mid-March 2004, 35 cases of avian influenza had been identified in humans in Vietnam and Thailand. Of the 35 cases, 24 were fatal. By the end of 2004, the number of avian influenza cases in Vietnam and Thailand rose to 46, with 32 fatalities. Fortunately the virus was not efficiently transmitted from human to human, but infectious disease experts warned that the virus could acquire this functionality at any moment. Although human cases were geographically isolated in central Asia, the threat of the next influenza pandemic prompted the United States congress, in concert with the National Institutes of Health, to allocate \$7.1 billion in emergency funding for counties and communities to plan and prepare. As the president stated in his approval of the funding, "If we wait for a pandemic to appear, it will be too late to prepare, and one day many lives could be needlessly lost because we failed to act today."

Jack had been around public health long enough to remember hundreds of these "disease of the month" hysterias, as he liked to call them. A new exotic disease would be highlighted in the media, the public would soon believe their death from this scourge was imminent, and irresponsible public health practitioners would allocate resources and time to unwarranted interventions until the disease wasn't popular any more and its threat faded from public memory. Meanwhile the real work of public health would be neglected. Unfortunately, from Jack's perspective on public health priorities, this threat would not go away so easily.

Although furious about the federal government's mandate to plan for a disease that he was convinced would never reach U.S. soil (certainly not Stickenmud's soggy soil), Jack found a way to access the federal funding while accomplishing real public health work. He created a new Epidemiology position that would be equally divided between epidemiology and emergency preparedness planning efforts with the full intention of using this person to focus primarily on his infant mortality project. And maybe, if time allowed, the new person could also work on assessing pandemic influenza planning needs within the community to satisfy the stipulations of the pandemic influenza funding. A new Masters of Public Health (MPH) graduate, Anne Tissipate, was the lucky candidate who was hired.

A self-motivated and diligent worker, Anne Tissipate jumped headlong into her new position. Although life in Stickenmud was a little slow at times, the people were extremely friendly and she found her work exhilarating. Mr. D'Aisical took an extended vacation shortly after Anne started without leaving her any clear description of his expectations or her daily responsibilities. In the absence of any direct supervision Anne tailored her workdays around the conditions of her funding stream and the pandemic preparedness knowledge she had gained in the research for her graduate thesis entitled "Bird Flu Fighting-How to Be Fast as Lightning."

Within two months of her start date in January of 2007, Anne had laid out an impressive pandemic influenza response plan and received positive feedback from the state office of public health preparedness. Anne further realized that effective pandemic influenza planning and response needed to be a community effort and had begun reaching out to local Stickenmud stakeholders. An especially promising community collaborator was Penny Henny, an infection control coordinator at Codependent Hospital. Penny had become increasingly concerned about pandemic influenza and called Anne nearly every time a new case was diagnosed in the world. Penny was very worried that Stickenmud was going to be “ground zero” for the influenza pandemic and proposed forming a county task force to stage collaborative pandemic planning efforts. Anne thought this was an excellent idea and immediately got herself on the agenda for the next SCHD planning meeting to make a proposal.

On the day of the meeting Anne was pleasantly surprised to see Mr. D’Aisical in the conference room. Jack’s vacation and subsequent devotion to his newly formed Infant Health Taskforce had pre-empted any meetings to discuss her job responsibilities and performance, but she was sure Jack would appreciate all the work she had done. Further, she knew how important it would be to have the support of health department leadership for community influenza planning efforts. Barely three minutes into her presentation, Mr D’Aisical, with his cheeks noticeably flushed, interrupted her presentation, “Is *this* what you have been doing the last 3 months-action plans for bird flu fighting? You want us to worry about a few sick chickens and the handful of people stupid enough to play with these chickens while we’ve got babies dying right here in Stickenmud County? This health department is not a card carrying member of the ‘Disease of the Month Club.’ A pandemic is not going to happen here, and *if* it does, we’ll respond as we would to any other outbreak. We have real issues to deal with, and that is where you need to devote your time and energy if you want to keep your job!”

Her confidence shaken and humiliated by this exchange, Anne quickly realized that her focus at work was going to drastically change. She was soon enlisted as a key member of the Infant Health Taskforce and told to only do enough pandemic planning to maintain the flow of federal grant money. Her days were filled with statistical analysis of trends and rates, and while she still took the frequent calls from Penny about new human cases of avian influenza occurring around the globe and the alarmingly high death rate in these cases (> 50%), Anne had to sadly inform Penny that the community planning efforts around pandemic influenza were not going to be initiated by the health department at this time.

Event

At 4:50 PM on Thursday, July 12, 2007, Jack A’Daisical’s phone rang. The voice on the other end was frantic. The caller had apparently tried to contact Anne Tissipate, who was out of the office, and then subsequently asked the receptionist to forward her call to the “most important person in the health department.” Pleased with his level of importance but disgruntled about being contacted with what he considered a non-public health matter, Jack tersely promised to contact the appropriate people and address the caller’s

concern. Since it was past quitting time when the conversation ended, Jack jotted himself a note to pass off the reported concern to someone in the morning.

At 10:30 the next morning after a productive Infant Health Taskforce meeting, Jack saw his note from the previous evening and casually contacted Anne. “Don’t spend too much time on this, but a Penny Henny from the hospital called about some foreign kid with the sniffles. Now that I think about it, when you call, talk some sense into her about this situation and then ask if she wants to be on the Infant Health Taskforce.” Somewhat alarmed that Penny had taken the trouble to contact someone else at the health department, Anne placed a call to the hospital. Penny was unavailable so she left a voice message. Anne quickly opened her e-mail for the first time that day and her heart stopped momentarily as she saw Penny’s message from the night before:

Anne,

We just admitted a two year old patient with a positive travel history to Vietnam (95 human cases of avian influenza and 32 deaths as of yesterday). He has respiratory symptoms and a fever. The influenza test is pending. I’m really concerned, and I’m not sure what to do! Please call me as soon as possible.

Penny

“Be happy while you're living, for you're a long time dead.”
Scottish proverb

Deciding not to risk any more delay, Anne, raced to the hospital to speak with Penny in person. She found Penny in a conference room pouring over print-outs from various websites discussing treatment and prevention of avian influenza. “I thought you cats were supposed to be fast as lightning! Your delay is a little bit frightening!” exclaimed an exhausted Penny on the verge of tears. “What took you so long?”

After calming Penny down, Anne was able to ascertain the following details about the patient and his travel history:

- 2 year old-first generation Vietnamese American
- Admitted to Codependent last evening with pneumonia and a fever
- Traveled with family to Vietnam 4 weeks ago
- Exposure history unknown
- Family speaks very little English
- Symptoms seem to be improving

Penny indicated that the patient’s physician did not seem too concerned about the situation but had ordered a rapid influenza test that was being conducted as they spoke. No further isolation or barrier precautions were being taken within the hospital. Anne assured Penny that she was doing a good job and asked her to obtain the rapid test results.

Anne quickly summarized the case in an e-mail, expressing guarded concern about the situation and sent it to Jack A. D’Aisical and her contact at the state health department. She then placed calls to the e-mail recipients to further brief them and get their feedback

and recommendations. As expected, Jack was unimpressed by the details of the case. “Sounds like a medical problem to me-maybe not even that. It’s nice that you want to help, but I don’t think it’s a real public health concern at this point.” Feeling strongly about the need for a public health presence in the situation, Anne gently informed Jack that she planned to further investigate the case and would keep him updated as details emerged. “Don’t bother updating me, but whatever you do, don’t let the media catch wind of this,” Jack reluctantly conceded. Her conversation with the state health department was much more productive. They quickly pulled together a small conference call, and while most of the participants felt the probability of H5N1 infection was minimal, they recommended a thorough interview with the family and e-mailed Anne an appropriate questionnaire with instructions on how to arrange for specimen packaging and shipping to the state laboratory if necessary.

As Anne hung up the phone with the state, she heard footsteps racing down the hall. Penny burst through the door and exclaimed, “The flu test is positive. The flu test is positive.” Anne worked quickly to calm Penny, reassuring her that the rapid test only indicated that a type of influenza was present and could not distinguish if this was an H5N1 virus or a more common strain. Anne then skillfully and confidently collaborated with Penny to craft a detailed plan of action. Penny would immediately consult with the attending physician and obtain an order for the collection of a new clinical specimen for novel influenza testing. She would also arrange for transport of the specimen to the state laboratory and work with the attending physician to obtain Tamiflu prescriptions for the patient, his family and contacts, and for hospital personnel who had direct contact with the patient. Finally, Penny would make sure the patient was moved to a negative pressure room. In the meantime, Anne would arrange for a language-line interpreter to help her communicate with the family and ascertain the patient’s detailed medical and travel history.

Armed with the interview form from the state health department and approximately 20 minutes of clinical interviewing training gleaned from a long forgotten classroom exercise, Anne proceeded to the patient’s room. As she began to administer the questionnaire, Anne quickly realized that her interviewing skills were extremely unpolished and the language barrier was a significant impediment to ascertaining potential sources of exposure. Even open-ended questions where the boy’s mother seemed to speak at length were often translated into short and exceedingly uninformative phrases like, “I don’t remember.” Despite the difficulties, Anne did obtain some crucial information:

- Illness onset was actually 3 weeks ago in Vietnam (1 week after their arrival)
- The boy was hospitalized 4 days ago in Vietnam and remained hospitalized until the family left for the airport to fly back to Stickenmud 2 days ago
- The boy had been quite ill on the plane ride home that involved connections in Hong Kong and Chicago
- The boy and his parents had stayed with family who did own chickens, but the mother did not recall any interactions between her son and the chickens

- The only real animal interaction the mother could recall was with Phu Quoc Duck, the child's favorite character in a Vietnamese cartoon who's real life representation had made an appearance at the local shopping complex

Anne finished interviewing the family at 4:30 pm and quickly called the state health department with the new details and informed them that a sample would be arriving that evening. She was assured that the test would be conducted that evening and results would be available by early morning on Saturday. Additionally, representatives of the state would try to proactively ascertain the flight manifests from the family's different connections. Trying to think as far ahead as possible, Anne attempted to contact Stickenmud Health Department's public relations advisor to brief him on the case and recommend crafting a preliminary press release. Unfortunately the advisor was already out for the weekend. Anne thought it would be wise to update Jack, but decided to heed his advice to leave him out. Instead she proceeded to draft a very cautious and reassuring health alert and faxed it to local physicians and hospitals. At 6:00 pm Penny reported back to Anne. To Anne's dismay, it was evident that Codependent's influenza protocol was outdated because the sample had been taken from an improper anatomical site and was not packaged according to the state laboratory's specifications. Further, the hospital's pharmacy was not stocked with Tamiflu so another source needed to be located. Four hours later, the appropriate sample had finally been obtained, packaged correctly, and shipped while Tamiflu treatment and prophylaxis had been initiated. Anne promised to meet Penny at the hospital in the morning and went home exhausted but unsure if she could sleep with the unknown test outcome weighing on her mind.

Anne awoke late the next morning. The battery on her cell phone had died so the alarm hadn't gone off. Without access to another phone to contact the state lab for the test results, she proceeded to the hospital and met Penny in the patient's room where she was explaining the Tamiflu treatment. Anne was relieved to see the boy in good spirits, his arms tightly wrapped around a stuffed duck and watching cartoons. "Steamboat Phu Quoc Duck!" he squealed as Anne smiled at him. Penny hadn't heard anything about the test results either so Anne placed a call to the state lab. The receptionist seemed surprised that she hadn't been contacted and put her on hold while she queried the results of the novel influenza testing from the computer. As the soothing rhythms of "Everybody was Kung-Fu Fighting" drifted through the phone and calmed her frazzled nerves, Anne's attention was diverted to the television in the corner of the room. "We interrupt this program to bring you breaking news from Codependent Hospital," a somber reporter announced. The screen flashed to a crisp field reporter standing in front of the hospital and Anne's stomach dropped as he announced, "This is Carl Douglas, WXYZ News Reporting. Ladies and gentleman, only the bird flu fighters can save us now. The first case of avian influenza in the United States has been diagnosed in Stickenmud County . . ."

Teachers and Trainer's Guide: Everybody Was Bird Flu Fighting

Pandemic influenza presents a unique challenge to public health practitioners in developing response plans. Pandemic influenza differs from an isolated incident such as an explosion or chemical spill in the fact that every single person in a community will have the potential to be impacted. As such, a timely and effective pandemic influenza response will require coordination and collaboration among multiple agencies to limit morbidity and mortality rates within a community. Thus, a key component of pandemic response planning is the nurturing of relationships between public health and community partners with strong health care agendas. Strong foundations of communication, preparation, and trust between response agencies are essential to protecting the health of our citizens. Local public health is charged with an immense responsibility in limiting the impact of a pandemic and only strong leadership before, during and after a pandemic will carry us through.

Public health departments throughout the country spend countless hours and resources on developing emergency response plans to guide them through crises. When a crisis hits, however, how many of us will grab a binder containing hundreds of pages of emergency protocols as we head out the door to respond? Although such policy development is essential to a streamlined response to any public health emergency, it is the crisis leadership displayed by those carrying out the plan that truly determines the success of the response. One leadership expert defines leadership as the ability to cope with change.¹ In an era where new public health threats are constantly emerging, it is essential that public health organizations devote time toward the development of leaders who can carry the organization and community in times of a public health crisis.

Participant Questions:

1. What core function(s) of public health does this case study address? Essential services?
2. What factors drove decision making in this incident? Discuss the effectiveness of the traditional leadership and crisis leadership of both Jack A. D'Aisical and Anne Tissipate. What distinguishes a traditional leader from a crisis leader?
3. Were there opportunities for Anne Tissipate to "lead up" during this incident?
4. Jack A. D'Aisical's traditional leadership skills focus toward working on building capacity within his own organization. What meta-leadership skills are needed to achieve the cross-agency coordination efforts required to respond to a pandemic influenza outbreak?
5. Who is responsible for leading this public health crisis? What additional community stakeholders should be involved in this case from the outset? What

steps might have been taken in advance of this event to prevent a potential outbreak?

6. Compare and contrast the leadership skills that will be necessary to respond to this event if it is the first human case of H5N1 in the United States versus a false alarm. Would the leadership skills employed in SCHD's response differ for the two scenarios? Explain why or why not and include examples of the leadership traits required.

¹ Kotter, J. P. (2001, December). What leaders really do. *Harvard Business Review*, pp. 3- 11