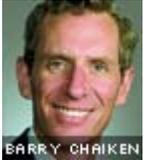# Wisconsin Technology Network
wistechnology.com

Preparing for avian flu with information technology

By Barry Chaiken • 04/17/06 • © WTN Media. For personal use only. No mass duplication or distribution.

Avian flu is the newest threat to our safety. We know its strengths, its weaknesses, where it travels and what it looks like. Yet, with all we know about it, we can't prevent it. We can only prepare for its arrival, and with IT, we can aim to temper its effects.

The Pandemic Influenza Plan prepared by the Department of Health and Human Services describes potential scenarios of pandemic flu that cause significant social and economic disruption. In one scenario modeled on the pandemic of 1918, a severe outbreak would sicken 90 million Americans, generate 45 million outpatient visits, 9.9 million hospitalizations and 1.9 million deaths. Demand for inpatient and intensive care unit beds with ventilation services would increase by more than 25 percent. Armed with this data, HHS is preparing for the deployment of multiple mass casualty units to supplement currently available hospital services.

All hospitals have formulated preparedness plans to address disasters such as earthquakes, blackouts or tornados. Preparation for these short-lived acute events assumes a return to normalcy within a few days: Public utilities will be fixed, the weather will improve, and the ground will stabilize. These plans don't anticipate the slow erosion of a hospital's personnel and supply infrastructure, nor the relentless demand for resource-intensive services such as mechanical ventilation. Even in the most optimistic projections, the flu pandemic is expected to last at least six weeks and possibly re-emerge in one or two additional waves of infection during an 18 to 24 month period.

Hospitals must rethink their disaster preparedness in anticipation of this new chronic catastrophe threat and creatively deploy available IT tools to enable responsive coordination of staff and resources.

Web-Based Solutions

Most hospital disaster plans assume a stable, accessible workforce and basic services including regular delivery of food and medical supplies. But when the influenza pandemic erupts, hospital leaders can't assume these systems will remain intact.

The potential consequences of this threat demand the development of new policies and procedures for hospital management including both staffing and logistics. Revising disaster plans to incorporate and deploy key IT systems is paramount. In the following three areas, Web-based tools can provide critical support during an outbreak.

Staff communication: Hospitals need to develop effective strategies to care for an overload of patients while both clinical and support staffs are below required levels. Large numbers of health care workers may become ill while others will be required to care for family members at home. Some staff may find it difficult to commute to work due to transportation disruptions.

Using available communication vehicles, such as employee Web sites and voice response units, to coordinate available resources will allow the hospital to respond nimbly to evolving threats. Administrative leaders should be able to access these sites remotely to direct the management of limited resources. Most importantly, these sites can inform and educate employees to help communicate what the hospital expects of them during the crisis while also supplementing community education. Educated employees, acting as community leaders, will inevitably share their knowledge with their neighbors.

Supply chain: Linked to suppliers, logistics portals can assist in the equitable distribution of scarce resources that might also be needed at other sites. Just-in-time delivery permits efficient distribution of scarce supplies while also maximizing the utility of each item delivered. In addition, supplier and hospital professionals can work remotely, which will reduce the need for unnecessary travel or person-to-person contact.

While delivery and manufacturing personnel may be negatively impacted by the pandemic, few scenarios expect all economic activity to grind to a halt. It is important that hospitals work proactively with their group purchasing organizations to ensure that their disaster plans accurately reflect the capability of their suppliers. If suppliers do not have preparedness plans that realistically address the impact of a pandemic, then hospitals must demand a revised plan or seek alternative supply sources.

Consumer education: Consumer portals can be used to provide up-to-date, reliable information about the outbreak. This will help reduce inappropriate physician and emergency room visits, helping to reduce strain on caregivers and resources and lessen the likelihood of dangerous person-to-person transmission. Additionally, online patient visits (potentially using Web cameras), patient triage and appointment scheduling leverage limited clinical recourses and extend the reach of the hospital and its staff into the community.

We can't predict the arrival of the avian flu pandemic, but we can attempt to mitigate its effects. Only through focused planning today can hospitals ensure they will be capable of serving their communities and protecting their employees.

To learn more about IT's role in modern healthcare, including its function in an avian flu outbreak, attend the Digital Healthcare Conference.

Barry P. Chaiken, M.D., MPH, is associate chief medical officer at BearingPoint in Boston. This article 1st appeared on 2005-11-28 in HHN Most Wired online site.