

Novel H1N1 and the Use of HIT within the Chicago Department of Public Health

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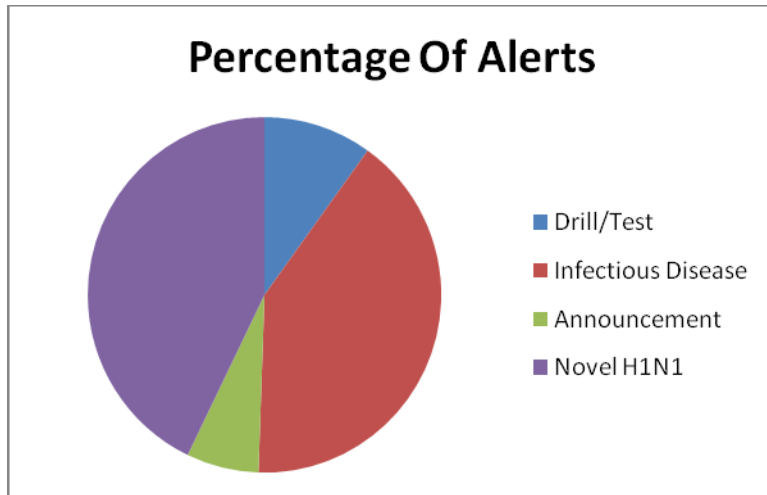
The Chicago Department of Public Health (CDPH) is responsible for the prevention and control of infectious diseases in the city of Chicago, which has a population of over 2.8 million people. This responsibility includes managing the approach and response to novel H1N1 outbreaks. Chicago is one of three cities in the United States that receives direct non-Cities Readiness Initiative¹ funding from the Public Health Emergency Preparedness (PHEP) cooperative agreement from the Department of Health and Human Services' Centers for Disease Control and Prevention (CDC). This has allowed CDPH to implement and maintain a local health alert network.

The Chicago Health Alert Network

The Chicago Health Alert Network (HAN) provides CDPH with the capacity for quick, efficient, reliable, secure, and HIPAA-compliant Web-based communication with CDPH staff, providers of medical care, laboratories, first responders, and other local public health agencies. HAN facilitates CDPH's day-to-day activities, including outbreak detection, investigation, and emergency response. HAN is entirely owned and controlled by CDPH, including the source code and intellectual property; which gives CDPH the ability to rapidly change, modify, or enhance HAN.

HAN acts as a portal for several secure modules and applications. Access is customized to allow individual users to view and/or publish content based on roles or job responsibility. HAN is a mission critical application for CDPH and is hosted outside of Chicago, with similar environments in multiple locations, ensuring that HAN will remain operational during a catastrophic event that could affect the city.

HAN requires users to regularly update their information every 90 days in the role-based directory that ensures CDPH has an up-to-date list of its constituents and their contact information. HAN has the capacity to notify individuals via a variety of mechanisms, including land-line telephone, cellular telephone (voice and/or text), e-mail, pager, Blackberry[®], and SMS. Prior use of HAN was primarily used in regard to Chicago-based infectious disease outbreaks and emergency preparedness drills. This resulted in a main audience of hospital-based providers, primarily infection control, infectious disease and emergency departments, laboratories, and employees of the city of Chicago.



Graph 1: Types of Alerts sent from July 1, 2008 to June 30, 2009²

H1N1 HAN Alert Timeline Summary 2009

On April 22, 2009, CDPH published two cases of swine flu A (H1N1) identified in California via HAN in the CDC’s *Morbidity and Mortality Weekly Report*.

On April 24, 2009, CDC reported five cases of H1N1 (three in California, two in Texas). Based on information received by CDC, CDPH medical directors created a health alert that contained information on infection control and surveillance recommendations for Chicago areas hospitals that was sent via HAN to public health partners. Health alerts sent via HAN are usually targeted to specific groups based on the content of the alerts. During the H1N1 outbreak, alerts were sent to infection control practitioners, infectious disease physicians, emergency room personnel, pediatricians, hospital laboratories, hospital risk management, and patient safety. CDPH personnel involved in the outbreak were also sent the alerts.

From April 24, 2009 to June 12, 2009, 26 health alerts regarding novel H1N1 were sent via HAN. The majority of the alerts were infection control, laboratory, and reporting recommendations for hospital partners. These recommendations were rapidly changing based on information received from CDC and decisions made by CDPH medical staff. Since important information about new and updated recommendations were changing so rapidly (mostly during the initial stages of the outbreak) all alerts were sent to “all preferences”³ to ensure recipients received the alert.

Chicago was particularly hit hard with novel H1N1 cases. As of July 24, 2009, Chicago had 1,577 cases (1,567 confirmed, 10 probable) of novel H1N1.⁴ Most of the alerts were specific to the situation evolving in the city. This included case report and laboratory specimen request forms and instructions for sending specimens to the Illinois Department of Public Health’s state laboratory as well as CDPH contact information (CDCI and medical director contact information), including instructions on how to contact CDPH staff after hours.

Assessment of HAN Use during the Height of H1N1 Response

Although CDPH has a solid relationship with the community hospitals and the Chicago medical community-based hospitals, CDPH recognizes the need for a broader HAN community, especially since the response to H1N1 was managed primarily in non-hospital-based settings (e.g., community clinics, primary care, pediatric, and private provider settings). During the H1N1 outbreak, HAN helped CDPH reach more people in the medical community by using the trusted relationships hospitals have with private providers; therefore, expanding CDPH reach into the medical community. Hopefully, this partnership will provide CDPH more inroads to meet with community-based providers and to begin building networks with this group.

Many of the HAN hospital users indicated they were pleased with the timeliness and content of HAN alerts regarding H1N1. However, CDPH has many community-based providers that may not have internal infrastructure to easily access Internet-based applications; and therefore, would not have the ability to access the HAN. Non-HAN communications to the broader medical community occurred in multiple ways. CDPH has over 700 providers that participate in the federally-funded Vaccines for Children (VFC) program, many of whom are community-based providers. HAN alerts were sent via broadcast fax or e-mail to these providers. Additionally, many of the hospital-based HAN members distributed HAN alerts to their communities using other communication methods. For example, the Children's Memorial Hospital (IL) sent CDPH-HAN alerts to many affiliated community-based partners. By inviting VFC providers to become HAN members, CDPH is hoping to leverage these providers to broaden CDPH's contacts into the community-based provider community.

The novel H1N1 outbreak has confirmed the need for outreach to at-risk populations. According to the National Organization on Disability, 53 percent of people with disabilities do not know whom to contact about emergency plans in their community.⁵ The Cook County (IL) Department of Public Health (CCDPH) and CDPH have undertaken efforts to collaborate with community-based organizations to address the needs of at-risk populations before, during, and after a public health emergency or disaster. An emergency preparedness special needs advisory panel (SNAP)⁶, consisting of agencies serving the needs of at-risk populations, can provide CCDPH and CDPH guidance and expertise on factors to consider for at-risk populations when planning for a public health emergency. As a result of conversations with SNAP members, CDPH and CCDPH have begun inviting SNAP members and other interested agencies to become HAN users. By having SNAP members on the HAN, CDPH can disseminate the critical information to SNAP members and in turn, their networks can be used to further distribute the information. If agencies have more specialized information (including translations of alerts into other languages or population-specific information), CDPH allows the content of HAN alerts to supplement that information. For example, the Chicago Public Schools and Archdiocese of Chicago used information from HAN alerts for communications to parents regarding novel H1N1. This shared responsibility of providing information should result in more accurate and timely information to at-risk populations.

Using technology for simple needs, such as communications, can greatly free the time of staff and provide more leadership time to be devoted to other public health activities. The CDPH-HAN has a program manager (and back-up program manager) that enables the leadership, medical, and epidemiology staff to focus on their respective responses during an outbreak. By

creating a HAN team that other groups can rely on, a HAN alert can be crafted, and the communications and details can be given to the HAN team with an understanding that it will be completed in a timely and accurate fashion. This allows the CDPH leadership team to turn their attention to other matters.

Funding the Chicago HAN and Other Public Health HIT Initiatives

As a final note, the funding of health information technology (HIT) in the public health arena must be addressed as soon as possible in order to make HIT projects sustainable for public health. Many HIT initiatives are often funded by federal or state grants. In the current economic situation, these grants may not provide stable funding for both the implementation and on-going support of HIT. Additionally, grants are often disease or area specific, making enterprise-wide HIT implementations difficult to manage from an administrative stand point. CDPH has already reduced the cost of the HAN by more than 50 percent over the past two years in an effort to make sure the department can support the application, if funding is cut for the support of HAN.

With HAN 2.0, CDPH will be able to track the cost of any particular alert and “access communities⁷” that could support a “charge back” model of shared services. CDPH envisions these communities may be able to, in some cases, provide smaller budget contributions. CDPH is exploring this possibility by inviting valued partners, such as CCDPH, to partners in maintaining HAN.

Although CDPH is excited about the possibility of a shared service model financial model for HAN, many partners, hospitals, and other public health partners are facing serious financial issues and may not be able to immediately contribute financially to the HAN community structure. In that respect, the continued funding of HAN and other HIT projects is an important topic that must be championed by local public health. It is not enough to fund the implementation of HIT projects and then leave public health departments to absorb the costs of maintaining HIT applications. Although Chicago is lucky to have funding for many HIT projects, a better method of funding to address enterprise-wide system implementations and the on-going support costs associated with HIT applications, must be addressed by the funding and public health communities.

References

¹ The City of Chicago is also one for the 100 largest U.S. cities that receives direct funding under the Cities Readiness Initiative.

² This graph does not include “call-downs” most of which are drills for city employees that might be involved in a public Health emergency. For example, CDPH will use the HAN to alert Water Department employees that will assist CDPH employees in moving SNS (Strategic National Stockpile) push packs into packs for individual hospitals.

³ All preferences - when a user creates their profile in the HAN they are asked to list up to six methods of contact. These methods of contact can be phone numbers (cell and/or land line), pager, SMS/text, email address, fax etc. The user is asked to rank their methods of contact in the order in which they would like to be contacted when an alert is sent (outside of email only alerts).

⁴ Numbers provided by the Illinois Department of Public Health via the Illinois Health Alert Network. IDPH Health Alert Network Notification Message ID 5171 “Updated H1N1 Flu (Swine) Illinois Case counts for Friday. July 24, 2009 10 A.M.”

⁵ National Organization on Disability. “Guide on the Special Needs of People with Disabilities for Emergency Managers, Planners & Responders.” (2004).

⁶ For more information about SNAP, please contact Frankie-Marie Shipman at fmshipman@cookcountygov.com or Darnell Thomas at Thomas_darnell@cdph.org.

⁷ Access communities can be imagined as ‘mini-HAN communities’. Although all of the communities use the same technical infrastructure, each community would not see the content or users in different communities.