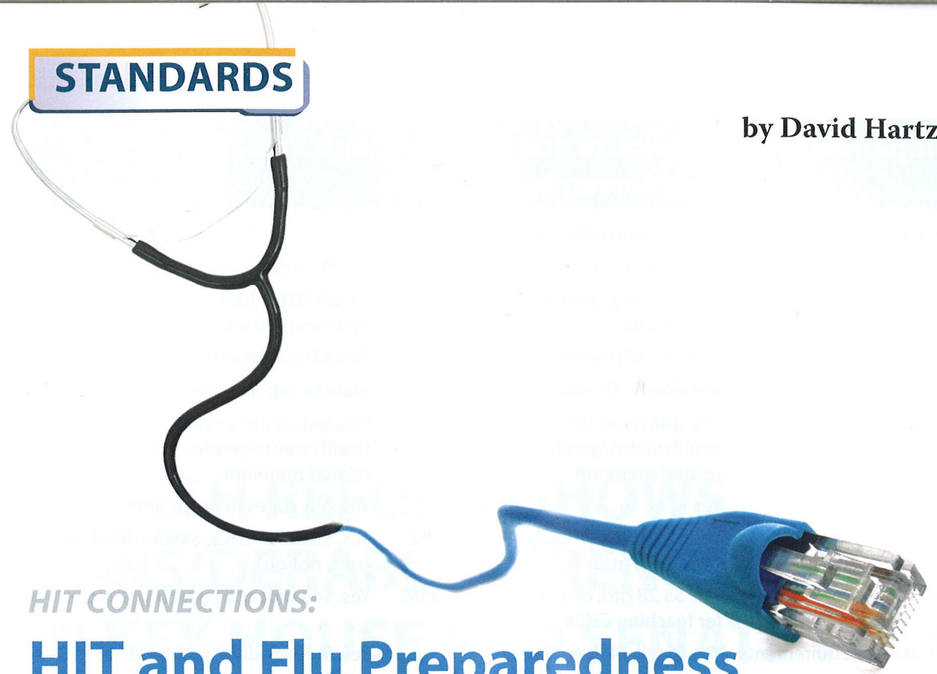
STANDARDS



by David Hartzband, D.Sc.

HIT CONNECTIONS:

HIT and Flu Preparedness

The opportunity for health care improvement at the individual and population level rests with your ability to turn your data into useable information to fight the threat of flu.

There is broad recognition that the H1N1 influenza virus currently represents a major public health threat. The Department of Health and Human Services (HHS) first declared a public health emergency on April 26, 2009. The World Health Organization declared a global flu pandemic on June 11, 2009, and raised the worldwide pandemic alert level for the flu to Phase 6 which signifies worldwide human infection. On July 23, 2009, HHS Secretary Kathleen Sebelius renewed the determination of a public health emergency.

In previous flu seasons (2006-2007, 2007-2008), the number of outpatient visits attributed to influenza-like illness (ILI) peaked in February and were below 1 percent from April through September. However, in the 2008-2009 flu season, ILI-attributed outpatient visits had a small peak in February but began rising in late August and were at 4.4 percent of visits for the week ending September 12, 2009.[1] This is well above the national baseline of 2.4 percent and may indicate that the winter flu season will see even higher percentages.

As flu indicators continue to increase, HHS, the Department of Homeland Security (DHS) and the Centers for Disease Control and Prevention (CDC) are focusing on communities as a strategic part of the response to a flu emergency.[2] Accordingly, community health centers will play an important role in community response and can expect to be busy.

As health centers and other providers work to provide necessary services and response during a flu-based emergency, health information technology functions will be critical for the following activities:

- Surveillance and reporting
- Alerts and information sharing
- Analysis of trends (demographic and clinical)

Surveillance and Reporting

Surveillance is an important part of combating a flu emergency. The Centers for Disease Control and Prevention has specified a set of reportable data, and states and large cities are required to provide aggregate surveillance information weekly. Health centers are often part of state and/or city reporting groups. The CDC analyzes and reports this data on a week-by-week basis. The agency also uses a set of recruited providers called ILINet[3] to conduct surveillance for influenza-like illnesses in collaboration with the state and local health departments and report flu data directly on a weekly basis through a web-based portal. Data reported by ILINet providers, in combination with other influenza surveillance data, provide a state and national view of the flu and ILI. Some health center providers participate in ILINet. Laboratory data, available from the health center's practice management system, EHR or data registries, can provide the necessary information for daily or weekly reporting to the state or the CDC. Aggregate reports can also be used to refine operational planning and to respond to increases in patient demand.

Alerts and Information Sharing

Reports based on selected clinical information can be used to identify specific patients who may be considered at risk for ILI or flu. These reports can be used to identify priorities for immunization, as well as to establish patient and/or provider

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alerts. In addition, the population-based clinical information can be used to provide useful information as part of patient educations on prevention, identification and treatment of flu or flu-like illnesses.

Both HHS and DHS[4] have emphasized information sharing between private and public entities as essential to mitigate the effects of the flu pandemic. A key part of this information sharing is the use of national internet-based systems for health care information exchange. To this end, HHS has supported the development of the National Health Information Network (NHIN) to facilitate large-scale health care information exchange among health care organizations in different geographic regions, and a number of health care information exchanges are already using the NHIN to share patient demographic and clinical data across geographic boundaries.

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Health centers participating in the exchanges can share clinical trends quickly and effectively, and use the information in support of collaborative development of mitigation strategies. More conventional data and document sharing (phone, fax, etc.) can and will also be used for health centers and other health care organizations that are not yet part of these exchanges.

Trend Analysis

Individual health centers may certainly have sufficient data to identify and evaluate trends in their patient populations. However, groups of health centers, i.e., Health Center Controlled Networks (HCCNs) and/or Primary Care Associations (PCAs), that aggregate information from multiple health centers, can provide much more accurate views into community and public health trends in the flu emergency. This is especially true if the HCCN or PCA provides a data extract and warehouse service across the health centers that it serves. Clinical and demographic data at the warehouse level are extracted from the center-specific practice management, EHR or disease registry systems. This data is extracted to the common system and adjusted so that it corresponds to a standard set of definitions and vocabulary. Reports can then be generated based on syndrome profiles to identify and track trends at a broader network or population level.

With the urgency of the flu pandemic, the cycle for data reporting is important. In many settings, data is extracted from individual health center systems on varying cycles that may vary from once a day to once a week or more. The CDC requires only weekly reporting, so longer extract times may not pose a problem for regulatory reporting. Health centers should, however, consider the opportunity for more frequent reporting. If a group of health centers or an HCCN extracts their data on a daily basis, it could run reports on a daily basis and evaluate trend data in this time frame. In at least one case where this has been done, a health center (The Institute for Family Health in New York City) transferred data electronically to the state health department where both epidemiologic and "geospatial" analyses were performed. This allowed the state health department to identify certain disease trends earlier than the CDC's reporting mechanisms allowed. While more frequent extracts and reporting may require tweaking to the system, there is a payoff in earlier identification and tracking that can help address a disease-based emergency like the flu.

The bottom line for health centers is that in order to address H1N1 and other emergent illnesses, they must deploy and maintain an IT infrastructure and operational software that is capable of:

- Generating surveillance data from existing HIT systems and developing reports to meet state and federal requirements as well as for operational and clinical planning.
- Providing alerts, along with prevention and care information, for patients and providers.
- Sharing information, possibly through HCCNs, PCAs or health information exchanges, for public health purposes, including trend analysis and larger-scale mitigation planning.

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1. http://www/cdc.gov/flu/weekly/
2. http://pandemicflu.gov/professional/community/
3. http://www.dhss.mo.gov/Influenza/Sentinel.html
4. Pandemic Influenza: Preparedness, Response and Recovery. A Guide for Critical Infrastructure and Key Resources. Department of Homeland Security. September, 2006

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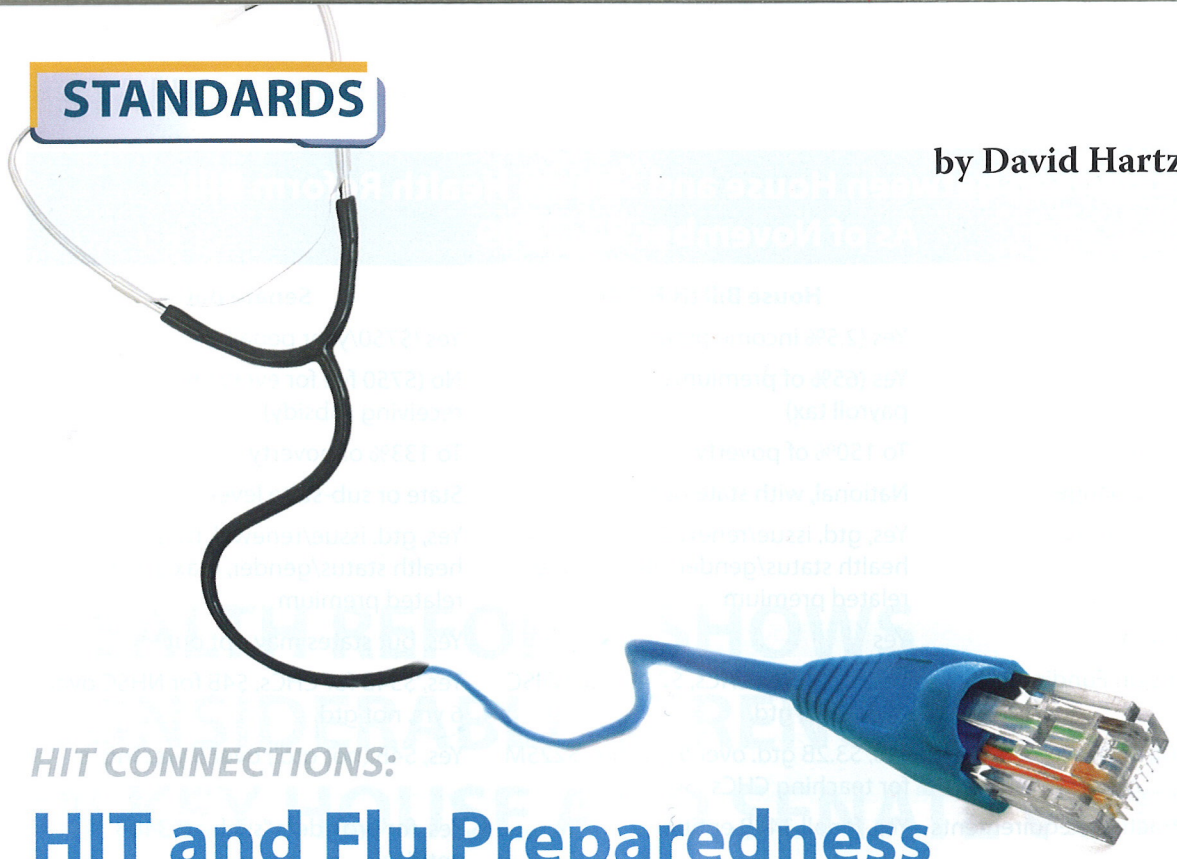

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