

A Brief Analysis of Methods Available to Improve Intel and Information Flow and Sharing between Government and Health Care Providers

**Prepared by Joe Bruno, VP Emergency Management, Redland Strategies, NYC
May 29, 2015**

Access to and notification of incident and threat based intelligence gathered locally, nationally and internationally, including bio threats, disease and illness outbreaks, should be a significant part of the information required by and shared with the emergency management departments of large hospital systems and health care providers.

Is that happening? Not really. Let me explain.

Social Media Monitoring

Skillful social media monitoring allows a hospital or health care system to see an enhanced scope of security threats or incidents, breaking news and to monitor bio or health incidents, outbreaks or trends happening anywhere in the world or in its backyard. Keywords, including specific diseases or health conditions, can be the focus of the social monitoring program along with domestic and international terror threats, social unrest and civil disturbances, workplace violence, active shooter incidents, crime that affects employee safety and other specific intelligence or information desired by the hospital or health care system emergency management departments.

For large scale systems sophisticated enough to utilize the intelligence and information discussed herein, the social media monitoring system must be 24X7 and have trained and experienced analysts to interpret the information being gathered. The monitoring system must interface directly with the client (hospital or health care system) and be open to full customization at the need and request of the client. Analysts must be assigned to the client and be prepared to interface with the client's needs. The analysts must offer an additional layer of support to ensure maximum understanding and situational awareness of the threat, thereby better informing and protecting the client's locations and assets.

The scope of social media monitoring must be significant in its range (countries covered, languages understood) and in the number of web sites or web stops within the monitoring program (counted in the hundreds of millions).

Alerts to the client of specifically relevant intelligence must be capable of immediate notification and explanation. The system must provide morning, day's end and weekly (client preference) social media monitoring reports. The reports should highlight trending topics, mentions of interest and any items that could impact the client's operations. The reports should be tailored to client concerns or interests. The reports should be local, national and global.

The client should have access to the analysts at any time or the day or night. The system should provide training, webinars in real time so that issues can be discussed with the analysts in a secure environment.

Today, quality social media monitoring programs or services can deliver on this need!

Syndromic Surveillance

Social Media monitoring will provide the *wide view* of the threat and incident landscape to the hospital or health care system. For large scale hospital or health care systems with reach, the need to "*ground truth*" health threats, incidents and trends, perhaps unearthed by social media monitoring, is an additional critical need. Participation in a syndromic surveillance system should allow the hospital or health care system to see what the medical data is presenting – not only within its system but in its community and country.

Although syndromic surveillance was developed for early detection of a large-scale release of a biologic agent, current surveillance goals reach beyond terrorism preparedness. Medical-provider reporting, including hospital and health care providers, remains critical for identifying unusual disease clusters or sentinel cases. Nevertheless, syndromic surveillance

will help determine or verify the size, spread, and tempo of an outbreak after it is detected or provide reassurance that a large-scale outbreak is not occurring, particularly in times of enhanced surveillance (e.g. during a high-profile event).

The fundamental objective of syndromic surveillance is to identify illness clusters early, before diagnoses are confirmed and reported to public health agencies, and to mobilize a rapid response, thereby reducing morbidity and mortality. It can also provide the needed “heads up” to the medical care communities, such as hospitals, HCFs and doctors. It has clear utility to large scale hospital or health care systems which can greatly affect public health.

Certain programs, like NYC DOHMH’s syndromic surveillance system, monitor surrogate data sources (e.g., over-the-counter prescription sales, doctors’ office visits and data, emergency department detail from public and private hospital sources, school absenteeism causes, work absenteeism data and veterinary data such as unexpected avian deaths or other potential precursors of human illness etc.) but do not capture specific disease syndromes. As noted above much of the data used by the public health agencies in identifying broad based medical or illness trends is generated by large scale hospital and health care systems.

Provided that its limitations are known and the trend information is shared, syndromic surveillance provides the health care professional, system or agency a systematic view of a potentially emerging medical threat or condition. This system is an emergency management tool that can verify other information already on the ground (e.g. social media monitoring that detects medical outbreak information at a location, in a community, city, region or beyond). Syndromic surveillance has clear utility in heightening awareness, prompting needed preparedness, call to action or assuaging fears and reducing overreaction.

Indeed, CDC’s evaluation framework describes syndromic surveillance as an investigational approach where health department staff (and by extension hospital and health care provider staff) assisted by automated data acquisition and generation of statistical alerts, can monitor disease indicators in real-time or near real-time to detect outbreaks of disease earlier than would otherwise be possible with traditional public health methods.

More recent event-based syndromic surveillance systems have relied on rapid implementation of electronically transferred data as opposed to difficult to collect or sustain manual data entry. Using pre-existing health data for syndromic surveillance offers immediate accessibility and poses limited burden to providers and health-care institutions. Respiratory, gastrointestinal, rash, neurologic and sepsis syndromes have been monitored consistently because numerous EDs and outpatient settings have internationally classified codes for these symptoms which can be easily obtained and entered into a syndromic surveillance data base.

But is this information being shared as broadly as it should? I think not. Indeed, despite the logic supporting sharing this information, it appears that public health agencies are not offered this intelligence to those who need it most, i.e., the hospital and health care systems where the rubber hits the road.

As an example, it should be noted that currently NYC DOH Syndromic Surveillance (SS) data is provided to each data providing hospital showing only the trends within that specific hospital or system but does not distribute SS data related to larger scale area or regional trends. So, NYC DOH SS data, while useful when coupled with social media data, lacks broader reach based on the agency’s policy constraints. This policy must be changed.

The optimal intelligence gathering system for a large hospital or health care system emergency management program is one that integrates data from multiple sources (social media and medical) potentially increasing the investigators’ confidence in the relevance of an alert from any single data source. A combination of social media monitoring, as described herein, coupled with syndromic surveillance for ground-truthing the medical alerts, would seem to fill the bill for the very medical systems that provide government the data and information upon which illness trends can be predicted.