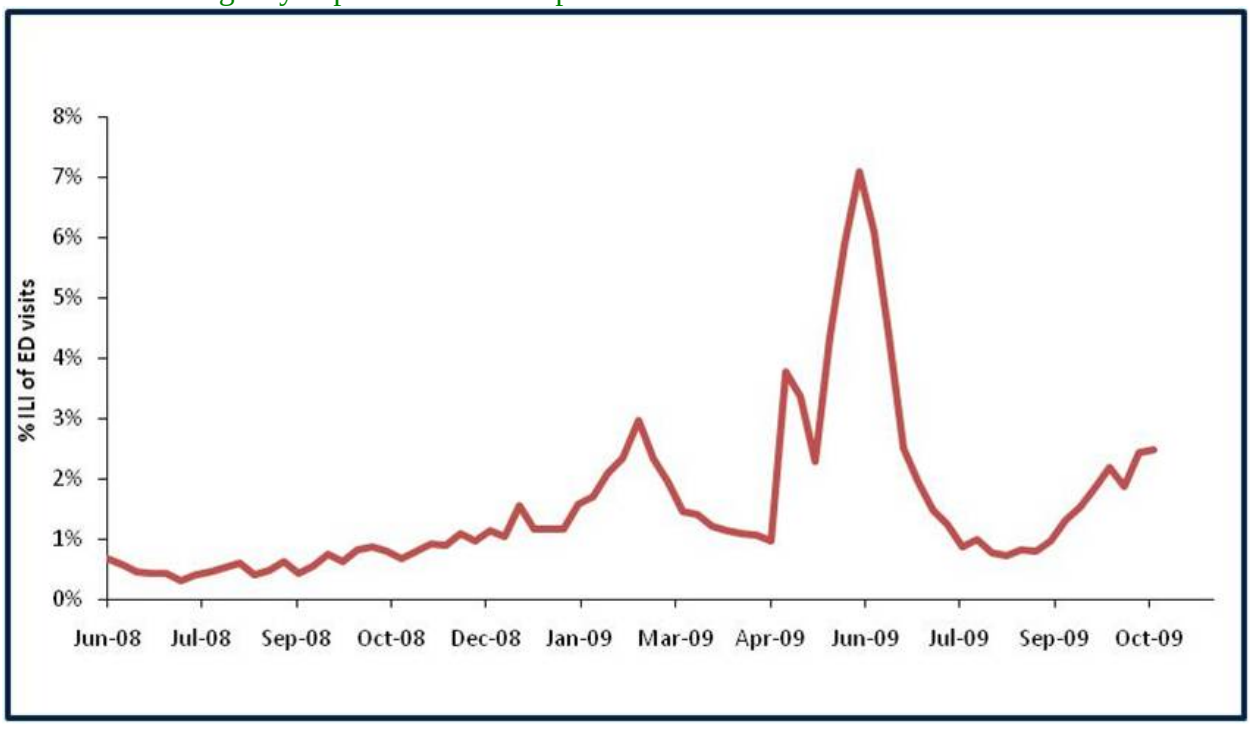
Davies Public Health Committee
Recommendations for a Supplemental Q&A Document to
Accompany the Boston Public Health Commission Application

1. ***Q:*** How has B-SYNSS been integral to the management of H1N1?

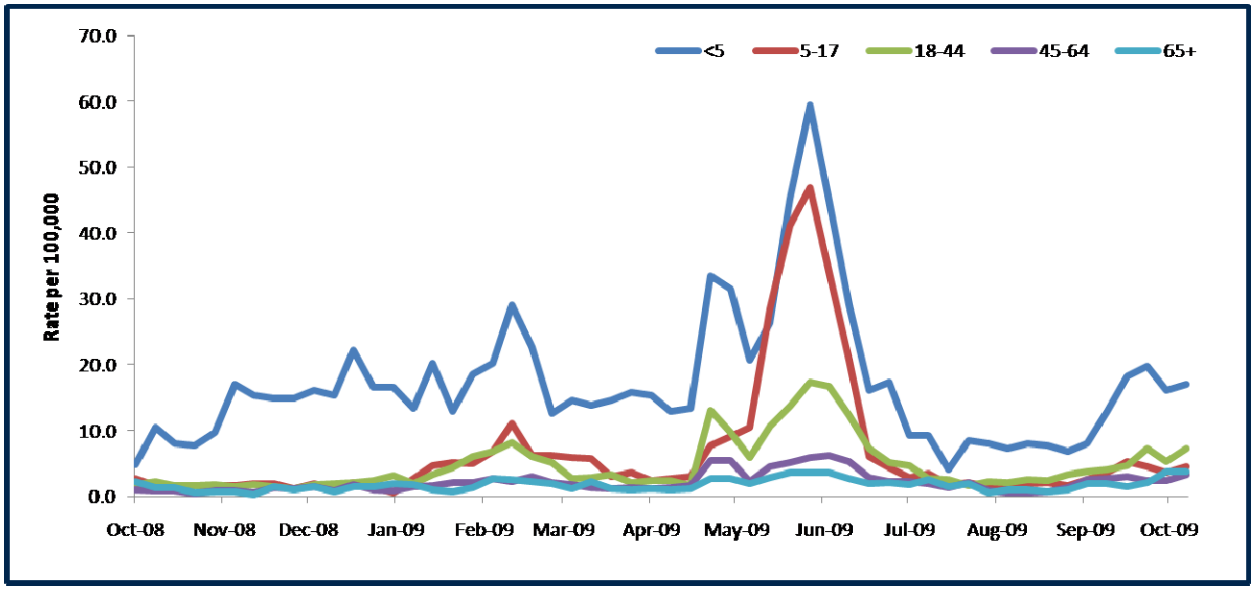
A: During the 2009 H1N1spring outbreak, B-SYNSS provided essential information on influenza-like-illness (ILI) activity. Validation of the system had demonstrated a good correlation between ILI syndrome and reported influenza cases. As algorithms for confirmatory testing evolved to focus on high risk groups such as persons hospitalized and pregnant women, B-SYNSS was a critical surveillance tool for monitoring community illness.

Percent ILI emergency department visits reported to B-SYNSS: June 2008-October 2009



The system also supported the ability to assess ILI activity by age, race\ethnicity, and neighborhood. For example, B-SYNSS identified limited ILI activity in persons over 65 years of age. This information correlated with reported cases of influenza in Boston.

Rate of ILI emergency department visits reported to B-SYNSS by age group: October 2008-2009



Boston has been a participant in Distribute which is another information source that was used during the spring 2009 H1N1 outbreak. Distribute provides information on ILI activity in other states and cities. An added benefit is being a member of the community of practice where surveillance strategies, barriers, and information are shared among the participants.

2. ***Q:*** Can an example of use of B-SYNSS be provided that highlights its functionality?

   A: B-SYNSS is an EARS-based system and has developed into a highly flexible system to monitor public health issues. B-SYNSS was customized to incorporate EMT-P which

facilitates the standardization of chief complaints. This approach enables the Boston Public Health Commission to create syndromes on the fly. An added advantage is that this requires no changes in practices or systems of participating health care sites.

For example, seizures associated with camphor were reported in New York City children. Using B-SYNSS, we developed a seizure syndrome on the fly. The analysis focused on children and neighborhoods. In neighborhoods with excess activity, unlabeled camphor products were located in small shops. An outreach and educational effort was developed to address the problem.

B-SYNSS monitors emergency department visits that may be associated with carbon monoxide exposures. Follow up of one exposure identified several residents of a group home. A referral to the Boston Public Health Commission's environmental health department resulted in an assessment of all potential sources including space heaters, stoves, and heating units in the building.

Routine communication channels have been developed between Boston EMS and the Infectious Disease Bureau. Infectious Disease Bureau is notified of unusual findings by Boston EMS including notification from the electronic trip sheet system. The Infectious Disease Bureau provides situation updates from B-SYNSS regarding communicable disease activity in the city.

3. ***Q:*** Describe the cost of operating and the efficiencies of using the B-SYNSS system.

   A: Cost of ownership is minimal. B-SYNSS is an EARS based system that incorporates EMT-P. The standardization of chief complaints using EMT-P improves the chief complaint classification and consequently aberration detection. This adaptation is replicable and customizable. B-SYNSS takes the pulse of the community on a host of public health issues. One question that is often asked is how does this activity compare to last year? Since the system went live in July, 2004, the Boston Public Health Commission has maintained a data warehouse which enables to us to look at disease patterns over time.

B-SYNSS has been incorporated into the daily surveillance practices. Routine use has honed the experience of the epidemiology staff. As our epidemiology staff became more proficient in using B-SYNSS, there has been a decreased the cost associated with operating the system.

The system provides Boston with near real time information that can be used to assess time sensitive public health problems. Often data sources are several years old and have limited utility and funding would be required to conduct surveys or record reviews. For example, B-SYNSS was used to estimate that 3.9% of Boston residents had H1N1 ranging from 10.9% among 5-17 years to 0.8% of persons over 64 years of age.

4. ***Q:*** Describe your future plans.

Future plans for B-SYNSS include the development of a web-based dashboard. The visualizations would accommodate multiple data streams such as reported cases, weather data,

and inspectional service reports. Also the incorporation of decision support tools will be explored to improve the efficiency information management.

The Boston Public Health Commission is planning for the expansion of B-SYNSS to include community health centers that serve unique populations such as the Asian community. Other ideas for expansion include additional data points such as measured temperatures and dispositions (admitted, transferred, etc). As the architecture of B-SYNSS matures, the Boston Public Health Commission anticipates making information more available on the web.