

Use of CDC's epidemic information exchange system as a disease surveillance tool

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Objective

To evaluate the usability and usefulness of *The Epidemic Information Exchange (Epi-X)* system, a secure online information exchange provided by the Centers for Disease Control and Prevention (CDC), in assisting with case finding in response to infectious disease outbreaks and clusters that involve, or have the potential to involve, cases in multiple state-level jurisdictions within the United States.

Introduction

Epi-X is an internet-based secure website for the exchange of information regarding developing public health events. Reports are exchanged with state epidemiologists, state health officers and other key public health officials. Provisional and secure information is regularly posted on *Epi-X*. The *Epi-X* user base is restricted to public health officials at the local, state, federal and international levels. Private healthcare practitioners who do not otherwise hold a government position are not given access to *Epi-X*. As of August 2011, *Epi-X* has approximately 6000 users, of which approximately 1600 are authorized to directly contribute reports regarding developing public health events. *Epi-X* is frequently used to seek reports of cases of illness related to an outbreak, cluster or increased occurrence of a specific infectious disease. The usability and usefulness of *Epi-X* in this capacity have not previously been assessed.

Methods

A total of 52 case-seeking reports were posted on *Epi-X* during calendar year 2010, all of which were used to seek cases of infectious disease. *Epi-X* staff were successful in eliciting contributor feedback in regards to 30 of these reports. Four questions were asked that assessed the motivation behind posting a case-seeking report on *Epi-X*, the practicality of posting a case-seeking report on *Epi-X*, the successfulness of finding related cases by posting a case-seeking report on *Epi-X* and if the contributor intends to use *Epi-X* for this purpose in the future.

Results

Of the 52 case-seeking reports posted on *Epi-X* during calendar year 2010, all were posted with the intent of seeking cases of illness caused by infectious disease. One report was broad based and also sought cases of illness caused by injury. These reports were categorized by type of infectious agent, depending upon

commonality of symptoms and routes of transmission. *Epi-X* contributors posted case-seeking reports for 19 individual confirmed or suspected infectious agents in 2010. The top four infectious agents for which case-seeking reports were posted on *Epi-X* in 2010 were *Salmonella* (10 reports), *Legionella* (9), hepatitis A virus (4) and measles virus (4). Other infectious agents included *Influenza*, *Bordetella*, *Cryptosporidium*, *Escherichia coli* and *Listeria*. Three reports were posted for which the infectious agent was unknown.

The 52 reports were contributed by 44 contributors. *Epi-X* staff were able to elicit feedback from contributors for 30 reports. In regards to usability, the system was considered practical for 28 of the 30 reports for which feedback was elicited. In regards to case-seeking usefulness, 2 of the 30 case-seeking reports for which feedback was elicited were considered not successful; eight were considered moderately successful, and 15 were considered fully successful. For five reports, the contributor was unable to rank the success. Of the 30 respondents, 28 stated their intent to use *Epi-X* for this purpose in the future.

Conclusions

Epi-X case-seeking reports were considered at least moderately successful in 23 of 30 reports for which feedback was elicited. In some instances, investigators expected to find no other related cases but posted their reports to make sure they had been thorough. Some investigators regarded their report(s) as successful, despite not finding any additional cases. Investigators may become more confident that all related cases have already been identified if they do not find additional cases as a result of posting on *Epi-X*.

Epi-X has become a standard method of identifying related cases. For investigators seeking additional cases in other state-level jurisdictions, posting case-seeking reports on *Epi-X* is a practical method. Increased use would likely strengthen the public health response to emerging infectious-disease events.

Keywords

The Epidemic Information Exchange; Epi-X; surveillance; secure; case finding

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