

Framework for the Development of Response Protocols for Public Health Syndromic Surveillance Systems

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OBJECTIVE

To develop a framework for public health departments to use for developing and enhancing response protocols to syndromic surveillance system alerts.

BACKGROUND

Although syndromic surveillance cannot serve its intended purpose without the timely public health response launched after aberration detection, the literature is very limited with respect to response to syndromic surveillance systems alerts and related guidance for public health practitioners [1, 2]. Literature reviews reveal an absence of uniform approaches to developing and evaluating response protocols. The one published study that aimed to inform the development of written protocols was based on experience with a single system, ESSENCE, and concluded that careful development of an evaluation and response framework should be undertaken [3].

The framework for response in this study was designed with attention to decision-making support and policy development in the area of public health response to syndromic surveillance system alerts. Because the framework presented here captures experiences with multiple systems, it can be used as a common resource for public health practitioners developing protocols for their jurisdictions and, ultimately, measuring the performance of systems.

METHODS

We selected eight case study states to secure a diverse sample with respect to population size, geography, and the locus of outbreak response. States at high risk of terrorist attacks as defined by Urban Areas Security Initiative criteria were over-sampled because we assumed that greater vulnerability leads to greater investment (and thus the development of promising practices) in syndromic surveillance planning. For each case study state, we conducted interviews in Spring/Summer 2008 with between 2-8 epidemiologists monitoring syndromic surveillance systems at both the state and local levels. The interview guide focused on development, implementation, and actual experience with response protocols as well as perceived areas for improvement. We also conducted textual analysis of the written response protocols of participating jurisdictions. Three data sources-

scripts of interviews, text of response protocols, and a review of the literature- were used to develop a framework for response protocols for public health surveillance systems. The expert opinion of participants and the research team highlighted promising practices and categorized and prioritized framework elements.

RESULTS

The most prominent framework elements identified for inclusion in written protocols included particular policies regarding system monitoring, assignment of alert priority status, leadership structure, communication/notification plans, responsibilities of state and local government, policies for specific syndromes, and documentation of false positives. Written protocols require specific plans for the downstream steps in the response/investigation process, which were lacking in the majority of existing protocols incorporated in our review.

CONCLUSIONS

While public health entities have devoted numerous human and financial resources to syndromic surveillance system creation and implementation, the usefulness of these systems will be limited without the necessary infrastructure and methods to conduct an effective response. The development of detailed, field-tested protocols that include specific policies regarding monitoring, communication plans, etc., will help to achieve system "portability," a concept described in CDC's syndromic surveillance evaluation framework [4]. Furthermore, implementation of standardized protocol elements will assist local jurisdictions in integrating outbreak response at regional, state, and national levels.

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