Syndromic Surveillance System User Satisfaction and Attitudes

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OBJECTIVE

This paper presents results of a survey assessing syndromic surveillance system initial user satisfaction and attitudes regarding syndromic surveillance.

BACKGROUND

With the recent emphasis on public health preparedness, health departments are identifying new ways to prepare for emergencies. There has been a significant increase in the number of syndromic surveillance systems operating in recent years. These systems are based on real-time information from hospital emergency departments that is transmitted and analyzed electronically for the purpose of early detection of public health emergencies. Like other states, Rhode Island sought to enhance its traditional surveillance activities through the implementation of such a system. Rhode Island implemented the Real-time Outbreak and Disease Surveillance (RODS) system, developed by the University of Pittsburgh's Center for Biomedical Informatics [1]. Data from three hospitals were collected as part of the pilot implementation of the Rhode Island RODS system. Personnel at both hospitals and the Department of Health, trained in surveillance-related areas such as infection control and epidemiology, received access to RI RODS. As part of the evaluation framework, Rhode Island desired to assess system user attitudes and opinions towards the new system.

METHODS

A survey was developed consisting of four sections. The first section consisted of demographic questions about the system user. The second section consisted of user satisfaction questions extracted from the Questionnaire for User Interaction Satisfaction (QUIS) developed by the Human-Computer Interaction Lab (HCIL) at the University of Maryland at College Park [2]. The third section consisted of questions designed to ascertain user attitude towards the syndromic surveillance system based on user expectations for and experience with the RI RODS system. The final section consisted of open-ended questions asking for descriptive feedback regarding benefits of the system, and recommendations for and creative uses of the system.

The survey was given to each user of the system after they attended a training session to introduce the RI RODS system.

RESULTS

Twenty users were asked to complete the survey after being trained on the system. Seventeen surveys (85%) were returned. The average age of respondents was 45 years, ranging from 26-60. The majority of the respondents were female (71%) and in public health (PH) (71%) (vs. hospital). Overall, user satisfaction responses were high. Users expressed the highest satisfaction (mean 8.1 on 9-point scale) with: Learning to operate the system is easy, Exploration by trial and error, System speed. Users expressed the lowest level of satisfaction with: Characters on screen (6.6), Adequate power (6.7). PH users rated most items higher and perceived the system as more satisfying, reliable, and easier than hospital users, who perceived the system as more powerful and flexible. Overall, users had positive attitudes regarding syndromic surveillance and RI RODS. Users expect RI RODS to: Track with actual number of patients, Detect outbreaks not detectable by other means, Be useful during an emergency. Users are less certain that RI RODS will be useful for: Purposes other than detecting outbreaks, In determining if an outbreak does not exist. Hospital users expect that RI RODS will speed up investigations, allow for sufficient identification of a patient and that mapping functions will be sufficient to localize outbreaks. Summary of the four open-ended questions showed that the greatest foreseen benefit of RI RODS system was earlier detection. Users provided system recommendations, such as improvements to maps and help sections.

CONCLUSIONS

Initial user satisfaction with and attitudes regarding RI RODS system are high. The system is perceived to be better designed for PH than hospital users. However, both types of users have confidence in the ability of the system to detect outbreaks. PH users have reservations regarding how well the system will enhance their ability to quickly investigate and characterize possible outbreaks. Users will be asked to complete a follow-up survey. These responses will be analyzed to identify changes in user satisfaction and/or attitudes over time.

REFERENCES

[1] The RODS Laboratory, Center for Biomedical Informatics, University of Pittsburgh, 2005. http://rods.health.pitt.edu/

[2] Questionnaire for User Interaction Satisfaction (QUIS). Human-Computer Interaction Lab (HCIL), University of Maryland at College Park. http://lap.umd.edu/QUIS/