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FITS—flu immunization tracking system: capturing county level data to inform public health practice

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Objective

To develop and implement a web-based, county-level flu immunization record keeping system that accurately tracks nonidentifiable vaccine recipients and seamlessly uploads to the state record keeping system.

Introduction

Historically, it has been the role of local health departments to administer, monitor and report flu vaccinations of its residents to the state health department. In 2009, the looming threat of an influenza outbreak (H1N1) led to the extension of the Public Readiness and Emergency Preparedness Act (PREP) (1). On June 15, 2009, Kathleen Sebelius, Secretary of Health and Human Services, assigned all entities, including organizational and individual, tort liability immunity in the distribution and administration of H1N1 vaccines (1). This extension subsequently impaired local health departments' ability to capture accurate estimates of flu immunizations being administered to their respective populations. Stark County Health Department, located in Ohio, in collaboration with Kent State University's College of Public Health, designed, developed, and deployed a flu immunization tracking system (FITS) based on the urgent need of accurate population data regarding influenza immunization at the county level.

Methods

No off the shelf software was available that met local health department system requirements and budget constraints. Thus, a collaborative team of public health professionals and database programmers convened to establish a project charter that outlined the system requirements, personnel responsible, timeline and budget. A qualitative analysis of current county level systems and data helped to establish the requirements of the FITS system, as well as direct the reporting capabilities and features. The fixed budget expenditure and early deadline led to an expedited timeframe; the system was completed within 4 months.

Results

A FITS was created in accordance with the project charter, timeline, user specifications and budget and included but was not limited to the following technologies: CentOS, Ruby and Excel. An innovative feature of the FITS system is the live lookup of national drug codes (NDC) hosted on the FDA's website, which autopopulates the FITS vaccination database with up-to-date information (2). FITS allows flu immunization records to be accurately captured at the county level, resolving the dilemma created by the PREP amendment. County health professionals were invited to a system users training to orient them with the system, record management and downloading/uploading of data. After an initial rollout of FITS at the county level, it is expected to be promoted statewide to increase accurate reporting of immunization administration.

Conclusions

The field of public health informatics calls for the conceptualization, design, development, deployment, refinement, maintenance and evaluation of surveillance systems (3). This project exemplifies the positive outcomes that can result from collaborative efforts within the informatics framework. It is anticipated that this system will serve as a model for other counties across the state and will lead to improved reporting of flu vaccination records across the State of Ohio and perhaps beyond.

Keywords

Influenza; surveillance; software; administration; recipient

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