Pilot Evaluation of Syndrome-Specific School Absenteeism Data for Public Health Surveillance

Shuying Shen, MStat\textsuperscript{1,2,5}, Nicole Stone, MPH\textsuperscript{3}, Brian Hatch, MPH\textsuperscript{3}, Robert Rolfs, MD,MPH\textsuperscript{1,4}, Brett South, MS\textsuperscript{1,2,5}, Adi Gundlapalli, MD,PhD,MS\textsuperscript{1,2}, Catherine Staes, BSN,MPH,PhD\textsuperscript{1,5}, Matthew Samore, MD\textsuperscript{1,2,5}

\textsuperscript{1}Center of Excellence in Public Health Informatics, University of Utah, Salt Lake City, UT, \textsuperscript{2}VA Salt Lake City Health Care system and the Department of Internal Medicine, University of Utah, School of Medicine, Salt Lake City, UT, \textsuperscript{3}Davis County Health Department, Farmington, UT, \textsuperscript{4}Utah Department of Health, Salt Lake City, UT, \textsuperscript{5}Department of Biomedical Informatics, University of Utah, School of Medicine, SLC, UT

OBJECTIVE
This is a pilot evaluation to determine the usefulness of syndrome-specific school absenteeism data for public health surveillance systems.

BACKGROUND
School absenteeism data could be used as an early indicator for disease outbreaks\textsuperscript{1, 2}. The increase in absences, however, may be driven by non-sickness related factors. Reason for absence combined with syndrome-specific information might make absenteeism data more useful for early outbreak detection.

METHODS
Ten public elementary schools in Davis County in Utah were selected as sentinel schools to collect syndrome-specific school absenteeism in addition to reason for absence. Reasons for absence include sick, other, and unknown. If the absence was sickness-related, it was further categorized into one of the following groups: respiratory, GI, rash, other, and unknown. Absenteeism clerks entered daily absences through a web-based district information system, which the county surveillance coordinator has real-time access to. Data from September 1, 2007 to March 14, 2008 were extracted to generate descriptive statistics.

RESULTS
Average daily absence per 100 enrolled students was 4.02 for total absences, and 0.9 for sick absences. The most common reason for absence was unknown (59%), followed by sick (23%) and other (18%). Other sickness-related absences accounted for 38% of the sick absences, followed by unknown (26%), GI (18%), respiratory (16%), and rash (0.6%). There was a temporal trend of decreases in GI related absences, and an increase in respiratory absences going from fall to winter (Figure 1).

CONCLUSION
Davis County enhanced school absenteeism data provided timely information on reason for absence at the syndrome level for individual schools, which would be useful for targeted surveillance. Longer follow-up is required to evaluate the impact of non-sickness related factors such as school holidays on reason for absenteeism. Specificity of data could be improved by encouraging reports from parents.

Figure 1. Percentage of sick absences by syndrome.