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School absenteeism surveillance data during the 2009 influenza A/H1N1 pandemic

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Objective

To monitor community illness and detect outbreaks during the 2009 influenza A/H1N1 pandemic using a newly developed surveillance system for monitoring school absenteeism.

Introduction

In April 2009, a novel strain of influenza A was detected in Mexico, which quickly spread to the United States and the rest of the world. In response to the pandemic, the New Hampshire Department of Health and Human Services (NH DHHS) developed a web-based school absenteeism reporting system to track and record overall absenteeism and influenza-like illness (ILI)-related absenteeism in New Hampshire schools.

Methods

An absenteeism reporting form was developed and placed on a NH DHHS website. Access to the reporting form website was through a secure NH Department of Education (DOE) web portal, and school nurses were asked to voluntarily report data into the system. The questionnaire asked for the number of students absent, the number of students absent for ILI, the number of staff absent and the number of staff absent for ILI in addition to the name of the reporting school (Fig. 1). Data were exported and analyzed daily by NH DHHS staff using Microsoft Excel. School enrollment data for each school were provided by DOE so that rates of absenteeism could be calculated. Rates for overall absenteeism and absenteeism due to ILI were aggregated by school administrative unit (SAU) and posted on the NH DHHS website twice weekly in the form of a map. Schools reporting absenteeism greater than 10% for any given day were contacted to determine whether an ILI outbreak was occurring and to recommend control measures.

Results

Between September 7 and December 23, 2009, statewide overall school absenteeism ranged from 0.0% to 29.3% and statewide ILI-related absenteeism ranged from 0.0% to 14.2%, both of which peaked the week of November 1–7, 2009. The observed peak of school absenteeism was consistent with data observed in other ILI surveillance systems such as over-the-counter sales of cough and cold medications and visits to emergency departments (Fig. 2). At the peek of absenteeism, 346 of 479 (72%) of all elementary, middle and high schools in New Hampshire were reporting into the system. NH DHHS identified 103 outbreaks using the school absenteeism reporting system; a state public health nurse investigated each outbreak. Timeliness of outbreak detections were within 24 hours due to daily reporting.

Fig. 1. New Hampshire Department of Health and Human Services web-based school absenteeism reporting form.

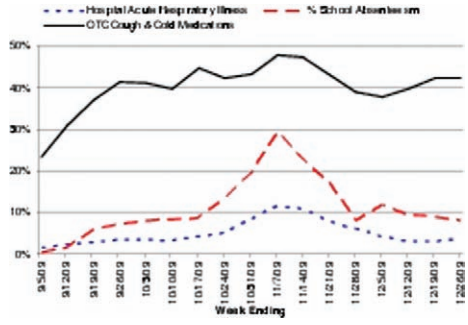

Fig. 2. Indicators of influenza-like illness in New Hampshire, September 1 – December 23, 2009.

Conclusions

The newly developed school absenteeism reporting system provided important public health surveillance data to evaluate potential outbreaks or clusters of disease in communities and resulted in the detection of and response to 103 outbreaks of ILI that would not have been detected otherwise. Enhanced interaction with school nurses through the development of the surveillance system resulted in increased awareness in school populations about the influenza A/H1N1 (2009) virus. Furthermore, the rapid detection and response to potential outbreaks identified using the system may have minimized the effect of ILI in the school system and the community, through heightened awareness and implementation of control measures.

Although the reporting system started as a way to monitor the impact of the 2009 influenza A/H1N1 pandemic, NH DHHS has continued to routinely monitor student absence ever since. School absenteeism surveillance has the potential to aid in early detection, and mitigation, of other communicable diseases in the school system, an important indicator of illness in the communit.

Keywords

School surveillance; H1N1; influenza; New Hampshire

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