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ABSTRACT

Evaluating the utility of school absenteeism during the 2009–2010 influenza season in Los Angeles County

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Objective
To evaluate the utility of school absenteeism surveillance data in Los Angeles County during the 2009–2010 influenza season.

Introduction
It has been postulated that school absenteeism, a non-traditional surveillance data source, may allow for early detection of disease outbreaks, particularly among school-aged children who may not seek emergency medical attention. Although a New York City-based study showed moderate utility of school absenteeism in biosurveillance,[1] no study to date has been reported on school absenteeism in Los Angeles County, which contains the second largest school district in the US.[2]

Methods
School absenteeism data on school attendance are negative-based and completed by teachers via the online student information system; once per day for elementary schools, once per period for middle/high schools. Any final corrections to attendance are made at the end of the school day through an administrative portal. School absenteeism data are received by LACDPH in near real-time on a biweekly basis via SFTP.

For the purposes of this study, school absenteeism data were available from 140 elementary, middle, and high schools, during

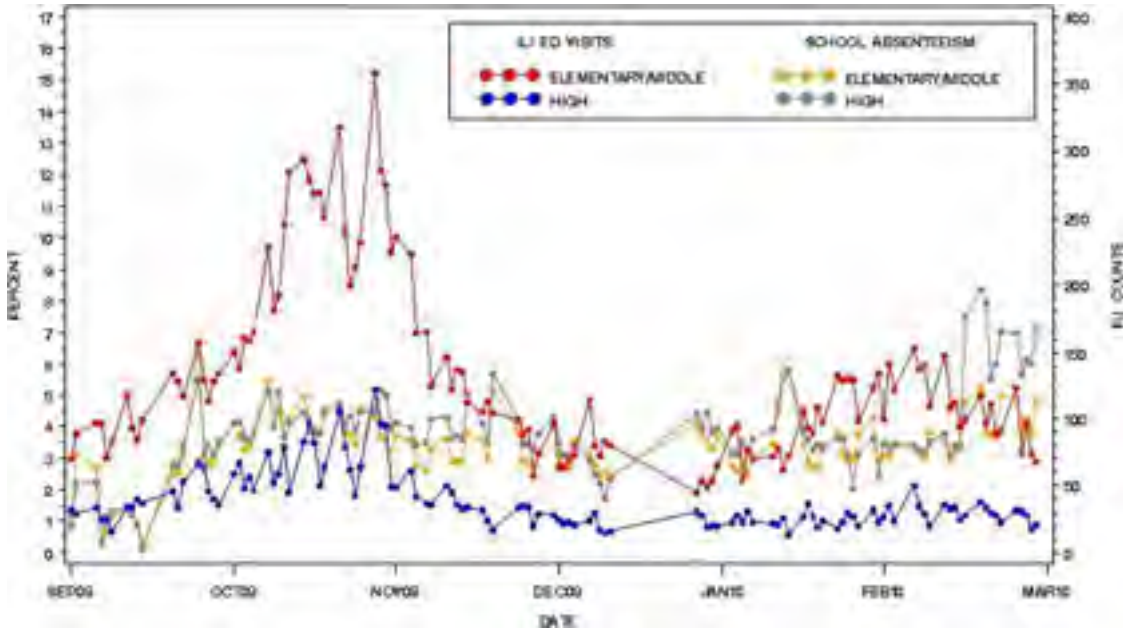

Figure 1 Percent School Absenteeism and ILI ED visits by School Age Groups in Los Angeles County.

the period from 1 September 2009 through 28 February 2010. A retrospective analysis was conducted to examine the correlations between school absenteeism and two other ADSS influenza surveillance systems: (1) influenza-like illness emergency department (ILI ED) visits by ages 5–17 and (2) over-the-counter cough/cold medications and thermometer sales.

Results

During the study period, mean percent absenteeism was 3.28 % for elementary/middle schools and 3.55 % for high schools (p =0.06). Figure 1 shows the number of ILI ED visits, which peaked in early November for both elementary/middle and high school groups. In contrast, however, school absenteeism peaked in late September/early October for both groups. Compared with ILI ED visits in elementary/middle school-aged (5–13 years) and high school-aged (14–17 years) children, school absenteeism showed a weak correlation ($r = 0.38$, $p < 0.001$; $r = 0.33$, $p < 0.001$, respectively). Also, neither cough/cold medication sales nor thermometer sales showed strong correlations with either elementary/middle or high school absenteeism (data not shown).

Conclusions

We found no significant positive correlations of school absenteeism in elementary/middle school and high school groups, with either ILI ED visits or over-the-counter medication sales in Los Angeles County during the 2009–2010 influenza season. Interpreting medical outcomes/trends from a non-traditional source like school absenteeism is challenging, and continued investigation is warranted before determining its role in biosurveillance. Moreover, school absenteeism could serve to help assess the need of school closures during countywide disease outbreaks. However, further assessment of current data capture methods and quality of school absenteeism data within Los Angeles County are necessary to evaluate the utility of absenteeism in early event detection.

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