

A Comparison of Electronic Emergency Department Visits and Data Collected Manually During a Field Exercise

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OBJECTIVE

To compare the completeness of emergency department (ED) visit and hospital admissions data collected electronically for syndromic surveillance and data collected manually for a field surveillance exercise.

BACKGROUND

On February 26-27, 2008, NYC DOHMH staff participated in a field exercise to collect hospital admissions data to evaluate methods for gathering hospitalization rates during a public health emergency. Field surveillance staff visited 26 hospitals to collect data on ED visits and hospital admissions for the 7-day period before the site visit. Of the 50 hospital EDs that report electronic data to DOHMH, 37 include disposition status. Disposition status is complete in approximately 1/3 of all visits by the next day and for >60% of all visits within 1 week. We compared hospital admissions data reported electronically to that collected in the field to evaluate the utility of each data source during an emergency response.

METHODS

The analysis included 21 hospitals with both electronic ED and field surveillance data for the 7-day time period. Admissions from locations other than the ED were not included in the analysis. To compare the volume reported by each data source, we calculated a paired t-test for the mean number of admissions. We also calculated the proportion of ED patients who were admitted to the hospital according to each data source.

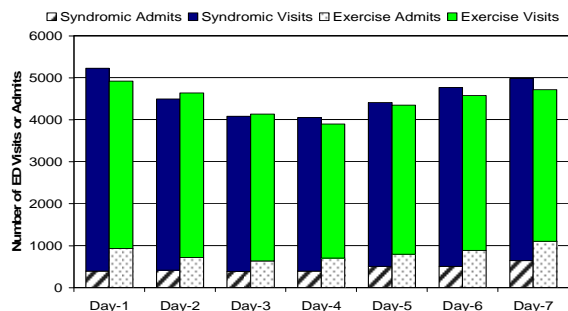
RESULTS

Over the 7-day period, the daily number of all ED visits obtained electronically was similar to that obtained from the field exercise (mean 4,568 vs. 4,457; $p=0.12$).

Over the 7-day period, the mean number of daily admissions from all hospitals obtained electronically was significantly less than that obtained from the field exercise (electronic data mean=461; field visit data mean=824; $p<0.001$). Hospital admissions obtained electronically were less than those obtained in the field for each day (figure). This difference

might be the result of only having 52.7% of ED visits with disposition information available electronically.

Comparison of ED Visits and Admissions from Syndromic Surveillance and Field Surveillance Data over a 7 Day Period



After limiting the electronic data to those visits with a known disposition, the proportion of hospital admissions from all ED visits was similar from both electronic (19.6%) and field data (18.4%) for the 7 days ($p=0.49$). There were no significant differences by day either.

CONCLUSIONS

Although there were discrepancies between electronic and field reports of the numbers of hospital admissions from the ED, the proportions of hospital admissions was similar after limiting the electronic data to visits with disposition status. However, early in an emergency response, manual collection of ED visit and hospitalization data may be more timely and accurate. If the emergency is extended electronic ED data may be useful and practical for tracking trends. Subsequent to the field exercise, additional electronic ED data has been received and will be further analyzed for timeliness and completeness. Future analyses to prospectively estimate hospitalizations will help to better characterize the utility of electronic ED data for public health monitoring.

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