

**Medicaid Prescription Data for Detection of Influenza-Like Illness**  
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**OBJECTIVE**

To evaluate the usefulness of daily counts of prescriptions for influenza agents charged to Medicaid insurance, by county of residence of the recipient, for detection of elevated influenza-like illness (ILI) in New York State (NYS), currently monitored through physicians participating in the CDC Influenza Surveillance Program.

**BACKGROUND**

The NYS Medicaid Program provides healthcare for 34% of the population in New York City (NYC) and 4%-20% in each of the 57 county populations upstate. Prescription data are collected through the submission of claims forms to the Medicaid Program and transmitted daily to the NYS Syndromic Surveillance Program as summary counts by drug category and patient's ZIP Code, age category, and sex. One of the 18 drug categories is influenza agents, which includes rimantadine, oseltamivir, and zanamivir.

For surveillance of ILI activity, the NYS and NYC Sentinel Physician Influenza Surveillance Program collects from sentinel physicians weekly reports of the total number of patients seen and the number of patients presenting with ILI (defined as temperature  $\geq$  100 degrees F, presence of cough or sore throat, and absence of other known cause of these symptoms). Not all counties in NYS have sentinel physicians: in the 2003-2004 flu surveillance season (Week 40, in early October, 2003, to Week 20, in late May, 2004), 37 of 57 upstate counties and all 5 counties of NYC had sentinel physicians.

**METHODS**

Comparisons were made of the weeks in which Medicaid prescriptions and the weeks in which %ILI were elevated over a baseline period, defined as the first 8 weeks of the flu surveillance season (Weeks 40-47). Because sentinel reports of ILI are made on a weekly basis, Medicaid prescriptions for influenza agents were aggregated by week. Weekly counts were considered elevated if they exceeded the mean plus 2 standard deviations (SDs) of weekly counts for the baseline period. For reported %ILI, county-level weekly percents were considered elevated if they exceeded the mean plus 2 SDs of the weekly percents for the baseline period; state-level means were adjusted for the number of sentinel physicians reporting

for each of the 8 weeks to avoid reporting bias that may occur if physicians begin reporting only after observing ILI among their patients rather than starting Week 40. County-level analyses for 3 counties with sentinels were not performed because of insufficient reporting.

Comparisons were made for upstate New York (excluding NYC) for 2001-02, 2002-03, and 2003-04 and at the county level (both upstate and NYC) for 2003-04. At the county level, comparisons were also made on the basis of the number of patients seen by sentinel physicians and amount of Medicaid prescription activity.

**RESULTS**

In upstate New York (excluding NYC), Medicaid increases preceded %ILI increases by 7 weeks in 2001-02 and followed %ILI increases by 4 weeks in 2002-03. In 2003-04, however, for NYC and for all upstate counties with sentinel physicians, elevations in weekly Medicaid prescriptions and reported ILI occurred during the same weeks. At the county level, comparisons could not be made in 3 counties because %ILI never exceeded the baseline threshold. Among the remaining 31 upstate and 5 NYC counties in the 2003-04 analysis, the mean number of weeks between Medicaid and %ILI increases was 0, and in 28 (78%) of the counties Medicaid increases preceded or concurred with increases in %ILI. Even in the 17 counties with little influenza prescription activity (<10 in every week), prescription increases occurred at a mean of 0.4 week following %ILI increases, whereas in the 19 other counties they occurred an average of 0.7 week prior to %ILI elevations. There was no difference in the timing of increases between counties whose sentinel physicians saw fewer (<150) versus more patients per week.

**CONCLUSIONS**

Overall, timing in the increases in Medicaid prescriptions for antivirals corresponded to the increase in reported ILI among sentinel physicians. The use of Medicaid data should be considered a supplement to the indicators monitored by the historical influenza surveillance system. This should be particularly helpful in the 20 counties of upstate New York that lack sentinel physicians.

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