

Baltimore City Seasonal Influenza Summary Report



**Baltimore City Health Department
May 2008**

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Influenza, also known as “the flu,” is a contagious, viral illness affecting 5% to 20% of the U.S. population annually.¹ Influenza causes an average of 226,000 hospitalizations and 36,000 deaths each year in the U.S. Vaccination is the primary method of preventing transmission of influenza and its associated complications.²

In November of 2007, the Baltimore City Health Department launched the Seasonal Influenza Plan for the 2007-2008 influenza (flu) season.³ The goals of the plan include describing planned (1) surveillance for influenza;⁴ (2) education of the medical community and the public; and (3) actions to reduce the transmission of influenza.

The plan outlines educational messages and actions for potential stages of influenza based upon the Department’s influenza surveillance. The first stage, “Minimal Flu,” notifies the public that it is flu season and provides information on prevention strategies, including immunization. “Flu Alert,” the second stage, raises awareness and increases flu prevention activities when levels of flu in Baltimore are rising. The third stage, “Severe Flu Warning,” will be reached only when the level of flu is so high in Baltimore that it limits the health care system’s ability to effectively respond. Near the completion of the flu season, a fourth stage, “Decreasing Flu,” indicates when levels of flu in the City return to baseline after the seasonal peak.

This report summarizes the surveillance data collected during the 2007-2008 season in Baltimore City and the actions taken by the Health Department. It accompanies the week 15 and 16 surveillance report that announces the lowering of the flu level in Baltimore City from “Flu Alert” (which began at Week 49, or the week ending December 8, 2007) to “Decreasing Flu.”

Key dates and events during the 2007-2008 influenza season

The Baltimore City Health Department introduced its influenza plan November 8, 2007 at the Johns Hopkins Bloomberg School of Public Health, in conjunction with leaders from Johns Hopkins Hospital and the School of Public Health. During this time, Dr. Joshua Sharfstein, the Commissioner of Health, shared prevention strategies with the media and encouraged residents to be vaccinated against influenza.

The first PCR-confirmed case of influenza was reported in Baltimore City on December 6. The percentage of positive “rapid” influenza tests reported by Baltimore City sentinel laboratories during that period increased to 16% (week 49, ending December 8, 2007). This triggered the Health Department to move to the “Flu Alert” stage.

On December 14, 2007, a press conference was held at the Johns Hopkins Children’s Center David M. Rubenstein Child Health Building to announce that the City was on “Flu Alert,” based on the Health Department’s surveillance efforts. Johns Hopkins physicians partnered with Dr. Sharfstein to reiterate the importance of influenza vaccination as well as reviewing other preventive strategies to reduce the transmission of influenza.

Educational and outreach events during the flu season included the distribution of more than 50,000 flu cards, detailing prevention strategies and how to obtain a free flu vaccine; email and

phone communication with Infection Control Practitioners in each Baltimore City hospital; and web-based publication of biweekly surveillance reports.

Immunization clinics were held throughout the City beginning in October and continuing through April. Flu vaccine remains available until it expires in June. Thus far, an estimated 3,419 people were vaccinated through these public health clinics.

The levels of flu in Baltimore City peaked in later January and early February (weeks 4-6, January 20-February 9). Detailed notes on surveillance indicators appear at the end of this report. During the peak of influenza season in Baltimore City

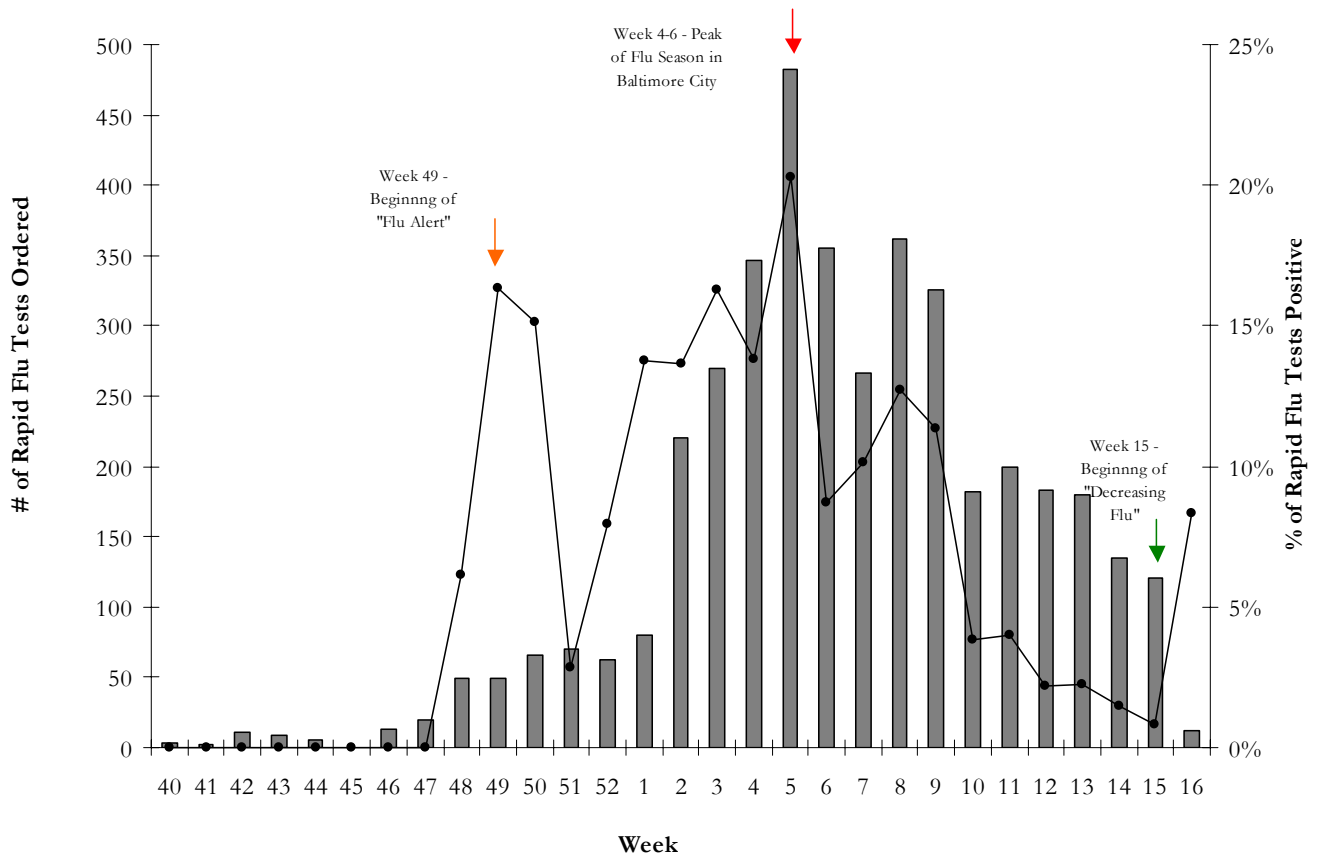
- 11-13% of visits to sentinel providers⁵ were due to influenza like illness.⁶
- a daily average of over 60 calls were received by 911 dispatchers for “breathing problems” and “sick” complaints.⁷
- sentinel laboratories reported that an average of 15% of all rapid influenza tests were positive.⁸
- 2 of the 5 respiratory outbreaks this season were reported (one was a confirmed influenza A outbreak, the other an influenza like illness outbreak).

Deaths due to pneumonia or influenza thus far are comparable to past flu seasons. Pneumonia or influenza were listed as the underlying or contributing cause of death in 9% of all deaths occurring in Baltimore City;⁹ comparable to the four previous flu season when pneumonia or influenza were listed as the underlying or contributing cause of death in 8.1-10.1% of all deaths.

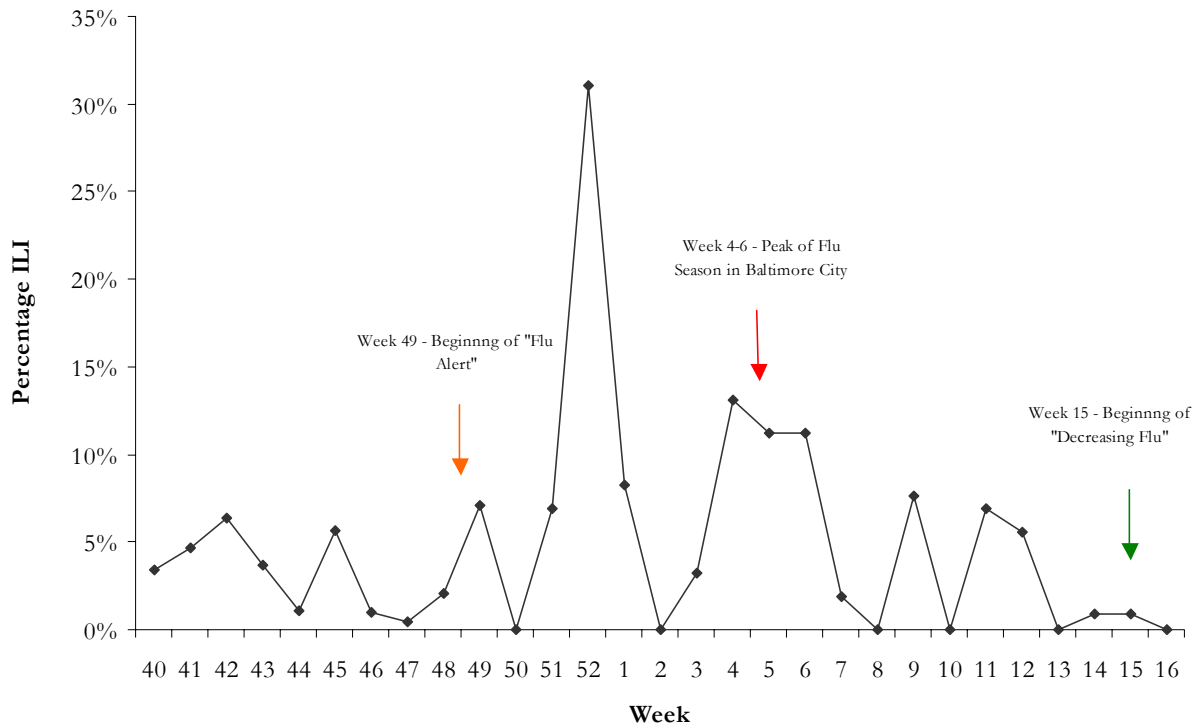
Influenza was listed as the specific cause of 3 deaths (or 0.06% of all deaths) occurring in Baltimore City; this is a lower proportion than during the four previous seasons when influenza was listed as the underlying or contributing cause of 0.07-0.18% of deaths.

In summary, during the 2007-2008 influenza season, the Health Department conducted timely surveillance and provided education, immunizations, resources, and leadership to reduce the public health burden of influenza. The response to future influenza seasons, including vaccination campaigns, education, and strategies to limit the spread of influenza, will be guided by the data generated by the Health Department’s active surveillance and planning initiated this year.

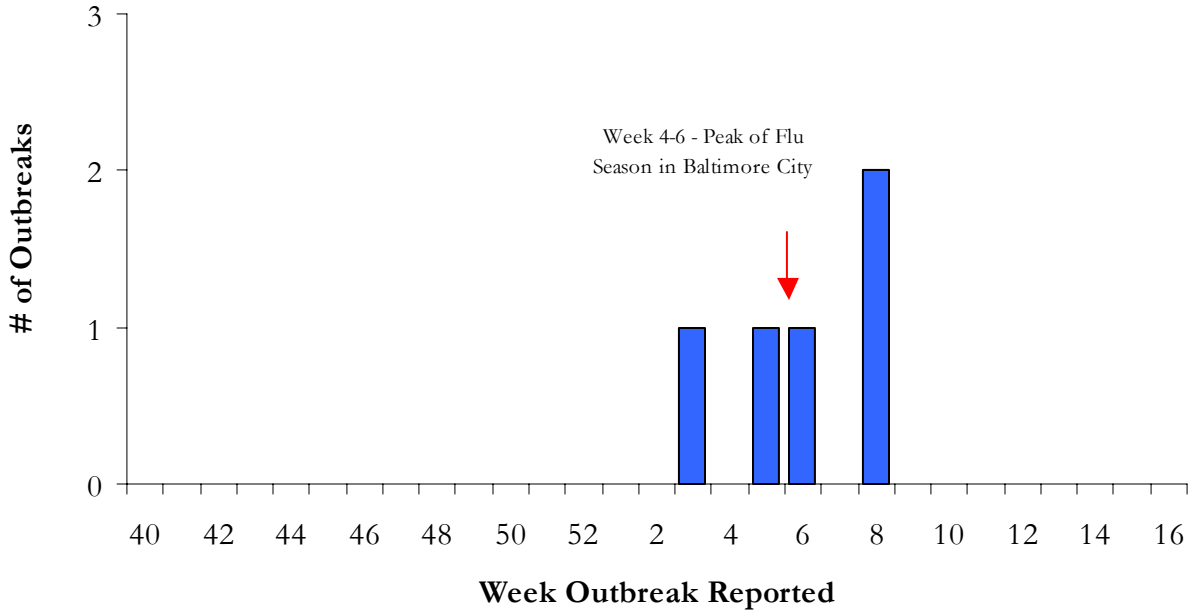
Number of Rapid Influenza Tests Ordered and Percent Positive, Baltimore City Sentinel Laboratories 2007-2008



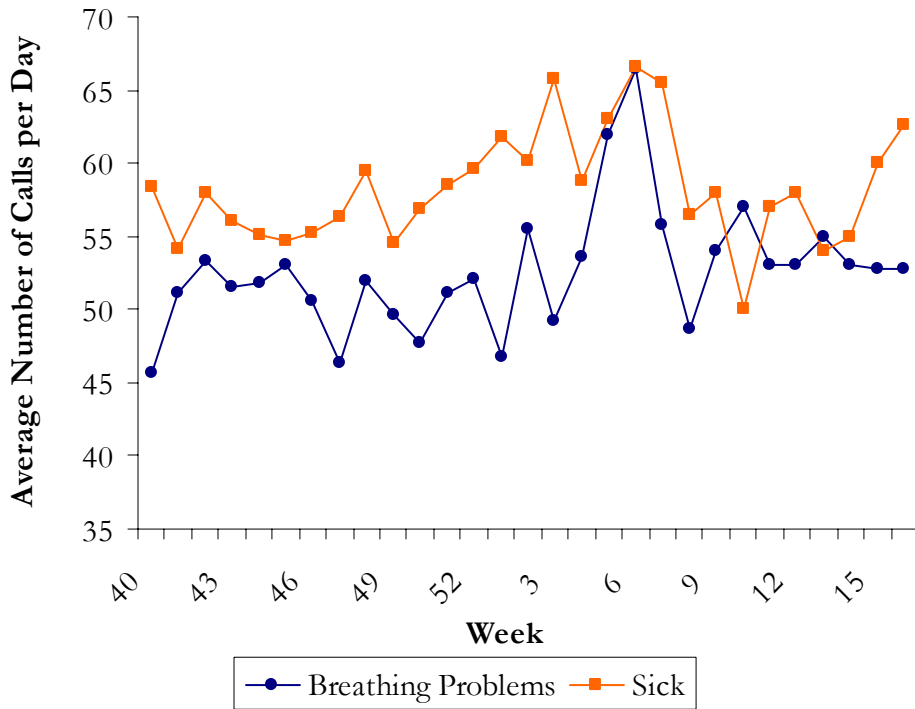
Percentage of visits to Baltimore City sentinel providers reported for ILI



Respiratory Outbreaks, Baltimore City



911 Call Data - Number of Calls with Complaint of Breathing Problems or Sick



Notes

1. Centers for Disease Control and Prevention. Influenza: The Disease. 15 March 2007. Accessed September 24, 2007 at <http://www.cdc.gov/flu/about/disease.htm>.
2. Centers for Disease Control and Prevention. MMWR. Prevention and Control of Influenza. Recommendations of the Advisory Committee on Immunization Practices (ACIP), 2007. July 13, 2007 / 56(RR06);1-54. Accessed September 24, 2007 at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5606a1.htm>.
3. The Seasonal Influenza Plan is available at http://www.baltimorehealth.org/info/2007_11_08.fluplan.pdf
4. The main goal of syndromic surveillance is to identify illness clusters early, before diagnoses are confirmed and reported to public health agencies. Non-specific indicators of illness such as data from 911 calls and emergency departments provide early indications that flu activity in the community may be increasing.
5. The Maryland Department of Health and Mental Hygiene (DHMH) collects data from sentinel providers throughout the state as part of the Centers for Disease Control and Prevention's (CDC) national influenza surveillance program. The percent of patient visits due to influenza-like illness (ILI) is calculated as the total number of patients with ILI divided by the total number of patients seen at these practices.
6. ILI is defined as a fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat in the absence of a KNOWN cause other than influenza. (<http://www.cdc.gov/flu/weekly/pdf/flu-surveillance-overview.pdf> - Last Accessed October 16th, 2007).
7. The Biosurveillance Analyst at the Baltimore City Health Department receives 911 call data on a daily basis and analyzes these data for aberrations in the number of calls in which "breathing problems," "sick," "fever," or "flu" are included in the text.
8. Data on the percent of positive rapid-flu tests are reported to the Health Department by DHMH on a weekly basis.
9. The Baltimore City Health Department reports mortality due to influenza and pneumonia to the CDC on a weekly basis. Deaths for which pneumonia or influenza was listed as the underlying or contributing cause of death are counted in this report. These numbers represent deaths that occurred in Baltimore City (regardless of residence of the deceased). The date of death is usually within ~2-3 weeks of the report.

Information on influenza strain types and vaccines

The 2007-2008 trivalent influenza vaccine included the following strains: A/Solomon Islands/3/2006 (H1N1)-like (new for this season), A/Wisconsin/67/2005 (H3N2)-like, and B/Malaysia/2506/2004-like.

In Maryland, Influenza A was the most common type isolated early in the season and during the peak of influenza season. Type B flu became more common during the second half of the season. According to data from DHMH laboratories and CDC, several of the strains circulating in Maryland (and nationwide) during the 2007-2008 flu season were antigenic variants (drifted strains) of the strains included in the vaccine. For a CDC study on the efficacy of this year's flu vaccine see:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5715a1.htm>

More information on national data is available at: www.cdc.gov/flu/weekly/fluactivity.htm
and on Maryland data at www.edcp.org/influenza/Influenza_serv.html