

**Baltimore City
Seasonal Influenza Plan
2008-2009**



Baltimore City Health Department

October 7, 2008

INTRODUCTION

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.² Vaccination is the primary method of preventing transmission of influenza and its associated complications.³

The goals of the Seasonal Flu Plan for 2008-2009 are (1) surveillance for influenza; (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 four potential stages of influenza in Baltimore. The first stage, “Minimal Flu,” notifies the public that it is flu season and provides information on prevention strategies. “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. The fourth stage “Diminishing Flu” signals that the peak of flu season has passed in Baltimore City.

BACKGROUND

There are two types of influenza virus that cause disease in humans: influenza A and B. Each is identified and further sub-classified based on molecules located on the surface of the virus, which are responsible for conferring infectivity. The virus is spread via contact with viral particles contained within large respiratory droplets. This type of contact can arise from close contact with someone who is infected or contact with objects harboring viral particles. A person is infectious at least one day prior to displaying initial symptoms and can spread the virus unknowingly.

Signs and symptoms of flu include fever, cough, nasal congestion, fatigue, body aches, difficulty breathing, and may include gastrointestinal symptoms such as diarrhea or nausea, particularly among young children.

Illness due to influenza can range from mild to severe, and can lead to complications such as ear and sinus infections, bronchitis, pneumonia, and death. Those most vulnerable to having severe infection and complications include young children, pregnant women, persons 50 years or older, people of any age with certain chronic medical conditions and people who living in nursing homes or long term care facilities.⁴

VACCINATION

The primary method for preventing influenza and its associated complications is through vaccination (also called immunization). Immunization is effective in protecting high-risk individuals: recent studies confirm that the flu vaccine reduces the risk of hospitalization and death among the elderly.⁵ In addition, routine vaccination of children

may benefit not only the children themselves, but may reduce the influenza disease burden in the community.⁶

Influenza vaccines are available in two forms: a vaccine with live, attenuated (reduced in strength) virus, delivered as a nasal spray; and a vaccine with killed virus, in an intramuscular injection. Individuals cannot get influenza from the vaccine itself. Vaccines cover both Influenza A and B and are modified each year to address the small changes the influenza virus undergoes over time; thus, it is essential that people are vaccinated every year. Individuals should check with their doctor about which vaccine is right for them.

The Centers for Disease Control and Prevention advise that all who wish to decrease their own risk of flu and reduce the risk for their close contacts get the flu vaccine: there will be enough vaccine for everyone. High risk groups in which vaccination is especially important include children age 6-59 months; pregnant and breastfeeding women; household contacts and out-of-home caregivers of children under six months; persons 50 years of age or older; people of any age with chronic medical conditions; and people who live in nursing homes or long-term care facilities.⁷ Household contacts of any high-risk group, including those who are immunocompromised, should receive the vaccine. Finally, those working closely with any of the high-risk groups should be vaccinated, including health care workers and emergency personnel.

Immunization of health care workers reduces transmission of influenza in the community, because unvaccinated health care workers can unknowingly transmit the virus to patients. Health care workers, when immunized, can reduce mortality among the elderly by 40%.⁸ In recent years, the rate of immunization among health care workers was low, with less than half of all health care workers being immunized against flu.⁹ It is very important that this group of individuals be immunized both to reduce transmission and to ensure a strong workforce when the flu season becomes severe. In order to encourage greater flu vaccination coverage among healthcare workers in Baltimore, a new regulation has been enacted that requires all hospitals and nursing homes to report influenza vaccination rates for all individuals providing direct patient care. Reports of staff influenza vaccination coverage will be due to the Health Department by May 1, 2009.

The flu season occurs during winter and spring; during the 2007-2008 season, the first PCR-confirmed case of influenza was reported in Baltimore City in early December. The levels of flu in Baltimore City peaked in later January and early February.¹⁰ Distribution of influenza vaccine typically starts in October and lasts into the spring, depending on the characteristics of the flu season. Information on free vaccination clinics is available on the Health Department website at www.baltimorehealth.org/flu or by calling 311.

SEASONAL FLU PLAN

Based on local surveillance data, the Baltimore City Health Department will categorize the state of flu activity during the flu season as “Minimal Flu,” “Flu Alert,” “Severe Flu Warning,” and “Diminishing Flu.”

Influenza surveillance occurs on a local, state and national level, with information sharing between governmental agencies.^{11,12} Baltimore City's seasonal flu surveillance plan includes data reporting on influenza and influenza-related complaints in the community. It also includes information on the ability of hospitals to respond to the level of influenza.

Influenza in Baltimore. Data on the presence and level of seasonal influenza in Baltimore City will come from the surveillance of a diverse set of measures, described below.

Data on the incidence of symptoms that are similar to flu (a "syndrome") do not require that laboratory tests be performed on every patient and reported. The collection of such data is known as syndromic surveillance. These non-specific indicators of illness, such as chief complaint data from emergency departments, provide early indications that flu activity in the community may be increasing. Absenteeism is also used as a coarse indicator.

Confirmed flu cases are reported by sentinel hospital laboratories and the State Health Department; additional hard indicators of influenza cases include outbreaks and mortality data.

➤ **Syndromic surveillance.**

- **Patients calling 911 and at emergency departments.** The Health Department will monitor 911 calls as part of seasonal influenza surveillance. Trends in the number of calls involving patients who are "sick" or have "breathing problems" will be noted, as well as specific mention of "fever" or "flu." The Health Department will also receive information on the number of cases with a chief complaint of fever and flu-like symptoms occurring in five of Baltimore City's emergency departments.
- **Patients at doctor's offices.** In partnership with the State's surveillance efforts, the Health Department will receive data from sentinel providers in and around Baltimore City who will report the percent of total patients seen who have influenza-like-illness (ILI) symptoms.¹³
- **Absenteeism.** The Health Department will review data on absenteeism throughout the city as one of its early, coarse indicators of illness.
- **Resident reports of influenza like illness (ILI) and flu vaccination status.** The Maryland Department of Health and Mental Hygiene's Office of Epidemiology and Disease Control Programs is designing and testing a new method of disease surveillance, which aims to collect info on weekly flu symptoms and vaccination status from participating residents via the internet.

- **Documented influenza.**
 - **Reporting of influenza cases from sentinel labs.** Select Baltimore City hospitals will report their influenza cases that are confirmed by a laboratory test.
 - **Laboratory-confirmed influenza hospitalizations.** The Health Department will receive reports of those hospitalized with influenza from the State.
 - **Institutional influenza outbreaks.** The Health Department receives reports of influenza and influenza-like-illness (ILI) outbreaks that occur in various institutions, such as nursing homes, in Baltimore City.
 - **Influenza and pneumonia mortality.** The Health Department routinely reviews death certificates for the City, and will provide information about deaths due to influenza and pneumonia.

- **Hospital capacity.** The Health Department will review data that provides information on hospital crowding in the City; including ambulance diversion data and ambulance wait times.

LEVEL ONE: MINIMAL FLU

Level One: Minimal Flu means little to no flu activity has been detected in Baltimore. Because more flu activity is imminent, this level involves several educational messages and actions.

Education. During Minimal Flu, the Health Department will provide information to the public on flu prevention, including vaccination. This information will be disseminated through various venues and will be available on the Health Department website at www.baltimorehealth.org/flu and by calling 311.

The key messages presented in the education campaign will be

- **How to avoid the flu.** Hand hygiene routines will be stressed: washing hands thoroughly or using hand sanitizer before meals, after coughing or sneezing or using the restroom, and when interacting with people who are ill or vulnerable to illness. Hand sanitizer is an acceptable alternative to hand washing; it reduces transmission of viral infections and lowers school absenteeism.^{14,15} Coughing and sneezing into a sleeve or tissue and keeping hands away from mouth, nose and eyes will be recommended.

- **The importance of vaccination for high-risk groups and the general public.** Information about high-risk groups needing vaccination will be provided. Locations of free clinics for flu vaccine will also be available.

- **The necessity of vaccination for health care workers.** Vaccination of health care workers is a high priority for the Health Department and will be emphasized.¹⁶ Hospitals and related institutions will be informed of their obligation under a new city regulation to report vaccine coverage of

healthcare workers. Private physicians will be encouraged to join a pilot program of voluntary reporting during this flu season.

Actions. During Minimal Flu, the Health Department will provide free flu vaccines to adults and children. Clinic dates began in early October and will continue into the spring. The clinics for adults are organized in conjunction with the Action for Community Enrichment Coalition, are held at locations such as community centers, senior centers, and libraries. The TIKE van, which provides immunizations for children, offers the flu vaccine for free to children. Symptomatic and diagnostic care for the uninsured is provided at low-cost, sliding scale clinics throughout the city.

More information for all of these services, including detailed schedules and locations, is available on the Health Department website <http://www.baltimorehealth.org> and through the 311 city information line.

LEVEL TWO: FLU ALERT

Level Two: Flu Alert will be triggered when there are indications through surveillance that the number of cases of influenza in Baltimore are rising and sustained.

Education. During Flu Alert, the Health Department will continue to reinforce ways that the public can prevent the transmission of influenza as described in the Minimal Flu plan.

The key messages presented in the education campaign will be

- **How to avoid the flu.**
- **The importance of vaccination for high-risk groups and the general public.** High risk groups in which vaccination is especially important include children age 6-59 months; pregnant and breastfeeding women; household contacts and out-of-home caregivers of children under six months; persons 50 years of age or older; people of any age with chronic medical conditions; and people who live in nursing homes or long-term care facilities.¹⁷ Household contacts of any high-risk group, including those who are immunocompromised, should receive the vaccine.
- **The necessity of vaccination for health care workers.**
- **Recognition of the signs and symptoms of flu and the importance of staying home when ill.** This message will be important for both adults and children, and especially for health care workers.

Actions. Communication may be increased on the importance of flu vaccination to locations in the city that provide front-line care, including emergency departments, urgent care centers, and pharmacies.

During Flu Alert, the Health Department will continue to provide free flu vaccines to adults and children as described in the Minimal Flu plan.

LEVEL THREE: SEVERE FLU WARNING

Level Three: Severe Flu Warning will be triggered when there is evidence of high numbers of influenza cases in Baltimore, along with data that the burden of flu is limiting area doctors' and hospitals' ability to provide timely and effective care. Severe Flu Warning will be invoked only when there is clear evidence that the City is experiencing very high levels of illness, high transmission rates, and an obvious difficulty of the medical system to effectively treat the large number of individuals that are ill.

The steps described here are intended to serve as a guide when there is evidence that the healthcare system is clearly stressed. At that time, there will be a need for a city-wide coordination of efforts, bringing together leaders from the Health Department, area hospitals, and community organizations. This Seasonal Flu Plan does not intend to cover the steps necessary to address a novel respiratory virus, such as pandemic flu.

Education. During a Severe Flu Warning, the Health Department may increase educational outreach by releasing daily reports on flu surveillance made available to practitioners and the public. Vaccination will be highly encouraged, focusing on high-risk populations.

In addition, the Health Department will communicate key messages to the public through press releases and updates on the website. Email communications will be sent to hospitals and clinic providers with information from the reports on influenza surveillance.

The key messages presented in the education campaign will be

- **How to avoid the flu.**
- **The importance of vaccination for high-risk groups and the general public.**
- **The necessity of vaccination for health care workers.**
- **Recognition of the signs and symptoms of flu and the importance of staying home when ill.**

Actions. During a Severe Flu Warning, the Health Department will continue its flu vaccine clinics, and may expand services to further reach high-risk groups in greatest need.

Surveillance reports may be released on a daily basis. Information sharing with the public will be conducted frequently by a central, effective spokesperson.

The Health Department will also consider other initiatives to stem the spread of influenza in coordination with Baltimore's hospitals and community leaders.¹⁸ A committee may be convened to consider recommendations for these additional measures to reduce the spread of influenza. The measures may include:

- Encouragement of strict hand hygiene routines at workplaces, public establishments, and at home.
- Required vaccination for all health care workers
- School or institutional closures, or alternating class schedules
- Enhanced coordination of Emergency Medical System services and triage protocols

LEVEL FOUR: DIMINISHING FLU

Level Four: Diminishing Flu will signal the final stages of the influenza season in Baltimore, and will be initiated when the number of influenza case reports is consistently decreasing for a sustained period of time.

Education. During Diminishing Flu, the Health Department will continue to emphasize the importance of taking individual actions to prevent the transmission of influenza, while concurrently alerting the public that the current flu season is ending. Information regarding Diminishing Flu will be updated on the Health Department website, and directly to health care providers.

The key messages presented in the education campaign will be

- **How to avoid the flu.** Even though the worst of the flu season has passed, the methods used to reduce the spread of flu are still important, and help protect against transmission of other infections.
- **The necessity of vaccination and reporting for health care workers in hospitals and nursing homes as outlined in the city regulation.**

Actions. During Diminishing Flu the Health Department will provide information about the seasonal closure of Health Department flu clinics.

The Health Department will communicate with hospitals and nursing homes in Baltimore to remind them of the upcoming May 1st deadline to report influenza vaccination coverage for staff with direct patient contact. Officials at the Health Department will be available to answer providers' questions regarding the required reporting procedures.

CONCLUSION

The transmission of influenza, a contagious, respiratory virus, is best prevented by vaccination. During the 2007-2008 flu season, the Health Department will conduct timely surveillance and provide education, immunizations, resources, and leadership to limit the impact of influenza in Baltimore.

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