



City Health Information

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The New York City Department of Health and Mental Hygiene

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OUTPATIENT CLINICAL MANAGEMENT OF INFLUENZA, 2009-2010

- The timing and intensity of seasonal influenza and novel H1N1 influenza virus activity cannot be predicted in advance; current surveillance information on influenza activity and the types of respiratory viruses circulating locally should inform clinical management of patients presenting with influenza-like illness (ILI). Visit www.nyc.gov/flu for weekly surveillance updates.
- Vaccinate your patients. Priority groups are different for seasonal influenza and novel H1N1 influenza.
- Diagnostic testing for influenza is generally not necessary for management of patients with mild ILI.
- Mild ILI can be managed over the phone or during an office visit; do not refer patients to an emergency department in the absence of severe symptoms.
- When treatment with antivirals is indicated (see page 62), begin empirically and as early as possible, preferably within 48 hours of symptom onset.

This issue of *City Health Information* summarizes guidance from the New York City Department of Health and Mental Hygiene (NYC DOHMH) to health care professionals on outpatient management of influenza as of November 17, 2009. Since novel H1N1 influenza is a newly emerged virus, the Health Department continues to monitor its clinical and epidemiologic features. These recommendations are therefore subject to change as new information becomes available.

The guidance provided in this document is meant to be implemented when influenza is circulating widely in NYC. Decisions about clinical management of patients should be made based on surveillance data, clinical judgment, underlying risk conditions, and severity of illness.

For information about influenza vaccination, see "Influenza Prevention and Control, 2009-2010" at www.nyc.gov/html/doh/downloads/pdf/chi/chi28-6.pdf.

Visit www.nyc.gov/flu or contact the Provider Access Line at 866-NYC-DOH1 (692-3641) for updated surveillance information and clinical guidance. You can also register for the Health Alert Network (HAN) at www.nyc.gov/health/nycmed to receive updated influenza information as it becomes available.



TABLE 1. SUMMARY VACCINATION GUIDANCE FOR THE 2009-2010 INFLUENZA SEASON

Priority Groups for Influenza Vaccination

Seasonal Influenza

At this time, supplies of seasonal influenza vaccine are limited. DOHMH recommends that, during the period of shortage, seasonal influenza vaccination should be reserved for:

- Anyone aged 65 years and older
- Children aged 6 months through 18 years, with priority to children younger than 5 years of age
- Anyone aged 5 through 64 years with chronic health conditions that put them at high risk (**Table 2**)
- Pregnant women
- Residents of long-term care facilities
- Health care workers who come in close contact with patients
- Caregivers of children under 6 months of age

Novel H1N1 Influenza

Initial priority groups

- Pregnant women
- Children and young adults aged 6 months through 24 years
- Household contacts and caregivers of children <6 months of age
- Health care and emergency medical services personnel
- Adults aged 25 through 64 years with chronic health conditions (**Table 2**)

Supplies of H1N1 influenza vaccine are limited and should be prioritized to those listed above. As more vaccine becomes available and the priority groups have been vaccinated, DOHMH will provide additional guidance on offering the vaccine to those beyond the priority groups.

Visit www.nyc.gov/flu for frequently updated recommendations.

TABLE 2. RISK FACTORS FOR SEVERE INFLUENZA OR COMPLICATIONS

- Pregnancy
- Childbirth, miscarriage, or abortion within the previous 2 weeks
- Age ≥ 65 years
- Age <2 years

Chronic conditions

- Pulmonary disease such as asthma and COPD
- Cardiovascular, renal, and hepatic disease, except hypertension
- Hematologic disease, such as sickle cell anemia
- Metabolic disorders, such as diabetes
- Immunosuppression, including HIV-related or caused by medication or malignancy
- Neuromuscular disorders, spinal cord injury, seizure disorders, or cognitive dysfunction that may compromise the handling of respiratory secretions or that increase the risk of aspiration
- Long-term aspirin therapy in patients <19 years of age because of the risk for Reye syndrome

VACCINATION

Who should receive influenza vaccine?

- Priority groups for immunization against seasonal influenza and novel H1N1 influenza are different (see **Table 1**).
- Vaccinate with seasonal and novel H1N1 influenza vaccines as soon as supplies are available in your practice.
- For information on how to obtain seasonal influenza vaccine for your practice, go to www.nyc.gov/flu or call the Provider Access Line (866-692-3641).
- To order novel H1N1 influenza vaccine, register your facility with the Citywide Immunization Registry via www.nyc.gov/html/doh/html/cir or by calling 212-676-2323.

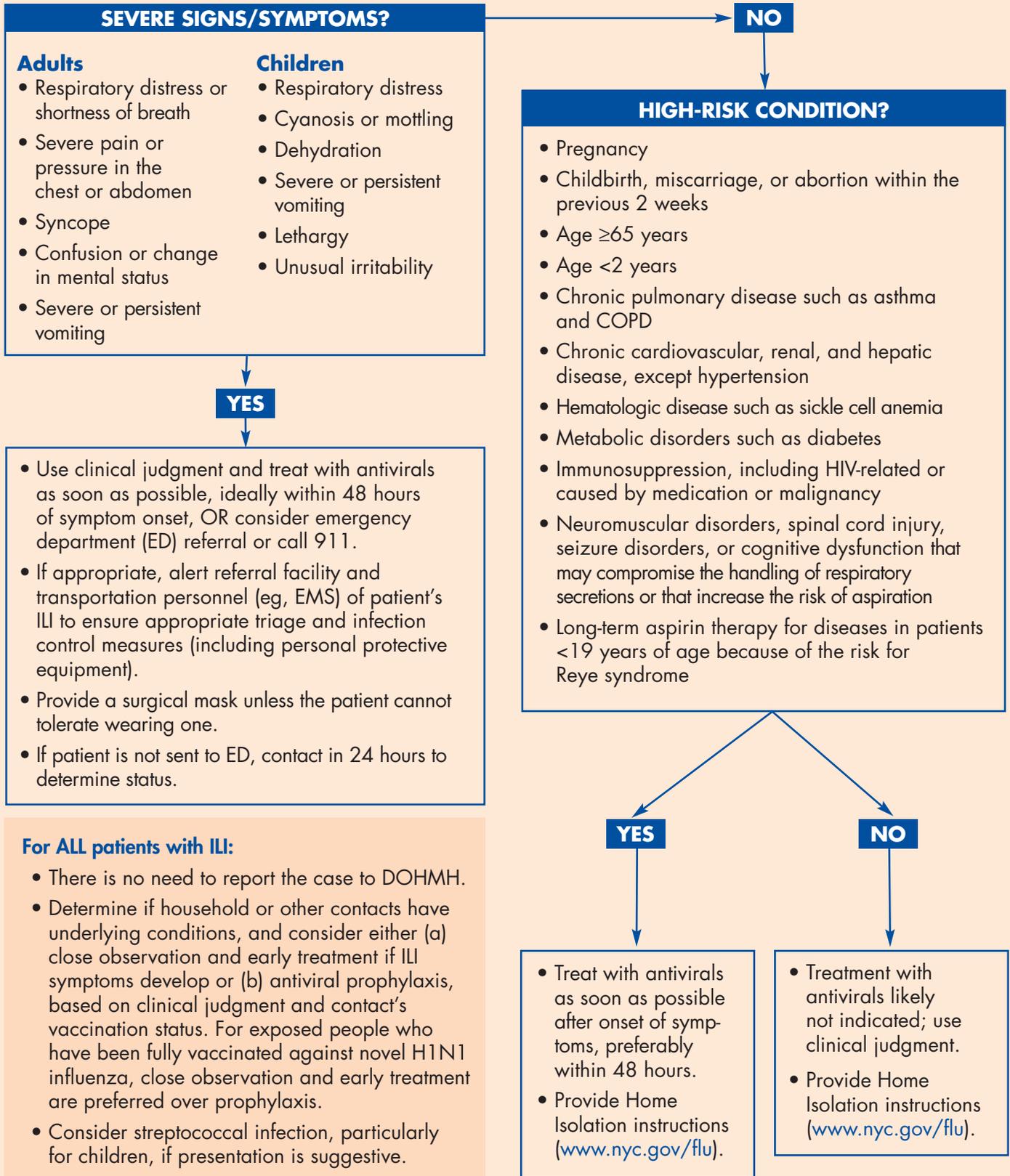
Practices that don't have sufficient vaccine can refer patients to the nearest vaccine clinic by checking the DOHMH's Flu Locator at www.nyc.gov/html/doh/flu/html/home/home.shtml.

CLINICAL MANAGEMENT (FIGURE 1)

What is the definition of influenza-like illness?

- Influenza-like illness (ILI) is defined as fever $\geq 100^{\circ}\text{F}$ (37.8°C) **and** cough or sore throat. Patients may also report headache or body aches, fatigue, chills, diarrhea, stuffy or runny nose, and vomiting.

FIGURE 1. MANAGEMENT OF PATIENTS PRESENTING WITH INFLUENZA-LIKE ILLNESS (ILI): FEVER $\geq 100^{\circ}\text{F}$ (37.8°C) AND COUGH OR SORE THROAT WHEN INFLUENZA IS CIRCULATING (see www.nyc.gov/flu for current information)



- Some patients with influenza infection, especially very young children, may not have fever and may not meet the case definition of ILI. When influenza is known to be circulating widely in the community, maintain a high index of suspicion for influenza in patients with any acute-onset respiratory illness.

How do I know when influenza is circulating widely in New York City?

- Check www.nyc.gov/flu for latest NYC surveillance data and sign up for the HAN at www.nyc.gov/health/nycmed.

How do I manage patients presenting with mild ILI during influenza season?

- Most cases of mild ILI can be managed safely over the phone or during an office visit.
- There is generally no need to test outpatients for influenza. The most widely available commercial test (rapid enzyme immunoassay or EIA) has poor sensitivity and cannot be used to rule out influenza. More sensitive tests (eg, PCR) are commercially available, but at this time, turn-around time may be too long to be useful for clinical decision-making.
- If the patient does not have any conditions listed in **Table 2**, antiviral treatment is probably not indicated; however, use your clinical judgment.
- If the patient has a condition listed in **Table 2**, and influenza is suspected, treat with antivirals as soon as possible after onset of symptoms (preferably within 48 hours). *Treatment should be empiric and should not wait for or be based on laboratory testing.*
- Advise patients to call if severe symptoms develop.
- Advise all patients with mild ILI to stay home until they have been free of fever for 24 hours without the use of antipyretics and provide Home Isolation instructions (www.nyc.gov/flu). There is no need to report the cases to DOHMH.

How should I manage pregnant patients?

Although oseltamivir and zanamivir are class C for pregnancy, DOHMH and the Centers for Disease Control and Prevention (CDC) advise using them to treat ILI because, due to the risk of severe illness or death among pregnant women, the benefits likely outweigh the potential risks.

What are the signs of severe ILI?

Any of the following signs should prompt consideration of referral to an emergency department (ED):

For adults

- Respiratory distress or shortness of breath
- Severe pain or pressure in the chest or abdomen
- Syncope
- Confusion or change in mental status
- Severe or persistent vomiting

For children

- Respiratory distress
- Cyanosis or mottling

- Dehydration
- Severe or persistent vomiting
- Lethargy
- Unusual irritability

How do I manage patients presenting with severe ILI?

- As always, use clinical judgment. Treat with antivirals as soon as possible, ideally within 48 hours of symptom onset, or consider ED referral or call 911.
- If emergency evaluation or treatment is required:
 - Provide the patient with a surgical mask unless the person cannot tolerate wearing one.
 - Send the patient to an ED for appropriate care and further evaluation.
 - Inform the referral facility and transportation personnel (eg, EMS) about the patient's ILI to ensure that appropriate triage, personal protective equipment (PPE), and infection control measures will be used.
- There is no need to report the case to DOHMH.

How can I reduce delays in starting treatment for my patients?

- At the beginning of the influenza season, identify patients in your practice who have high-risk conditions (**Table 2**) and educate them about influenza (see resources available at www.nyc.gov/flu).
- During the fall, explain the signs and symptoms of ILI to patients with high-risk conditions, including pregnant women, and ask that they let you know if they become ill. Help these patients obtain antiviral medication as quickly as possible so they can initiate treatment within 48 hours of symptom onset. Strategies to consider include:
 - Providing rapid access to telephone consultation and clinical evaluation for patients at high risk (**Table 2**) who develop ILI and patients who report severe illness.

LOW-COST ANTIVIRAL MEDICATION FOR QUALIFIED* PATIENTS IN THE 2009-2010 INFLUENZA SEASON

When antiviral medication is indicated, ask the patient if he or she has prescription drug coverage. If the answer is "no," ask if the patient can afford to pay \$130-\$150 for the prescription. If the patient cannot afford the medication, write on the prescription "Dispense From NYC Stock" and refer the patient to a participating pharmacy, where the medication will be dispensed for \$5.

- Duane-ReadTM
- Rite Aid
- Walgreens[®]

*No documentation is required.

TABLE 3. SUMMARY GUIDANCE ON ANTIVIRAL MEDICATIONS FOR INFLUENZA**Drug of Choice:****Neuraminidase inhibitors*:**

- Oseltamivir (Tamiflu®)

Side Effects:

Oseltamivir and zanamivir are generally safe and well tolerated.

- Oseltamivir's most common side effects are nausea and vomiting.
- Oseltamivir may cause transient behavioral changes or delirium; children at higher risk.

Contraindications and Precautions:

- Do not use either drug in persons with known allergy to either drug.
- Oseltamivir dosage should be reduced in chronic renal disease.

- Zanamivir (Relenza®)

- Zanamivir may cause bronchospasm or serious breathing problems, especially in those with underlying respiratory disorders.
- Children should take zanamivir under the supervision of an adult.

- Zanamivir is not recommended in patients with underlying airway disease such as asthma or chronic obstructive pulmonary disease (COPD).

*Peramivir, the only neuraminidase inhibitor available in intravenous form, has received an Emergency Use Authorization by the FDA in patients for whom oral or inhaled antivirals are not dependable or feasible. Further information may be obtained at www.cdc.gov/h1n1flu/eua.

Adamantanes: Novel influenza A (H1N1), influenza A (H3N2), and influenza B are not susceptible to the adamantanes, amantadine and rimantadine. To date, little seasonal influenza A (H1N1) has circulated in the US. Seasonal influenza A (H1N1) is resistant to oseltamivir but sensitive to the adamantanes and zanamivir.

Antiviral Agent	Treatment (duration 5 days)	Prophylaxis (duration 10 days)
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Oseltamivir (Tamiflu®)**Adults**

75-mg capsule twice per day

75-mg capsule once per day

Children 12 months or older, dosage by weight†

15 kg or less

30 mg twice per day

30 mg once per day

>15-23 kg

45 mg twice per day

45 mg once per day

>23-40 kg

60 mg twice per day

60 mg once per day

>40 kg

75 mg twice per day

75 mg once per day

Children less than 12 months of age†

3 mg/kg twice per day

Dosage by age: <3 months

Limited data on use in this age group. Not recommended unless situation judged critical.

Dosage by weight: 3-<12 months

3 mg/kg once per day

Zanamivir (Relenza®) (not recommended for patients with underlying pulmonary disorders)**Adults**

Two 5-mg inhalations (10 mg total) twice per day

Two 5-mg inhalations (10 mg total) once per day

Children†

Two 5-mg inhalations (10 mg total) twice per day (age ≥7 yrs)

Two 5-mg inhalations (10 mg total) once per day (age ≥5 yrs)

†**IMPORTANT:** Use caution when prescribing oseltamivir for children. For updated dosing information on oseltamivir, see www.cdc.gov/h1n1flu/eua/tamiflu-hcp.pdf. For other updated dosing information, including instructions on compounding, see Emergency Use Authorization at www.cdc.gov/h1n1flu/eua.

USE IN PREGNANCY AND BREASTFEEDING: Both neuraminidase inhibitors, oseltamivir and zanamivir, are pregnancy category C (ie, no clinical studies have been conducted to assess the safety of these medications for pregnant women). However, because influenza can be severe in pregnancy, both DOHMH and the CDC recommend that a neuraminidase inhibitor be used to treat pregnant women with suspected or confirmed influenza, since the potential benefit justifies the potential risk to the embryo or fetus. Breastfeeding women can continue nursing or expressing breast milk while on antiviral medication (although measures should be taken to prevent transmission of influenza to breastfeeding infants, such as having a mother with ILL wear a surgical mask).

- Beginning empiric treatment of patients based on telephone contact if they have underlying conditions (**Table 2**) and report mild ILI symptoms.
- Giving a prescription for an influenza antiviral in advance to selected patients who are at higher risk for influenza complications, based on the patient's reliability, understanding of symptoms of influenza, and access to a pharmacy. Advise patients to call you before starting the medicine.
- Counsel patients about the benefits and potential adverse effects of antiviral medicine, the possibility of having more than one influenza infection during the season (due to a different strain) or other respiratory viral or bacterial infection, and the need to again seek early access to health care if symptoms recur or worsen.

TREATMENT OF ILI

Who should be treated with antivirals?

- The decision to treat should be based on:
 - Knowledge of which respiratory pathogens are circulating at the time (see www.nyc.gov/flu for weekly surveillance updates).
 - Patient risk factors: Groups considered to be at high risk for severe influenza or complications are listed in **Table 2**.
 - Severity of the illness.
- Patients who have severe symptoms or who require hospitalization should be treated.

How should I treat?

- Currently, the NYC Health Department recommends oseltamivir or zanamivir as the drug of choice for treatment of suspected or confirmed influenza. This recommendation could change if circulating strains or resistance patterns shift. As of November 2009, more than 98% of circulating influenza viruses in the United States were novel H1N1 influenza viruses. Check www.nyc.gov/flu for updates on locally circulating strains and extent of circulation.
- If treatment is indicated, it should be initiated empirically as early as possible and not await laboratory confirmation.
- See **Table 3** for information on dosage and administration, contraindications and precautions, use during pregnancy or breastfeeding, and side effects of antiviral medications. For additional information on antiviral medications, see www.cdc.gov/h1n1flu/antivirals.

MANAGING EXPOSURES

How do I manage exposures to suspected or confirmed influenza?

- *Antiviral prophylaxis* can be used to prevent influenza infection in persons who have had household or other close contact with another individual with suspected or confirmed influenza.
- The decision to administer antiviral prophylaxis should be based on clinical judgment.

- Consider prophylaxis for unvaccinated patients at high risk for influenza-related complications (**Table 2**) who have had close contact with a person with ILI.
- Prophylaxis should only be used if it can be started within 48 hours of exposure.
- *Close observation and early treatment are suggested as an alternative to antiviral prophylaxis.* Monitor the exposed individual closely for the development of ILI symptoms, and treat with antiviral medications right away if symptoms develop.
- Patients at high risk (**Table 2**) who have been fully vaccinated for novel H1N1 influenza (**Table 1**) should be managed with close observation and early treatment if needed.

Should health care workers (HCWs) receive antiviral prophylaxis?

- Antiviral prophylaxis is generally not needed for healthy HCWs.
- Offer prophylaxis to health care workers who have been exposed through a breach in respiratory PPE at work OR through unprotected exposure in the home or community if the HCW either:
 - has a high-risk condition (**Table 2**), OR
 - takes care of vulnerable patients in a high-risk unit (eg, bone marrow transplant unit).

INFECTION CONTROL

What should patients do to prevent transmission of influenza in the home?

Infection control measures that patients and household members can take include:

- Covering the nose and mouth with a tissue or an arm—not a hand—when coughing or sneezing and discarding the used tissue in the trash.
- Washing hands often with soap and water, especially after coughing or sneezing. Alcohol-based hand cleaners are also effective.
- Keeping the sick person as far from other people as possible. If possible, the sick person should stay in a room separate from the common area and keep the door closed.
- When interacting with non-ill persons in the home, have the sick person wear a face mask, if tolerable. Transmission is probably prevented more effectively when the mask is worn by the sick person than when it is worn by household members.
- People with underlying medical conditions should avoid being a caregiver. If this is unavoidable, consider wearing a face mask when in close contact with the sick person, and seek care immediately if ILI symptoms develop.

What am I required to do to prevent transmission of influenza in my health care facility?

- CDC recommends the following hierarchy of controls to minimize exposure of health care workers to novel

H1N1 influenza and thereby minimize the need for N95 respirators (see www.cdc.gov/h1n1/guidelines_infection_control.htm).

1. Eliminate potential exposures to patients with ILI, eg,
 - Provide telephone consultation; offer appointments only if medically necessary.
 - Schedule patients with ILI to come at the same time of day and maintain written records of any response regarding their unavailability.
2. Establish engineering controls, eg,
 - Place barriers (eg, Plexiglas or a clear shower curtain) between reception and waiting areas.
3. Establish administrative controls, eg,
 - Vaccinate your office staff for both seasonal and novel H1N1 influenza, when vaccine supplies are available.
 - Instruct all staff to use meticulous hand hygiene before and after any patient care activities.
 - Instruct staff NOT to work if they are ill. Staff members who become ill while working should go home immediately. Ask them to wear a surgical face mask and to sit away from other staff and patients while they are waiting to go home.
 - Post signs instructing patients to cover their coughs and sneezes (**Resources**).
 - Post signs in appropriate languages (**Resources**) at the facility entrances asking patients with fever and cough to tell staff about their symptoms.
 - Make surgical masks and hand hygiene facilities accessible and ask patients with fever and cough to wear a mask and wash their hands. The mask should remain on at ALL times while in the clinic and office waiting area, during examination, and during transportation to the emergency department, if necessary.
 - Separate sick from well patients if possible. Keep patients with ILI at least 6 feet away from other people, especially if the ILI patient is not wearing a surgical mask.
 - Place patients with ILI into private rooms or exam areas separated by barriers such as curtains as soon as possible. Patients who cannot tolerate or who refuse to wear a surgical mask should be placed in a private room as soon as one is available.
4. Provide personal protective equipment when exposure is unavoidable.
 - The CDC recommends that all health care workers wear a disposable fit-tested N95 respirator while providing direct care for patients with suspected or confirmed novel H1N1, when within 6 feet of the patient, and upon entry to the patient's room. A surgical mask may be used if an N95 respirator is not available.
 - The CDC continues to recommend the use of respiratory protection that is at least as protective as an N95 respirator to protect health care workers against transmission of novel H1N1 influenza. This recommendation is a legally enforceable standard

of care that health care facilities must comply with, according to the Occupational Safety and Health Administration (OSHA).

- Therefore, the NYC Health Department recommends that health care facilities follow the CDC guidelines, including demonstrating a good faith effort to provide N95 respirators for health care workers caring for patients with suspected or confirmed novel H1N1 influenza infection. If facilities are unable to obtain sufficient N95 respirators, this should be documented by letters from suppliers regarding shipment delays or inability to fill orders due to shortages. Keep documents on hand in case of complaint and resultant inspection by OSHA.
- Because N95 respirators are in short supply, they should be prioritized for use during aerosol-generating procedures (such as sputum induction) and for care of patients with airborne infections (such as tuberculosis). N95 respirators must be used under a comprehensive respiratory protection program that details the proper selection, use, and maintenance of the respirator (see www.osha.gov/dte/library/respirators/major_requirements.html). It is reasonable to defer testing if N95 respirators are unavailable.
- OSHA will respond to complaints by inspecting facilities to ensure that CDC recommendations are implemented, and will require that employers demonstrate a “good faith effort” to comply. Medical facilities that implement the hierarchy of controls above, document attempts to purchase N95 respirators, and maintain records (eg, letters from suppliers) documenting delays or shortages will not be in violation of OSHA requirements and will not be cited.

REPORTING REQUIREMENTS

What are the reporting requirements for influenza?

For updated information, check the Health Department's reporting page at nyc.gov/html/doh/flu/html/providers/reporting.shtml and the Provider Access Line.

Outpatient cases of influenza do not have to be reported, but the following conditions do:

- **Hospitalized cases of influenza A**
- **Nosocomial cases of influenza or clusters of influenza-like illness in health care facilities**
- **Clusters of 5 or more cases of ILI in congregate living facilities**
- **Pediatric deaths due to influenza**
- **The CDC requests, but does not require, reporting critical illness or death due to influenza in pregnant women or women who have had childbirth or pregnancy loss in the preceding 6 weeks.** ♦

**NYC DOHMH PROVIDER ACCESS LINE:
866-NYC-DOH1 (866-692-3641)**



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2 Lafayette Street, 20th Floor, CN-65, New York, NY 10007 (212) 676-2188

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E-mail *City Health Information* at: nycdohrp@health.nyc.gov

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Obtain the latest information and recommendations on seasonal influenza and 2009 novel H1N1 influenza virus on the Health Department's Web site at www.nyc.gov/flu.

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RESOURCES

City Health Information: Influenza Prevention and Control, 2009-2010:

www.nyc.gov/html/doh/downloads/pdf/chi/chi28-6.pdf

Information for Patients:

www.nyc.gov/html/doh/html/flu/flu-pub-treat.shtml

Home Isolation Instructions for People With Ill:

www.nyc.gov/html/doh/downloads/pdf/cd/cd-h1n1-flu-homeisolation-new.pdf

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