

## CAMBRIDGE PUBLIC HEALTH DEPARTMENT



Cambridge Health Alliance

**TO:** Robert W. Healy, City Manager  
**FROM:** Claude-Alix Jacob, Chief Public Health Officer  
**DATE:** March 15, 2010  
**SUBJECT:** Response to Policy Order #4, dated 1/25/10

**Text of Order:** Public Schools are an important venue through which to address public health issues such as mass vaccinations; and recent H1N1 vaccination programs were not 100% successful in getting all children in a school vaccinated; now be it therefore ordered that the City Manager be and hereby is requested to instruct relevant City staff members confer with both Cambridge Health Alliance staff and all relevant school department staff, to include districts schools, charter schools, private schools and parochial schools, and report back to the Council on how effective the school vaccine program was and how it might be improved upon in the future.

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On April 21, 2009, the U.S. Centers for Disease Control and Prevention (CDC) reported on two cases of H1N1 ("swine") flu in two California counties. Soon thereafter, Cambridge experienced the first cases in Massachusetts, becoming the epicenter of this new flu in the state. Throughout last spring, university students and school children in Cambridge experienced high levels of influenza-like illness (ILI) and absenteeism—up to 20% in the elementary schools.

The World Health Organization declared a H1N1 flu pandemic in June, and the virus continued to circulate throughout the summer. In early September, as students returned to school, a second (and larger) wave of in ILI cases was observed throughout the country, including Massachusetts. This second wave peaked in early November 2009. The CDC estimated that by year-end, 57 million Americans had been sickened by H1N1 flu.

In early May 2009, the CDC began planning for the development and provision of an H1N1 vaccine. The agency estimated that the new vaccine would be widely available by November 2009. However, manufacturing difficulties and changing projections of vaccine quantities occurred throughout the summer and into October, which limited and slowed shipments until late November.

Using early data on risk for death and complications from novel H1N1, the CDC and Massachusetts Department of Public Health (MDPH) developed and disseminated a list prioritizing populations that should receive vaccine first (see attachment). The first doses of H1N1 vaccine were delivered to Cambridge hospitals and health care providers in mid-October. By November 2, 14,700 doses had been allocated to Cambridge, only 300 of which were allocated to the Cambridge Public Health Department (CPHD). This allocation reflected the MDPH strategy, which was to deliver the initial doses to pediatric and obstetrical providers to vaccinate their patients and to health care institutions to vaccinate their employees.

CPHD received its first large allocation of vaccine (900 doses) on November 16, and organized and promoted a large public vaccine clinic for children (6 months to 18 years) at the Cambridge Hospital on November 19. Twenty nurses from the department's School Health and Public Health Nursing programs joined with volunteers to vaccinate 760 Cambridge children, pregnant women, and parents of newborns in a three-hour period. The success of the Nov. 19 H1N1 clinic



was the culmination of the department's intensive pandemic flu preparedness efforts that included large "family friendly" seasonal flu clinics at the Tobin School in November 2008 (970 vaccinations administered in three hours) and October 2009 (1,360 vaccinations administered in two hours). These mass vaccination clinics engaged local clinicians and city departments (such as fire, EMS, police, schools, human services, public works, and traffic and parking) that would be called upon in a real health emergency

As vaccine continued to arrive in smaller quantities through November, the department held small flu clinics for all 47 Cambridge day care centers (children under age 5 are at greatest risk for H1N1 flu-related complications) and scheduled walk-in appointments for children and medically vulnerable adults. Vaccine was offered and supplied on an individual basis to students enrolled in the city's Special Start programs who had not been vaccinated through their pediatric providers. As a result of these efforts, an additional 570 Cambridge preschool children were vaccinated in November and early December.

### **2009 School-based Vaccination Clinics**

With the arrival of substantial quantities of H1N1 vaccine in early December, CPHD shifted its focus to the Cambridge schools. The department's goal was to offer vaccine to all unvaccinated children attending Cambridge public, private, parochial, and charter schools before the holiday break.

#### **Cambridge Public Schools**

With strong support from the Cambridge Public Schools Superintendent and the entire CPSD administrative and teaching staffs, publicity and permission forms went out to every student's parents through "backpack express" on December 4. Automated "robo-calls" were made to parents alerting them about the program, and teachers reminded children to return their permission forms by the December 11 deadline. School nurses checked forms and verified information with parents.

During the week of December 14–18, on-site vaccination occurred during school hours at all Cambridge public schools for all children whose parents had signed the authorization forms. During the clarification process, school nurses verified that many children had already been vaccinated. Children under 10 needing a second dose were also included in the vaccinations.

The overall "school-based" vaccination rate for CPS elementary school children was 29% – with individual schools ranging from 24% to 47%. The "school-based" vaccination rate for CRLS students was 10%. Overall, the CPIID School Health Program, along with public health nurses, administered 1,372 H1N1 vaccinations at the public schools during this week.

It is important to note that these "school-based" rates reflect only vaccinations provided by CPHD, and do not capture the universe of children who received H1N1 immunizations from their medical providers. Statewide, 57% of Massachusetts children (6 months through 18 years) received an H1N1 vaccine, compared to 33% nationally. Given the large number of Cambridge children vaccinated at school, it is likely that the overall childhood H1N1 vaccination rate in Cambridge exceeded that of the state.

## Cambridge Nonpublic Schools

Throughout this fall and winter, all children attending Cambridge nonpublic schools were offered the opportunity to receive a H1N1 vaccine at school and/or a CPHD public flu clinic. The department's Nurse Consultant to the Nonpublic Schools provided vaccine information to all nonpublic schools, including promotional materials for the CPHD public flu clinics targeting children. In addition, some schools organized on-site flu clinics for which CPHD supplied vaccine and nursing support.

## Conclusion

From October 2009 to present, **the families of all Cambridge school children in public, private, parochial, charter and day care programs have had the opportunity to have their children vaccinated at school, day care, or a public clinic.** Since November, CPHD has administered 3,005 H1N1 vaccinations to Cambridge children.\*

This winter, the Massachusetts Department of Public Health recognized CPHD as a leader in implementing school-based vaccination clinics. In addition, the state health department has invited CPHD's Senior Director of Public Health Nursing to speak at the opening plenary of its March 22 conference, "Responding to H1N1: Lessons Learned."

The December and January school-based flu clinics marked the first time that Cambridge children were vaccinated *during the school day*, a practice that before the H1N1 flu epidemic had been strongly discouraged by educators who worried that a vaccination program would disrupt learning. However, as the CPS Superintendant observed last fall, the five to ten minutes a child is out of class for vaccination is a small trade-off for preventing five days of lost school time.

Several factors influenced whether children took advantage of the school-based program implemented during the week of December 14–18:

1. Many children had already received vaccine at their pediatrician's office or at the November 19 clinic. According to Cambridge Health Alliance electronic medical records, 1,569 pediatric patients with Cambridge addresses had been vaccinated as of late December. Records for other practices serving Cambridge children are unavailable to CPHD.
2. CPHD received notification of the impending arrival of sufficient vaccine during the first week of December, and began immediate planning to distribute information and permission forms, and vaccinate before the holiday break. To give parents at least five school days' notice, the option to mail forms was ruled out.
3. Return of forms by parents, via their children, was uneven. At least one automated reminder call was made to each Cambridge public school family, and while some schools made repeated "robo-calls," others did not. Likewise, while some teachers gave daily reminders to children to return their authorization forms, others did not. In addition, many forms were returned incomplete, and there were language barriers that CPHD staff were unable to address in real time.

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\* This number reflects the total number of vaccine doses administered to Cambridge children, not the number of Cambridge children vaccinated since some children received two doses.

4. School-based vaccination is a novel program, and some parents were unfamiliar with the practice, which requires them to permit vaccination of their child while they are not present. Many parents, especially those of small children, want to be present to comfort their child.
5. Despite assurances from the CDC's Advisory Committee on Immunization Practices, many people perceived the H1N1 vaccine as experimental and untested.

In January and February 2010, CPHD continued to offer public clinics and school-based vaccination. A large clinic at the CRLS War Memorial gymnasium on January 9 provided 151 additional H1N1 flu shots to Cambridge children (a total of 1,171 seasonal and H1N1 shots were administered at that clinic).

CPHD staff learned a great deal from the 2009 H1N1 flu pandemic, and overcame significant obstacles to broadly vaccinate school children and other populations. Staff practiced both the management of epidemic flu and the mobilization of resources for mass vaccination. Notably, CPHD and other City departments (fire, EMS, police, schools, human services, public works, and traffic and parking) worked successfully together to operate well-organized, efficient mass vaccination clinics.

Lessons learned from the H1N1 experience will serve CPHD well in planning for flu season in the future. Going forward, the department anticipates increased acceptance of school-based flu vaccination programs, and if funding and resources permit, hopes to incorporate flu vaccination into the CPHD School Health Program, which serves the Cambridge Public Schools. Meanwhile, as part of its "back-to-school" activities this summer, CPHD will distribute information to all CPS families about flu vaccine availability in the schools, as well as vaccine information statements in multiple languages.



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### Guidelines for Use of Vaccine for Pandemic Influenza H1N1 2009

All pandemic influenza H1N1 2009 vaccine is provided at no cost by the federal government and allocated for delivery to immunization providers by the Massachusetts Department of Public Health. The initial target populations for this vaccine are:

- Pregnant women
- Household contacts/caregivers of infants < 6 months of age
- Healthcare providers and emergency medical personnel
- Persons 6 months of age through 24 years of age
- Persons 25 through 64 years old with underlying conditions that put them at higher risk for the complications of influenza

If demand exceeds supply, the Massachusetts Department of Public Health will provide public notice of this eventuality. and the target group may be narrowed to:

- Pregnant women
- Household contacts/caregivers of infants < 6 months of age
- Healthcare providers and emergency medical personnel with direct medical contact with patients or infectious materials
- Persons 6 months of age through 4 years of age
- Children 5 through 18 years old with underlying conditions that put them at higher risk for the complications of influenza

We expect the vaccine supply to increase rapidly. As more and more vaccine becomes available and the initial target groups are vaccinated, vaccine can be used to vaccinate healthy adults 24 through 64 years of age. Vaccination of those 65 years and older can begin once vaccination programs are capable of meeting the demand for the other age groups.

For more detailed information and updates, go to: <http://mass.gov/flu> (Information for Healthcare and Public Health Professionals)

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John Auerbach  
Commissioner, Massachusetts Department of Public Health

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Date