



CD Info



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CDInfo is a surveillance newsletter intended to promote prevention of morbidity and mortality by providing useful data and practical recommendations for clinicians, laboratorians, and infection control personnel who diagnose, treat or report infectious diseases in Chicago.

Pandemic Influenza A (H1N1) Vaccine Response in Chicago, 2009-2010

In April 2009, the Centers for Disease Control and Prevention (CDC) reported the [first two cases of pandemic influenza A \(H1N1\) in the United States](#)¹. Five months later, on September 30, 2009, the Chicago Department of Public Health (CDPH) received its first allocation of H1N1 vaccine from CDC. This edition of **CD Info** summarizes the allocation, distribution and administration of H1N1 vaccine in Chicago.

CDPH's guiding principle for H1N1 distribution was to distribute small amounts of vaccine to as many facilities as possible instead of large amounts of vaccine to few facilities. Beginning in September, CDC emailed CDPH daily notifications of the maximum number of doses of H1N1 vaccine available for ordering. In the initial phase, when vaccine demand was high, the CDPH Vaccine Distribution Team reviewed these allocations and submitted vaccine orders daily on behalf of registered providers equal in amount to the allocation (figure 1). CDPH prioritized the distribution of H1N1 vaccine based on the patient population served by the provider and according to the [Advisory Committee on Immunization Practices' recommendations](#)² of populations deemed to be at higher risk of becoming infected or suffering more severe consequences of infection. During the first week, allocations were directed to hospitals for their health care personnel, and to the City of Chicago Fire Department for emergency medical services (EMS) personnel. Subsequent allocations were directed to hospitals for patients (inpatient or outpatient), health care facilities providing care to children and pregnant women, other primary care and specialty providers, and the CDPH warehouse for mass vaccination clinics. Retail pharmacies and mass immunizers received vaccine only after healthcare facilities reported having received sufficient supply to meet the needs of priority patients and employees.

Seven hundred sixty-four healthcare facilities, retail pharmacies and mass immunizers registered with CDPH through the [Chicago Health Alert Network \(HAN\)](#)³ to receive direct shipment of H1N1 vaccine. These facilities included CDPH neighborhood health centers, hospitals, primary care providers (e.g., internal medicine, pediatrics, obstetrics/gynecology), federally qualified health centers (FQHCs), long term care facilities, colleges/universities, specialty providers (e.g., cardiology, infectious disease, allergy) and other health care facilities (e.g., dialysis centers, home care, substance abuse). Some facilities acted as

Figure 1. Cumulative H1N1 vaccine doses allocated, distributed, and administered, Chicago, October 3, 2009 - March 20, 2010.

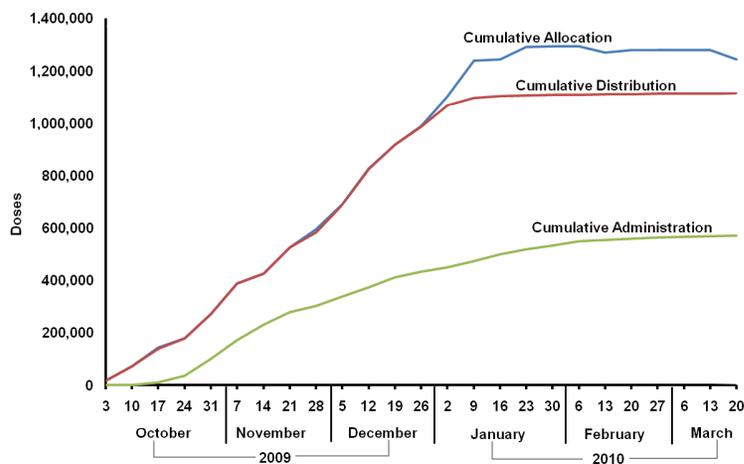
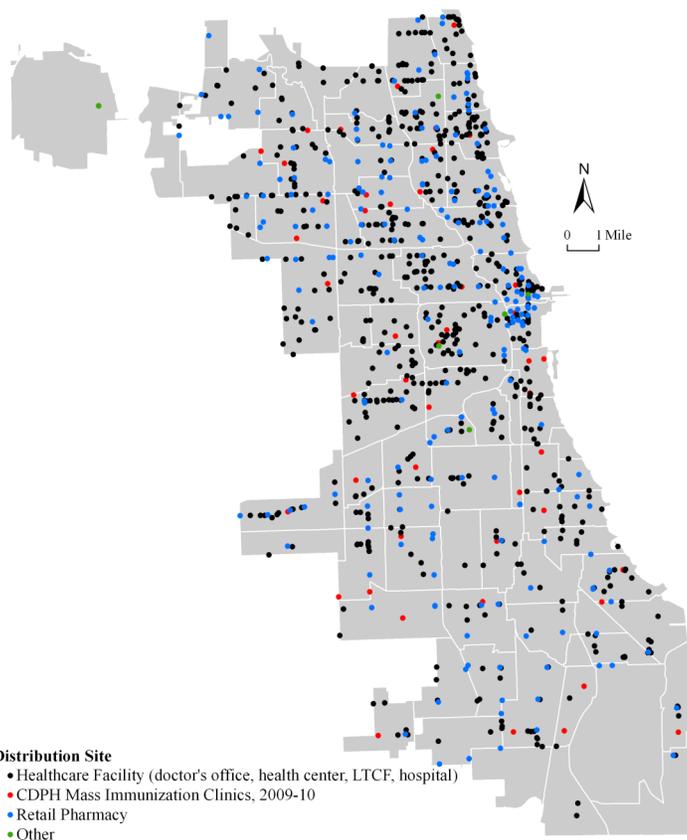


Figure 2. H1N1 vaccine distribution sites, Chicago, October 3, 2009 - March 20, 2010



¹ <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5815a5.htm>; ² <http://www.cdc.gov/h1n1flu/vaccination/acip.htm>; ³ <https://www.chicagohan.org/home>

Table 1. Receipt and administration of H1N1 vaccine doses distributed by CDPH, by facility type, Chicago, October 3, 2009 - March 20, 2010.

| | No. Facilities | Doses | No. Facilities | Doses | Administered/ |
|--|-------------------|------------------------|----------------|----------------------|---------------|
| | Receiving Vaccine | Received (%) | | Reporting | |
| CDPH Mass Vaccination Clinics [†] | 1 | 101,850 (9.2) | 1 | 100,120 (17.5) | 0.98 |
| CDPH [‡] | 15 | 16,249 (1.5) | 15 | 11,921 (2.1) | 0.73 |
| Colleges / Universities | 8 | 15,000 (1.3) | 7 | 10,862 (1.9) | 0.72 |
| City of Chicago EMS | 1 | 5,000 (0.4) | 1 | 2,104 (0.4) | 0.42 |
| FQHCs | 55 | 129,490 (11.6) | 52 | 53,643 (9.4) | 0.41 |
| Hospitals | 37 | 248,590 (22.3) | 36 | 139,819 (24.5) | 0.56 |
| LTCFs | 51 | 10,574 (1) | 45 | 4,853 (0.8) | 0.46 |
| Mass Immunizers | 9 | 71,500 (6.4) | 9 | 27,577 (4.8) | 0.39 |
| Other | 50 | 14,117 (1.3) | 46 | 6,518 (1.1) | 0.46 |
| Primary Care Providers | 497 | 321,530 (28.9) | 453 | 166,203 (29.1) | 0.52 |
| Retail Pharmacies | 8 | 171,300 (15.4) | 7 | 44,508 (7.8) | 0.26 |
| Specialty Providers | 32 | 7,800 (0.7) | 32 | 3,457 (0.6) | 0.44 |
| All | 764 | 1,113,000 (100) | 704 | 571,585 (100) | 0.51 |

[†]includes 2010 H1N1 Clinics; [‡]Refers to neighborhood health centers, Fast Track Immunization sites, and mobile units.

a central distribution point. For example, when CDPH had vaccine shipped to some retail pharmacy chains, vaccine went to a single location, and was then distributed by the company to individual stores. Thus, the actual number of locations in Chicago that received H1N1 vaccine was more than 1,100 (figure 2). Primary care providers, including FQHCs, received the largest share of vaccine, at 41% of all H1N1 vaccine distributed. Hospitals received 22% of all distributed vaccine, with many hospitals providing vaccine to affiliated provider offices. Retail pharmacies received 15%, and 9% of doses were reserved for the use in CDPH mass vaccination clinics (table 1).

CDPH's total allocation of H1N1 vaccine from CDC was 1,293,000 doses. As of March 20, 2010, 1,113,000 doses (86%) had been distributed. From mid October through mid November, when vaccine demand was highest and supply was increasing, CDPH distributed more than 70,000 doses per week on average (figure 1). In contrast, by mid-January 2010, CDPH was distributing less than 10,000 doses of H1N1 vaccine per week. The second week of March was the first week since H1N1 vaccine distribution began in which CDPH received no requests from the healthcare community for vaccine. This pattern of decreasing demand for vaccine in mid-December, before peak supply was reached, is similar to the decrease in demand seen around [Thanksgiving for seasonal influenza vaccine](#)⁴. It is likely that this year, as in recent influenza seasons, vaccine will remain unused.

To understand the usage patterns of H1N1 vaccine and conform to CDC guidelines, CDPH requested that all facilities receiving H1N1 vaccine submit weekly doses administered reports through the HAN online portal. According to these reports, 571,585 doses of H1N1 vaccine were administered by Chicago providers between September 30, 2009 and March 20, 2010, accounting for 51% of all doses received. However, this number represents a low estimate of the true number of doses administered due to under reporting. Only 144 (19%) facilities have submitted doses administered reports every week since receiving vaccine and 60 (8%) have never reported. On average, facilities are reporting 59% of the time. CDPH and colleges and universities have the highest administration/received proportions, and retail pharmacies have the lowest (table 1). The low proportion for retail pharmacies is due to the large number of doses each pharmacy received and the timing of their receipt of vaccine, when demand for H1N1 vaccine began to decline.

City level immunization coverage levels are not available to provide a more accurate assessment of CDPH's H1N1 vaccination program, though CDC has assessed [immunization coverage levels](#)⁵ for the state as a whole. CDC estimates that H1N1 vaccine coverage in Illinois was 37.5% for children, 21.6% for adults, and 33.6% for persons in the initial priority groups by the end of January 2010. These numbers are not significantly different from averages for the nation, though there was wide variation among coverage levels by state. Despite the low levels of influenza-like illness currently being reported and decreased demand for H1N1 vaccine, CDPH recommends providers continue their vaccination efforts, especially with respect to people with high risk conditions and infants who are just now becoming eligible to receive vaccine at 6 months of age.

⁴ <http://download.journals.elsevierhealth.com/pdfs/journals/0002-9343/PIIS0002934308004671.pdf>; ⁵ <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5912a2.htm>