

# CDC Recommendations for State and Local Planning for a 2009 Novel H1N1 Influenza Program

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The purpose of this document is to describe planning scenarios for state and local governments to target high-priority populations for vaccination in order to reduce the health and societal impact of the novel H1N1 influenza virus.

## Background

Data from U.S. and international sources suggests that it is appropriate to plan for a vaccination program to reduce the health and societal impacts of the novel H1N1 influenza virus. In order to increase the probability of success of such a program, planning scenarios should be provided to state and local health authorities promptly. Planning scenarios can facilitate readiness to implement specific plans within states and large cities, improving the chances that vaccine will reach target populations when recommendations are made, and that distribution, delivery, and communication efforts regarding vaccination will overcome local challenges and maximize capacities.

Ongoing analysis through the summer of available data on the epidemiology and virologic characteristics of 2009-H1N1 virus and about vaccine efficacy will guide decisions about features of the program. These decisions will be made in collaboration with expert panels and with input from the public. For example, CDC's Advisory Committee on Immunization Practices will provide specific vaccination recommendations, including specific target populations and priorities for circumstances of limited or phased vaccine supply. In addition, the National Vaccine Advisory Committee will provide guidance on implementation and evaluation of vaccine safety. A public engagement effort will also seek input from citizens from several regions around the country about these matters. While additional data are collected and reviewed, state and local public health authorities need to accelerate their outreach to health care providers, the private sector, occupational groups, and others to put in place mechanisms and to develop vaccination venues appropriate to reach groups most likely to be included in a vaccination program against pandemic H1N1 influenza.

## Rationale Used in Developing the Planning Scenarios

The particular configuration of the vaccination program in each state and local jurisdiction will be determined by the population groups for which vaccine is recommended, and vaccination planning needs to encompass the diverse venues where vaccine might be delivered. Identification of highly affected populations to date can highlight venues that need to be ready to administer vaccine to the various populations that might be included in the program, and provide the rationale for the planning scenarios. Populations included in planning scenarios are based on the best current data to facilitate state and local planning.

Evidence to date suggests that population immunity to this virus is low, particularly among the young. In one small serologic study of samples collected during 2006-08, cross-reacting antibody were found among some older persons but not in any younger adults or children. Widespread susceptibility to this virus among young persons creates the potential for large numbers of cases with more hospitalizations and deaths among younger age groups than

would be expected for a typical routine seasonal influenza virus. Importantly, severe disease and death caused by novel H1N1 thus far have affected younger adults, children, and pregnant women, in addition to persons of all ages with certain underlying medical conditions more than the elderly. The virus has also caused numerous outbreaks in schools and summer camps.

## Planning Assumptions

These planning scenarios are based on the following assumptions at the time vaccine becomes available and distribution begins:

1. severity of illness is unchanged from what has already been observed
2. risk groups affected by this virus do not change significantly
3. vaccine testing suggests safe and efficacious product
4. adequate supplies of vaccine can be produced
5. no major antigenic changes are evident that would signal the lack of likely efficacy of the vaccines being produced

## Planning Scenarios

The following are best-case planning scenarios that would be recommended in a setting of limited initial vaccine availability.

**Target population: Students and staff (all ages) associated with schools (K-12th grade) and children (age  $\geq 6$  months) and staff (all ages) in child care centers.**

**Primary venues:** schools and child care centers.

**Goals:** Provide direct protection against illness among persons who have high attack rates of illness, reduce likelihood of outbreaks that may lead to disruptive school dismissals, reduce transmission from schools into homes and the community.

Adherence to these guidelines will require state and local authorities to carry out extensive planning to reach school-aged populations either through venues such as school-associated mass vaccination efforts, or, where private capacity is sufficient, through local pediatric providers. Local pediatric care providers may play a particularly prominent role in vaccinating preschool-aged children who have a medical home. These planning efforts will reinforce longer-term immunization targets of strengthening vaccination efforts in these populations, and building links between health and education. The disruptive outbreaks prevalent in schools and some universities in the spring of 2009 may provide impetus for these planning steps to move forward actively. They will also permit strengthening capacity for seasonal influenza vaccination of school-aged children in future seasons.

**Target population: Pregnant women, children 6 months – 4 years of age, new parents and household contacts of children <6 months of age.**

**Primary venues:** Provider offices, community clinics.

**Goal:** Reduce complications of novel H1N1 influenza, such as excess hospitalizations and deaths among those vulnerable for serious complications of influenza, as evidenced by higher rates of hospitalization; protect the youngest (<6 months) who are not themselves able to be vaccinated through immunization of their household contacts.

Sustaining a focus on pregnant women and young children is appropriate given their high rates of complications and hospitalizations to date, and is consistent with tier 1 prioritization for these groups in pre-pandemic planning.

**Target population: Non-elderly adults (age <65 years) with medical conditions that increase the risk of complications of influenza.**

**Primary venues:** Occupational settings, community clinics, pharmacies, providers' offices. (Experience with seasonal influenza vaccine suggests that persons with underlying illness age 50 to 64 years may be more likely to receive vaccine from their provider, while younger persons may be more likely to be vaccinated elsewhere).

**Goal:** Reduce risk of hospitalizations and deaths among persons with higher rates of these complications than the general population, and focus vaccine where its impact can be most beneficial for direct protection.

The planning requirement to offer vaccine to young adults with risk factors will permit state and local authorities to address a group that does not frequently seek health care and has relatively low rates of vaccination against seasonal influenza. Links with occupational clinics, adult providers, or contingency plans for community venues or pharmacies are all options that might address this important at-risk group.

**Target population: Health care workers and emergency services sector personnel (regardless of age).**

**Primary venue:** Occupational settings, providers' offices.

**Goal:** Reduce risk of illness, sustain health system functioning, and reduce absenteeism among front-line providers; reduce transmission from emergency services personnel and health care workers to patients; provide additional worker protection in settings of increased exposure; reinforce importance of influenza vaccination among all health care workers.

*Note: Immunization of military (e.g., deployed forces) may be appropriate given the current circumstances; however, this memo focuses on vaccination of civilian populations under the authority of CDC and state and local health departments.*

**Vaccine Availability Considerations**

If vaccine is widely available, CDC would recommend offering vaccine at multiple venues to anyone who wants to be vaccinated. Although the benefits of vaccine may be greatest in the persons in groups at increased risk, and interest in being vaccinated may be lower among the general population, offering vaccine to everyone can reduce the risk of influenza for general population may reduce transmission to unvaccinated persons. At the same time, if vaccine supply is limited, it will be important to consider a balance between international needs for vaccine in relation to the vaccination of low risk individuals in the United States