Planning for the Next Pandemic:

A Vaccine Provider's Perspective

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National Adult and Influenza Immunization Summit
May 15, 2014

National Center for Immunization & Respiratory Diseases
Immunization Services Division

Presentation Overview

- **Overview of possible differences in epidemiology between 2009 H1N1 and the next pandemic**
  - Impact on overall pandemic vaccine campaign planning
- **Major pandemic planning considerations for provider groups**

Novel Influenza Viruses and Pandemic Planning

- **Prior to 2009, pandemic planning focused on H5N1**
  - 2009 H1N1 changed scope of response, but H5N1 and other viruses persist
  - As of May 7, 2014: 665 H5N1 humans cases, 392 deaths
  - One recent imported case in Canada
- **H7N9 is most recent, major threat:**
  - First human cases of H7N9 infection reported on March 31, 2013
  - As of May 8, 2014: 434 cases, 158 deaths
  - No evidence of sustained human to human spread
- **H7N9 is not the only threat**
  - H5N6, H9, and H10 human infections also recently reported
- **Novel influenza virus infections can occur at any time and from any source**

Epidemiology of the Next Pandemic Unlikely to be 2009 H1N1-like

	2009 H1N1	H7N9 and Other Possibilities
Severity	Mild-moderate	High in all ages
Susceptibility	Higher in younger groups	All ages
No. of vaccine doses required	One dose; except for <9 years	2 doses for all ages
Use of adjuvant	Not used	Probable
Demand for vaccination	*Mild-moderate*	*Likely high if severe disease and vaccine available before peak illness*

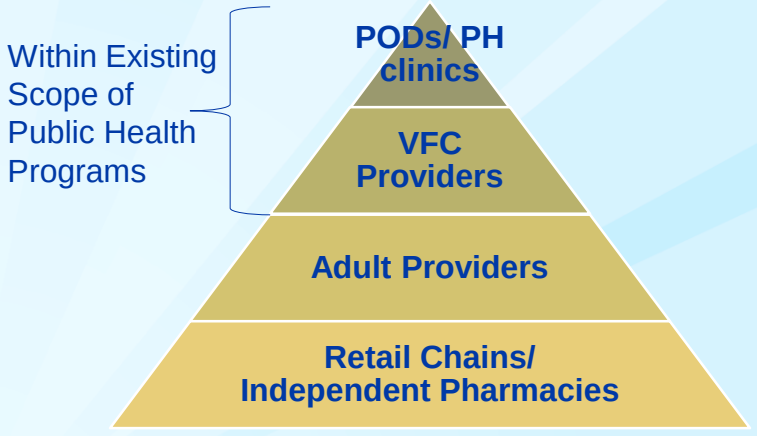
Program Planning for Next Influenza Pandemic

- **Planning assumptions:**
  - Disease may peak <20 weeks from first US case
  - Disease could be severe
  - 2 vaccine doses separated by 3 weeks will be needed for all ages; use of adjuvant likely, potentially mixed at bedside
  - Demand for vaccination may be high
  - ~30M vaccine doses may be available for distribution each week due to:
    - Improvement in vaccine manufacturing capacity and
    - Use of antigen sparing strategy with adjuvants
- **Influenza pandemic preparedness goals:**
  - Vaccinate 80% of jurisdiction population with 2 doses separated by 3 weeks within 16 weeks
  - Be ready to begin vaccinating at maximum capacity as soon as vaccine available
    - Vaccine may be available 60 days after notification

Influenza Vaccine Campaign: Past, Present, and Future

- **2009 H1N1 vaccine administration:**
  - Only ~5 million vaccine doses were administered during peak vaccination week of 2009 H1N1, after ~4 months of planning
- **Seasonal influenza vaccine administration:**
  - ~12 million influenza vaccines administered during peak week of administration during recent influenza seasons
- **Expanding vaccination capacity in the next pandemic:**
  - A large number of people will need to be immunized in a short period of time with 2 doses 3 weeks apart
  - While Vaccines For Children (VFC) program in place, also need a widely available effort that can rapidly immunize adults
  - Need to leverage existing systems to ensure vaccination begins as soon as vaccine doses available

Using a Layered Approach: Leveraging the Strengths of Public Health and Private Sector



Preparing for the Next Pandemic

MAJOR CONSIDERATIONS FOR PROVIDERS

Planning Considerations for Providers: Obtaining Pandemic Vaccine

- Vaccine will be purchased by Federal government
- States will receive pandemic vaccine allocation based their size of their overall population
- To receive pandemic vaccine, providers must enroll and register with state or local jurisdiction's immunization program
- Each state may have different registration/ ordering process and requirements for training and vaccine administration
- Providers should be familiar with how to contact their state program

Planning Considerations for Providers: Matching and Mix Vaccine Antigen/ Adjuvant

- Pandemic vaccine may need to be administered with adjuvant:
  - Adjuvant helps optimize immune response from vaccine antigen
  - Adjuvant can also be used for a dose sparing strategy, allowing for increased number of vaccines for population
- Adjuvant may be shipped in separate vials and mixed at point of administration by providers
  - Recommendations may differ as to which adjuvant can be paired with which type of pandemic vaccine antigen
- Providers will need to plan on ensuring their patients:
  - Receive the correctly matched antigen/ adjuvant combination between at each dose
  - Receive dose 1 and 2 at the proper 3 week interval

Planning Considerations for Providers: Pandemic Vaccination Documentation

- **Use of immunization information system (IIS) will be important part of pandemic vaccination program**
  - In 2013, all states with an IIS, reported that submission of vaccination administration data to IIS would be required of all vaccine providers in the next pandemic
- **IIS will be an important method of ensuring:**
  - Patients receive correct vaccine at correct timing interval and with correct antigen/ adjuvant match between doses
  - Consistency across providers, as many patients may receive dose 1 and dose 2 from different providers/ different settings
- **IIS may also be used as part of vaccine ordering for providers and management process for public health**
  - Tracking use of publicly funded pandemic vaccine products

Planning Considerations for Providers: Vaccination Capacity

- **Providers should assess capacity to administer vaccines and determine capacity to surge**
  - Vaccine allocations may be based on this capacity, depending on state
- **Many providers should expect surge in patients seeking care for illness or antivirals**
  - May have less resources/ staff to administer pandemic vaccine
  - Providers should be comfortable referring patients to health departments, mass vaccination clinics, and pharmacies to receive pandemic vaccinations

Summary

- **Novel influenza viruses remain a pandemic threat**
- **Planning for next pandemic will likely be much different than 2009 H1N1**
  - Differences are important for overall program planning and provider groups
  - More work is needed to vaccinate more broadly during pandemic
- **Provider groups should begin pandemic planning now:**
  - Prepare for increased demand and need for 2 doses, potentially with matched adjuvant
  - Develop plan for documenting vaccine administration, especially through use of IIS or vaccine registry
  - Know how to contact state and/or local immunization program

Acknowledgements: Thank you!

- Carolyn Bridges
- Erin Kennedy
- Jaci Bagby
- Vaccine Task Force
- Influenza Coordination Unit

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