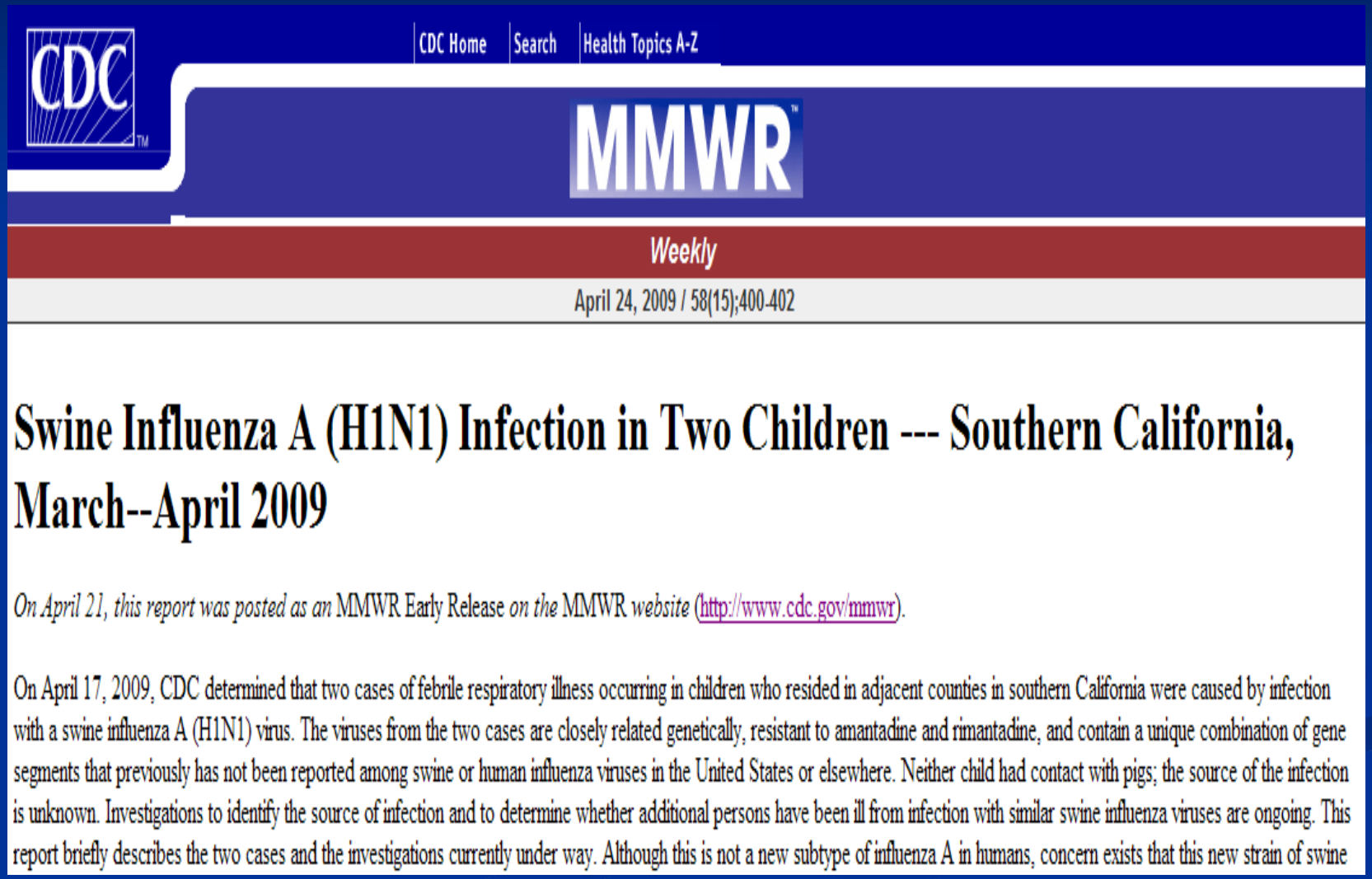
H1N1 Planning, Response and Lessons to Date

Glen Nowak, Ph.D.
Acting Director
Division of News and Electronic Media
Centers for Disease Control and Prevention

The Beginning

- Mid-April – indications that we might have a novel H1N1 influenza virus
- April 18-19 – calls with TX, CA regarding a lab testing that identified a unique H1N1 virus
- April 19-22 – internal discussions about the test results, potential implications. . .
  - Initial U.S. cases small in # and had recovered
  - At the end of the annual flu season
  - Publication – yes, but how fast?

Prompt Initial Acknowledgement



CDC Home | Search | Health Topics A-Z

MMWR

Weekly

April 24, 2009 / 58(15);400-402

Swine Influenza A (H1N1) Infection in Two Children --- Southern California, March--April 2009

On April 21, this report was posted as an MMWR Early Release *on the* MMWR *website* (http://www.cdc.gov/mmwr).

On April 17, 2009, CDC determined that two cases of febrile respiratory illness occurring in children who resided in adjacent counties in southern California were caused by infection with a swine influenza A (H1N1) virus. The viruses from the two cases are closely related genetically, resistant to amantadine and rimantadine, and contain a unique combination of gene segments that previously has not been reported among swine or human influenza viruses in the United States or elsewhere. Neither child had contact with pigs; the source of the infection is unknown. Investigations to identify the source of infection and to determine whether additional persons have been ill from infection with similar swine influenza viruses are ongoing. This report briefly describes the two cases and the investigations currently under way. Although this is not a new subtype of influenza A in humans, concern exists that this new strain of swine

Quickly followed by frequent updates

- April 23 media briefing – "novel H1N1 flu virus"
- Discovery that novel virus was circulating in Mexico
- Additional U.S. lab specimens/confirmations
- April 24 media briefing w/ acting CDC director
- Daily press briefings over the span of three weeks

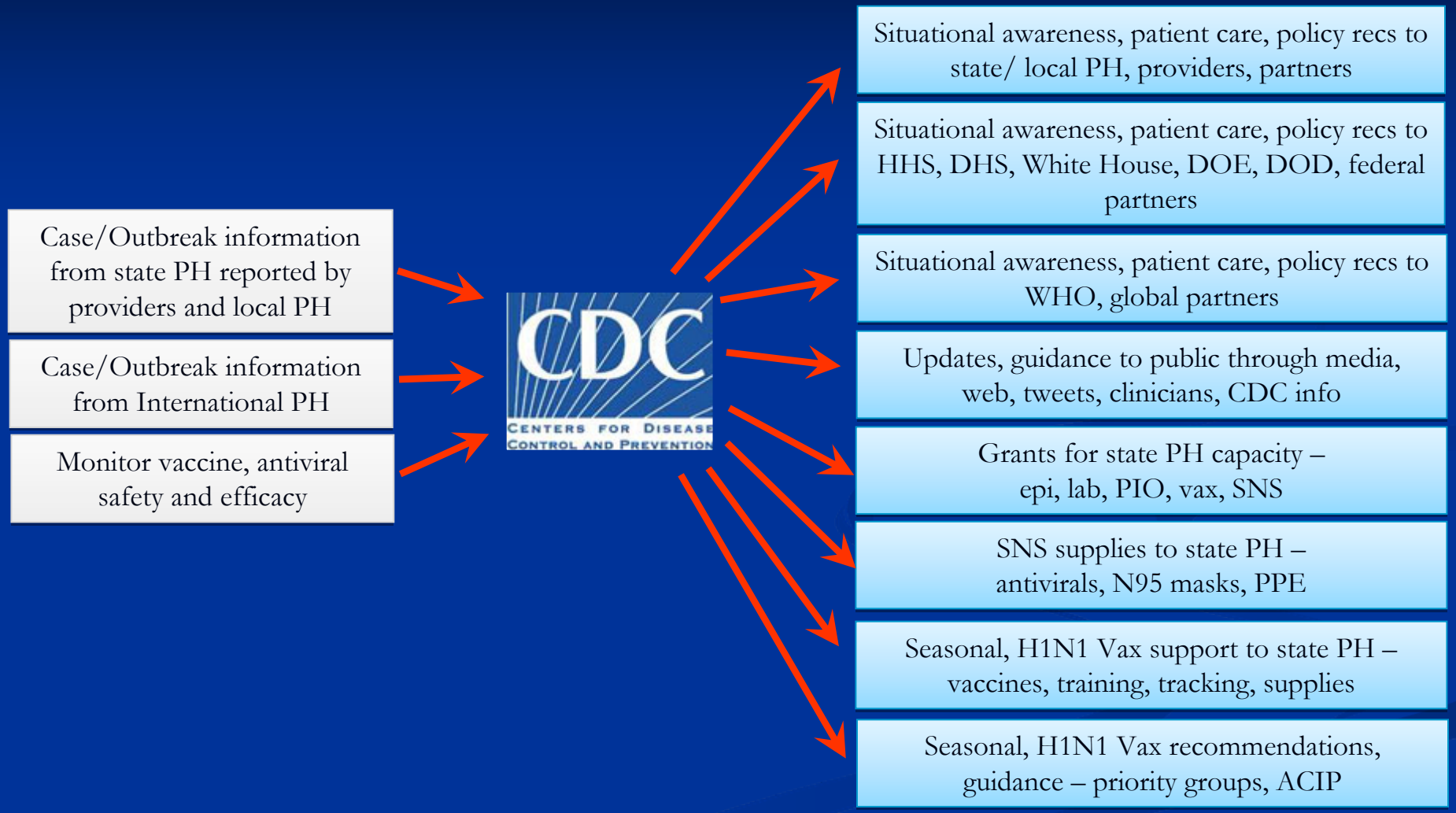
CDC's Strategic Objectives

- Reduce illness and death
- Minimize societal impact (e.g., costs and disruption)
- Put greatest effort in activities with the greatest potential impact
- Recognize there will be tremendous media and public interest – and implement actions that respond to that interest/demand.

CDC's "Zones of Effort"

1. Understanding the Problem
    1. EPI and Surveillance
    2. Science
2. Public Health Interventions
    1. Mitigation, prevention, treatment, vaccination
    2. Recommendations and Guidance
3. Communications
    1. Coordination and collaboration
    2. Comprehensive
    3. Guided by best practices, risk communication

Dynamic, Multifaceted Response

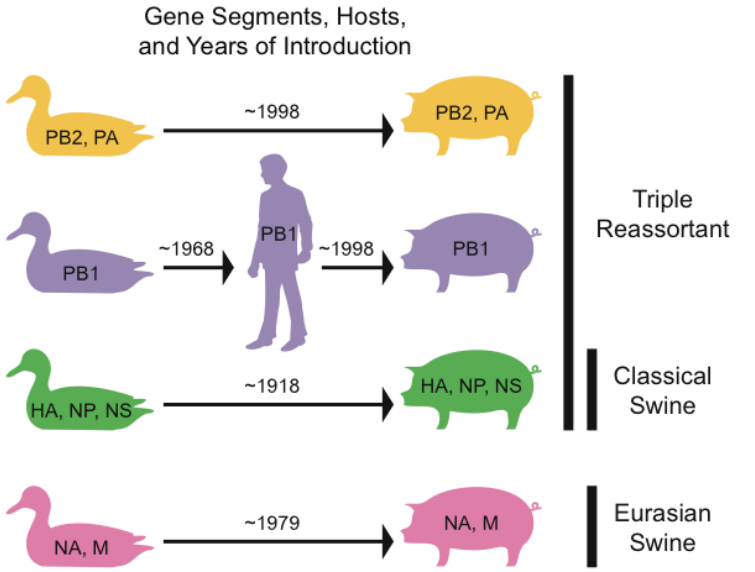


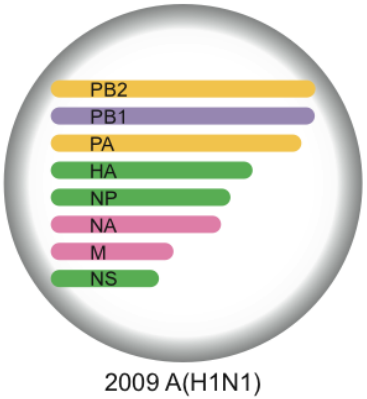
Immunization Planning – Initiated early, encompassed much uncertainty

- Would there be vaccine?
- Would it work?
- One dose or two?
- Would it arrive ‘in time’?
- Would there be enough?
- Would anybody want it?
- Would it be safe?
- Would people come to public venues?
- Would providers be too busy caring for the ill to vaccinate the well?
- Would the H1N1 vaccination program affect future seasonal vaccine use?

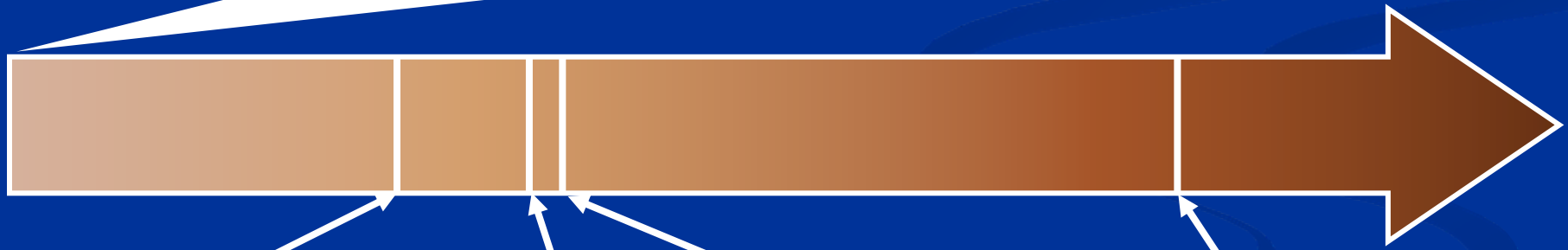
Four Phases to Date

- **April 15-May 31: Discovery and Initial Response**
  - Virus assessment
  - Threat assessment
  - Initial guidance
- **June 1-Aug 15: Southern Hemisphere/Preparing for Fall**
  - Responding and learning, including from Southern Hemisphere
  - Vaccine development and clinical trials
  - Getting health and other sectors ready for fall
- **Aug 16-Oct 4: Fall wave**
  - Initially, prevention w/o vaccine
  - Guidance to schools, businesses, communities
- **Oct 5-present: Vaccination**
  - Initial, limited supply
  - Growing/more ample supply





First cases in Mexico: Late February–Early March



April 21
Sequences Posted as A/California/4/2009

April 29
First Diagnostic Kits Shipped to State Labs

May 3
First Diagnostic Kits Shipped to WHO Network

May 23
Vaccine Strain Shipped to Manufacturers

Much Media Interest – Early and Throughout

Virus Caused Illness Throughout Summer (e.g., “H1N1 Goes to Camp”)

Prompt Guidance, Recommendations – First Line of Response

- State, Local, Tribal & Territorial Health Officials
- Epidemiology and Surveillance
- Clinician Guidance
- Clinician Guidance for Specific Audiences
- Infection Control
- Laboratory Testing
- Guidance for Patients
- Guidance for Pregnant and Breastfeeding Women
- Business and Employer Guidance
- Emergency Personnel Guidance
- Guidance for Community Settings
- Guidance for Schools, Colleges and Universities
- Travel and Travel Industry Guidance

Discovery Phase April 15 – May 31, 2009

Much summer planning based on return of students to schools. . .

And need to target initial vaccine supplies

2009 H1N1 Vaccine and Vaccination

- Make vaccine available as soon as possible
- Target initial doses to those people at highest risk for serious complications from influenza – e.g, pregnant women, young children, people 18-64 with certain chronic medical conditions, health care providers
- Promote rapid anti-viral treatment of people at highest risk for serious complications, including 65+
- A race – vaccine availability vs. the virus


FLU
SHOTS
4PM-
8PM
LINCOLN SCHOOL H1N1 VACCINE CLINIC
K-12

Centers for Disease Control and Prevention
MMWR Morbidity and Mortality Weekly Report
Early Release / Vol. 59 January 15, 2010

Interim Results: Influenza A (H1N1) 2009 Monovalent Vaccination Coverage — United States, October–December 2009

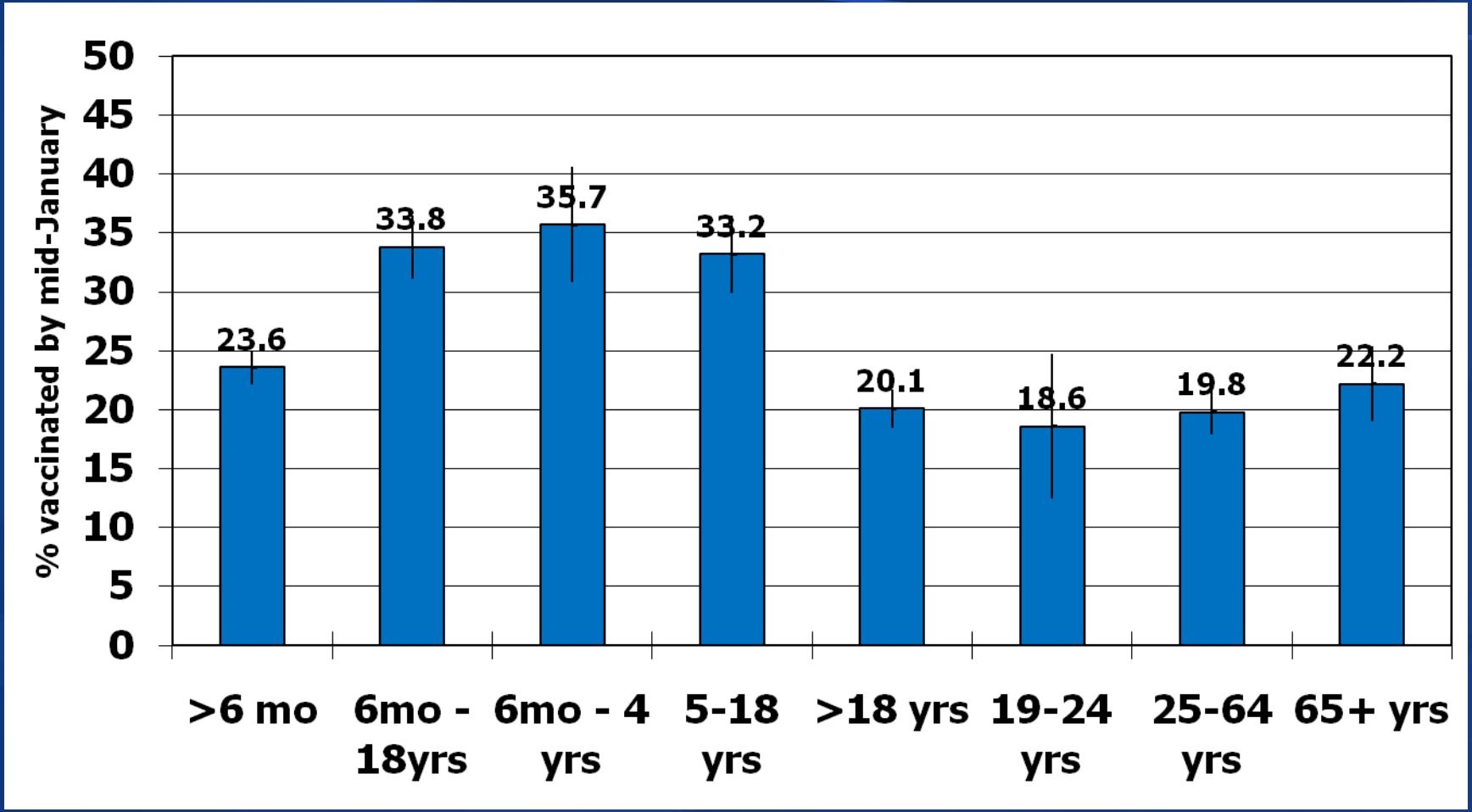
In July 2009, the Advisory Committee on Immunization Practices (ACIP) issued recommendations for use of the influenza A (H1N1) 2009 monovalent vaccine (*1*). Recognizing that the vaccine supply would not be ample immediately but would grow over time, ACIP identified 1) initial target groups, consisting of approximately 160 million persons, and 2) a limited vaccine subset of the target groups, initially estimated at

CDC used two separate surveys, NHFS and BRFSS. NHFS is a new survey, scheduled to operate from October 2009 through June 2010 to track 2009 H1N1 and seasonal influenza vaccination coverage nationally on a weekly basis. NHFS is a random-digit–dialed telephone survey based on a rolling weekly sample of respondents with landline and cellular telephones. Monthly targets were set to achieve approximately 4,889 completed inter-

- **Est. 61 million vaccinated in first three months**
- **Highest coverage in children, pregnant women**
- **Most doses went to target populations**

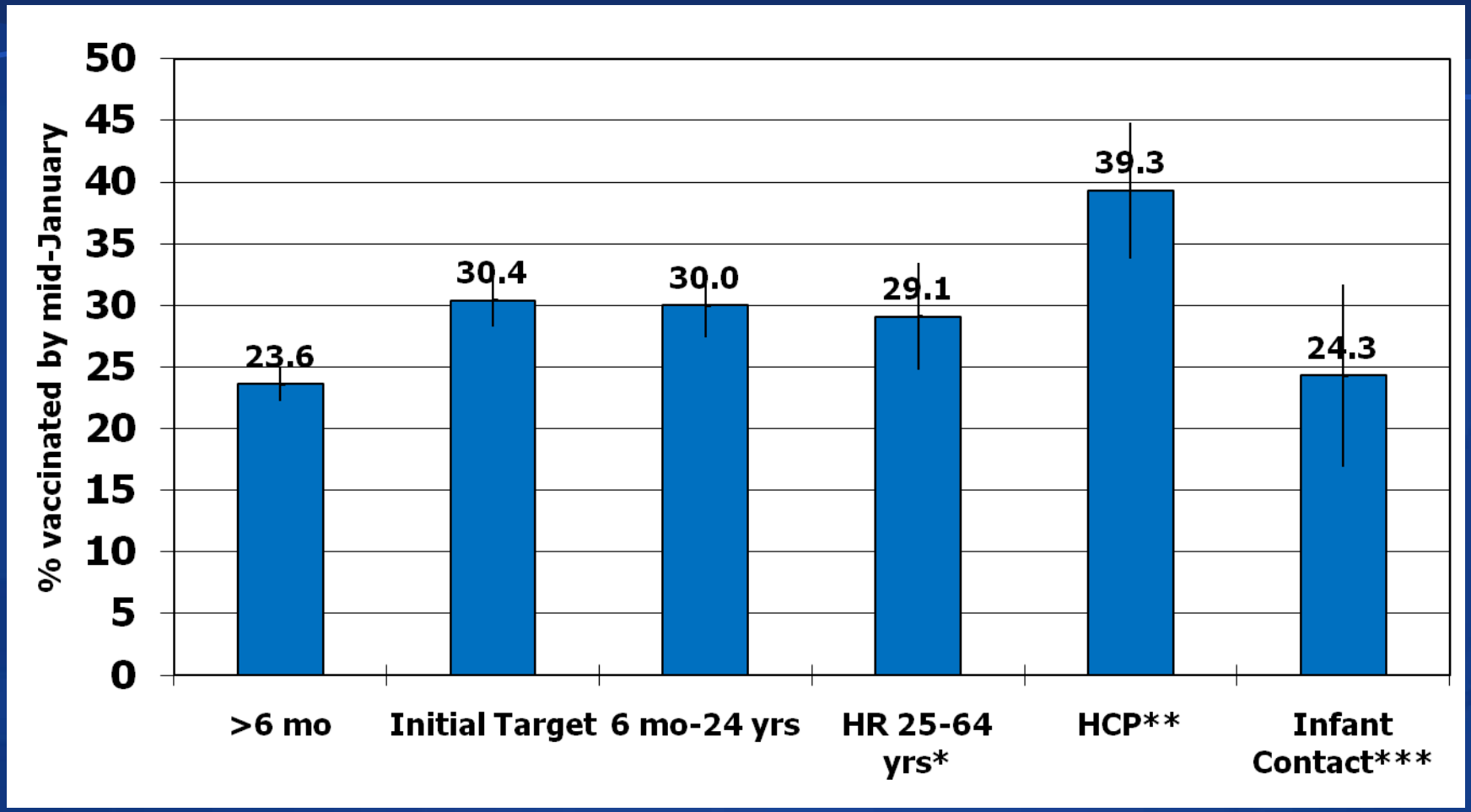
Moving to the present. . .

H1N1 Vaccination Coverage by mid-January, Age Groups



Sample sizes: 13,157 children and 7,269 adults

H1N1 Vaccination Coverage by mid-January, Initial Target Groups



•High risk conditions include current asthma, other lung condition, heart condition, diabetes, kidney condition, sickle cell or other anemia, neurologic or neuromuscular condition, liver condition, or a weakened immune system caused by a chronic illness or related medicines.

** Persons reporting they work in a healthcare facility or provide direct patient care as part of routine work.

*** Persons with regular close contact with a child aged <6months and not a HCP

Initial target group sample size: 16,135 children and adults, including 43 pregnant women

2009 H1N1 Vaccination Efforts

- By February 13, ~80 million people had received ~90 million doses of H1N1 vaccine
- Most doses went to people in initially targeted groups
- Coverage was higher in children than adults
- An estimated 39% of health care workers were vaccinated
- Of children <10 years who were vaccinated, as many as 60% had received their 2nd dose
- H1N1 vaccine coverage in adults was significantly higher in whites than blacks or Hispanics
- H1N1 coverage did not differ significantly by race or ethnicity among children

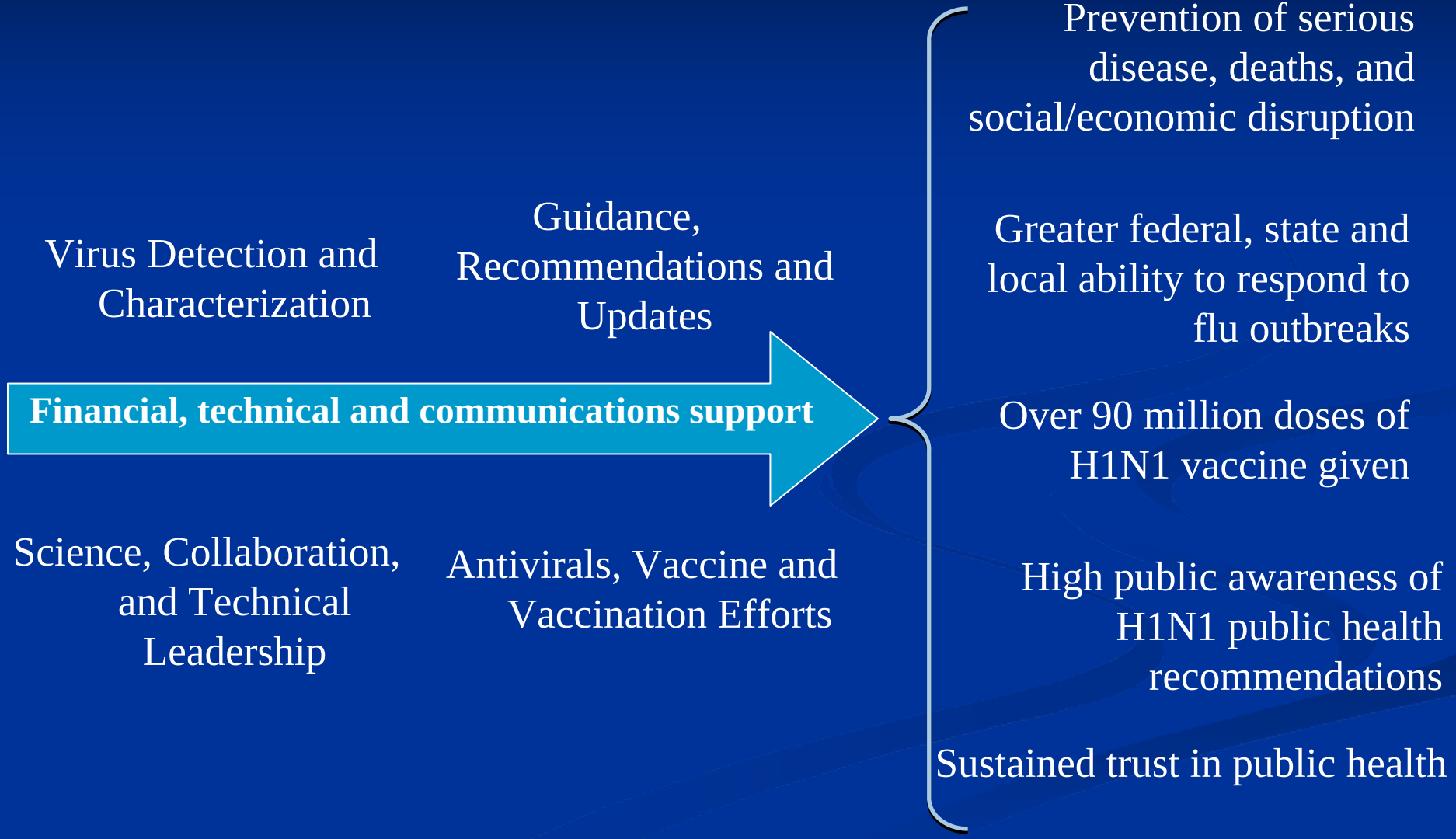
H1N1 Influenza Disease Burden Estimates April 2009 – Jan. 16, 2010

2009 H1N1	Mid-Level	Estimated Range
Cases	~57 million	~41 M to ~84 M
Hospitalizations	~257,000	~183,000 to ~378,000
Deaths	~ 11,690	~8,330 to ~17,160

Virus of the Year:
The Novel H1N1 Influenza

- "Scientists characterized the new virus and distributed tests to detect it at record speed, sharing findings nearly in real time."
  - SCIENCE VOL 326 18 DECEMBER 2009

Multifaceted effort led to much success



Timely, regular communication – via many channels – was important

- Frequent media briefings (daily then weekly); high media access to CDC and CDC experts
- Collaborated and coordinated with partners (e.g,. state and local health departments, WHO, other federal agencies), including sharing key messages
- Web and new media – updated, used, extended/enhanced
  - Flu.gov, CDC.gov (300+ million H1N1/Flu page views)
  - Webcasts, on-line videos (3+ million views of videos)
- Public service announcements and paid media
  - Nationally
  - Locally

Bumps in the Road

- Vaccine strains initially grew slowly in eggs
- Messaging about vaccine supply
- Vaccine supply/demand imbalances
- Perceived equity of vaccine allocations
- Potency declines → 3 product recalls
- Perceptions of risk vs. response (especially given unpredictable nature of flu viruses)
- Others to come…? ?

Many lessons learned, including. . .

- Pre-pandemic planning, exercises and drills were enormously helpful
- Important to communicate early on, and throughout, and via multiple channels
- Need to be flexible, adaptable –and it's important to communicate that
- Pandemic immunization efforts require:
  - Coordination at state and local levels
  - Mix of private and public venues, including schools, retail pharmacies, private providers

Where Will Immunization and Pandemic Preparedness Go From Here?

- Build on success in school-based vaccination
- Sustain stronger links w/ health care system
- New vaccination norms for pregnant & other adults
- Updated plans/future efforts that recognize new, more complex communication environment
- Investments in vaccine development, public health infrastructure?
  - More vaccine available sooner – and distributed/accessible as widely and quickly as possible

Thank You