

# Immunization Policy in the United States

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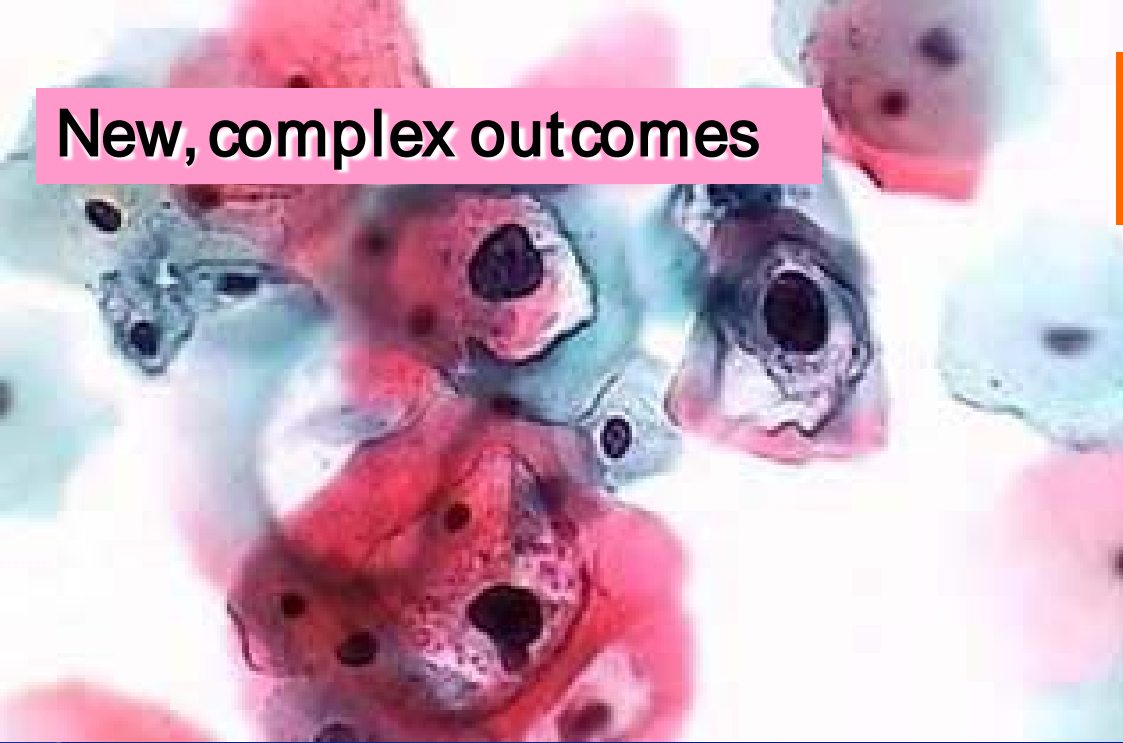
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New, complex outcomes



Old clinical presentations now unfamiliar

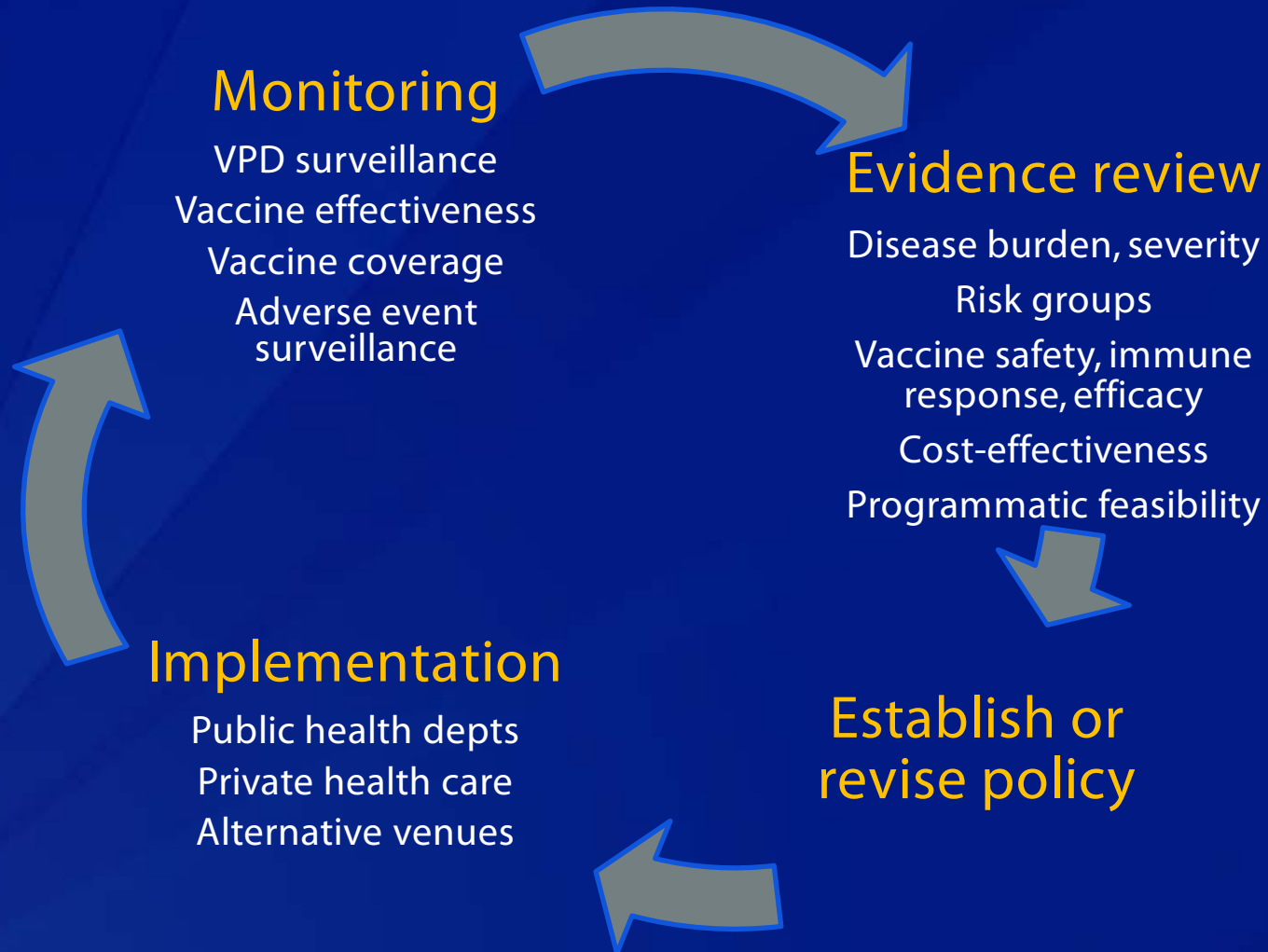


Newly preventable pathogens



Old and New concerns

# Immunization policy and control of vaccine preventable diseases



# Vaccines Routinely Recommended for Children and Adolescents in the United States

**1985**

Measles  
Rubella  
Mumps  
Diphtheria  
Tetanus  
Pertussis  
Polio

**7**

**1995**

Measles  
Rubella  
Mumps  
Diphtheria  
Tetanus  
Pertussis  
Polio  
Hib (infant)  
HepB  
Varicella

**10**

**2006**

Measles  
Rubella  
Mumps  
Diphtheria  
Tetanus  
Pertussis  
Polio  
Hib (infant)  
Hepatitis B  
Varicella  
Pneumococcal disease  
Influenza  
Meningococcal disease  
Hepatitis A  
Rotavirus  
HPV

**16**

# Selected Recent US Immunization Policy Decisions (2005-2010)

## New Vaccine/Indication

## ACIP Vote

Meningococcal conjugate (adolescents)	February 2005
Tdap (adolescents)	June 2005
MMRV	October 2005
Universal hepatitis A	October 2005
Rotavirus (infants)	February 2006
Influenza (expanded 24 to 59 months*)	February 2006
Human papillomavirus (adolescents)	June 2006
Second Dose Varicella	June 2006
Zoster (shingles)	October 2006
Influenza (expanded 5 to 18 years) *	February 2008
Influenza (universal >6 months)	February 2010

\*Recommendation for 6 to 23 months in 2004

# Return on Investment of Childhood Immunization Program

- For each birth cohort vaccinated with 7 vaccines (DTaP, Td, Hib, Polio, MMR, Hep B, Varicella) routinely included in the schedule:\*
- Society saves \$33.4B in indirect costs
- Direct health care costs are reduced by \$9.9B
- 33,000 lives are saved
- 14M cases of disease are prevented

\* Source: Zhou et al – Archives of Pediatric and Adolescent Medicine 2005



# Advisory Committee on Immunization Practices

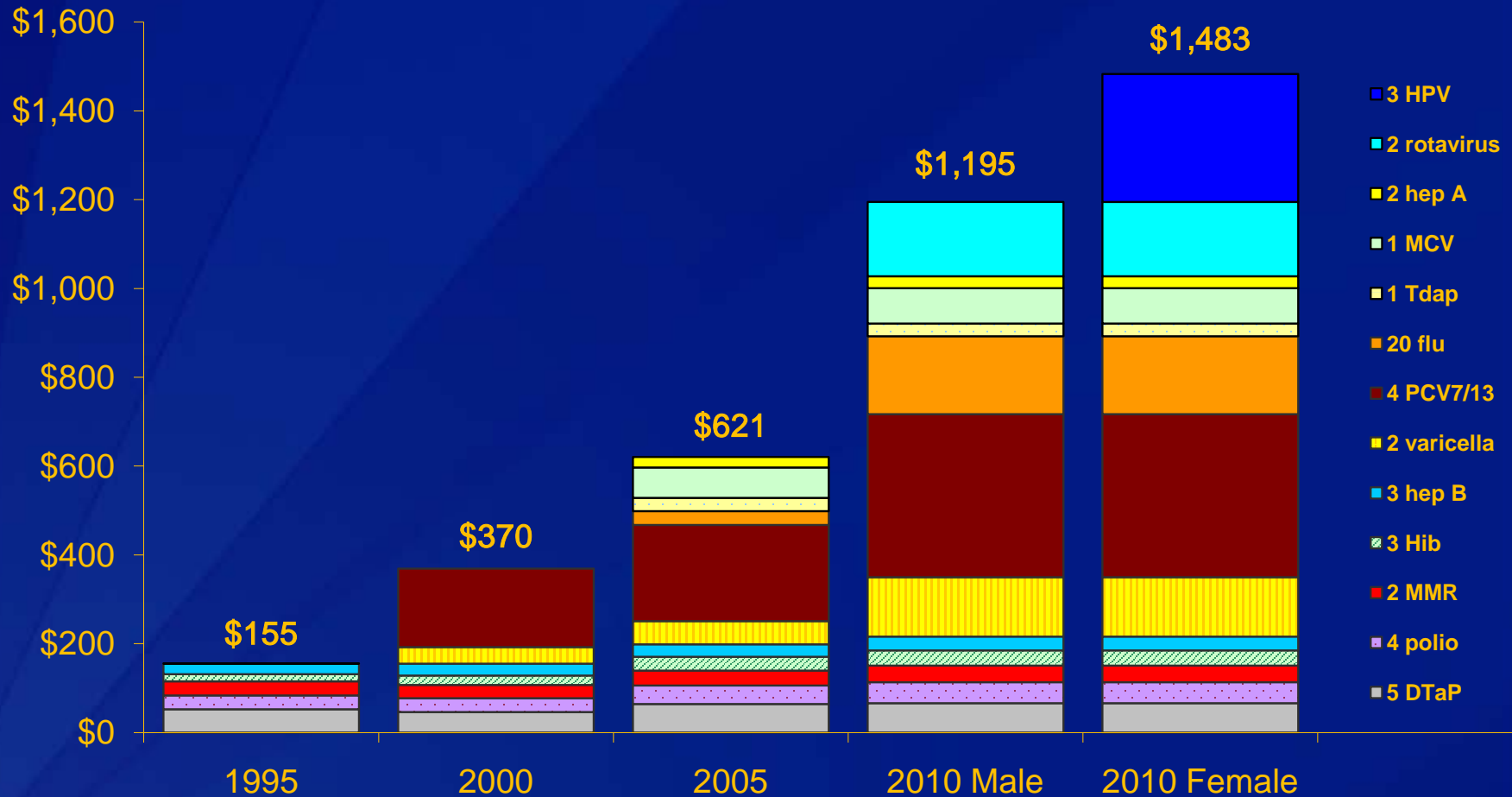
- ACIP composition and procedures
  - 15 members: professionals with diverse expertise (e.g., vaccinology, pediatrics, internal medicine, infectious diseases, preventive medicine, public health programs) and consumer representative
  - 4 yr terms appointed by Health and Human Services Secretary
  - 3 **public** meetings/yr, webcast for greater accessibility
- ACIP responsibilities
  - Advises HHS and CDC on use of vaccines and related agents to control vaccine-preventable diseases in civilian population
  - **Determines which vaccines are provided through the Federal Vaccines for Children Program**

# Vaccines for Children Program (VFC)

- Federal-state entitlement program to provide public-purchased vaccine to public and private providers serving eligible children
- Eligible children include
  - Uninsured children
  - Medicaid-eligible children
  - American Indian/Alaska Native children
  - Underinsured children (in Federally Qualified Health Centers or Rural Health Centers)



# Cost to Vaccinate from Birth Through 18 Years of Age with Vaccines Recommended Universally: 1995, 2000, 2005, and 2010



2010 represents minimum cost to vaccinate a child (birth through 18); exception is no preservative influenza vaccine, which is included for children 6-47 months of age.

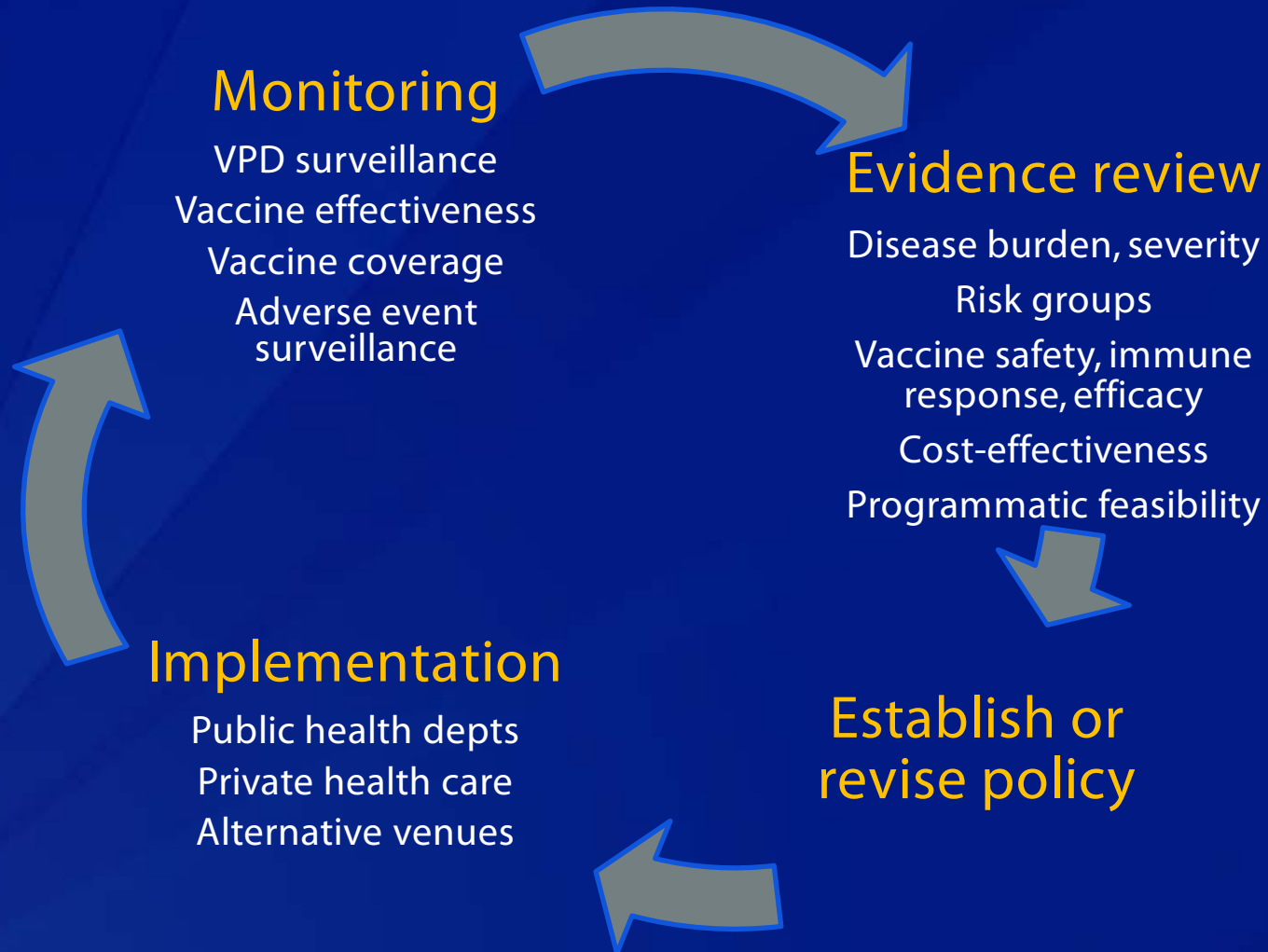
HPV excluded for boys because it is not routinely recommended by the ACIP.

Federal contract prices as of September 27, 2000, September 1, 2005, and April 6, 2010. Federal contract price for 1995 is an average to account for price changes during the year.

# Factors ACIP Considers in Making Vaccine Recommendations

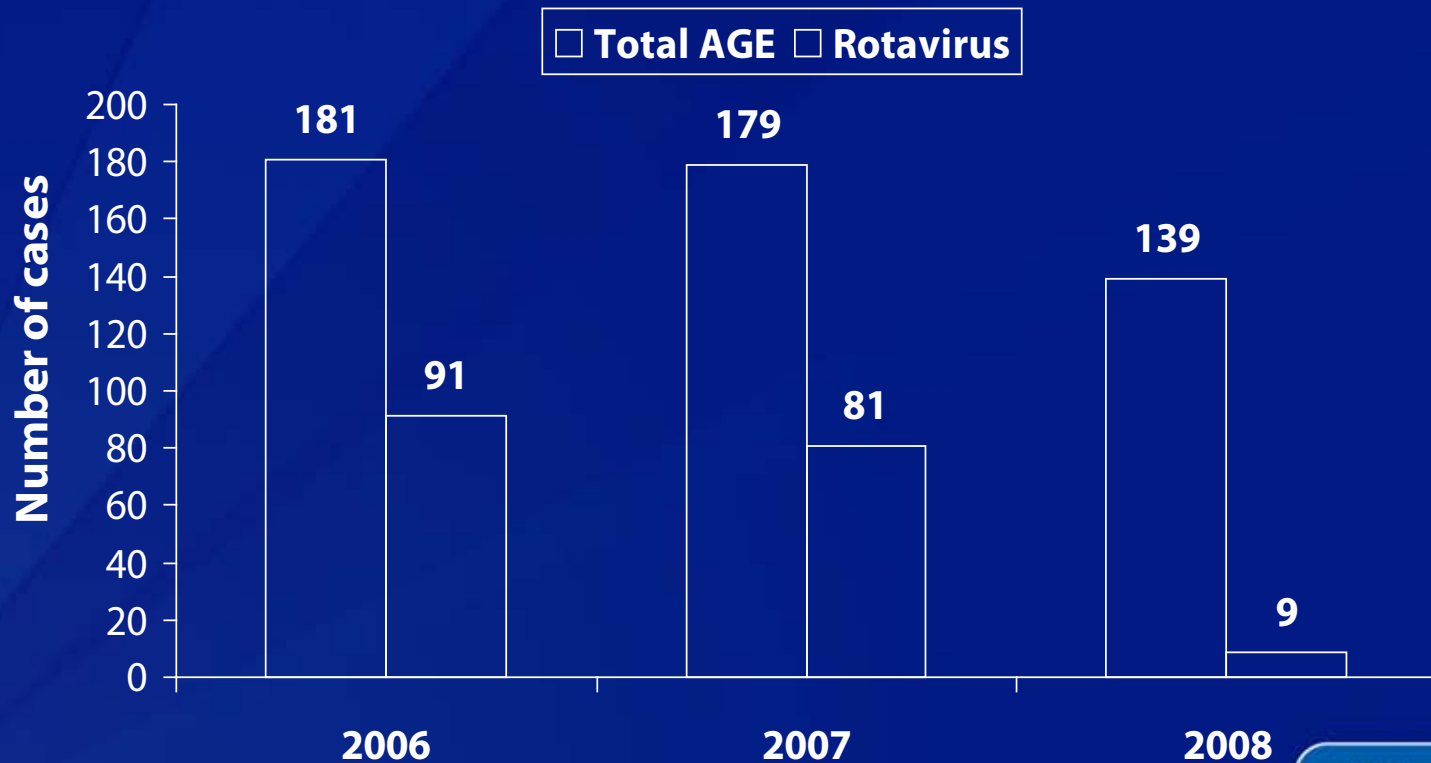
- Morbidity and mortality associated with disease
- Safety, efficacy, effectiveness, and acceptability of the vaccine
- Cost-effectiveness
- Feasibility of vaccine use in existing immunization programs

# Immunization policy and control of vaccine preventable diseases



# Decrease in Severe Acute Gastroenteritis and Rotavirus Gastroenteritis, US Children, 3 Sentinel Sites, 2006–2008

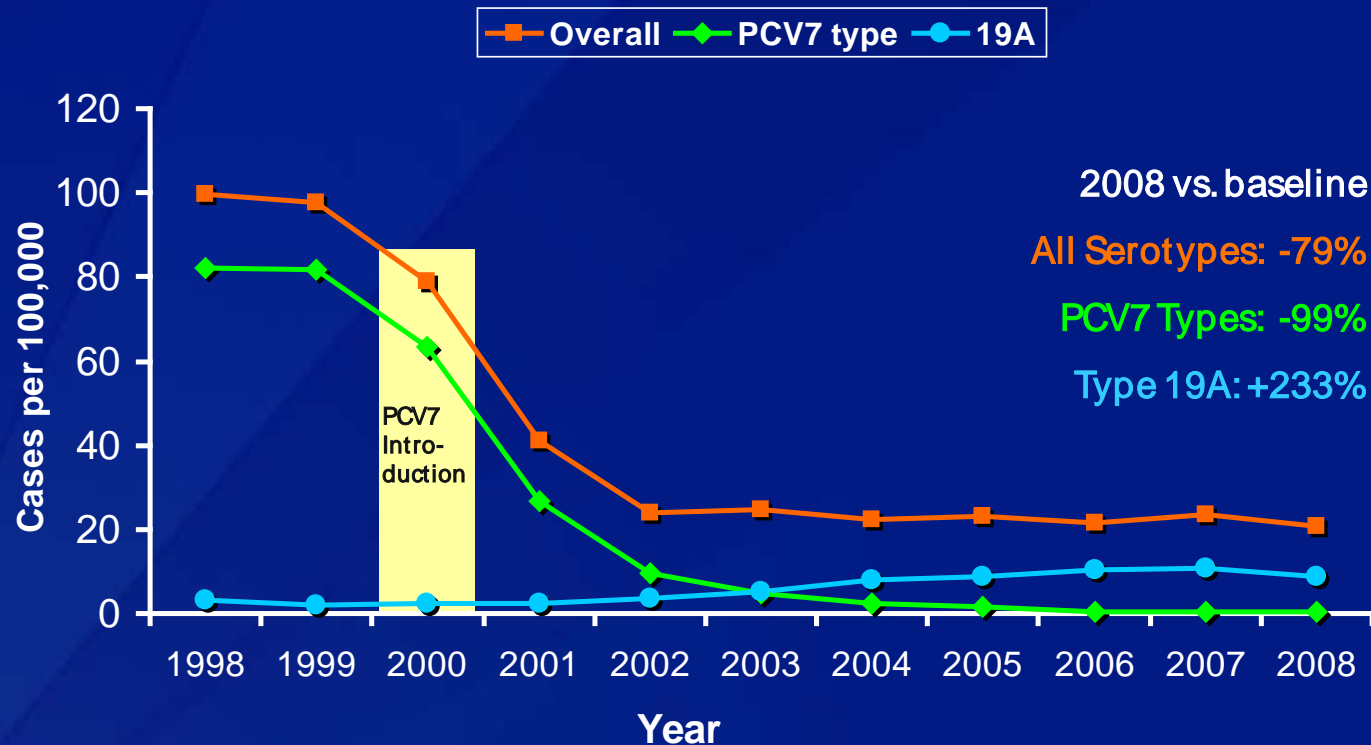
**National reduction of ~44,000 total hospitalizations  
(medical cost saving of >US \$ 200 million)**



Courtesy, U. Parashar



# Rates of Invasive Pneumococcal Disease among Children <5 years, ABCs, 1998-2008



Moore, IDSA 2009



Centers for Disease Control and Prevention

**MMWR**

Morbidity and Mortality Weekly Report

Weekly / Vol. 59 / No. 9

March 12, 2010

**Licensure of a 13-Valent Pneumococcal Conjugate Vaccine (PCV13) and Recommendations for Use Among Children — Advisory Committee on Immunization Practices (ACIP), 2010**

- 13-valent addresses most resistant strains
- 13-v could prevent ~50% remaining pediatric dz
- Additional indirect effects in unimmunized TBD





# An Immunization Program Requires More than Vaccine Purchase

- ❑ The national immunization program rests on a foundation of strong science
- ❑ Vaccine policy setting is scientific evidence-based
  - Disease burden, severity, risk groups
  - Vaccine safety and efficacy
  - Economic considerations
- ❑ Post-licensure surveillance
  - Vaccine coverage and safety
  - Vaccine effectiveness and impact evaluations
- ❑ Provider and public education
- ❑ Principles of policy deliberation: evidence-informed, transparency

# Immunization in the United States – 2010

## A Success Story

- ❑ 17 diseases preventable thru routine immunizations
- ❑ Sustained high coverage of infant & toddler vaccines
- ❑ Increasing uptake of newer vaccines
- ❑ Most vaccine-preventable diseases at record low levels
- ❑ Large public-private partnership -Vaccines for Children
- ❑ Increased seasonal influenza vaccine products & doses
- ❑ Committed public health and private sector workforce

# Websites

- **ACIP information**
  - Smith J, Snider D, Pickering L. Immunization policy development in the US. The role of the ACIP. Annals of Intern Med Jan 6, 2009 vol. 150 no. 1 45-49 )
  - [www.cdc.gov/vaccines/recs/acip](http://www.cdc.gov/vaccines/recs/acip)
    - ACIP Recommendations
    - Meeting information (slides, webcasts, agendas)
    - ACIP charter, members, nomination information
- **Healthcare Provider Information on Vaccines**
  - [www.cdc.gov/vaccines/hcp](http://www.cdc.gov/vaccines/hcp)
- **Provider Resources for Vaccine Conversations**
  - [www.cdc.gov/vaccines/conversations](http://www.cdc.gov/vaccines/conversations)