

Pertussis Vaccines Working Group Update

Mark Sawyer, MD

Chair, ACIP Pertussis Vaccine Work Group

Advisory Committee for Immunization Practices

October 24, 2012

Work Group Members

(formation in April 2009)

ACIP

Mark Sawyer, Chair
Kathleen Harriman
Ruth Karron
Marietta Vazquez

CDC

Jennifer Liang, Lead
Thomas Clark
Denise Jamieson (WHFB)
Stacey Martin
Nancy Messonnier
Pedro Moro (ISO)
Sonja Rasmussen (OID)
Tami Skoff
Tej Tiwari
Lucia Tondella
Donna Weaver (ISD)

Liaison & Ex Officio

Richard Beigi (ACOG)
Albert Bourbon (AAPA)
Alexis Elward (HICPAC)
Stanley Gall (ACOG)
Xin-Xing Gu (NIAID)
Christine Hahn (CSTE)
Jessica Kahn (SAM)
Harry Keyserling (SHEA)
Tom Koinis (AAFP)
Sarah Long (AAP)
Kathy Neuzil (IDSA)
Jennifer Read (NVPO)
Stephanie Schauer (AIM)
Kenneth Schmader (AGS)
Ann Schwartz (FDA)
Matthew Zahn (NACCHO)

Consultants

Carol Baker
Lance Cilton
Kris Ehresmann
Scott Halperin (Canada)
Peter McIntyre (Australia)
Bruce Meade
Paul Offit

Terms of Reference

- ❑ Review existing statements on infants and young children (1997), adolescent (2006), adults (2006), and pregnant and postpartum women and their infants (2008) and consolidate into a single statement.
- ❑ Review new data on Tdap including
 - Effectiveness of ACIP recommendations
 - Interval between Td booster and Tdap
 - Use of Tdap in adults ages 65 yrs and older
 - Pregnant and breastfeeding women
 - Use of Tdap
 - Cocooning strategies
 - Vaccinated HCP and need for postexposure prophylaxis
 - Tdap revaccination
 - Pregnant Women
- ❑ Review updated epidemiology of tetanus and diphtheria

Today's Session

- ❑ **Update on the epidemiology of pertussis in the US and Washington epidemic, 2012**
- ❑ **Review of evidence considered for pregnancy Tdap recommendation (February & June 2011)**
 - Safety of Tdap to mother and fetus
 - Transplacental transfer of maternal antibodies
 - Interference with infant immune response to primary DTaP vaccination
 - Cocooning
 - Decision and cost effectiveness analysis
- ❑ **Considerations for recommendation on Tdap for every pregnancy**

Pertussis immunization in the United States

❑ Infants/Children

- 5 doses of DTaP (2, 4, 6, 15-18 mths, 4-6 yrs)

❑ Adolescent/adult

- 1 dose Tdap, preferred at 11-12 year
 - 7 to 10 year olds, catch-up schedule
 - Health care personnel
 - Pregnant women
 - Cocooning

Tdap Vaccines: licensure and composition

Trade name, Manufacturer	Age approved for use (yrs)	Antigen (µg)				Toxoid (Lf)	
		PT	FHA	PRN	FIM 2 & 3	Diphtheria	Tetanus
Adacel Sanofi Pasteur	11 - 64	2.5	5	3	5	2	5
Boostrix GSK	10 and older	8	8	2.5	-	2.5	5

*PT - pertussis toxin; FHA - filamentous haemagglutinin; PRN - pertactin; FIM - fimbriae

Pertussis Vaccination Coverage

□ DTaP

- 95.5% - 3+ doses (2011)
- 95% - School entry (Kindergarten) (2010)

□ Tdap

- 78% - Adolescents (2011)
- 8% - Adults (2010)
- 2.6% - Women vaccinated during pregnancy (April 2012)

CDC. National, State, and Local Area Vaccination Coverage Among Children Aged 19–35 Months — United States, 2011. MMWR. 61(35);689-696

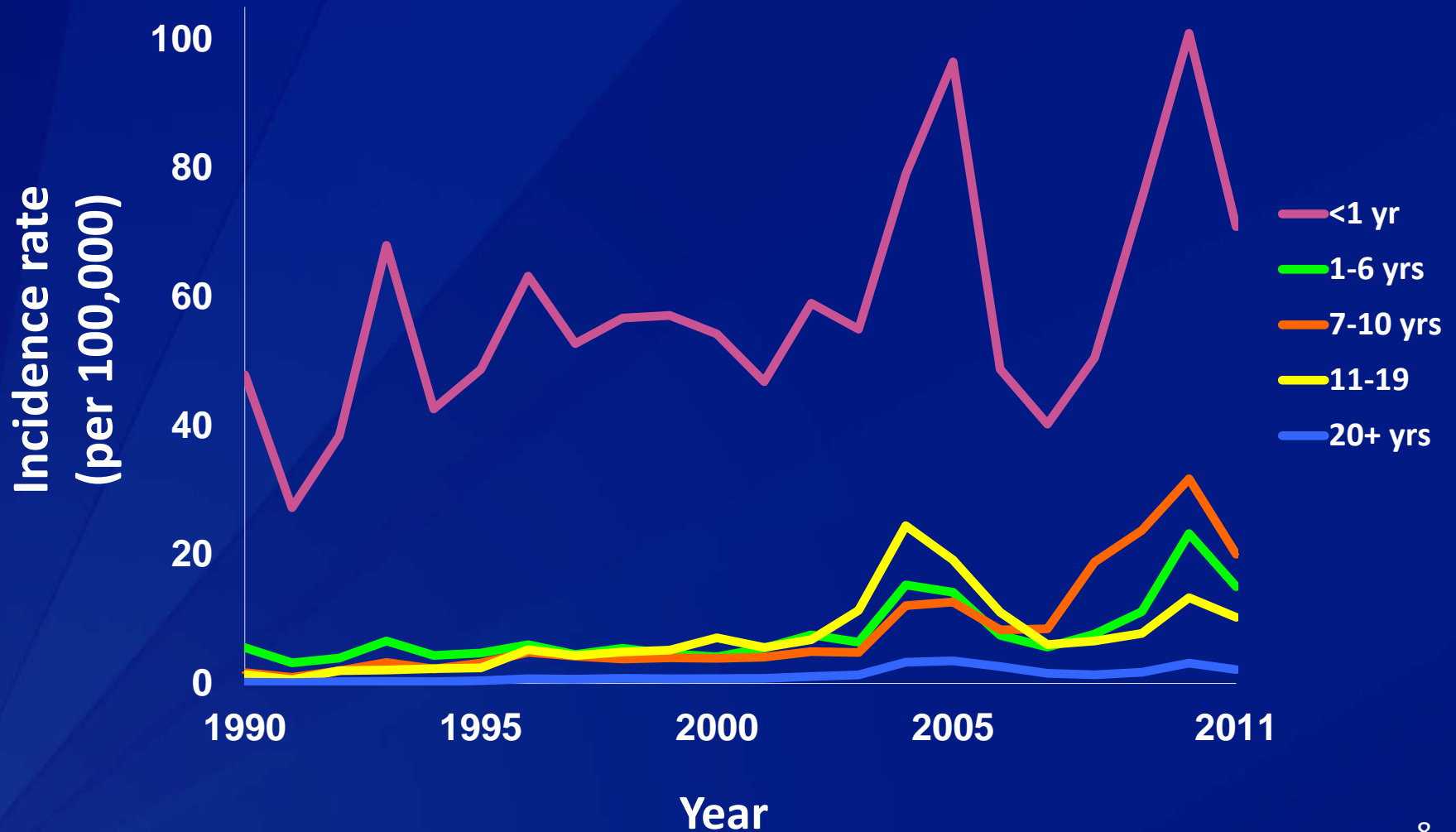
CDC. Vaccination Coverage Reports. 2009-2010. <http://www2.cdc.gov/nip/schoolsurv/nationalAvg.asp?SY=SY10>

CDC. National and State Vaccination Coverage Among Adolescents Aged 13–17 Years — United States, 2011. MMWR. 61(34);671-677

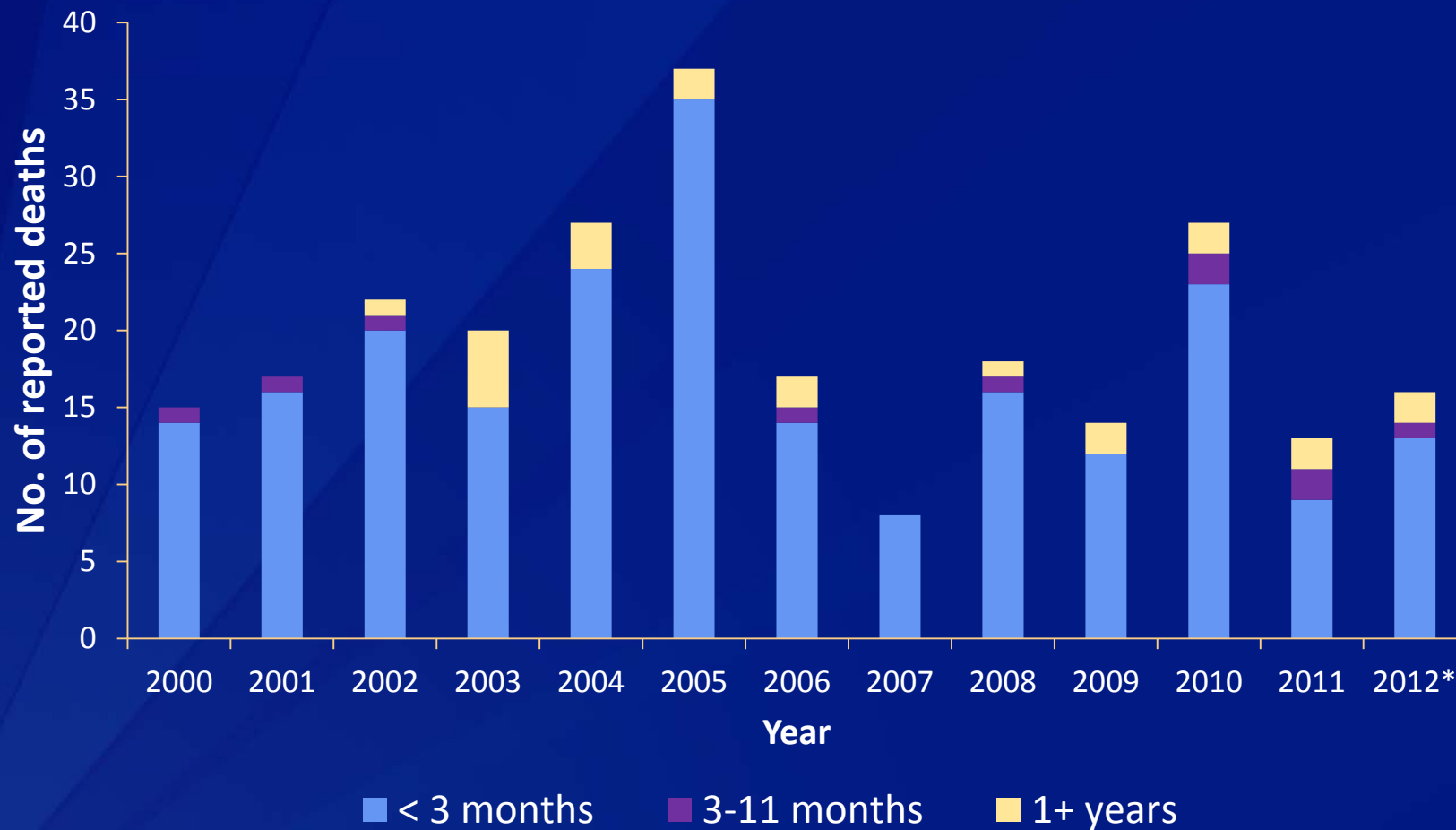
CDC. Adult Vaccination Coverage — United States, 2010. MMWR. 61(04);66-72

CDC. Tdap vaccination coverage among U.S. women who were pregnant any time during August 2011 - April 2012, Internet Panel Survey, April 2012. Unpublished

Reported pertussis incidence by age group: 1990-2011



Pertussis deaths by age group, 2000-2012*



*2012 data are provisional and reflect deaths reported to NNDSS as of October 19, 2012.

Source: CDC. National Notifiable Diseases Surveillance System, 2012.

2011 ACIP Tdap recommendation for pregnant women

ACIP recommends that women's health-care personnel implement a Tdap vaccination program for pregnant women who previously have not received Tdap. Health-care personnel should administer Tdap during pregnancy, preferably during the third or late second trimester (after 20 weeks' gestation). If not administered during pregnancy, Tdap should be administered immediately postpartum.

Next steps for WG

- ❑ Tdap revaccination (February 2013)**
- ❑ Draft of updated DTaP and Tdap statement (end of 2012)**