

# 2014 ACIP Hib Vaccination Statement

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# 2014 Hib Vaccine Recommendations and Guidance

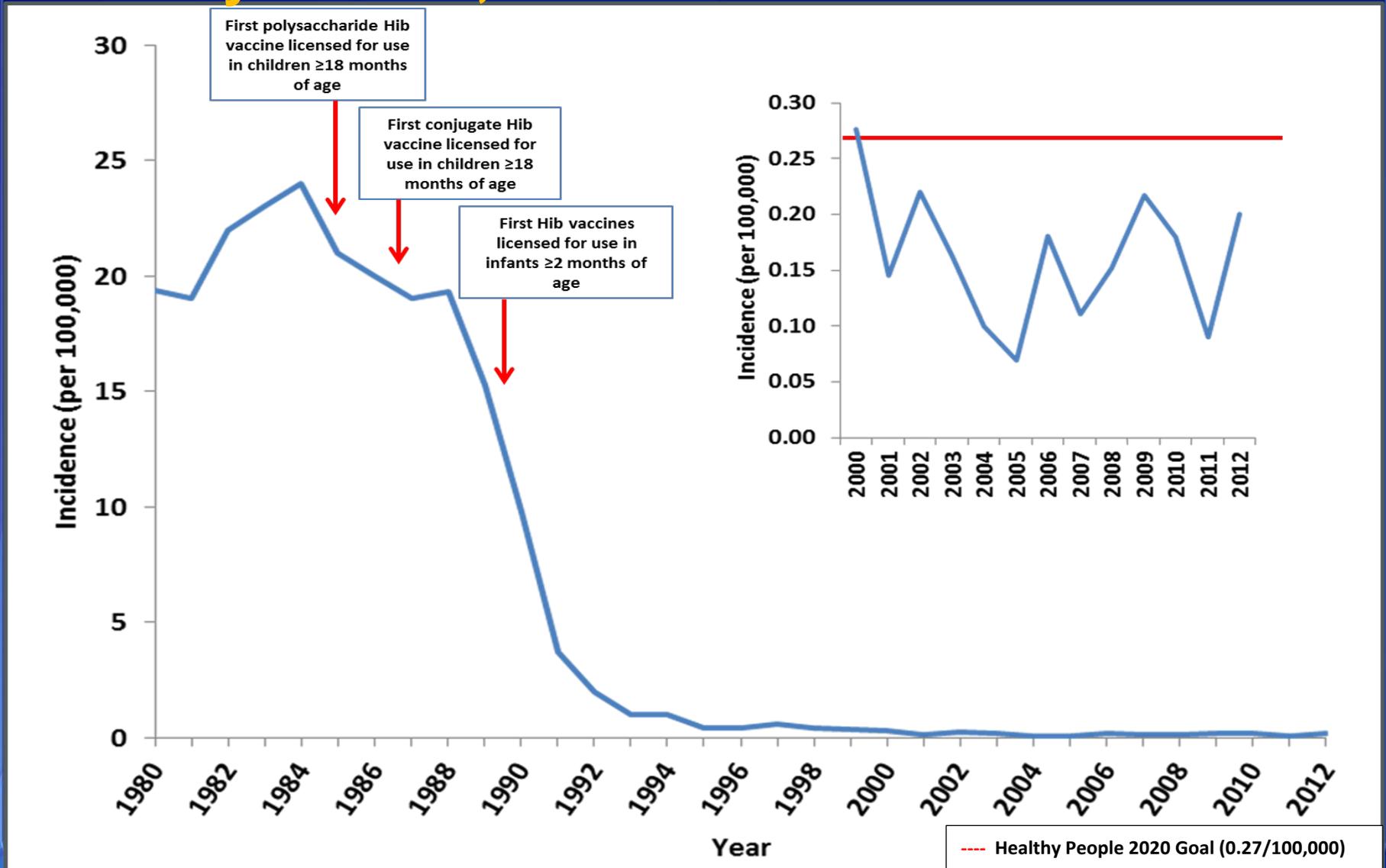
## □ Routine Hib Recommendations

- Last statement published in 1993
- Additional Hib vaccines licensed since 1993
- No changes to previously published routine recommendations

## □ Guidance for special populations

- Not included in 1993 statement
- Updated statement includes guidance for all special populations
- Guidance consistent with guidance in:
  - 2013 IDSA Clinical Practice Guideline for Vaccination of the Immunocompromised
  - 2012 Red Book
  - 2011 ACIP General Recommendations on Immunizations
  - 2009 ACIP Guidelines for Prevention and Treatment of Opportunistic Infections in HIV-Infected Adults and Adolescents

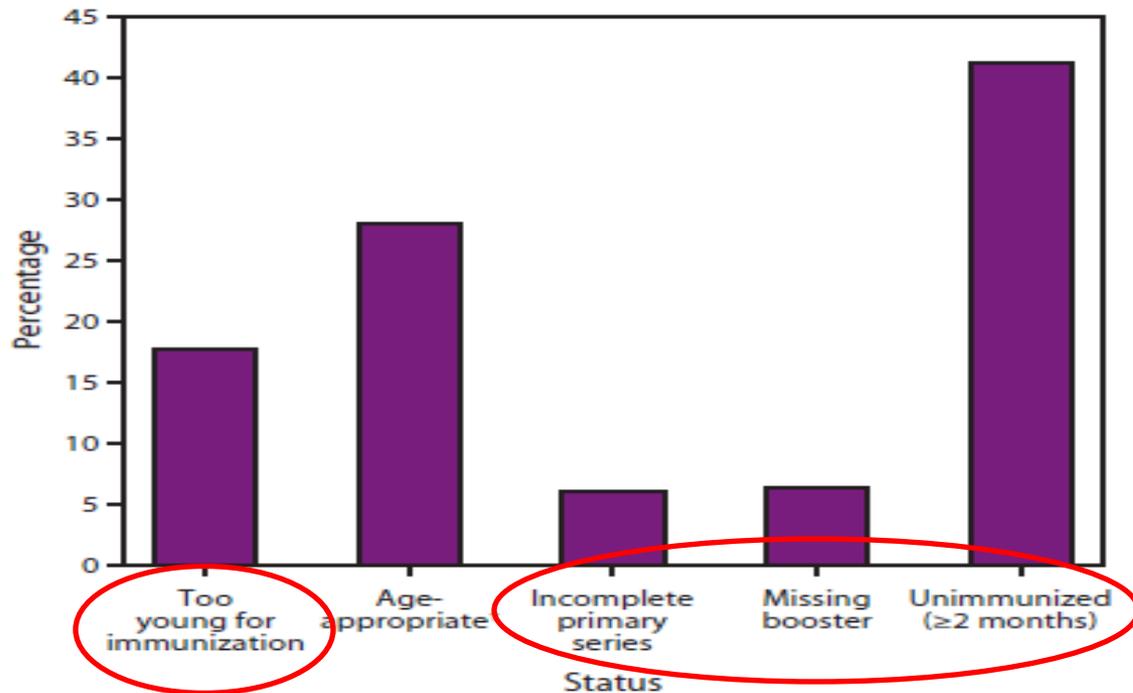
# Estimated incidence of invasive Hib infection in <5 year olds, United States 1980-2012



Sources: \*1980 1997: National Bacterial Meningitis Reporting System and National Notifiable Diseases Surveillance (NDSS); 1997 2012: ABCs cases estimated to the U.S. population

# Risk of Hib disease continues among unimmunized and underimmunized infants and children

**FIGURE 3. Percentage of children aged <5 years with cases of invasive *Haemophilus influenzae* type b (Hib) disease,\* by vaccine status — United States 2002–2012**



**Sources:** Active Bacterial Core surveillance system and National Notifiable Diseases Surveillance System.

\* N = 265. An additional 57 children aged <5 years with Hib had unknown vaccine status and were excluded.

† Among those with age-appropriate vaccine status, 41% were too young to complete the primary series, 16% completed the primary series, and 43% completed the full series.

# Current Licensed and Available Hib Vaccines

TABLE 1. *Haemophilus influenzae* type b (Hib) conjugate vaccines licensed and available in the United States as of January 2014

Vaccine product	Manufacturer	Trade Name	Components	Primary series	Booster dose
<b>Monovalent vaccine</b>					
PRP-OMP*,†	Merck & Co, Inc	PedvaxHIB	PRP conjugated to OMP	2, 4 mos	12–15 mos
PRP-T	sanofi pasteur	ActHIB	PRP conjugated to tetanus toxoid	2, 4, 6 mos	12–15 mos
PRP-T	GlaxoSmithKline	Hiberix	PRP conjugated to tetanus toxoid	Not licensed for primary series	12–15 mos <sup>§</sup>
<b>Combination vaccine</b>					
PRP-OMP-HepB*,†	Merck & Co, Inc	Comvax	PRP-OMP + hepatitis B vaccine	2, 4 mos	12–15 mos
DTaP-IPV/PRP-T	sanofi pasteur	Pentacel	DTaP-IPV + PRP-T	2, 4, 6 mos	15–18 mos <sup>¶</sup>
MenCY/PRP-T**	GlaxoSmithKline	MenHibRix	MenCY + PRP-T	2, 4, 6 mos	12–15 mos

Source: Adapted from American Academy of Pediatrics. *Haemophilus influenzae* infections. Pickering L, Baker C, Kimberlin D, Long S, eds. Red book: 2012 report of the Committee on Infectious Diseases. Elk Grove Village, IL: American Academy of Pediatrics; 2012:345–52.

\* If a PRP-OMP vaccine is not administered as both doses in the primary series, or if there is uncertainty about which products were administered previously, a third dose of Hib conjugate vaccine is needed to complete the primary series.

† Preferred vaccine for American Indian/Alaska Native children.

§ To facilitate timely booster vaccination, Hiberix can be administered as early as age 12 months, in accordance with Hib vaccination schedules for routine and catch-up immunization (CDC. Licensure of a *Haemophilus influenzae* type b [Hib] vaccine [Hiberix] and updated recommendations for use of Hib vaccine. MMWR 2009;58:1008–9).

¶ The booster dose may be administered as early as age 12 months, provided that at least 6 months have elapsed since the third dose.

\*\* Recommendations for the MenCY component of MenCY/PRP-T have been published previously (CDC. Infant meningococcal vaccination: Advisory Committee on Immunization Practices (ACIP) recommendations and rationale. MMWR 2013;62:52–4).

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# Recommendations for Hib Vaccine Use in 2014 Statement

- ❑ Recommendations for routine vaccine use remain unchanged
- ❑ Guidance for catch-up vaccination remains unchanged
- ❑ Guidance for special populations (children and adults)
  - Included in 2014 statement
  - Consistent with previously published guidance

# Special Populations

- ❑ **Alaskan Natives/American Indians**
- ❑ **Children <24 months of age with invasive Hib**
- ❑ **Preterm infants**
- ❑ **High-risk groups**
  - Functional or anatomic asplenia
  - HIV
  - immunoglobulin deficiency (including IgG2 deficiency or early component complement deficiency)
  - hematopoietic stem cell transplant (HSCT) recipient
  - chemotherapy/radiation recipients

## Special Populations

### □ American Indians/Alaskan Natives (AI/AN)

- Hib meningitis peaks at younger age (4-7 months)
- Comvax and PedvaxHib (PRP-OMP) produce an early protective antibody response (after first dose)
  - Preferred for AI/AN infants to provide early protection
- Alaskan experience
  - 1991-1996 – PRP-OMP vaccine used; >90% decrease in Hib
  - 1996-1997 – switch to non-PRP-OMP vaccine; significant increases in Hib among native children
  - 1998-present – PRP-OMP vaccine used; Hib disease decreased

## Special Populations

- ❑ **Children <24 months of age with invasive Hib**
  - Consider unvaccinated and revaccinate
- ❑ **Preterm infants**
  - Start at 2 months of age, based on chronological age

# Special Populations

## □ High-risk groups

- Functional or anatomic asplenia
- HIV
- immunoglobulin deficiency (including IgG2 deficiency or early component complement deficiency)
- hematopoietic stem cell transplant (HSCT) recipient
- chemotherapy/radiation recipients

# Guidance for High-Risk Groups

High-risk group*	Hib Vaccine Guidance
<b>Patient &lt;12 months of age</b>	Follow routine Hib vaccination recommendations
<b>Patients 12 through 59 months of age</b>	If unimmunized or received 0 or 1 dose before age 12 months: 2 doses, 8 weeks apart  If received 2 or more doses before age 12 months: 1 dose, 8 weeks after last dose  If completed a primary series and received a booster dose at age 12 months or older: no additional doses

\*Persons with functional or anatomic asplenia, HIV infection, immunoglobulin deficiency including immunoglobulin G2 subclass deficiency, or early component complement deficiency, recipients of a hematopoietic stem cell transplant, and those receiving chemotherapy or radiation therapy for malignant neoplasms.

# Guidance for High-Risk Groups

## High-risk group\*

## Hib Vaccine Guidance

**Patients undergoing chemotherapy or radiation therapy, age <59 months**

If routine Hib doses given 14 or more days before starting therapy: revaccination not required

If dose given within 14 days of starting therapy or given during therapy: repeat doses starting at least 3 months following therapy completion

**Patients undergoing elective splenectomy, age  $\geq$  15 months**

If unimmunized: 1 dose prior to procedure

**Asplenic patients >59 months of age and adults**

If unimmunized: 1 dose

\*Persons with functional or anatomic asplenia, HIV infection, immunoglobulin deficiency including immunoglobulin G2 subclass deficiency, or early component complement deficiency, recipients of a hematopoietic stem cell transplant, and those receiving chemotherapy or radiation therapy for malignant neoplasms.

# Guidance for High-Risk Groups

## High-risk group\*

## Hib Vaccine Guidance

**HIV-infected children  $\geq$  60 months of age**

If unimmunized: 1 dose

**HIV-infected adults**

Hib vaccination is not recommended

**Recipients of hematopoietic stem cell transplant, all ages**

Regardless of Hib vaccination history: 3 doses (at least 4 weeks apart) beginning 6-12 months after transplant

\*Persons with functional or anatomic asplenia, HIV infection, immunoglobulin deficiency including immunoglobulin G2 subclass deficiency, or early component complement deficiency, recipients of a hematopoietic stem cell transplant, and those receiving chemotherapy or radiation therapy for malignant neoplasms.

# Summary

- ❑ **Last Hib statement published in 1993**
- ❑ **2014 Hib statement:**
  - Meant to be one-stop resource that includes guidance for immunocompetent and immunocompromised/special populations
  - Recommendations for routine vaccine use remain unchanged
  - Guidance for catch-up vaccination remains unchanged
  - Guidance for special populations (children and adults) included
    - Consistent with previously published guidance

# Thank you!

**For more information please contact Centers for Disease Control and Prevention**

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E-mail: [cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov) Web: [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

National Center for Immunization & Respiratory Diseases  
Meningitis and Vaccine Preventable Diseases Branch

