



STOP
HEP B
STOP
LIVER
CANCER



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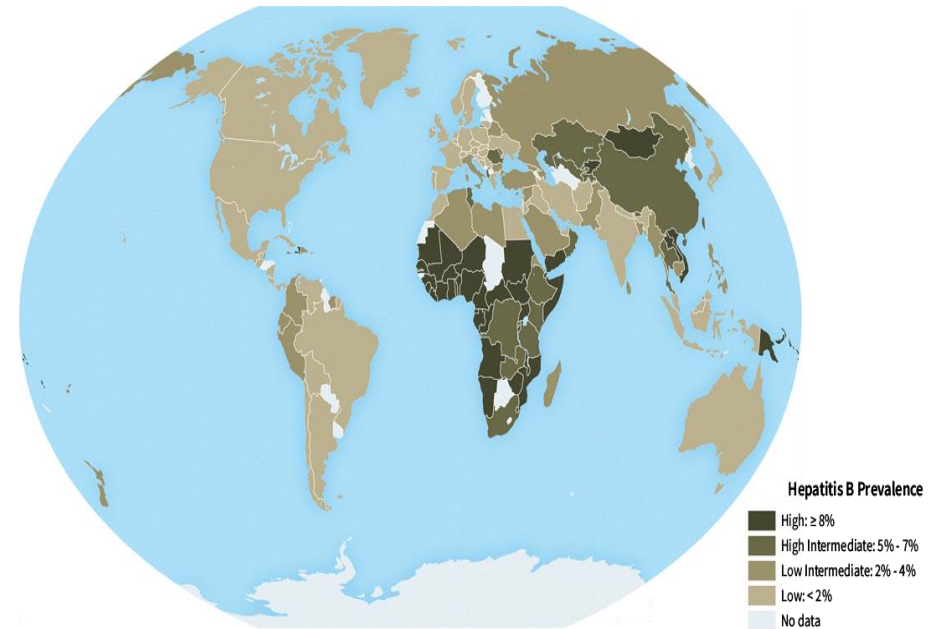


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Who does HBV affect?

- Before there was a vaccine, 1 in 3 person in the world were infected with HBV
- 257 million people living with chronic hepatitis B in 2015
- Most of them are from Asia (150 million) and Africa (60 million)



U.S. Centers for Disease Control and Prevention.
<https://www.cdc.gov/hepatitis/global/index.htm>
WHO, Global Hepatitis Report, 2017

257,000,000

people worldwide living with chronic hepatitis B in 2015

979,000

died in 2016 largely from undiagnosed/untreated chronic infection



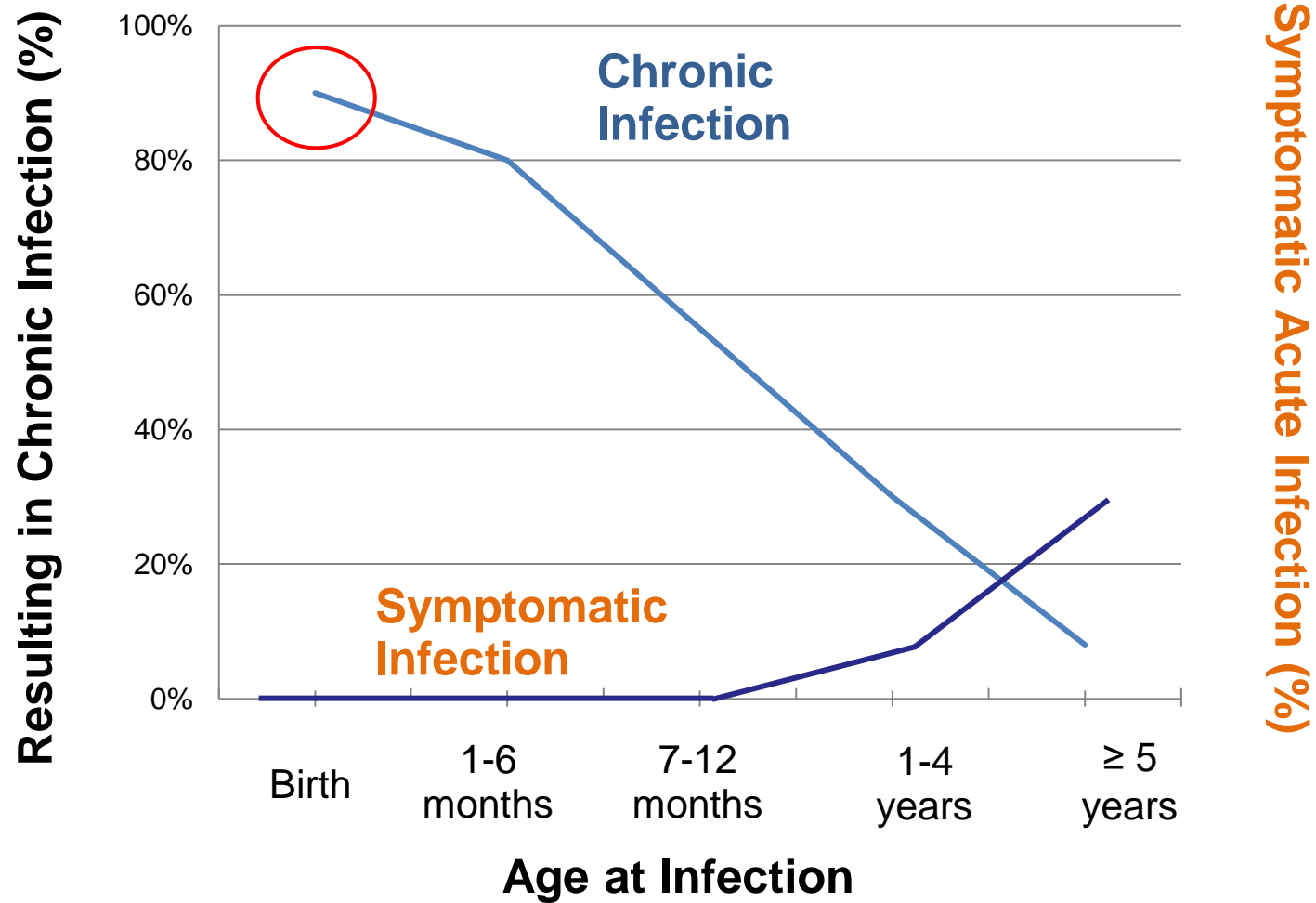
*WHO, Global Hepatitis Report, 2017
WHO, Global Mortality Estimates, 2016*



Eliminating Chronic Hepatitis B as a Major Public Health Problem is Feasible

- **Ending transmission**
 - Hepatitis B vaccine (First anti-Cancer Vaccine)
 - Safe injection and blood banking
- **Ending deaths and illness** from cirrhosis and liver cancer
 - Antiviral treatment
 - Liver cancer screening
- **Ending disease stigma and discrimination**
 - Educating the public

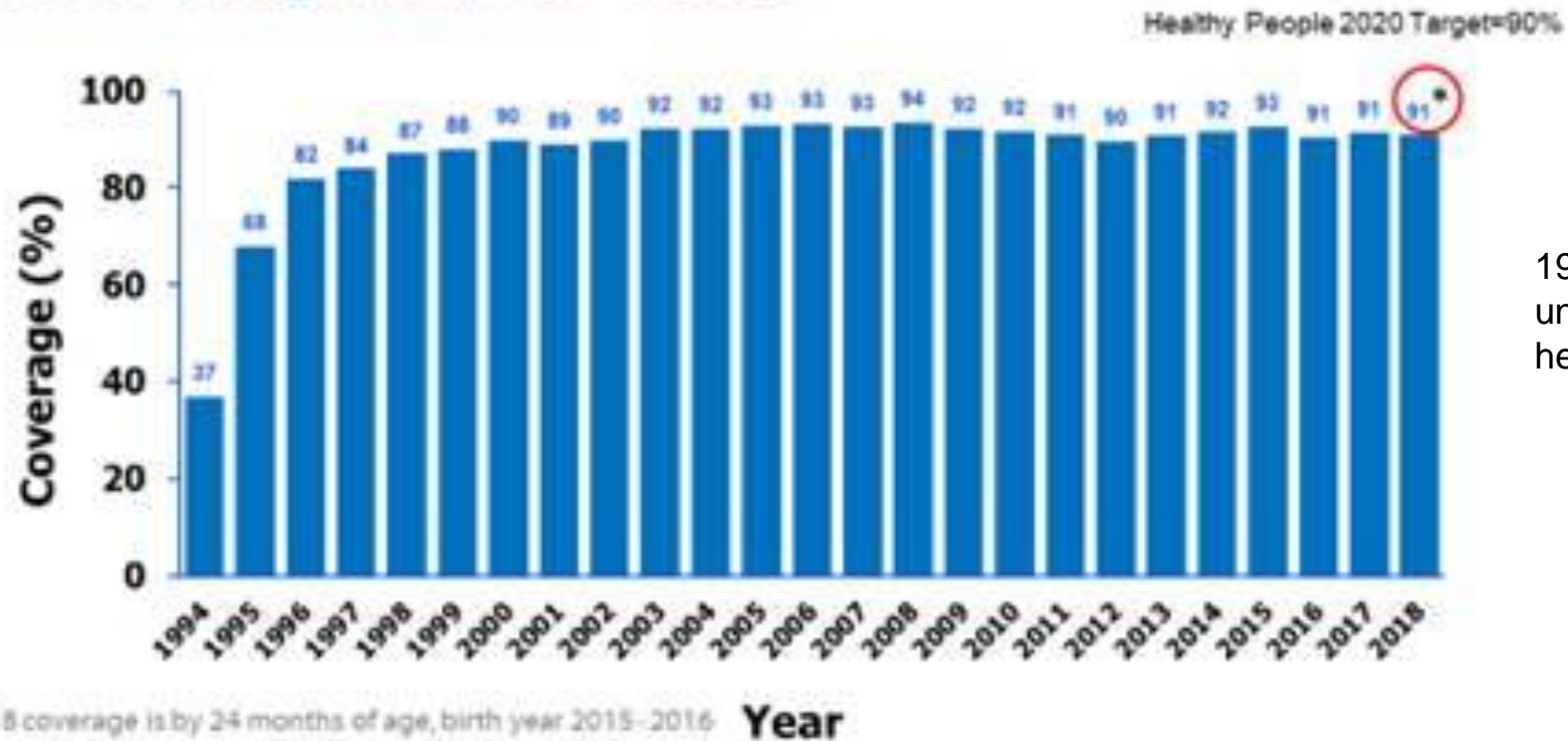
Newborns and infant are most susceptible to become chronically infected



WHO Western Pacific Regional Plan 2007

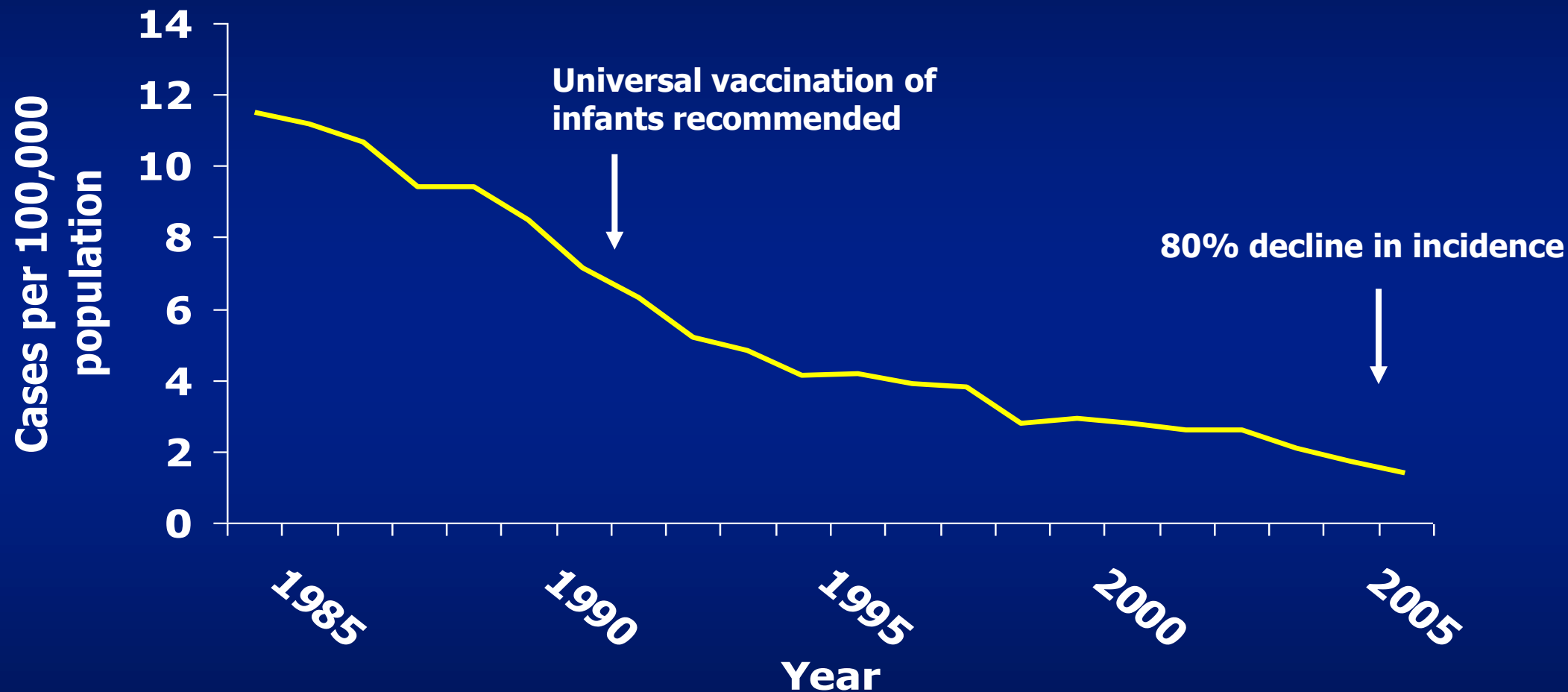
Hepatitis B Infant Immunization Coverage

Estimated Hepatitis B Vaccination Coverage 19-35 Months of Age, US, 1994-2018



1991, ACIP recommended universal infant hep B vaccination

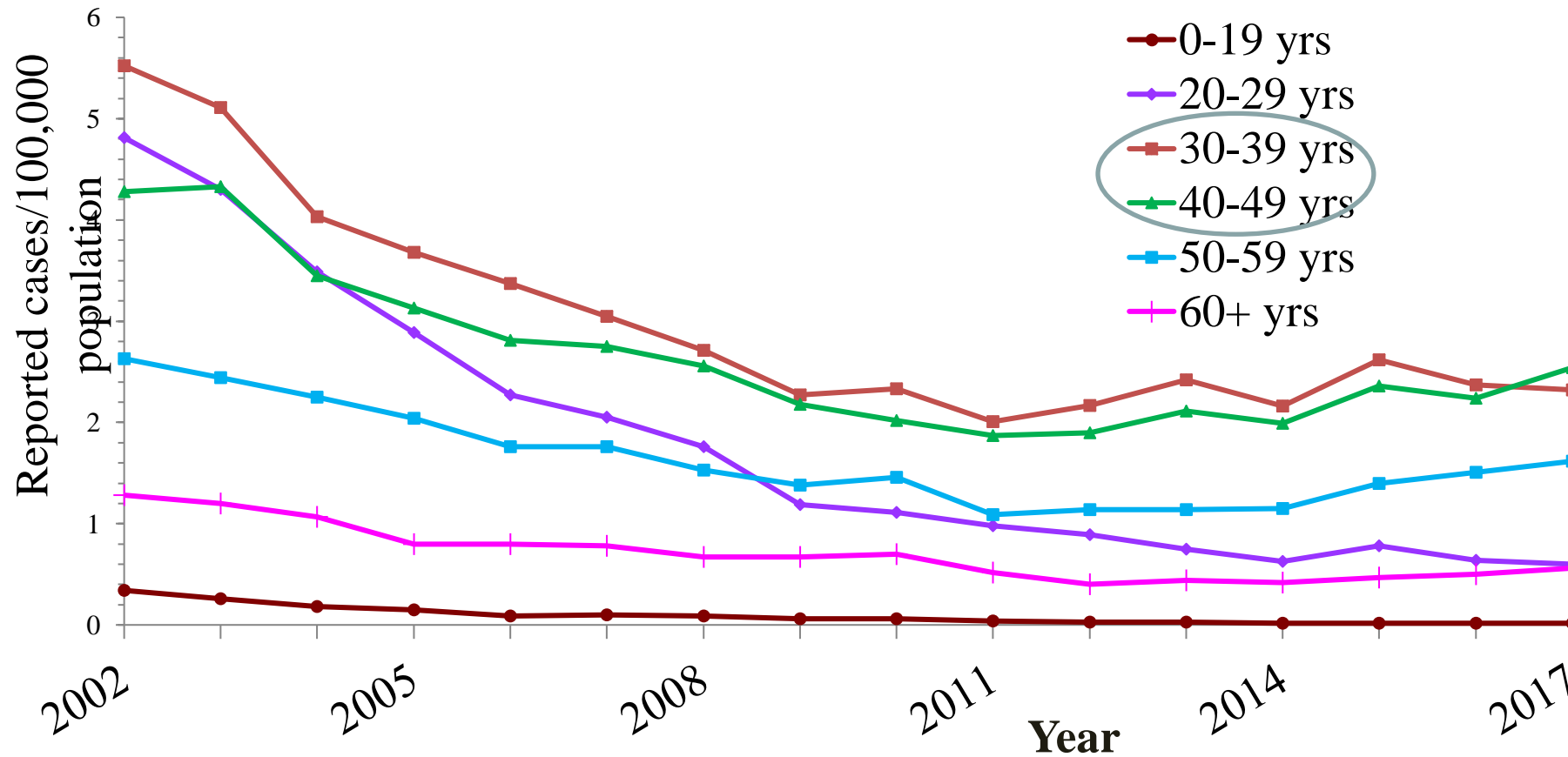
Reported Acute Hepatitis B United States, 1985-2006*



Source: National Notifiable Diseases Surveillance System (NNDSS) * 2006 data preliminary



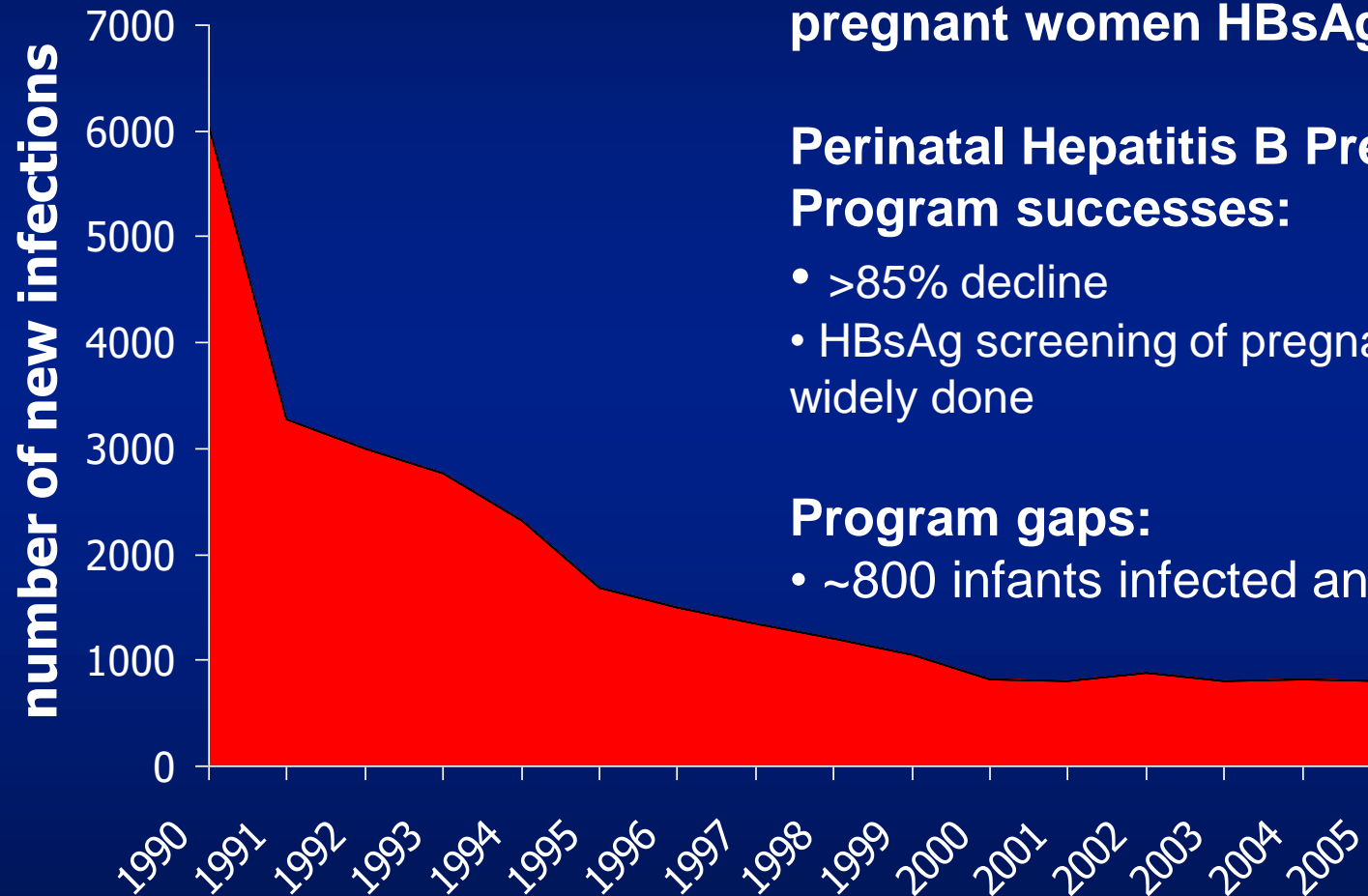
Acute hepatitis B cases in the United States 2002–2017



Estimated 21,500 acute hepatitis B cases in 2017
Risk factors identified in only 29.7% of the cases

Source: CDC, National Notifiable Diseases Surveillance System

Estimated New Perinatal Chronic HBV Infections United States, 1990-2005



1988, ACIP recommended Universal pregnant women HBsAg screening

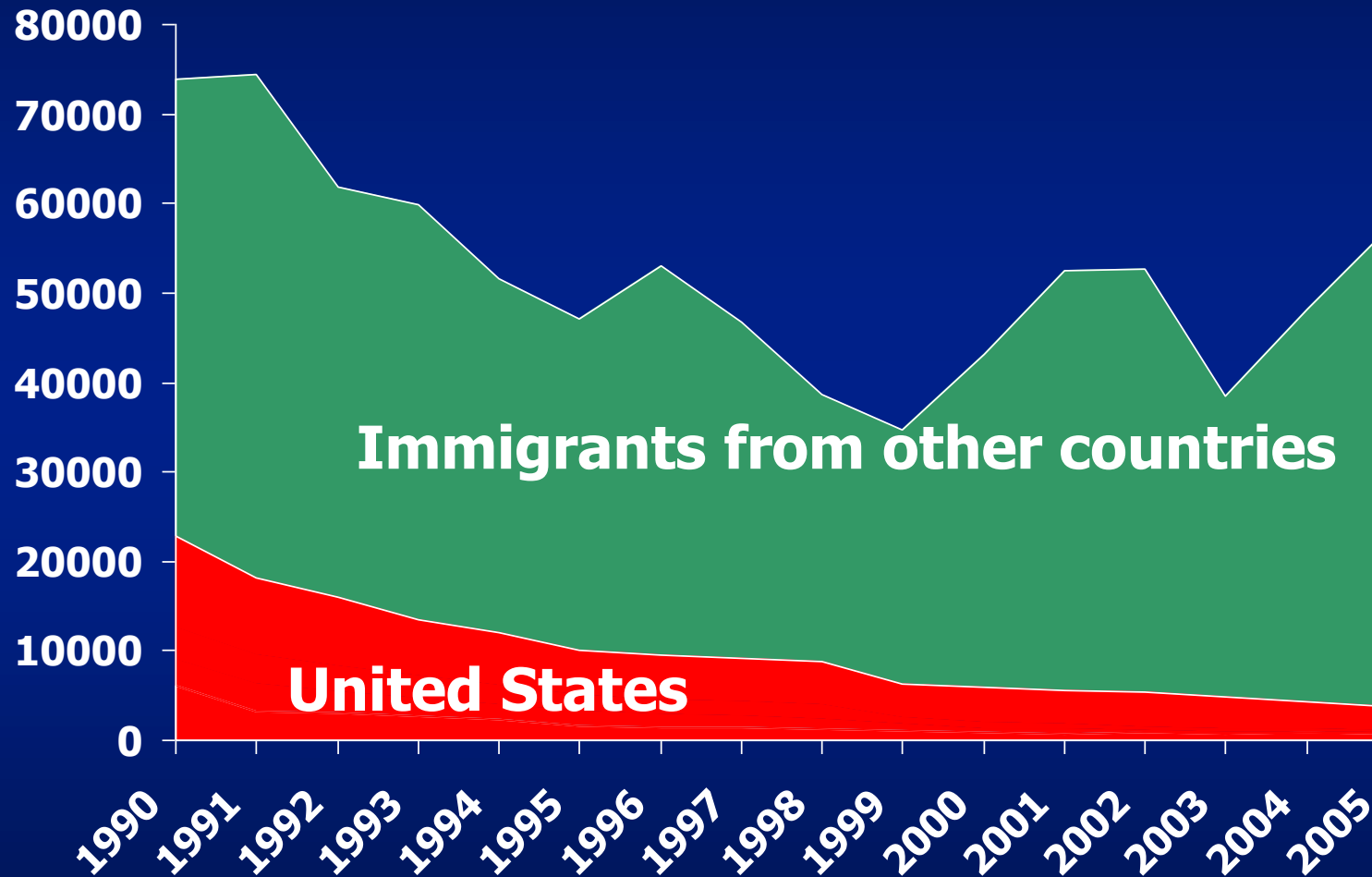
Perinatal Hepatitis B Prevention Program successes:

- >85% decline
- HBsAg screening of pregnant women widely done

Program gaps:

- ~800 infants infected annually

Estimated New Chronic HBV Infections by Place of Acquisition, United States, 1990-2005



95% new cases
are from
migration

Mitchell. PLoS One 2011



Prevalence of CHB in the US

Reference	Data Sources	Prevalence	Numbers
Patel. CID 2019	2011-2016 NHANES	0.36% (0.29-0.46)	862,000 (668,000-1,056,000)
Le. Hepatology 2020	2011-2016 NHANES	0.35% (0.28-0.45)	840,000 (670,000-1,070,000)
Toy. NAP 2017	2007-2012 NHANES (US born) + prevalence studies of FB living in the US (FB born) + institutionalized	0.40% (0.27-0.63)	1,294,000 (855,000-2,018,000) Estimated 25,000 new cases/year (95% from migration)
Roberts. Hepatology 2016	2007-2012 NHANES	0.30% (0.2-0.4)	847,000 (565,000-1,130,000) + 44,000 (institutionalized)
Kowdley. Hepatology 2012	1999-2006 NHANES (US born) + prevalence at country of origin (FB born) + institutionalized		As many as 2,200,000 [Foreign born:1,320,000 (1,040,000-1,610,000) + US born (229,000-534,000) + institutionalized (74,000)]
Wasley. JID 2010	1999-2006 NHANES	0.28 (0.21-0.36)	730,000 (550,000-940,000)

Prevalence of CHB by Race (NHANES 2011-2016)

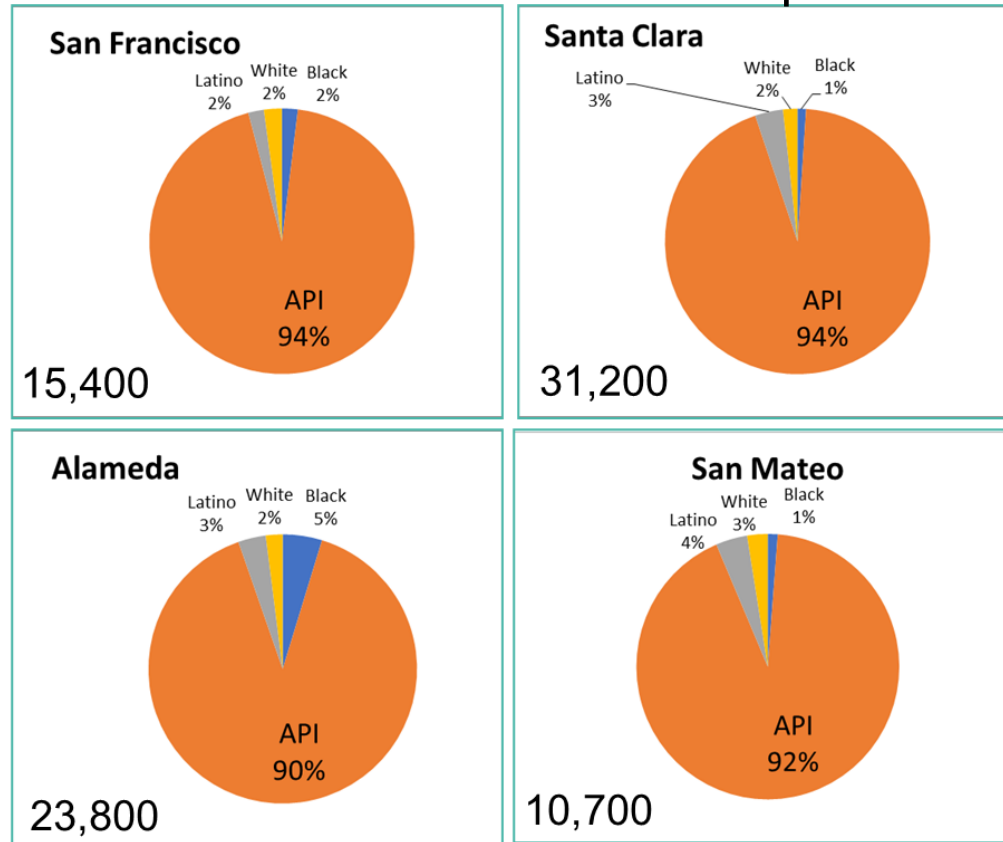
US vs Non-US Born	Race	HBsAg Prevalence
US born		0.15%
	Hispanic	0%
	Non-Hispanic White	0.08% (0.03-0.22)
	Mexican	0.14% (0.03-0.61)
	Non-Hispanic Black	0.52% (0.32-0.85)
	Non-Hispanic Asian	0.79% (0.17-3.59)
Non-US Born		1.28% (0.95-1.73)
	Hispanic	0.09% (0.01-0.53)
	Mexican	0.19% (0.04-0.88)
	Non-Hispanic White	0.64% (0.14-2.93)
	Non-Hispanic Black	1.94% (1.13-3.30)
	Non-Hispanic Asian	3.85% (2.97-4.97)

Le M. Hepatology 2020

Who is Living with Chronic Hepatitis B in California and in the San Francisco Bay Area

- An estimated 305,400 adults (1% of the adult population) in CA are living with chronic HBV
- **88% are API**, 6% Hispanic, 3% Black, 3% non-Hispanic White, 86% are foreign born
- Estimated HBsAg prevalence among API adults in CA is 5.41% (3.79 – 7.37%)
- 34% live in the San Francisco Bay area and 36% in Los Angeles area
- **About two-thirds are not aware they are infected**

Estimated Cases of Chronic Hepatitis B



Hepatology Medicine Policy 2018;3:6.