



Impact of Vaccines on Disease in Alaska

MCH /Immunization Conference

Rosalyn Singleton MD MPH
Alaska Native Tribal Health Consortium

ris2@cdc.gov

729-3418



Measles

- n In 1960-62, the post-neonatal death rate (1-11 month olds) in YK Delta infants was 56 per 1000, or 5.6%.
- n Nearly half of these infant deaths were caused by measles or pertussis.
- n The postneonatal death rate (1-11 months) decreased 10-fold between 1960-62 and 1980-81 – partly due to measles and pertussis vaccines.
- n Since instituting the 2 dose measles requirement in Alaska, we have not had any outbreaks of measles in Alaska.

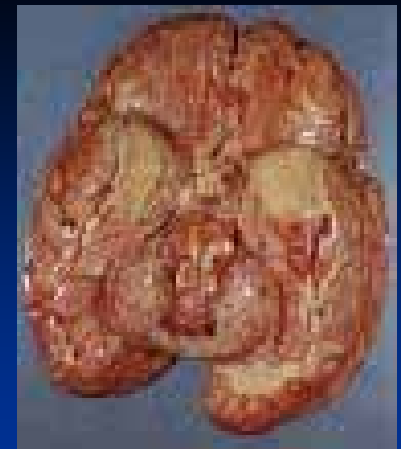
Lum et al, Public Health Rep 1986;101:309-14



Hib disease

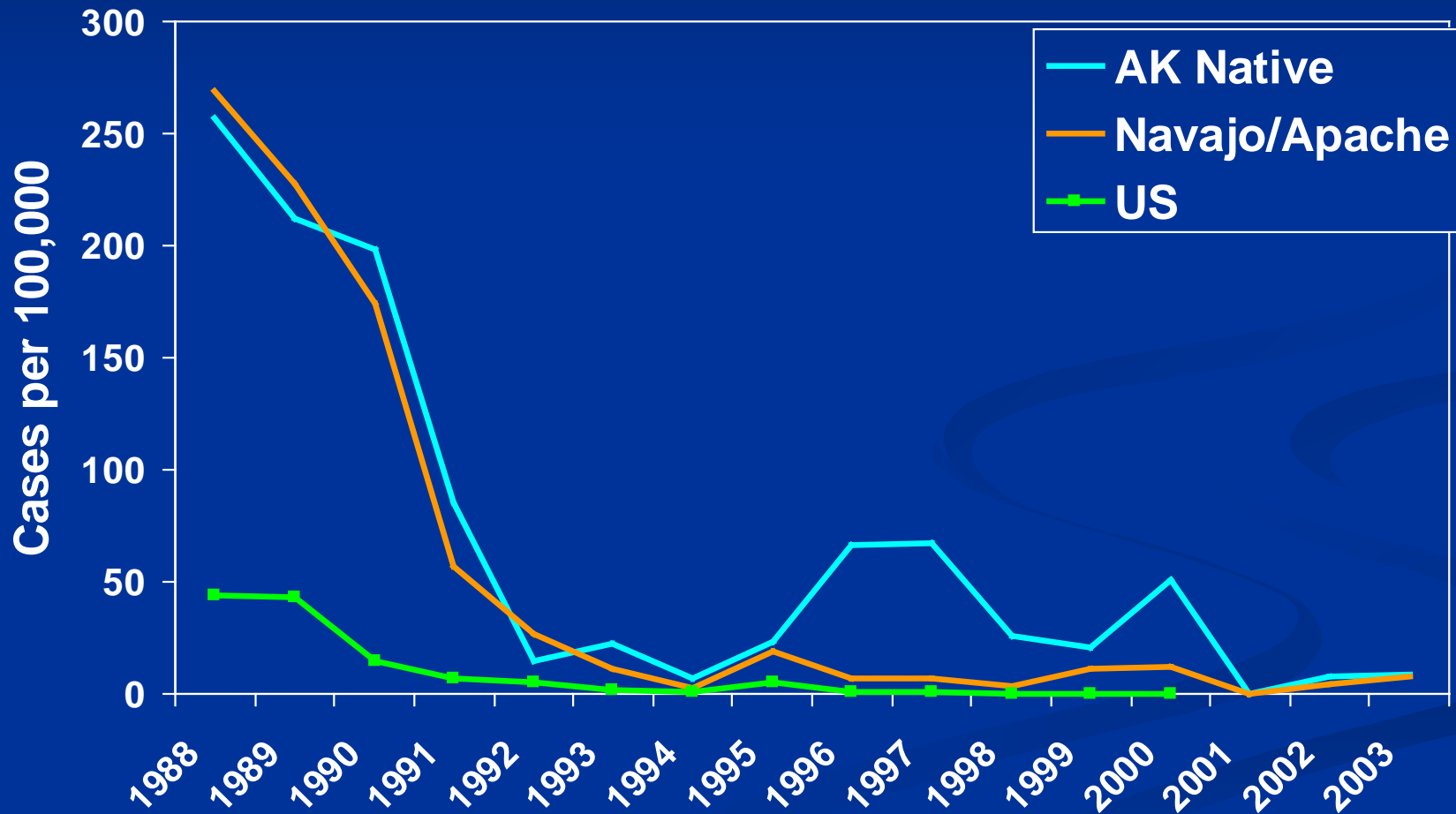


Periorbital cellulitis



- n **Alaska Native children before Hib vaccine** meningitis
 - n 5-10 times higher rate of disease than US. Rate 600/100,000 children < 5 years.
 - n Younger peak age (4-6 months)
- n **Unique Recommendations**
 - n The State of Alaska provides PRP-OMP Hib vaccine for Alaskan children because it produces protective antibodies after first dose.
- n **Vaccine Impact**
 - n Hib disease decreased 94%-98% after vaccine.

Decline in Hib Disease: US, Navajo/ Apache, AK Native, 1988-2003



Hepatitis A in Alaska

- n **Before Hep A vaccine**
 - n Alaska Natives experienced large outbreaks – up to 4,000 sick people
 - n 90% of adults in village had been infected
- n **Hepatitis A Vaccine (1996)**
 - n Universal vaccination of Alaskan children
- n **Rates have declined 99.9%**
 - n Hepatitis A infections have decreased 99.9% in Alaska Native people
 - n Alaska Native people now have a lower rate of Hep A disease than the general US population

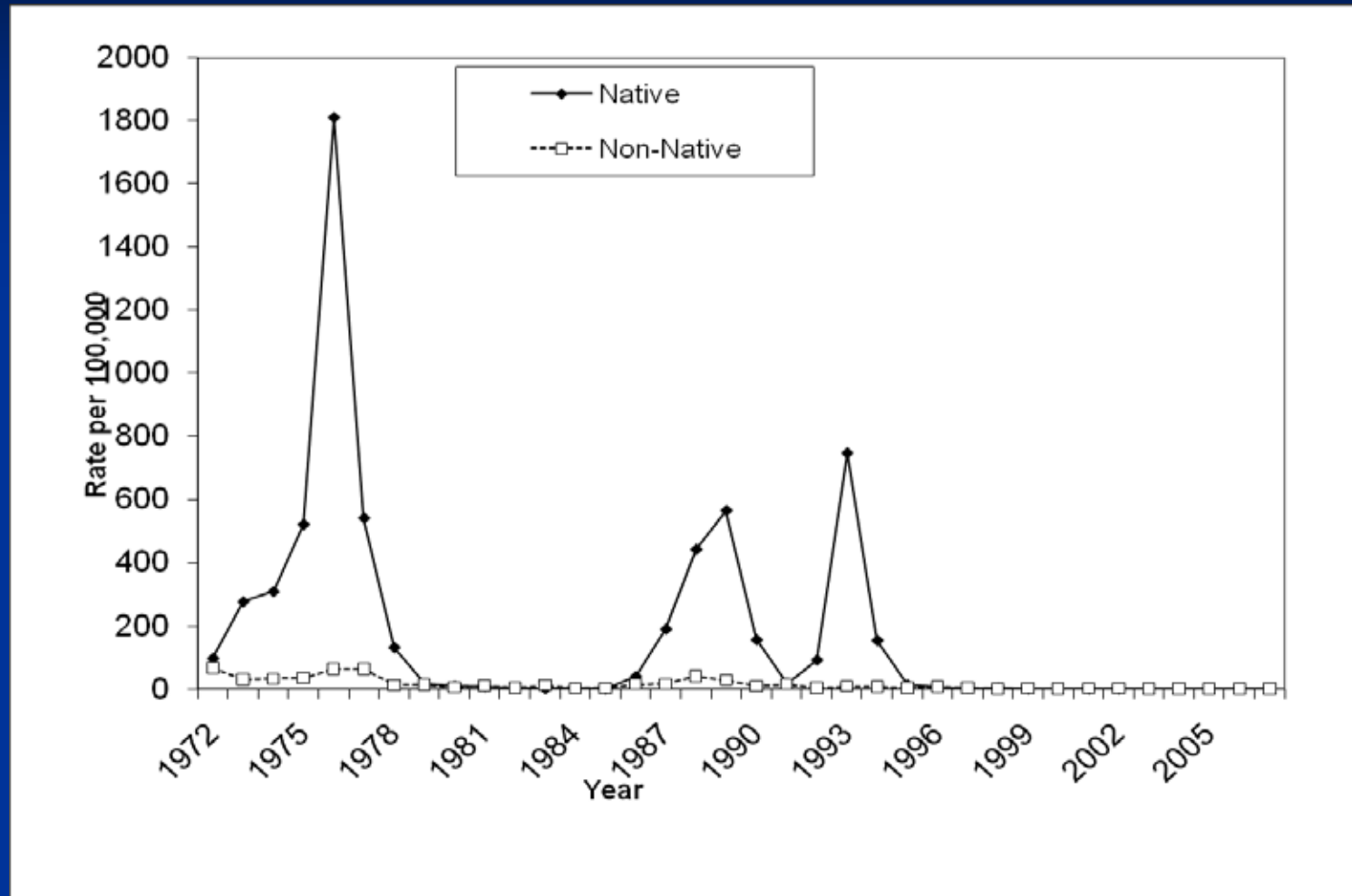


CDC MMWR 1992;41:6

Bialek. Hepatitis A in AI/AN. Am J Pub Hlth 2004;94 996-1001

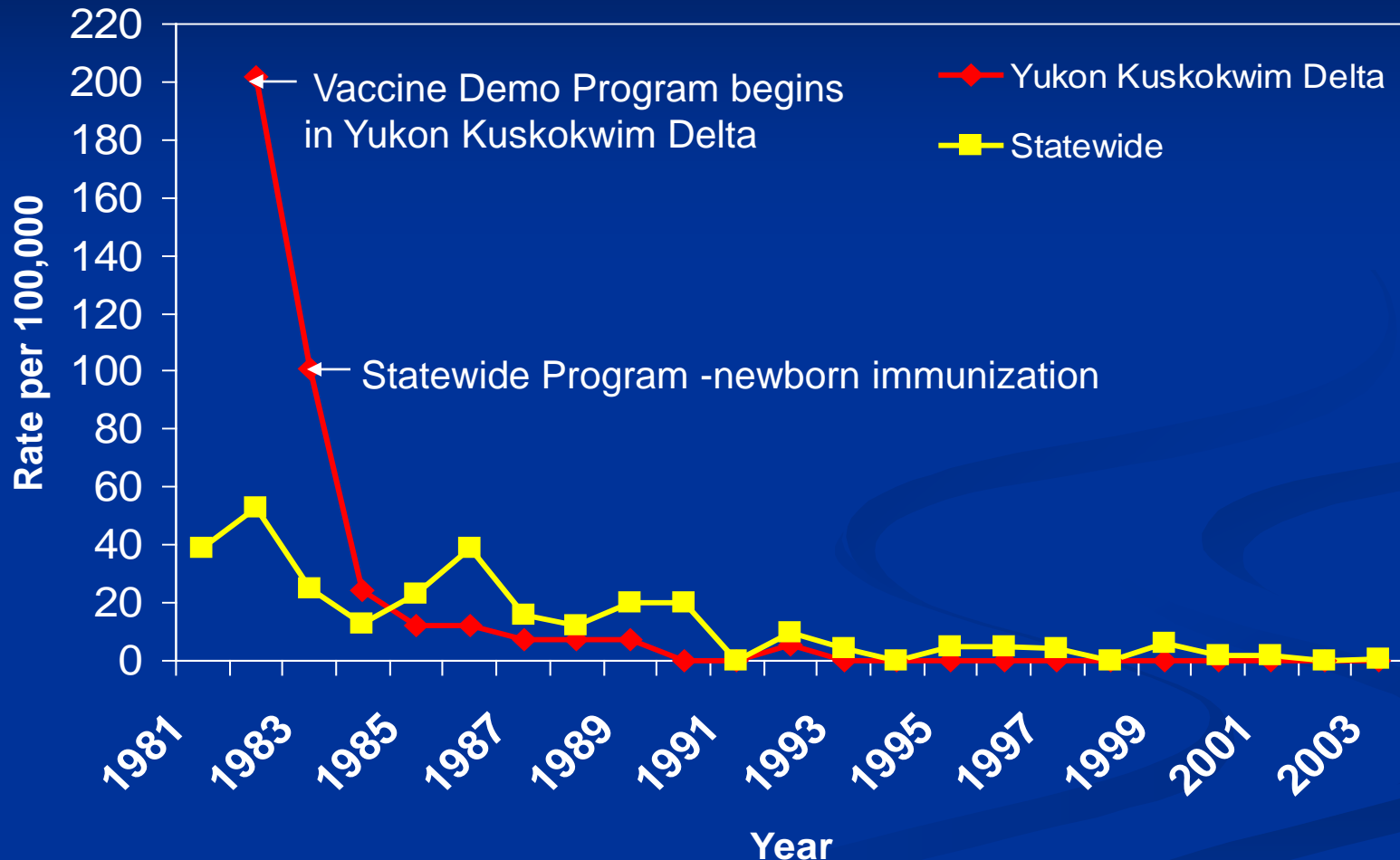
Singleton et al. Impact of Hep A vaccine in Alaska VACCINE 2010;

Incidence of Hepatitis A infections in Alaskans, Native and Non-Native, 1972-2007



Singleton, McMahon, Castrodale et al. Impact of vaccine program in Alaska VACCINE 2010;28:6298-304

Incidence of Symptomatic Hepatitis B in AK Native Persons 1981- 2003



Because of Hep B vaccine, Alaska Native people now have one of the lowest rates of Hep B in the U.S.