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Background:
Vaccine-preventable diseases (VPDs) cause substantial morbidity and mortality in the U.S. Affiliated Pacific Islands (USAPIs). Challenges to consistent vaccination coverage assessment include geographic remoteness and difficulty tracking highly mobile populations, resulting in high costs and time commitments to conduct household surveys.

Objectives:
To provide timely regional vaccination coverage, researchers piloted medical record abstraction to assess coverage among children 24-35 months.

Methods:
Demographic and vaccination data were abstracted from medical records for children 24-35 months in American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia (FSM), Republic of Palau, and Republic of the Marshall Islands. Coverage for Hepatitis B (HepB) vaccine, including HepB birth dose (0-3 days), diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP), inactivated poliovirus vaccine (IPV), *Haemophilus influenzae* type b (Hib) vaccine, pneumococcal conjugate vaccine (PCV), measles, mumps, and rubella vaccine (MMR), and the six-vaccine series (≥4 doses DTaP, ≥3 IPV, ≥1 MMR, ≥3 Hib, ≥3 HepB, ≥4 PCV) was calculated as the proportion of children vaccinated with the number of doses recommended by age 24 months.

Results:
HepB birth dose coverage exceeded 85% for all USAPIs except Chuuk State, FSM (51.5%). Coverage for ≥3 doses HepB, ≥3 doses IPV, and ≥3 doses Hib exceeded 90% in Palau; coverages were <90% for all vaccines in all other jurisdictions. Coverage for the six-vaccine series ranged from 19.1% (Chuuk) to 69.1% (Palau).

Conclusion:
Vaccination coverage was generally lower than USAPI national targets (≥90%), and varied widely across jurisdictions. This first use of record abstraction to assess vaccination coverage among children 24-35 months in the USAPIs provided timely results, improving capability of programs to design and implement evidenced-based interventions to improve coverage. Continuous timely surveillance of vaccination coverage is needed to protect these communities from future VPD outbreaks.
Collaborations and Strategies to Improve Childhood and Adolescent Immunization Coverage among American Indian/Alaska Native Communities

Jillian Doss-Walker, Meghan Porter, Jennilea Steffens, Linda Littlefield, Cheyenne Jim

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Summary of Topic:
This session aims to provide an overview of current collaborations and strategies with the Indian Health Service (IHS), tribal organizations and state immunization programs to increase community engagement and improve childhood and adolescent vaccine coverage among American Indian/Alaska Native communities.

Description of Session:
American Indian/Alaska Native people (AI/ANs) face numerous health and socioeconomic disparities and are at higher risk of complications from vaccine-preventable diseases compared to the general US population. IHS Immunization coverage reports from 2014-2016 indicate a decline in age-appropriate vaccination-coverage for children 2 years and under. This session will provide background on declining childhood immunization coverage rates among AI/AN children served by IHS-funded facilities, and provide an overview of several different projects to address this issue.

The Bemidji Area Childhood Immunization Needs Assessment project is an on-going collaboration between the Great Lakes Inter-Tribal Epidemiology Center and the IHS Bemidji Area office, which includes the states of Minnesota, Wisconsin, and Michigan. With support from the national IHS Immunization Program, this project aims to review childhood immunization rates across the Bemidji Area, develop recommendations, and inform future quality improvement projects. To date this project included interviews with immunization coordinators at the IHS-funded facilities, review of IHS immunization data and state IIS immunization data.

To enhance awareness and reinforce the importance of immunizations at the individual, community, and provider level, the Safe Healthy Children Immunization project targeted seven rural tribal communities across North Dakota and South Dakota. The main objectives were to increase awareness, assess and mitigate parent, community, and provider-level barriers, and develop a culturally appropriate educational toolkit and resources. Families enrolled in an existing community based program to improve health equity among perinatal women and reduce infant mortality received tailored childhood immunization education. Provider education sessions were also held and community readiness assessments to evaluate completion of childhood immunizations were conducted.

Other collaborations included expanding engagement with Community Health Representatives through training and education on vaccine basics. These trainings were held in three IHS regions. In addition, the national IHS Immunization program partnered with We R Native, a comprehensive health resource for Native youth that uses a text messaging service, interactive website, and social media to reach Native youth. Using their network, immunization messages were developed and disseminated.

This session will describe the current trends in childhood and adolescent vaccine coverage rates among AI/AN populations served by IHS, share strategies implemented in IHS facilities and tribal communities to engage with AI/AN communities and increase immunization coverage rates, and discuss lessons learned and future collaborative opportunities.

The session schedule and speakers are as follow:
1. Current trends in childhood and adolescent vaccine coverage rates among American Indian/Alaska Natives (10 min)-Jillian Doss-Walker, National Center for Immunization and Respiratory Diseases, Immunization Services Division, CDC, Atlanta, GA/Indian Health Service, Rockville, MD.

2. Results of a Childhood Immunization Needs Assessment at Clinics Serving American Indian/Alaska Native Communities (15 mins)-Meghan Porter, Great Lakes Inter-tribal Epidemiology Center, Minneapolis, MN.

3. Improving Pediatric Immunization Series Completion in Rural American Indian Communities (15 mins)-Jennilea Steffens and Linda Littlefield, Great Plains Tribal Chairmen’s Health Board, Rapid City, SD.

4. Collaborations for Community Engagement for Immunizations (10 mins)- Cheyenne Jim, IHRC Consulting Group, Inc.

5. Q & A Discussion (10 mins)
Using Michigan’s Immunization Registry to Assess When Children Fall Behind in the Recommended Vaccination Schedule
Cristi Bramer, Robert Swanson

Background:
Before children are two years of age, the Advisory Committee on Immunization Practices recommends vaccinations to prevent 14 infectious diseases. To monitor immunization coverage among children aged 19 through 35 months, the CDC conducts the National Immunization Survey (NIS). Michigan’s 2014 NIS coverage dropped 5 percentage points to 65%, prompting the Michigan Department of Health and Human Services (MDHHS) to endeavor to understand the low and decreasing vaccination coverage.

Objectives:
Use Michigan’s Immunization Information System, the Michigan Care Improvement Registry (MCIR) to determine when and which recommended vaccines children are falling behind on in the first two years of life.

Methods:
Since November 2015, on a bi-monthly schedule, we used MCIR data to assess children’s vaccination status at 1, 3, 5, 7, 16, 19, and 24 months of age; ages corresponding to the end of a recommendation period for one or more vaccines. Up-to-date (UTD) status for individual vaccines and the recommended age-based series were assessed.

Results:
In the first year of life, series immunization coverage declined; 73.0% of 3 month olds, 64.2% of 5 month olds, and 55.2% of 7 month olds were UTD as of November 2017. UTD coverage increased at 2 years of age (69.6%) however, remains low. In the one month age cohorts following the recommended age for series completion, coverage was higher for hepatitis B (85.7%) and polio (85.5%) than PCV (68.9%) and DTaP (67.9%). Trends were similar in previous bi-monthly assessments.

Conclusion:
Childhood vaccination schedules are based on ages shown to be safe and effective and are designed to protect children when they are most susceptible to vaccine-preventable diseases. Michigan children quickly fall behind in their vaccinations with almost half of 7 month olds not UTD. When there is more time to complete a series, coverage was higher. Strategies to improve timely vaccine administration should be implemented.
Measuring Vaccination Coverage with the National Immunization Survey-Child (NIS-Child) – Time for a Paradigm Shift

James Singleton, David Yankey, Holly Hill, Ben Fredua, Zhen Zhao, Kirk Wolter, Benjamin Skalland

Background:

Objectives:
To describe a new way to report vaccination coverage using NIS-Child data by birth cohort instead of by survey year.

Methods:
NIS-Child data from 2011-2016 were analyzed to estimate vaccination coverage by birth cohort among children born 2010-2014. We calculated estimates by month and year of birth nationally, and by annual birth cohort and two adjacent combined annual birth cohorts at state and national levels. We estimated coverage before each child turned age 24 months, using the Kaplan-Meier method to account for censoring of vaccination status.

Results:
National analysis by birth month and year found stable vaccination coverage for children born January 2012-December 2015. We will present preliminary results for state and national level analysis by one and two annual birth cohorts.

Conclusion:
We can overcome limitations in NIS-Child estimates by survey year with estimates by birth cohort, using the fixed milestone age of before 24 months at vaccination assessment. We could replace annual estimates by survey year with estimates for the two most recent annual birth cohorts combined (e.g. using data through 2017, estimates for children turning age two years during 2016-2017). These estimates, and trends based on them, would be easier to interpret. Confidence intervals for state and selected local area estimates would be narrower, and comparisons with immunization information systems (IIS) facilitated. We could increase sample size by modifying survey eligibility to include children from the two most recent annual birth cohorts.