CDC AND INDIAN COUNTRY
WORKING TOGETHER

DEPARTMENT OF HEALTH & HUMAN SERVICES USA

CDC

CENTERS FOR DISEASE CONTROL AND PREVENTION

CDC and Indian Country Working Together

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Welcome and Introduction

Welcome to the Centers for Disease Control and Prevention (CDC) and a snapshot of CDC's work in Indian Country, with tribal nations, tribal organizations, and American Indians and Alaska Natives across the United States.

CDC's Tribal Advisory Committee (TAC) asked CDC to prepare a booklet describing our organization and the work we do in Indian Country as part of our broad portfolio to improve health and protect against health threats here at home and around the world.

The TAC advises CDC/ATSDR (Agency for Toxic Substances and Disease Registry) on policy issues and broad strategies that may significantly affect American Indian and Alaska Native communities. The TAC collaborates with CDC/ATSDR in fulfilling its mission to promote health and quality of life by preventing and controlling disease, injury, and disability through established and ongoing relationships and consultation sessions. The TAC consists of 16 voluntary representatives: 1 delegate (and 1 authorized representative) from a federally recognized tribe geographically located in each of the 12 Indian Health Service Areas, and 1 delegate (and 1 authorized representative) from 4 federally recognized tribes-at-large. The TAC convenes twice each year, during the winter at CDC headquarters and during the summer hosted by a tribal nation.

CDC is pleased to provide this report to our TAC and to offer you, our reader, a glimpse of the work we do, the accomplishments we have shared together, and the opportunities we have in the future to create even stronger bonds and deeper collaborations in the service of health and wellness for all.

Summer 2015 Tribal Advisory Committee Meeting, Airway Heights, WA: Robert Flying Hawk (Great Plains Area), Kate Grismala (Nashville Area), Beverly Coho (Albuquerque Area), Chester Antone, TAC Chair (Tucson Area), Jonathan Nez (Navajo Area), Darcy Morrow (Tribes-at-Large), Cathy Abramson (Bemidji Area), Shawna M. Shillal-Gavin (Portland Area) , Andy Joseph (Tribe-at-Large), and Adam Geisler (California Area).

CDC's Mission

CDC works 24/7 to protect America from health, safety and security threats, both foreign and in the United States. Whether diseases start at home or abroad, are chronic or acute, curable or preventable, human error or deliberate attack, CDC fights disease and supports communities and residents to do the same.

CDC increases the health security of our nation. As the nation's health protection agency, CDC saves lives and protects people from health threats. To accomplish our mission, CDC conducts critical science and provides health information that protect our nation against expensive and dangerous health threats, and responds when these arise.

With an approximate annual budget of $12 billion, including the Vaccines for Children program, and more than 14,000 staff, CDC supports communities throughout the United States and protects Americans by working in more than 60 countries around the world. Almost 85% of CDC's domestic funding is provided directly to state, tribal, local, and territorial entities to detect and control disease, prevent the leading causes of death, and prepare for health threats.

What is ATSDR? The Agency for Toxic Substances and Disease Registry (ATSDR), co-located with CDC in Atlanta, Georgia, is a federal public health agency like CDC. ATSDR serves the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and diseases related to toxic substances. The Director of CDC is the Administrator of ATSDR.

CDC's Role

As the lead public health agency in the United States, CDC helps save lives by responding to emergencies, providing public health expertise, developing vaccines, and detecting disease outbreaks wherever they arise. CDC works to strengthen state, tribal, local, and territorial health departments; helps promote health programs that are proven to work; informs decision makers about public health science and effective action; and provides people with information they need to take charge of their health. CDC's scientists collect and analyze data to monitor health threats, find solutions to health problems, and reduce their impact on people's lives. Our work has protected people from hundreds of public health threats every year.

CDC supports the nation, including tribal nations, in six areas:

- Detecting and responding to new and emerging health threats.
- Tackling the biggest health problems causing death and disability.
- Putting science and advanced technology into action to prevent disease.
- Promoting healthy and safe behaviors, communities and environments.
- Developing leaders and training the public health workforce, including disease detectives.
- Taking the health pulse of our nation.

Turn the pages of this report to learn more about CDC's work in Indian Country in each of these areas.

FAST FACTS ABOUT CDC

- Established in 1946 and headquartered in Atlanta, GA.
- CDC's Budget in FY 2016: $7.2 billion, plus $4.1 billion for the Vaccines for Children program.
- More than 14,000 employees in nearly 170 occupations.
- The CDC Director is appointed by the Secretary of the US Department of Health and Human Services, who is appointed by the President.
- Field staff work in all 50 states and more than 60 countries.
- CDC is one of a dozen major operating divisions within the US Department of Health and Human Services, a federal executive department.

Health in Indian Country

American Indians and Alaska Natives are as diverse as the places they come from, with unique cultures, languages, histories, arts, and practices. Yet all share a deep connection to lifeways that can sustain health and wellness. American Indians and Alaska Natives have persevered and sustained themselves and much of their cultures, in spite of fraught relationships with the US government that have compromised lifeways, culture, and health and wellness. Today, American Indians and Alaska Natives have higher rates of disease, injury, and premature death than other racial and ethnic groups in the United States. Many Native populations also have higher rates of poverty, unemployment, poor housing, and low education, among other adversities. These afflictions result from historical insults and injustices, perpetrated over many generations, including massacres, genocidal policies, epidemics from introduced diseases, forced relocations, removal of children through boarding school policies, and prohibition of spiritual and cultural practices (including use of Native languages).

CDC works with and supports American Indian tribes, Alaska Native villages, tribal organizations, and Tribal Epidemiology Centers to promote health, prevent disease, reduce health disparities, and strengthen connections to culture and lifeways that improve health and wellness that have been threatened over generations. CDC's work with and support of Indian Country to improve the lives of Native peoples is reflected in this report.

San Carlos Apache Tribe

Some of the health and socioeconomic disparities that face American Indians and Alaska Natives include:

- American Indians and Alaska Natives born today have a life expectancy that is 4.4 years less than all US races (73.7 years to 78.1 years, respectively).
- American Indians and Alaska Natives have the second highest infant mortality rate after non-Hispanic blacks.
- American Indians and Alaska Natives have the highest prevalence of diabetes in the United States, more than twice the prevalence of diabetes among non-Hispanic whites.
- American Indians and Alaska Natives have higher infectious disease death rates than non-Hispanic whites.
  - Some of the greatest infectious disease death rate disparities are found in remote and isolated regions of the United States, including Alaska, the Northern Plains, and Southwest regions. Remoteness, isolation, lack of adequate sanitation, and other factors contribute to these disparities.
  - Incidence rates of 14 of 26 notifiable infectious diseases were higher for American Indians and Alaska Natives compared to non-Hispanic whites.
- American Indian and Alaska Native youth and adults have the highest prevalence of commercial cigarette smoking among all racial or ethnic groups in the United States.
  - Cigarette smoking varies widely by region, with lower prevalence in the Southwest and higher prevalence in the Northern Plains and Alaska.
  - American Indians and Alaska Natives have the lowest rate of cigarette smoking quit attempts among all racial or ethnic groups in the United States.
- American Indian and Alaska Native adults are 50% more likely to have obesity than non-Hispanic white adults.
- American Indians and Alaska Natives have the highest percentage of current heavy alcohol users compared to other racial and ethnic groups in the United States.
- The suicide rate among American Indian and Alaska Native adolescents and young adults ages 15 to 34 is 1.5 times higher than the national average for that age group.
- Motor vehicle crashes are a leading cause of unintentional injury for American Indians and Alaska Natives ages 1 to 44. American Indian and Alaska Native adults are 1.5 times more likely to die in a crash than white or black Americans.
- More than 26% of American Indians and Alaska Natives lived in poverty in 2015, the highest rate of any racial group. For the nation as a whole, the poverty rate was 14.7%.
- The American Indian and Alaska Native high school graduation rate is 67%, the lowest of any racial or ethnic group across all US schools.

Despite historical and other traumas, American Indians and Alaska Natives—and much of their cultures, languages, and practices —have survived. During the 20th and 21st centuries, American Indians and Alaska Natives rebuilt their nations, adapted to cultural and economic pressures and opportunities, overcame adverse and destructive policies, and today are a growing, dynamic and resurgent part of the United States.

Detecting and Responding to New and Emerging Health Threats

Whether fighting Ebola in West Africa, Legionnaire's Disease in Pennsylvania, or Rocky Mountain Spotted Fever (RMSF) in Arizona, CDC's scientists and disease detectives help find the source of the problem and support action to stop the threat. Often a known threat, like hepatitis C virus (HCV) or even obesity, emerge at a higher rate than usual and require new efforts and insights to be brought under control. Here are two examples of CDC in action in Indian Country, providing support to detect and respond to new and emerging health threats.

▲**Rocky Mountain Spotted Fever** (RMSF) is a potentially fatal tickborne disease. From 2003 to 2014, more than 300 cases, including 20 deaths, were reported by tribal communities in Arizona. The rate of RMSF on the three most highly affected American Indian reservations in rural Arizona was more than 150 times the national rate. In 2012, CDC began working with one highly affected tribe, along with federal, state, tribal, and private partners on a new prevention program to decrease the incidence of RMSF. The approach included applying pesticide sprays around yards, placing long-acting tick collars on every dog in the area, and offering free spay and neuter services to curb the dog population. The tribe took these strategies community-wide, tackling ticks in every home. These joint efforts decreased RMSF incidence by 43%. This project has guided best practices for other tribal and international communities suffering from RMSF.

▲Since 1999, CDC has collaborated with partners to identify and characterize health issues linked to environmental exposures in Indian Country. CDC's work with tribes has addressed a number of sources, routes, and types of exposures, including exposures to chemicals from drinking water and seafood. For example, in collaboration with the Cheyenne River Sioux Tribe, CDC quantified bisphenol A and arsenic concentrations in people living on the Cheyenne River Sioux Tribe reservation. Researchers looked at associations between these environmental chemicals and diabetes mellitus. A separate study with the tribe aimed to quantify mercury exposure among residents of the reservation who ate at least two servings of locally caught fish per week from waters with high mercury levels.

Navajo Nation

▲Cherokee Nation health officials estimate that 6% of adults are infected with the hepatitis C virus (HCV), six times the US rate. The Cherokee Nation requested CDC support to develop an HCV prevention and testing program that would link Cherokee adults to care and treatment. Eager to address the problem, the Cherokee Nation started the project to strengthen care and move toward eliminating HCV among American Indians served by the Cherokee Nation Health System. CDC joined in, providing extensive technical assistance. This project will improve the health of the Cherokee Nation and also help design similar programs that other tribal nations can use to move toward eliminating HCV infection. With additional support from the Oklahoma Department of Health, university physicians, and private partners, the Cherokee Nation increased first-time testing for HCV fivefold, and more than doubled HCV treatment among Cherokee Nation members.

Confederated Tribes of the Umatilla Indian Reservation

Tackling the Biggest Health Problems Causing Death and Disability

For Americans Indians and Alaska Natives, as well as for Americans in general, the leading causes of death and disability are heart disease, cancer, injuries (including motor vehicle injuries and suicide), respiratory diseases, and diabetes. CDC tackles these diseases at their source, including commercial tobacco use, poor nutrition, lack of physical activity, and excessive alcohol use. CDC favors a proven approach that supports communities to help make healthy choices easy and accessible to people.

San Carlos Apache Tribe

Good Health and Wellness in Indian Country (GHWIC) is CDC's largest single investment in Indian Country. This 5-year program, funded at $16 million in 2015, supports a coordinated, holistic approach to healthy living and chronic disease prevention and supports and reinforces work already underway in Indian Country to make healthy choices and lifeways easier for American Indians and Alaska Natives. The program seeks to reduce disability and death due to commercial tobacco use, obesity, diabetes, heart disease, and stroke. Twelve tribes, 11 tribal organizations, and 11 Tribal Epidemiology Centers (TECs) use community-chosen and culturally tailored approaches to improve policies, systems, and environments in support of healthy choices and behaviors. The 11 tribal organizations provide leadership, technical assistance, and resources to more than 100 other tribes and tribal organizations in their Indian Health Service (IHS) areas. The 11 TECs serve tribes, villages, and tribal organizations to evaluate approaches and show impact. One TEC, the Urban Indian Health Institute, coordinates the national evaluation by providing support and expertise to other TECs, tribal organizations, tribes, and CDC.

Compared to the US population as a whole, American Indians and Alaska Natives have suffered more often from many vaccine-preventable diseases. The federally funded **Vaccines For Children** (VFC) program provides vaccines at no cost to eligible children under 19 years of age. All American Indian and Alaska Native children are eligible for VFC vaccines. Most IHS and tribal health care facilities are enrolled in the program and receive free vaccines from their state immunization programs. VFC has contributed to high immunization coverage for American Indian and Alaska Native children and adolescents, and these children are no longer getting diseases at higher rates. For example, the human papillomavirus (HPV) vaccine helps prevent certain cancers. In 2015, coverage with at least one dose of HPV vaccine was 84·4% for American Indian and Alaska Native girls aged 13–17 years seen in IHS-funded clinics compared to 62.8% for the general US adolescent population and 79.4% among boys compared to 49.8% for other US boys.

CDC's Sexually Transmitted Disease (STD) Prevention Program partnered with the Association of American Indian Physicians (AAIP), the National Indian Women's Health Resource Center (NIWHRC), and the Gila River Indian Community to develop and implement culturally adapted community interventions for adolescents to prevent STDs, including HIV, as well as teen pregnancies, on Gila River. NIWHRC provided the "Becoming a Responsible Teen" (B.A.R.T.) course to 500 students. The course taught about understanding HIV and AIDS, assertive communication skills, decision making, contraception use, condom use, planning for the future, and how to use this information in your daily life. The Gila River Indian Community then provided STD/HIV prevention education to 700 American Indian adolescents and adults in 26 different locations throughout Arizona. Through partnerships with NIWHRC and Gila River Indian Community, AAIP developed information and tools for others to use.

CDC's National Breast and Cervical Cancer Early Detection Program provides low-income, uninsured, and underserved women access to timely breast and cervical cancer screening and diagnostic services. During 2012–2017, CDC supported 11 American Indian and Alaska Native tribes, and tribal organizations to provide these services. For example, for 20 years, the Navajo Nation Breast and Cervical Cancer Prevention Program has been providing breast and cervical cancer screening services to women living on or near the Navajo Reservation. The program hosts mobile mammography events and coordinates appointments with local IHS and 638 facilities in five service units on the Arizona side of the Navajo Nation. In 2016, the program organized their first event reaching Navajo women in New Mexico.

Putting Science and Advanced Technology into Action to Prevent Disease

CDC scientists are among the best in the world. They track diseases and find out what is making people sick and the most effective ways to prevent it. Using cutting-edge technology, they confront global disease threats through advanced computing and lab analysis of huge amounts of data to quickly find solutions to the most pressing public health problems.

▲For more than 40 years, **CDC's Arctic Investigations Program** (AIP) has collaborated with the Alaska Native Tribal Health Consortium, the state of Alaska, and other partners to tackle infectious disease threats using state-of-the-art laboratory diagnostics, epidemiology, outbreak investigations, and targeted research. AIP helps everyone living in Alaska enjoy healthier and longer lives by focusing on reducing and preventing infectious diseases that are more likely to affect American Indians and Alaska Natives. AIP works closely with Alaska tribal organizations to respond to health problems—such as skin infections, dental cavities in children, high rates of respiratory infections (including pandemic influenza), and the impact of climate change on health. AIP also helps support tribal groups with evaluations of infectious disease prevention and control programs, such as immunizations. AIP works closely with IHS to document and track health problems over time to chart progress and areas where improvement is needed.

For example, after introduction of effective vaccines against two severe bacterial infections (Hib and pneumococcus), AIP researchers documented a 95% decline in these vaccine-preventable diseases in infants and children. However, AIP surveillance also detected the emergence of new types of bacteria not covered by these vaccines. In 2009, AIP researchers, along with tribal health partners introduced a new vaccine against pneumococcus in parts of rural Alaska with the highest rates. Today, with routine use of that vaccine throughout Alaska, infection rates are lower than they have ever been, and the difference in rates between Alaska Natives and other Alaska children has been substantially reduced.

▲**Hepatitis B and A** were endemic in Alaska until vaccines for these viruses were licensed in 1981 and 1996, respectively. As a result of high vaccine coverage in Alaska, rates of hepatitis B and A infection have plummeted, and transmission of hepatitis B virus from mother to baby is rare. However, questions remain about the long-term effectiveness of the hepatitis B vaccine and whether vaccinated persons require booster doses to maintain protection against infection in the future. These questions are particularly important for those who received hepatitis B vaccination at birth. Because Alaska was one of the first areas in the world to implement large-scale hepatitis B and A vaccine programs, CDC and the Alaska Native Tribal Health Consortium are collaborating to answer these questions and add booster doses if they are needed to maintain immunity.

Cherokee Nation

The Alaska Native Tribal Health Consortium (ANTHC) provides care to many people with chronic hepatitis B and hepatitis C infection. These persons are followed through the ANTHC Liver Disease and Viral Hepatitis Program, which provides expert clinical care and conducts research to prevent illness from these infections. This program is one of the few in the world with the capability to conduct studies of the long-term immunity and effectiveness of hepatitis B and C vaccines. For example, a follow-up of some of the first people in the world who were vaccinated against hepatitis B was completed and shows that over 90% are still protected 30 years after receiving the vaccine. CDC participates in this work by providing technical expertise and financial support from its Viral Hepatitis and Arctic Investigations Programs.

Promoting Healthy and Safe Behaviors, Communities, and Environments

Health and wellness are influenced by the places in which people live, learn, work, and play and the support people have in their communities to take charge of their health. Communities, including homes, schools, public spaces, and worksites, can support well-being and make healthy choices easy and affordable for people. Healthy and safe community environments include clean air and water, affordable and secure housing, sustainable and economically vital neighborhoods, and supportive structures, such as places to be active and access to affordable healthy foods. CDC promotes healthy and safe behaviors, communities, and environments through grant programs that foster collaborations among diverse sectors—like housing, health care, transportation, education, and agriculture—and support community health needs assessments to develop community health improvement plans.

▲ In partnership with CDC, the **Red Cliff Band of Lake Superior Chippewa** partnered with the Great Lakes Inter-Tribal Epidemiology Center to conduct surveys to better understand the needs of their people. Red Cliff will use tools and resources from CDC's **GHWIC** program to analyze and understand the data and make decisions about programs in the community. Red Cliff is the first tribe in the Bemidji Area to complete a Tribal Behavioral Risk Factor Survey and put their community information into action to improve health.

▲ Another GHWIC grantee, the **Albuquerque Area Southwest Tribal Epidemiology Center**, partners with the University of New Mexico's **Project ECHO** to train tribal community health representatives (CHRs), in the 27 Albuquerque Area Tribes to help tribal members prevent and manage type 2 diabetes, heart disease, stroke, and associated risk factors. The training is offered to as many as 25 tribal members twice a year, training up to 200 CHRs, who will work with community members with or at risk of chronic diseases to reduce their risks and improve their health.

▲ At the request of the **Tohono O'odham Nation** and the US Environmental Protection Agency (EPA), ATSDR investigated public health risks associated with the Cyprus Tohono Corporation Mine, an EPA Superfund Alternative Site on the Tohono O'odham Nation reservation. The Tribe had concerns about water and air quality and biocontamination of plants and animals that the community hunts and gathers. ATSDR visited the mine site, met with Tribal government officials and community members, and gathered and reviewed site documents and data. In February 2016, ATSDR published a health consultation report and summary fact sheet with its findings and recommendations.

▲ CDC's **Tribal Motor Vehicle Injury Prevention Program (TMVIPP)** provided grant support to 12 tribes and helped to decrease crashes, increase restraint use (such as seat belts and car seats), and decrease alcohol-impaired driving. In an effort to reach more tribes, CDC partnered with the Federal Highway Administration's Tribal Technical Assistance Program to implement TMVIPP best practices. This partnership allows CDC to fund technical support, training, and other activities to reduce motor vehicle-related fatalities and injuries in Indian Country and reach up to 37% of federally recognized tribes.

▲ CDC partnered with IHS to develop the **Roadway to Safer Tribal Communities Toolkit**, which includes fact sheets, posters, and a video to help prevent crash-related injuries and deaths among members of tribal nations. CDC and its partners have also shared the ***Tribal Motor Vehicle Injury Prevention (TMVIP) Best Practices Guide***, which includes effective strategies, lessons learned from federal programs, and essential components of successful tribal traffic safety programs.

With CDC and IHS assistance, the **San Carlos Apache** Tribal Motor Vehicle Injury Prevention Program reduced alcohol-impaired driving and increased use of seat belts and child safety seats among Tribal members. The campaign, which included media, education, and enforcement, led to a 52% increase in the number of impaired driving arrests, lowered the legal limit for presumptive impairment from .10 to .08 blood alcohol level, and put in place a primary seat belt law. During the program, the Tribe saved $2.7 million. For every $1 spent, a lifetime benefit of almost $10 was saved from reductions in road crashes.

The **Hopi Tribe** used CDC funding to improve collaboration with law enforcement to strengthen their existing seat belt law. A successful media campaign raised awareness among Tribal members about the importance of buckling up. The campaign, educational efforts, and improved enforcement led to a 36% increase in seat belt use and a 32% increase in the use of child safety seats.

The **MENU-AIDDS Health Promotion Program** provides dietary recommendations, such as the *Dietary Guidelines for Americans*, to help people with intellectual and developmental disabilities and their supporters serve healthy, nutritious meals. More than 160 community group homes for adults with intellectual and developmental disabilities have been trained to implement MENU-AIDDS. For example, the group home manager at Eastern Montana Industries, located near the Crow and Northern Cheyenne Nations, used the Menu-AIDDS program to improve meals by learning about traditional native vegetables and increasing resident involvement in menu planning. Residents and staff learned new recipes together and native foods were offered at meals.

The Standing Rock Sioux Tribe's **Native Gardens Project,** funded through CDC's Traditional Foods Program, increased access to local traditional foods and awareness about the availability and health benefits of harvesting and eating these foods. During the 3-year grant, the project collaborated with local farmers, the US Department of Agriculture's (USDA's) **Nutrition for the Elderly** program, the Tribe's **Special Diabetes Program**, and the County Extension Service to hold 61 farmers' market days, serving an estimated 2,500 people. Almost 13,000 farmers' market vouchers ($50 value each) were distributed as part of the USDA program to 1,193 elders, who exchanged their vouchers for produce at the markets.

Suicide is the second leading cause of death among American Indians and Alaska Natives aged 15 to 34 years and the eighth leading cause of death across all American Indian and Alaska Native age groups. In collaboration with IHS, CDC's Injury Prevention Program works to reduce intentional and unintentional injuries, including suicide. Three TECs are cataloging suicide prevention resources to effectively reduce the burden of suicide and the potential for suicide clustering, especially among young people. CDC also works with IHS to support one of the few evidence-based suicide prevention programs for tribes. Formerly called Natural Helpers, the **Model Adolescent Suicide Prevention Program** is included in the National Registry of Evidence-based Programs and Policies.

Confederated Tribes of the Umatilla Indian Reservation

"It's good to see that CDC is learning from Indian Country."

Developing Leaders and Training the Public Health Workforce, Including Disease Detectives

CDC supports numerous training and outreach programs to develop public health leaders and strengthen the public health workforce. Our premier training program is the Epidemic Intelligence Service (EIS), developing field epidemiology skills and expertise in physicians, veterinarians, nurses, scientists, and other public health professions. CDC also provides training and workforce development through our public health grant programs. These and other efforts nurture public health professionals and help sustain strong, well-resourced public health leadership and capabilities at the national, state, tribal, local, and territorial levels.

An **Epi-Aid** is a way for Tribal Nations and other public health authorities to request the short-term epidemiologic assistance of CDC's EIS Officers to respond to an urgent public health problem. In addition to sending experts to help address a public health problem, Epi-Aids are a way to strengthen the skills and expertise of health leaders in the community. CDC supported 13 Epi-Aids to tribal areas in the past 5 years, involving 34 EIS Officers.

- Epi Aid 2016 031: Undetermined transmission and risk factors for multidrug resistant tuberculosis among tribal members Arizona, 2016 (5 EIS Officers).
- Epi Aid 2016 044: Assessment of substance use during pregnancy Northern Plains Tribal Epidemiology Center, 2016 (4 EIS Officers).
- Epi Aid 2014 001: Investigation of a fatal case of Rocky Mountain Spotted Fever on an American Indian reservation in eastern Arizona (3 EIS Officers).
- Epi Aid 2014 008: Increases in gonorrhea cases among American Indians in Arizona (4 EIS Officers).
- Epi Aid 2014 042: Identification of undetermined risk factors for exposure in a syphilis outbreak among American Indians Reservation X, multistate, 2014 (2 EIS Officers).
- Epi Aid 2013 018: Tuberculosis outbreak among American Indians (1 EIS Officer).
- Epi Aid 2013 035: Group A Streptococcal disease among Navajo Nation citizens of Apache County, Arizona (3 EIS Officers).
- Epi Aid 2013 057: Healthy nutrition in Navajo Nation stores (3 EIS Officers).
- Epi Aid 2012 047: Assessment of risk for Rocky Mountain Spotted Fever (RMSF) in an Arizona Indian tribe (2 EIS Officers).
- Epi Aid 2012 051: Assessment of increased rates of chlamydia and gonorrhea among American Indians (1 EIS Officer).
- Epi Aid 2012 058: Assessment of risk for Rocky Mountain Spotted Fever (RMSF) in an Indian tribe (2 EIS Officers).
- Epi Aid 2012 066: Evaluation of a Rocky Mountain Spotted Fever (RMSF) Prevention Program (2 EIS Officers).
- Epi Aid 2011 067: Investigation of increased number of tuberculosis cases among American Indians (2 EIS Officers).

Disease detectives at work

In January 2016, a child from western Navajo Nation died of complications from hantavirus, prompting Navajo officials to meet with officials from CDC about public outreach, awareness, and prevention of hantavirus. Hantavirus infection can progress to hantavirus disease, fatal in about 38% of cases. CDC experts and leaders from Navajo Nation planned their response collaboratively. Working with the TEC, CDC sent hantavirus experts to Navajo Nation to address concerns about the disease. Working with Tribal leaders across Tribal governance, CDC developed radio messages in Navajo, running daily for a month. A live radio call-in program brought Tribal leaders and CDC experts together to broadcast information across the Nation. The TEC hosted CDC experts who presented on both hantavirus and Zika virus. CDC shared national hantavirus registry data with the Navajo Epidemiology Center to help the center develop its own surveillance registry. The collaborative partnership between Navajo Nation and CDC continues to mature, and through the Hantavirus Exclusion Project, CDC plans to provide materials (such as wire mesh and expanding foam) to prevent rodents from entering homes or other buildings on Navajo Nation to combat hantavirus.

"I am from western Navajo. When I say people are scared, they are scared, especially after someone has died from the hantavirus…We are working with the experts and our dialogue in Atlanta will go a long way toward these prevention efforts."

Navajo Nation

EPI Info is a critical field tool for epidemiologists to understand disease and risk factor trends and plot the course of a disease outbreak. A CDC Epi Info team member provided 27 hours of EPI Info training to the Rocky Mountain Tribal Epidemiology Center (RMTEC) in Billings, Montana. The training focused on data analysis with Visual Dashboard, creating electronic data collection forms, mapping data, and use of Android devices for data collection. Eighteen RMTEC and IHS public health workers participated in the training.

Yurok Tribe

CDC's **Working Effectively with Tribal Governments** is a cultural awareness training hosted by CDC University and offered to all CDC/ATSDR staff. It provides an overview of legal foundations, American Indian and Alaska Native history, historical trauma, public health status, strategies to address public health problems, and best practices for engaging with American Indian and Alaska Native tribes and villages. The course is taught by American Indians and Alaska Natives along with CDC staff. To date, 250 CDC/ATSDR staff have participated in the course.

PHAP Class, 2014 (FY 2015/16)

1 Tribal Host Site

- Albuquerque Area Southwest Tribal Epidemiology Center

PHAP Class, 2015 (FY 2016/2017)

6 Tribal Host Sites

- National Indian Health Board, Washington, DC
- Southeast Alaska Regional Health Consortium, Juneau Medical Center, Juneau, AK
- Alaska Native Tribal Health Consortium, Anchorage, AK
- Pascua Yaqui Tribe Health Services Division, Tucson, AZ
- CDC/Indian Health Service, Albuquerque, NM
- Great Lakes Inter-Tribal Council, Lac du Flambeau, WI

PHAP Class, 2016 (FY 2017/2018)

9 Tribal Host Sites

- Choctaw Health Center, Choctaw, MS
- American Indian Cancer Foundation, Minneapolis, MN
- Manilaq Assocation, Kotzebue, AK
- Montana Department of Public Health, Helena, MT
- Rocky Mountain Tribal Epidemiology Center, Billings, MT
- Southcentral Foundation, Anchorage, AK
- Indian Health Service, Rockville, MD
- Indian Health Service, Albuquerque, NM
- Eastern Band of Cherokee Indians, Public Health and Human Service Division, Cherokee, NC

CDC's **HIV Prevention Program** provides capacity building assistance (CBA) and resources to organizations and public health professionals implementing HIV prevention services. The assistance is provided at no cost through a national network of CBA providers, Prevention Training Centers, and other partners. In recent years, CDC has supported this assistance to organizations serving American Indians and Alaska Natives. CBA services include those related to human resource development, cultural competence, HIV testing and linkage to care, and organizational development.

PHAP
PUBLIC HEALTH ASSOCIATE PROGRAM

CDC's **Public Health Associate Program** (PHAP) is a competitive, 2-year, paid training program for recent college graduates with an interest in public health. PHAP associates are assigned to state, tribal, local, and territorial public health agencies and nongovernmental organizations and work alongside other professionals in a variety of public health settings. Throughout the training program, associates gain hands-on experience that will serve as a foundation for their public health careers. After completing the program, PHAP graduates are qualified to apply for jobs with public health agencies and organizations. Public health agencies and organizations compete to host a PHAP associate. Most recently, nine tribal host sites were matched with a PHAP associate, the largest number of PHAP associates assigned to a tribal host site in the history of the program.

Taking the Health Pulse of Our Nation

CDC supports a broad range of surveys, surveillance systems, data collection and monitoring tools, disease and vital registries, and other efforts to ensure that we have our finger on the pulse of the nation. CDC tracks threats to health, the leading causes of death, how hard or easy it is to get health care, and differences in health across geographic regions and population groups. With the right information, CDC and public health professionals can take effective and timely actions to save lives and keep Americans secure. CDC uses the newest technologies and methods available, such as advanced molecular detection, to keep America's public health system on the forefront of keeping people safe.

TRIBAL EPIDEMIOLOGY CENTERS

▲CDC works with the IHS and **TECs** to strengthen data collection and analysis capabilities in support of the data needs of tribes. For example, CDC works with three TECs to improve the quantity and quality of injury reports available to American Indian and Alaska Native programs focused on reducing the health impact of intentional and unintentional injuries. The Albuquerque Area Southwest TEC, Navajo TEC, and Oklahoma City Area TEC are developing injury atlases, reports on opioid use and suicides, and an evaluation guide for traffic safety programs. Through this joint effort, CDC seeks to learn more about the magnitude, trends, and patterns of opioid use in Indian Country and support TECs in accessing and using data. With additional support from CDC, 10 TECs and the Urban Indian Health Institute hone their surveillance and evaluation skills and expertise in support of tribes and tribal organizations implementing chronic disease prevention and health promotion programs.

▲**The Navajo Birth Cohort Study** (NBCS) is the first prospective epidemiologic study of pregnancy and neonatal outcomes in a uranium-exposed population. The purpose of the NBCS is to evaluate the potential association between environmental contaminants (such as uranium and other heavy metal exposures) and birth outcomes. A partnership with the Navajo Nation, the NBCS engages Navajo mothers, assesses their uranium exposure at key developmental milestones, and then follows their children to understand any associations between birth defects or developmental delays and maternal exposures. Study partners include ATSDR, University of New Mexico Community Environmental Health Program, Navajo Area Indian Health Service, Navajo Nation Division of Health, Navajo Nation Environmental Protection Agency, the Growing in Beauty Program, US EPA Region 9, and Navajo culture/language specialists. Study partners include the University of New Mexico, Navajo Area Indian Health Service, and Navajo Nation Department of Health.

▲CDC's **Pregnancy Risk Assessment Monitoring System** (PRAMS) is a collaborative surveillance project that collects data on maternal attitudes and experiences before, during, and shortly after pregnancy. The PRAMS Tribal Flu Project was a 2-year initiative focused on American Indian mothers and their perceptions of and experiences with H1N1 and seasonal influenza. Three states—New Mexico, Oregon, and Washington—worked collaboratively with tribes in a manner respecting tribal sovereignty, with the goal to establish or improve partnerships with tribes, increase participation by American Indian and Alaska Native women, and increase data sharing with tribes. The New Mexico PRAMS partnered with the Albuquerque Area TEC; the Navajo Epidemiology Center; the Tribal Women, Infants, and Children (WIC) Directors; and the Navajo area PRAMS to hire a permanent tribal liaison dedicated to maternal and child health issues. Washington partnered with the American Indian Health Commission, Northwest Portland Area Indian Health Board, and Seattle Indian Health Board to promote PRAMS and share influenza materials with tribes throughout the state. Interest and activities spread to other states, including a request from a tribe in North Carolina to share Washington's printed influenza materials, and three states—Alaska, Michigan, and Wyoming— strengthened their PRAMS outreach to tribal communities.

▲**CDC is working to improve the quality of surveillance data.** A person's race and ethnicity are often poorly captured on the nation's data and surveillance systems, leading to a lower count of cancer cases or deaths or other events for some populations, including American Indians and Alaska Natives. By linking local, state, and national surveillance data with IHS patient registration data, many more events are "captured" as "belonging to" American Indians and Alaska Natives, which provides a much more accurate measure of the burden of disease and death among this population.

▲**CDC and IHS work together to perform data links**. In 2004, the IHS link to CDC's National Program of Cancer Registries (NPCR) and the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program had results so significant that the link has become an annual central cancer registry requirement. These cancer registry links have resulted in the American Indian and Alaska Native Cancer Incidence Database, which provides what had been missing until now: more accurate data and analytic guidance for understanding cancer trends among American Indians and Alaska Natives.

Klamath River

The success of the cancer registry links led to the IHS link with the National Death Index. This link resulted in the American Indian and Alaska Native Mortality Database, which provides more accurate information on mortality patterns among American Indians and Alaska Natives.

These links have resulted in numerous publications sharing more accurate information about cancer incidence and mortality. For example:

- "Annual report to the nation on the status of cancer, 1975–2004, featuring cancer in American Indians and Alaska Natives." *Cancer.* 2007;110(10):2119–2152.
- "An update on cancer in American Indians and Alaska Natives, 1999–2004." *Cancer.* 2008;113(suppl 5):1113–1273.
- American Indian and Alaska Native Mortality. A supplement to the *American Journal of Public Health*. 2014;104(suppl 3).

▲Tribes may also undertake these data links, working with state health departments and tribal health directors. The **Inter-Tribal Council of Michigan** has been working with the Michigan Department of Health and Human Services on tribal links to cancer, birth, and death files in Michigan. CDC provided technical assistance and training on good link practices. The goal is to improve statewide data for American Indians and Alaska Natives in Michigan and tribe-specific data on cancer incidence, mortality, and natality for use by tribal health officials.

▲The **Oklahoma Area Indian Health Service** undertook its own data link, with assistance from CDC and working with the Oklahoma State Department of Health. Links to adjust for racial misclassification on Oklahoma death certificates were performed for years 2010–2015. Correction links were performed for years 2004–2009 to ensure that any changes or additions made since the initial link were incorporated into the data. Together, these actions found 4,417 death certificates that were not identified as American Indian or Alaska Native. The linked data set, capturing 26.6% more deaths, is available on the OK2Share website and will be used for planning, reporting, and projects within and outside IHS.

San Carlos Apache Tribe

▲The **Haudenosaunee Nations**, in adjacent territories in New York State, are the largest confederacy of related tribes in the East. The American Indian and Alaska Native Mortality Database, previously only used for national publications, provides an accurate picture of mortality for Haudenosaunee in New York State and will be used to develop and monitor effective interventions and strengthen health care services. This project is a collaboration of the Roswell Park Cancer Institute, CDC, the Mayo Clinic, and the Haudenosaunee Nations.

What's Ahead?

For generations, tribal nations have implemented **practices that protect and sustain the health and well-being of their people.** Today, these practices are not widely understood by federal agencies and often not supported by federal grants and resources. At the request of its TAC, CDC hosted three **convenings** with a group of tribal leaders and members knowledgeable about tribal practices that promote physical, emotional, and spiritual well-being. The purpose of the convenings was to describe practices that would be appropriate for CDC to support with grant funding. With the help of the Healthy Native Communities Partnership, a national nonprofit organization working with Native communities to realize their own vision of wellness, the tribal leaders and members developed **seven strategies** and associated practices that promote the connection of mind, body, spirit, and community, and in this way promote health and well-being. CDC will use these seven strategies and associated practices in future funding opportunity announcements (FOAs) to support tribes and tribal organizations in implementing practices that keep people healthy and well.

"I was very happy with the convenings. I felt energy as soon as I entered the room. There was a circle with symbols in the middle of the room associated with different areas of life. The meeting was ours as Native People."

Seven Strategies that Promote Health and Well-Being

1. Family and community activities that connect cultural teachings to health and wellness.
2. Seasonal cultural and traditional practices that support health and wellness.
3. Social and cultural activities that promote community wellness.
4. Tribal, intertribal, governmental, and nongovernmental collaborations that strengthen well-being.
5. Intergenerational learning opportunities that support well-being and resilience.
6. Cultural teachings and practices about traditional healthy foods to promote health, sustenance, and sustainability.
7. Traditional and contemporary physical activities that strengthen well-being.

Short-term outcomes associated with the seven strategies:

- Increased participation in community wellness practices and events.
- Increased knowledge of tribal history and culture.
- Increased feelings of connectedness to and pride in cultural heritage.
- Increased consumption of traditional healthy foods and drinks.
- Increased opportunities to participate in physical activity and increased participation in physical activity opportunities.
- Increased understanding of and engagement in healthy living practices by community members.
- Increased understanding of one's spiritual, mental, and physical well-being.

“

It was something special to be there *[at the convenings]; I always hear back home that there is hardly a consideration for Native healing in the meetings they attend—they are all about Western methodology, focused on the pain, and that doesn't always work for us. There is misunderstanding of the practices of Natives, so we're often on the negative side.* ***The tribal convenings were geared toward having the government understand.*** *Some traditional practices are difficult to measure in the way that things are measured, but there needs to be trust that we know what we're doing.*

”

Pendleton gift from Confederated Tribes of the Colville Reservation

CDC Visits in Indian Country: A Snapshot

Tribal Advisory Committee Meeting Locations

- **Winter 2010–2016**: Atlanta, GA
- **Summer 2010:** Havre, MT
  Hosts: Fort Belknap Indian Community
- **Summer 2011:** Portland, OR
  Hosts: Northwest Portland Area Indian Health Board, Quileute Tribe
- **Summer 2012:** Uncasville, CT
  Hosts: Mohegan Tribe of Indians
- **Summer 2014:** Acme, Michigan
  Hosts: Bemidji Area Tribes
- **Summer 2015:** Spokane, WA
  Hosts: Confederated Tribes of the Colville Reservation, Kalispel Tribe of Indians
- **Summer 2016:** Valley Center, CA
  Hosts: La Jolla Band of Luiseño Indians

Listening Session Locations

- **2014**: Billings, MT
- **2015**: Rancho Mirage, CA
- **2016**: Atlanta, GA

CDC Leadership Visits

2012
- Oglala Sioux Tribe, Pine Ridge, SD
- Cherokee Nation, Tahhequah, OK
- Duwamish Tribe, Seattle, WA
- Suqamish Tribe, Suqamish, WA

2013
- Tohono O'oodham Nation, Papago, AZ
- Tlingit Tribe, Sitka and Kake, AK

2014
- Northern Cheyenne Tribe, Lame Deer, MT
- Arapaho and Shoshone Tribes, Wind River, WY

2015
- Poarch Band of Creek Indians, Atmore, AL
- Confederated Tribes of the Colville Reservation, Coulee Dam, WA
- Spokane Tribe of Indians, Wellpinit, WA
- Kalispel Tribe of Indians, Spokane, WA
- Tulalip Tribes, Tulalip, WA
- Eastern Band of Cherokee Indians, Cherokee, NC
- Mississippi Band of Choctaw Indians, Choctaw, MS
- Sault Ste. Marie Band of Chippewa Indians, Sault Ste. Marie, MI

2016
- Navajo Nation, Window Rock, AZ
- Hopi Tribe, Kykotsmovi Village, AZ
- Cochiti Pueblo, Cochiti, NM
- Turtle Mountain Band of Chippewa Indians, Belcourt, ND
- La Jolla Band of Luiseño Indians, Pauma Valley, CA
- Gila River Indian Community, Sacaton, AZ
- Confederate Tribes of the Umatilla Reservation, Pendleton, OR

"CDC leadership visits to Indian Country have nearly doubled since 2012."

Kasha-Katuwe Tent Rocks National Monument