

ANNUAL REPORT 2019



The Division of Environmental Health Services

INDIAN HEALTH SERVICE

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES



The DEHS Mission:

“Through shared decision making and sound public health measures, enhance the health and quality of life of all American Indians and Alaska Natives to the highest level by eliminating environmentally related disease and injury.”

The Division of Environmental Health Services

INDIAN HEALTH SERVICE • U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

ANNUAL REPORT 2019

This Annual Report for Calendar Year 2019 was produced by the Indian Health Service Division of Environmental Health Services to provide relevant information about the Program. Additional information can be obtained by contacting:

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On the cover: Rebekah Abangan conducting a food safety survey at a tribal convenience store, taken by CDR Vince Garcia [Phoenix Area: February 2019]



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Profile of the DEHS Program



Program History



The roots of the DEHS can be traced to 1921, when Commissioner Charles Burke, Office of Indian Affairs, U.S. Department of the Interior, issued a circular directing agency physicians to serve as Health Officers for their reservation. Over the next several decades, responsibility for community surveys shifted to the sanitary engineering staff. These surveys came to include a wide range of facilities, from water systems to community buildings to dairy plants.

By the time of the Transfer Act of 1954 (Public Law 83-568), which moved the responsibilities for American Indian/Alaska Native (AI/AN) healthcare from the Bureau of Indian Affairs (BIA) to the Indian Health Service (IHS), most of the components of the current Environmental Health Services Program were in place, with agency policies for food handler training, radiological health, facility inspections, and water fluoridation. The emphasis was on establishing, expanding, and resolving basic sanitation services.

The Sanitarian Aides were the workforce in the field, with a few supervisory Sanitarians at Area Offices.

In 1962, the first headquarters (HQ) Institutional Environmental Health (IEH) Officer was hired and provided advice and technical guidance on all community-based institutions.

In 1963, a joint conference of the BIA and the IHS leadership discussed collaborative efforts to combat the community accident mortality problem among AI/AN. An Accident Prevention Program was established within the Division of Indian Health while calls for expanded funding and authority went to Congress.

In 1969, Congress provided funding and positions for the Accident Prevention Program within the Health Education Program. The Accident Prevention Program continued as a collaborative effort with Health Education until 1979, when Emery Johnson,

Director of IHS, formally transferred responsibility to Environmental Health Services and the name changed to Community Injury Control, and later to Community Injury Prevention (IP).

We are Environmental Health Officers, Environmental Health Specialists, Health Care Safety Officers, Institutional Environmental Health Officers, and Injury Prevention Specialists. We provide direct environmental health services and consultation to American Indian and Alaska Native tribal governments and Indian Health Service programs.

DEHS Vision Elements

- 1 A nationwide clear and uniform definition of needs to make a compelling case for budget and prioritization of our work.
- 2 A dynamic, effective, and sustainable DEHS data system.
- 3 Standardized guidelines across the program that support uniform program management and result in positive outcomes.
- 4 Active involvement in budget and RRM discussions.
- 5 Increase the visibility, understanding, and value of the EHS program among internal and external stakeholders.
- 6 Create a career competency roadmap promoting highly qualified, innovative and effective staff able to meet the DEHS mission.

Program Vision

The vision of the DEHS is “Every American Indian and Alaska Native will live in a safe, healthy environment. Community-based environmental health programs, developed in partnership with tribes, will utilize sound public health practices and resources to achieve the lowest disease and injury rates in the nation.” Using this vision statement, DEHS Program leadership (HQ and Area Directors) identified seven Vision Elements that would have the most positive impact on the DEHS Program.

In addition to Area efforts to develop policies and plans, program strategic planning continued to be a major national emphasis during 2018. Since 2007 over 45 DEHS staff were involved on teams formed to create significant, tangible progress on the seven Vision Elements. Vision Element Teams were supported by a Core Group of HQ and Area-level staff. The Core Group was responsible for clearly defining the charge to the Team, reviewing work products, and for providing input to each of the teams.

Vision Element 7, Operational Model, was completed in 2017. It is available in the [OEHE Technical Handbook, Volume VIII, Part 112-1](#) and aligns with [Part 3 Chapter 11 of the Indian Health Manual](#). . This vision element identifies core services all Areas should provide the tribes and some Areas began implementing it in 2018.



Program Mission

The mission of the Division of Environmental Health Services (DEHS) is “through shared decision making and sound public health measures, [to] enhance the health and quality of life of all American Indians and Alaska Natives to the highest level by eliminating environmentally related disease and injury.” In support of this mission, the DEHS provides a range of services to the AI/AN communities.



Our Operating Philosophy

The operating philosophy of the DEHS is based on the Ten Essential Public Health Services first articulated in 1994 by a partnership of local, state, and national public health leaders. IHS adopted them as the Ten Essential Environmental Health Services and incorporated this set of strategies into the methods in which it delivers services to AI/AN communities across the country.

ASSESSMENT

1. Monitor health status to identify community health problems.
2. Diagnose and investigate health problems and health hazards in the community.

POLICY DEVELOPMENT

3. Inform, educate, and empower people about environmental health issues.
4. Mobilize community partnerships to identify and solve environmental health problems.
5. Develop policies and plans that support individual and community environmental health efforts.

ASSURANCE

6. Support laws and regulations that protect health and ensure safety.
7. a) Link people to needed environmental health services and
b) Assure the provision of environmental health services when otherwise unavailable.
8. Assure a competent environmental health workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based environmental health services.

SYSTEM MANAGEMENT

10. Conduct research for new insights and innovative solutions to environmental health problems.

Using the Ten Essential Environmental Health Services as a framework, the IHS DEHS developed five national focus areas: children's environment, safe drinking water, food safety, vectorborne and communicable diseases, and healthy homes. Details on projects conducted throughout the tribal communities served by the DEHS Program in 2019 can be found in the [National Focus Areas](#) section of this report.



Program Structure

The DEHS is a field-based environmental health services program that takes pride in supporting the needs of individual tribal communities. The DEHS operates under a decentralized organizational structure, with most of its staff employed in district and field offices throughout the 12 IHS Areas. In 2019, the national DEHS program consisted of a total of 261 staff excluding the headquarters staff listed below. The DEHS at Area Offices were typically staffed with a Division Director and one or two professional staff (e.g., IP Program Manager and/or IEH Program Manager). District Environmental Health Specialists (EHS) and their support staff are often located away from the Area Offices and closer to the tribal communities. DEHS HQ, located in Rockville, Maryland, is staffed similarly to the Areas.



RADM Kelly Taylor
Director



CDR Martin Smith
Deputy Director



CDR Charles Woodlee
Institutional Environmental Health (IEH) Program Manager



CAPT Holly Billie
Injury Prevention (IP) Program Manager



LCDR Molly Madson
Injury Prevention Specialist



CAPT Stephen R. Piontkowski
Senior EH Officer



CDR Mike Reed
Senior EH Officer



LCDR Dustin Joplin
IEH resident



LCDR Brandon Parker
IEH resident

The DEHS is a comprehensive, field-based program.



Program Services

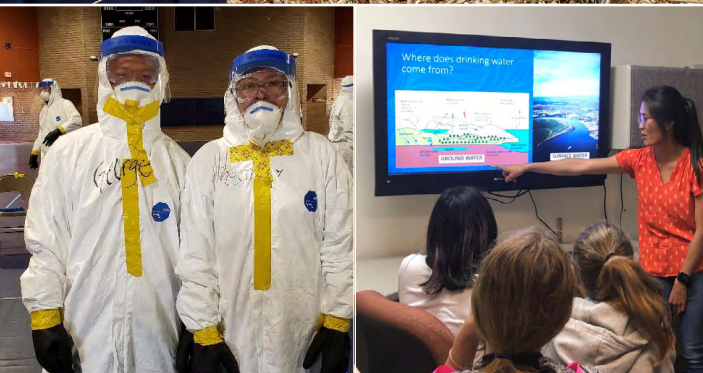
The DEHS staff provide direct environmental health services and technical assistance to tribes on a broad scope of program areas like water quality, waste disposal, food safety, community injury prevention, vector control, and occupational safety and health. More details are in the [DEHS Services](#) section of this report.

SERVICES

- Investigations
- Surveys/Inspections
- Training
- Plan Review
- Policy Development
- Technical Assistance
- Vector Control
- Disease Surveillance
- Project Development

TOPICS

- Water Quality
- Air Quality
- Injury Prevention
- Infection Control
- Sanitation
- Fire Safety
- Occupational Safety & Health
- Waste Management
- Food Safety
- Epidemiology
- Vectorborne/Zoonotic Diseases
- Aquatic Facilities
- Emergency Preparedness



Program Resources

The current budget of the DEHS Program is approximately \$34 million. This funding is derived from three primary sources: congressional allocation; the IHS Director's Initiatives; and IP budget enhancements (*Table 1*). DEHS funds support a wide variety of activities, including IP, IEH, safety management, industrial hygiene, food safety, vectorborne disease control, and technical assistance to community water and waste disposal facility operators.

The DEHS budget is derived from the overall Environmental Health Support Account (EHSA) that supports the activities of both the DEHS as well as the Division of Sanitation Facilities Construction (DSFC). For 2019, the DEHS share of the EHSA budget was approximately **38%**, or \$34,011,322. *Figure 1* depicts a historical comparison of the workload-based Resource Requirement Methodology (RRM) versus the distribution of Program funds from 2010 to 2019. *Table 2* displays the current level of need funded (LNF) for each of the 12 Areas; the data represent both IHS staff and tribal staff.



Table 1: DEHS Program Funding Sources.

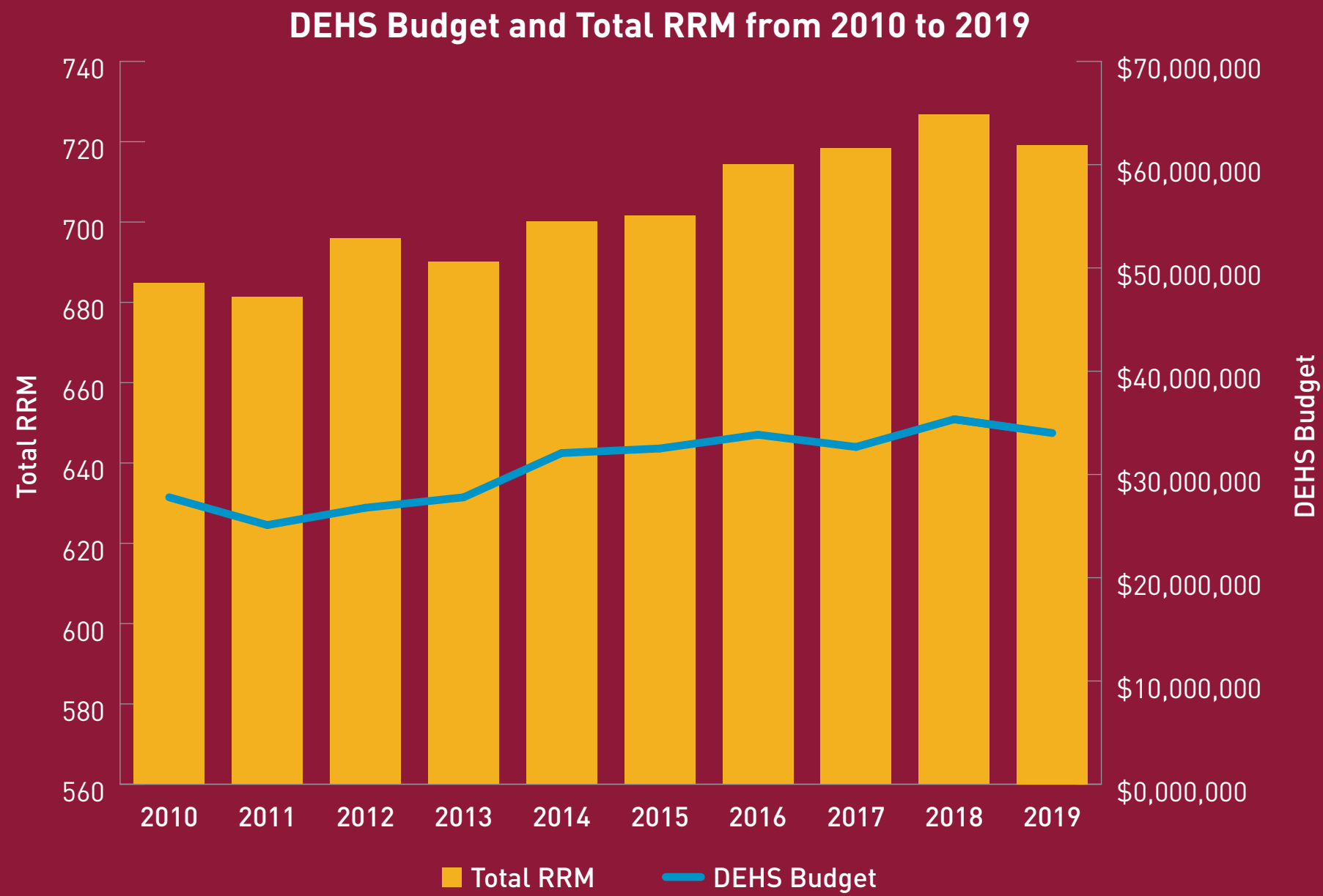
Fiscal Year	Total EHSA Budget	DEHS RRM Share	DEHS Budget*	OEHE Funds Provided to DEHS			IHS Director's Initiative***	Injury Prevention Budget Enhancements***	Total DEHS Budget
				COSTEP**	Injury Prevention**	Residency**			
2010	\$69,196,000	35.74%	\$24,730,653	\$176,000	\$0	\$100,000	***	\$2,779,000	\$27,785,653
2011	\$69,057,608	32.00%	\$22,098,435	\$144,000	\$84,000	\$0	***	\$2,771,942	\$25,098,377
2012	\$69,703,294	34.00%	\$23,699,120	\$160,000	\$49,000	\$100,000	***	\$2,763,473	\$26,771,593
2013	\$66,521,479	38.00%	\$25,278,162	\$128,000	\$0	\$100,000	***	\$2,280,000	\$27,786,162
2014	\$70,901,479	41.00%	\$29,069,606	\$136,000	\$63,000	\$100,000	***	\$2,766,698	\$32,072,304
2015	\$72,550,497	41.00%	\$29,745,696	\$176,000	\$0	\$125,000	***	\$2,766,698	\$32,512,394
2016	\$69,531,437	42.00%	\$29,203,204	\$184,000	\$0	\$125,000	***	\$2,766,698	\$32,278,902
2017	\$70,793,387	40.00%	\$28,642,933	\$160,000	\$0	\$125,000	***	\$3,734,092	\$32,662,025
2018	\$77,088,387	41.00%	\$31,387,041	\$96,000	\$0	\$125,000	***	\$3,734,092	\$35,342,133
2019	78,496,387	38.00%	\$30,056,230	\$96,000	\$0	\$125,000	***	\$3,734,092	\$34,011,322

*Represents an approximation based on initial DEHS and DSFC RRM calculations

**Office of Environmental Health and Engineering funds provided to DEHS

***IHS Director's Initiative, \$304,000 was added to Injury Prevention Budget Enhancements (column to the right) starting in 2001

Figure 1: RRM (workload) vs. actual DEHS funding from 2010 to 2019.



As Table 2 shows, the DEHS Program strives to accomplish its tasks at a funding level of **36.3%** of the estimated actual need. In order to maximize the utilization of available resources, the DEHS has established partnerships with federal agencies. Partnerships change as needs are addressed or emerge. A few of the partners over the years include:

- Centers for Disease Control and Prevention (CDC)
- National Institutes of Health (NIH)
- National Highway Traffic Safety Administration
- Johns Hopkins University
- Uniformed Services University of the Health Sciences
- Consumer Product Safety Commission

Table 2: Level of Need Funded (LNF) 2019.

Area	Total Staff*	RRM	%LNF	Federal Staff	Tribal Staff
Alaska	37	99.24	37.3%	0	37
Albuquerque	18	34.48	52.2%	14	4
Bemidji	22	55.19	39.9%	11	11
Billings	18	28.78	62.5%	5	13
California	11	53.19	20.7%	5	6
Great Plains	27	53.66	50.3%	16	11
Nashville	15	42.56	35.2%	2	13
Navajo	35	111.92	31.3%	26	9
Oklahoma City Area	34	102.88	33.0%	10	24
Phoenix	36	70.42	51.1%	24	12
Portland	5	53.63	9.3%	2	3
Tucson	3	13.3	22.6%	1	2
Total**	261	719.25	36.3%	116	145

*Includes tribal staff hired with IHS Cooperative Agreement Funds (HQ staff are not reflected here).

**Total is not exact due to rounding. Data from 2018 determines the 2019 LNF.







Education

Education is a cornerstone of any successful public health program because it is the first step in raising awareness and empowering individuals and communities to participate in resolving community health issues. DEHS staff conducted training sessions during 2019 on a variety of topics. The Environmental Health Support Center (EHSC) in Albuquerque, New Mexico, provided program management, IP, topic-specific EH, and IEH courses or webinars. In 2019 there were 29 in-person classes with 635 students, and 20 webinars with 464 students, for a total of 1,099 participants (*Table 3*).

Successful delivery of environmental health services to tribal communities rests on the foundation of a competent and motivated workforce. *Figure 2* shows the numbers of student externs hired since 2010. The number of externs hired annually fluctuated from 24 to 12. DEHS supported 13 student externs in 2019.

Figure 2: Number of college students participating in the DEHS extern program, 2010 to 2019.

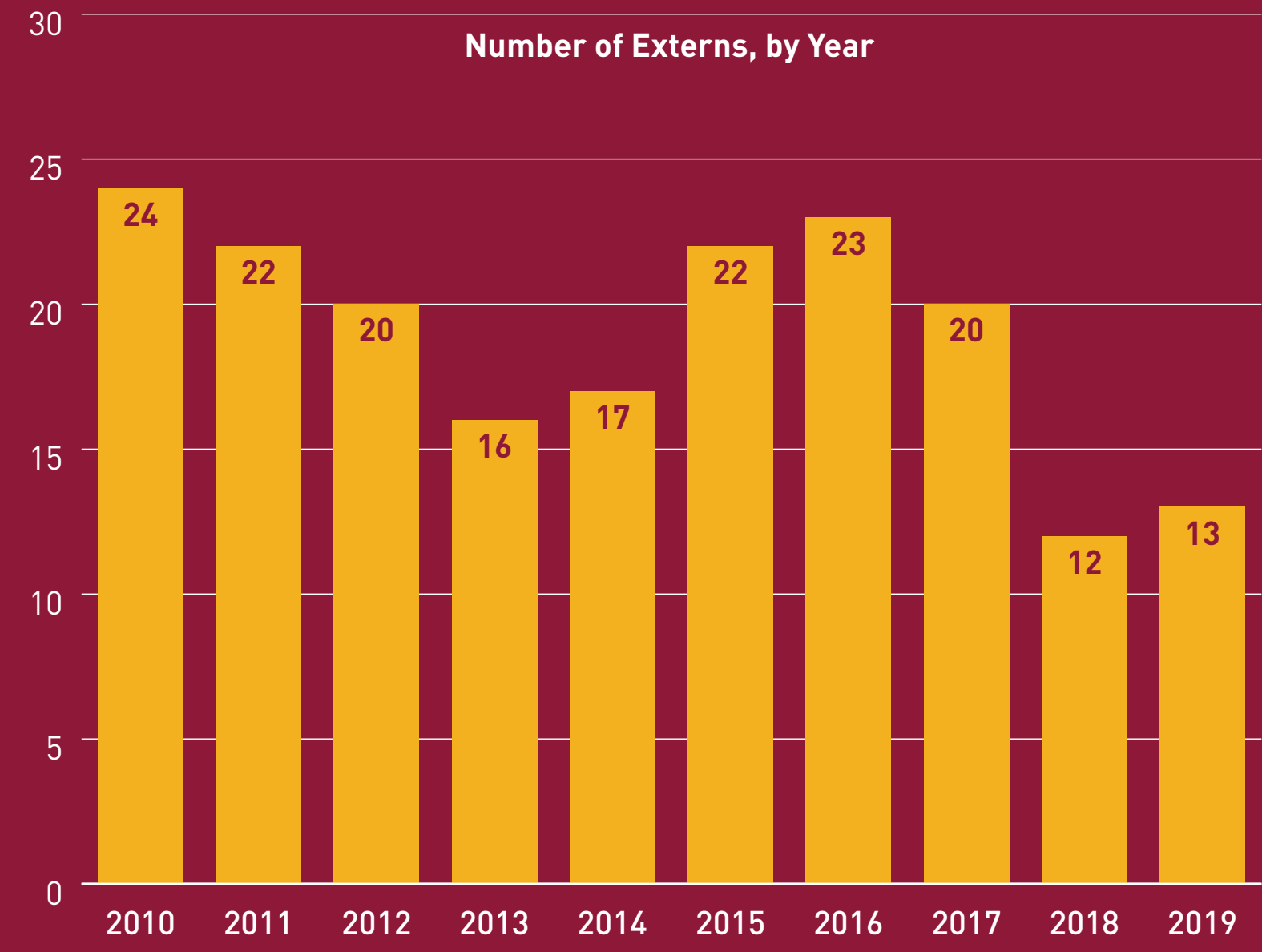


Table 3: EHSC Sponsored Courses – 2019.

Course	Date	Location	Number of Participants
OSHA 30 hour - General Industry Training	2/11/19	Manistee, MI	22
OSHA 30 hour - General Industry Training	3/4/19	Manistee, MI	27
NFPA 70E Electrical Safety in the Workplace	3/28/19	Albuquerque, NM	33
CDC-IHS Healthcare Infection Prevention and Control Training	4/2/19	Nashville, TN	31
Introduction to Injury Prevention	4/16/19	Tucson, AZ	20
Safe Native American Passengers [SNAP]	4/26/19	Yuma, AZ	11
Designing and Implementing Injury Surveillance Systems in Indian Country	4/30/19	Scottsdale, AZ	11
Introduction to Injury Prevention	4/30/19	Riverton, WY	6
FDA Plan Review	5/14/19	Fargo, ND	48
10 Hour OSHA Course for General Industry	5/21/19	Parker, AZ	28
NFPA 101 Life Safety Code	6/3/19	Minneapolis, MN	29
NFPA 99 Standards for Healthcare	6/6/19	Minneapolis, MN	30
Healthcare Safety Accreditation	6/11/19	Rapid City, SD	23
Introduction to Injury Prevention	8/6/19	Bethel, AK	13
CDC-IHS Healthcare Infection Prevention and Control Training	8/13/19	Anchorage, AK	45
Introduction to Injury Prevention	8/20/19	Nashville, TN	9
Safety Officer Workshop for Ambulatory Healthcare Settings	9/10/19	Reno-Sparks THC	22
Environmental Health & Engineering Orientation	9/16/19	Albuquerque, NM	86
Healthcare Safety Accreditation	9/24/19	Anchorage AK	33
Epi-Ready Team Training - 2019	10/8/19	Billings, MT	11
Epi-Ready Train the Trainer - 2019	10/10/19	Billings, MT	3
10 Hour OSHA Course for General Industry	10/15/19	Harris, MI	12
Introduction to Injury Prevention	11/5/19	Roseville, CA	12
NFPA 101 Life Safety Code	11/5/19	Billings MT	12
NFPA 99 Standards for Healthcare	11/8/19	Billings MT	11
10 Hour OSHA Course for General Industry	11/19/19	Polacca, AZ	40
Intermediate Injury Prevention	11/19/19	Albuquerque, NM	7
TOTAL CLASSROOM PARTICIPANTS			635

PROFILE OF THE DEHS PROGRAM

Webinars	Date	Number of Participants
IPCD Series: Chemical Disinfectants, Sterilants, and Detergents	1/10/19	35
IPCD Series: Chemical Disinfectants, Sterilants, and Detergents	1/10/19	1
IPCD Series: Chemical Disinfectants, Sterilants, and Detergents	2/14/19	28
Leadership Webinar Series- Leading Self :Building Cultural Competence	3/12/19	27
IPCD Series: Chemical Disinfectants, Sterilants, and Detergents	3/20/19	14
SMCD Series: Job Hazard Analysis	3/21/19	22
IPCD Series: Chemical Disinfectants, Sterilants, and Detergents	4/4/19	24
LPD Webinar Series-The Power of Purpose in Your Organization and Life	4/24/19	28
Healthcare Safety Accreditation Webinar: Five Vulnerabilities in JC Surveys	6/19/19	36
Leadership & Personal Development-Influencing With Integrity	6/19/19	33
LPD- Confidence: The Key to Success	7/23/19	28
Healthcare FAC Accreditation Webinar: Life Safety Surv Documentation Review	7/24/19	17
LPD-Building Commitment & Followership	8/9/19	17
CDC-IHS+A34:D52 Healthcare Infection Prevention and Control Training	8/13/19	6
Healthcare Facility Accreditation Webinar: Life Safety Survey Facility Tour	8/29/19	16
LPD- Managing Unacceptable Performance & Conduct	9/10/19	22
LPD Problem Solving:The Art of Finding Creative Solutions	10/16/19	30
Webinar: Time Management	10/18/19	14
LPD- Building & Sustaining Effective Relationships and Networks	11/13/19	33
LPD-The Art of Effective Collaboration	12/3/19	33
TOTAL WEBINAR PARTICIPANTS		464
TOTAL PARTICIPANTS		1099

*Includes IEH, Sanitation Facilities Construction, and Facilities Engineering staff

The DEHS views the opportunity to offer financial support for long-term training as a major retention tool and has supported staff in master's programs for many years. Areas reported eight DEHS staff funded by IHS for college courses in 2019. Of the eight, five were federal employees and three were tribal employees.

There are 14 IEH Residency Graduates currently active with IHS and tribal programs

Table 4: Active IEH Residency Graduates.

Graduate	Residency Year
Dustin Joplin	2019
John Hansen	2017
Katherine Hubbard	2014
Timothy Taylor	2014
Valerie Herrera	2010
Ricardo Murga	2010
Danny Walters	2009
Charles Woodlee	2008
David Cramer	2005
Mark Strauss	2005
Brian Hroch	2003
Kit Grosch	2001
Chris Kates	2001
Keith Cook	1999





Figure 3: Distribution of environmental health staff within the national program.

2019 Environmental Health Staff (N=261)

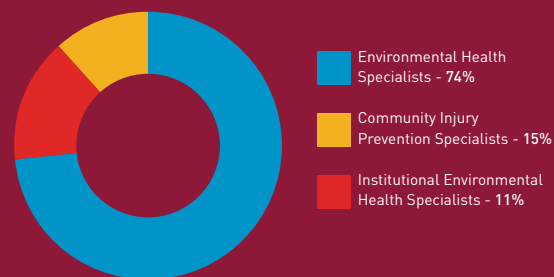


Figure 4: Percentage of environmental health staff with master's degrees.

Percentage of Environmental Health Staff with Master's Degrees (2019)

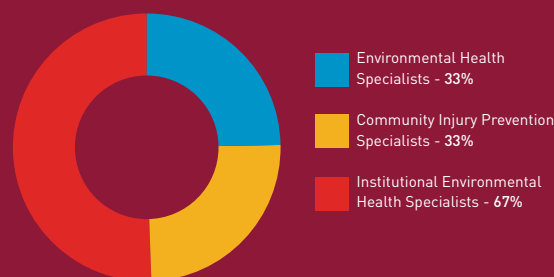
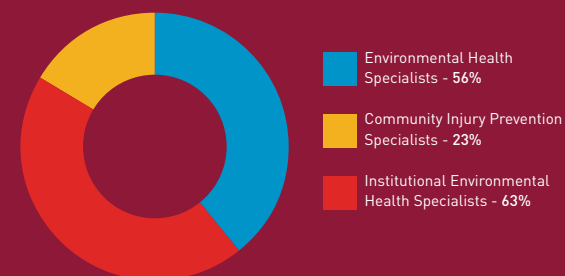


Figure 5: Percentage of environmental health staff with REHS/RS credentials.

Percentage of Environmental Health Staff with REHS/RS Credentials



Distribution of federal (116) and tribal (145) staff (N=261) within the national program (this excludes headquarters staff) (Figure 3).

- Environmental Health Specialists (EHS) – 74% (192/261)
- Community Injury Prevention (IP) Specialists – 15% (39/261)
- Institutional Environmental Health (IEH) Specialists – 11% (30/261)

Federal and tribal staff with master's degrees in Environmental Health or a related field.

- Total – 37% (97/261)
- Federal – 56% (65/116)
- Tribal – 22% (32/145)

Staff with master's degrees by specialty (Figure 4).

- EHS – 33% (64/192)
- Community IP Specialists – 33% (13/39)
- IEH Specialists – 67% (20/30)

Federal and tribal staff who are Registered Environmental Health Specialists or Registered Sanitarians (REHS/RS).

- Total – 52% (135/261)
- Federal – 72% (84/116)
- Tribal – 35% (51/145)

Staff with REHS/RS by specialty (Figure 5).

- EHS – 56% (107/192)
- Community IP Specialists – 23% (9/39)
- IEH Specialists – 63% (19/30)

Federal and tribal staff with additional credentials (Table 5).

- Child Passenger Safety Technicians – 30% (77/261)
- Certified Pool Operators – 16% (41/261)
- IHS IP Fellowship Program Graduates – 13% (33/261)

Table 5: Summary of Certifications Held by Federal and Tribal Staff.

Certification	Environmental Health Specialist	Community Injury Prevention Specialist	Institutional Environmental Health Specialist	Total	Percent of total
REHS/RS*	107	9	19	135	52%
IP Fellow	18	12	3	33	13%
Certified Safety Professional	7	1	4	12	5%
Certified Industrial Hygienist	0	0	4	4	2%
Certified in Infection Control	0	0	0	0	0%
Child Safety Passenger Safety Technician	47	29	1	77	30%
Certified Playground Safety Inspector	12	0	0	12	5%
Certified Radiation Protection Surveyor	1	0	7	8	3%
Certified Environmental Health Technician	5	0	0	5	2%
Diplomate, American Academy of Sanitarians	0	0	0	0	0%
CHEM†	0	0	1	1	0%
FDA Standard	11	0	0	11	4%
Lead/Asbestos Certification	6	0	3	9	3%
IEH Residency	1	0	12	13	5%
Certified Pool Operator	38	2	1	41	16%
OSHA HAZWOPER‡	19	0	6	25	10%
Healthy Homes Specialist	4	0	1	5	2%
Certified Professional in Food Safety	8	0	0	8	3%
Other	11	3	4	18	7%

*Registered Environmental Health Specialist/Registered Sanitarian

†Certificate of Healthcare Emergency Management

‡Hazardous Waste Operations and Emergency Response Standard

Recognition

There are several awards the federal and tribal staff may earn in recognition of contributions and achievements toward IHS goals, objectives, and the completion of significant activities. *Table 6* summarizes awards received by federal and tribal staff in 2019.

Table 6: Summary of Awards Received by Federal and Tribal Staff.

Summary of Awards Received by Federal and Tribal Staff			
Award Type	Federal	Tribal	Total
Public Health Service (PHS) Awards			0
Outstanding Service Medal			0
Commendation Medal	7		7
PHS Achievement Medal	7		7
PHS Citation	1		1
Crisis Response Service Award	2		2
Outstanding Unit Citation	1		1
Unit Commendation	1	1	2
Isolated Hardship			0
Training Ribbon			0
Field Medical Readiness Badge			0
Foreign Duty Award			0
Hazardous Duty Award			0
Special Assignment Award			0
Indian Health Service Area Awards	13		13
Civil Service Personnel Awards	2		2
National IHS Awards	3		3
Other National Awards	2		2
Tribal Awards			0
TOTAL	39	1	40





CDR Honeycutt, DEHO, Minot, conducting chemical inventory, Pine Ridge Hospital, August 2019

Individuals who received Area EHS of the Year (2019) were:



Christopher Fish
Alaska Area



Sam Frank
Albuquerque Area



Garrett Steiner
Bemidji Area



Dustin Joplin
Great Plains Area



Jordan Cox
Oklahoma City Area



Robert Morones
Phoenix Area

These Area EHSs of the Year were nominated for the IHS EHS of the Year (2019) and **Robert Morones, MPH, REHS**, Phoenix Area IHS, was selected.

INDIAN HEALTH SERVICE ENVIRONMENTAL HEALTH SPECIALIST OF THE YEAR

Beginning in 1993, DEHS has annually recognized an outstanding Environmental Health Specialist (EHS) for the year. Nominees are scored on two major categories: special achievements and professionalism. The achievements of those individuals who have been selected as EHS of the Year are recognized by their peers as being instrumental in advancing the DEHS Program's vision of improving the lives of AI/AN people through model public health practices. A list of all the national EHS of the Year recipients to date can be found in *Table 7*.

Table 7: EHS of the Year, 2019 through 1993.

Year	Recipient
2019	Robert Morones, Phoenix Area IHS
2018	Timothy Taylor, Bemidji Area IHS
2017	Kate Pink, Phoenix Area IHS
2016	Mike Reed, Great Plains Area IHS
2015	Sarah Snyder, California Area IHS
2014	Landon Wiggins, Phoenix Area IHS
2013	Martha Maynes, Bemidji Area IHS
2012	Lisa Nakagawa, California Area IHS
2011	Bryan Reed, Bristol Bay Area Health Corp.
2010	Amanda M. Parris, Phoenix Area IHS
2009	Timothy Duffy, Bemidji Area IHS
2008	Holly Billie, Phoenix Area IHS
2007	Stephen Piontkowski, Phoenix Area IHS
2006	Troy Ritter, Alaska Native Tribal Health Consortium

Year	Recipient
2005	Andrea Horn, Phoenix Area IHS
2004	Celeste Davis, Albuquerque Area IHS
2003	Casey Crump, Bemidji Area IHS
2002	Pete Wallis, Tanana Chiefs Corporation
2001	Molly Patton, Tanana Chiefs Corporation
2000	Shawn Sorenson, South East Alaska Regional Health Corp.
1999	Mike Welch, Phoenix Area IHS
1998	Diana Kuklinski, Phoenix Area IHS
1997	Mark Mattson, Bemidji Area IHS
1996	Harold Cully, Oklahoma Area IHS
1995	Keith Cook, Navajo Area IHS
1994	Carol Rollins, Ho-Chunk Nation
1993	John Sarisky, Navajo Area IHS

2019 ENVIRONMENTAL HEALTH SPECIALIST OF THE YEAR – ROBERT MORONES, MPH, REHS



CDR Robert Morones, MPH, REHS, was selected as the [2019 Environmental Health Specialist of the Year](#). In addition to his many injury prevention achievements in 2019 that had an important impact on addressing the national opioid crisis through innovative community-based prevention strategies, CDR Morones mentored others, and consistently demonstrated dedication and professionalism that substantially elevated environmental health services.

RICK SMITH INJURY PREVENTION AWARD – ROBERT MORONES, MPH, REHS

Beginning this year, 2019, we are proud to initiate the Rick Smith Injury Prevention Award. The purpose of this new award from the DEHS Injury Prevention Program is to recognize the performance of individuals or groups whose special efforts and contributions in the field of injury prevention have resulted in a significant impact and led to improved public health for American Indians and Alaska Natives.

CDR Robert Morones, MPH, REHS, injury prevention specialist for the Phoenix Area, received the [2019 Rick Smith Injury Prevention Award](#). CDR Morones manages one of the IHS's largest and most comprehensive injury prevention programs. His enthusiasm, dedication, and leadership in advancing the injury prevention program at the local, regional, and national level led to achievements in capacity building, program visibility, child passenger safety, and most notably, innovative community-based opioid poison prevention and medication storage and disposal projects that established the framework for program duplication and adaptability in tribal communities across the country.



GARY J. GEFROH SAFETY AND HEALTH AWARD

CAPT Gary J. Gefroh was a nationally recognized and highly respected Institutional Environmental Health (IEH) Officer. He served the IHS for 20 years providing expert technical consultation in the fields of healthcare accreditation, safety management, infection control, and industrial hygiene. The purpose of the Gary J. Gefroh Safety and Health Award is to recognize significant contributions by an individual or group resulting in improved healthcare safety and/or infection control at an IHS or tribal healthcare program. This award is sponsored annually by the Office of Environmental Health and Engineering.

2019 GEFROH AWARD WINNER – FRANCIS “FRANK” ROBINSON



Mr. Frank Robinson, Safety Officer at the Whiteriver Service Unit, IHS Phoenix Area, received the [2019 Gary J. Gefroh Safety and Health Award](#) for his achievements in emergency management at the healthcare facility. Mr. Robinson made critical contributions to helping address the Whiteriver hospital’s inability to evacuate high acuity patients to definitive care due to grounding of aircraft and impassible roadways because of a winter storm. Through his leadership Whiteriver was the only facility serving tribal members to participate in the Arizona-wide patient surge exercise. And his foresight

and understanding of the growing importance of emergency preparedness led him to develop a new emergency manager position, advocate for funding, hire and train this new employee, to demonstrate his commitment to sustainable, long-term capacity development within the Whiteriver Service Unit.

Table 8: Gefroh Award Winners, 2019 through 2008.

Year	Recipient	Profession	Area/Facility
2019	Francis Robinson	Safety Officer	Phoenix Area
2018	Jeffery Conner	IEH Officer	Navajo Area
2017	Chris Kates	IEH Officer	Oklahoma City Area
2016	Matthew Ellis	IEH Officer	Portland Area
2015	Emily Warnstadt	Dental Hygienist	Portland Area (Team Award)
2015	Angel Daniels- Rodriguez	Medical Technologist	Portland Area (Team Award)
2014	Brian Hroch	IEH Officer	Albuquerque Area
2013	Greg Heck	Safety Officer	Phoenix Indian Med. Ctr.
2012	Jeff Morris	IEH Officer	Chickasaw Nation Div of Health
2011	Tim Duffy	IEH Officer	Bemidji Area
2010	Wayne Keene	Safety Officer	Northern Navajo Med. Ctr.
2008	David Cramer	Safety Officer	Phoenix Indian Med. Ctr.



DEHS Services



LT Zachary Hargis conducting a playground inspection

Core Services to AI/AN Communities

The DEHS is a comprehensive, field-based program with an overarching responsibility to provide community environmental health support. We are leaders in the environmental health profession who provide a range of services on water quality, waste disposal, hazardous materials management, food safety, community injury prevention, vector control, occupational safety and health, and other environmental health issues.

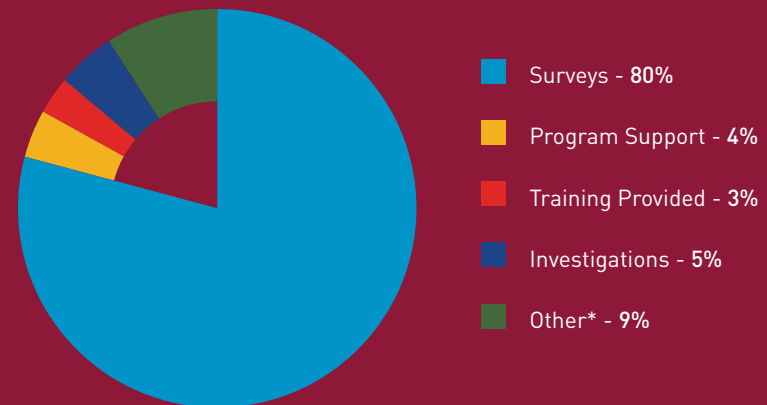
For the DEHS, health monitoring activities not only include real-time surveys for a variety of public health-related issues but also the use of regional and national information systems to manage, track, and respond to trends and issues (*Figure 6*).

- Number of establishments/facilities¹ – **20,224**
- Staff recorded activities – **8,753**
 - Surveys – **80%** (7,021/8,753)
 - Training provided – **3%** (224/8,753)
 - Investigations – **5%** (396/8,753)

¹ WebEHRS Reports, National Establishment Counts 2019 (excludes Headquarters items)

Figure 6: Activities completed in 2019 as reported in WebEHRS.

Activities Completed in 2019 as Reported in WebEHRS (percent of total)



*Other includes policy development, sample/test, evaluation, control, training received, and data collection.

The DEHS manages the Notifiable Disease and External Cause of Injury (NDECI) Web-based data retrieval system. The NDECI system retrieves specific injury or disease categories for tracking and reporting using “passively” exported Resource Patient Management System data to national programs. The application tracks and reports the targeted injury or disease categories via a Web-based application that can provide reports by national, Area, Service Unit (SU), facility, and community levels. Data can be retrieved by International Classification of Diseases (ICD), 9th Revision, codes used to define the groupings for injuries, asthma, notifiable diseases, intestinal diseases, and vectorborne diseases. In 2017, an initiative began to update NDECI with ICD10 codes and transition to new business intelligence software. The new platform was designed and fixes were implemented in 2018. The upgrade will be piloted in 2019-2020 and will provide DEHS staff an environmental health relevant dashboard of key indicators from which to monitor public health status and enhance the ability to run ad-hoc reports tailored to program needs.

The DEHS uses the Custom Data Processing, Inc., Environmental Health Inspection Management System to operate the DEHS Web-based Environmental Health Reporting System (WebEHRS). Features include electronic survey capabilities, tracking environmental health activities, a myriad of report functions, and a mobile application for field use.

SPECIALIZED SERVICES TO AI/AN COMMUNITIES

The DEHS provides specialized services in IP and IEH through consultation and technical assistance. IP Specialists take the lead in working with communities to develop public health strategies to reduce the burden of injury experienced by AI/AN communities. IEH Specialists have skills to identify, evaluate, and respond to unique environmental safety hazards found in healthcare, educational, childcare, correctional, and industrial facilities. Accomplishments for the two specialized services can be found in this section of the report.

Community Injury Prevention Program

Implementation of IP interventions using a comprehensive approach is effective.

Successful IP interventions incorporating all strategies (education, legislation, enforcement, and environmental modification) can have the most impact to improve public health. There were several IP projects and interventions implemented by the Areas in 2019:

- Motor vehicle injury prevention effective strategies
- Unintentional elder falls prevention programs (exercise, home safety assessments, clinical)
- Opioid overdose prevention projects (home lock box, medication disposal units)
- Determining magnitude of the injury problem (e.g., injury atlas)
- Child death prevention
- Carbon monoxide poisoning prevention

The IHS [Tribal Injury Prevention Cooperative Agreement Program](#) (TIPCAP) started in 1997 to help tribes/tribal organizations build IP infrastructure and capacity. TIPCAP applies the public health approach to employ effective strategies that address education, policy development with enforcement and environmental modifications to ensure effective and sustainable programs. TIPCAP projects address the IHS IP program priorities of motor vehicle injury prevention and unintentional elder fall prevention. It also supports local tribal community IP priorities such as suicide prevention, violence prevention, drowning prevention, helmet use, poisoning prevention, and fire safety.

In 2019, over \$1 million was distributed through 32 cooperative agreements ranging from \$25,000 to \$100,000. A new full-time staff position was also created and filled in 2019. LCDR Molly Madson began her assignment as an Injury Prevention Specialist, specifically focused on managing TIPCAP.

Institutional Environmental Health Program

The mission of the Institutional Environmental Health (IEH) program is to provide leadership in the development and implementation of effective environmental health and safety management systems to: 1) reduce risks of injury and/or illness to clients, employees, and visitors of community institutions; 2) to protect our environment; and 3) to minimize property losses. The IEH Program staff offer services in federal and tribal healthcare facilities, as well as a range of community facilities such as childcare, school, and elder programs. A primary objective is to support local safety programs by providing education, onsite technical support, accreditation assistance, program evaluation, and by managing the IHS Web-based Incident Reporting System (WebCident).

A metric for measuring success of safety programs is the number of occupational injury cases and occupational injury rates. *Figure 7* illustrates the occupational injury case numbers and rates for IHS federal employees. When compared to the Bureau of Labor Statistics data, the IHS injury rates are consistently lower than national healthcare industry rates. *Figure 7* also indicates a trend of decreasing injury cases, total case rates, and lost-time case rates¹ for the IHS from 2009 through 2019.

WebCident is a critical data collection and analysis tool supporting healthcare accreditation in the areas of information management, medication management, environment of care, and regulatory concerns for occupational safety and health reporting. Since DEHS launched the system in 2002, WebCident has collected information on nearly 53,000 worker, visitor, and patient incidents at over 200 IHS and tribal hospitals, health centers, health stations, dental stations, school health stations, youth regional treatment centers, and Area and other offices. During 2019, there were 4,964 incidents reported.

The reporting of incidents and analysis of WebCident data has an impact on the reduction of risk in the work environment through heightened awareness, the development of interventions such as educational programs, changes to policy and work practices, and environmental modification. These impacts may result in the reduction of occupational injury and workers' compensation cases.

Figure 8 shows the potential impact of incident reporting on the reduction of workers' compensation cases (Source: Office of Workers' Compensation Programs (OWCP)).

¹ Lost-time injuries are generally considered more severe injuries that result in lost workdays. These injuries are a subset of the total injury case rate.

Figure 7: IHS Workers' Compensation Cases, 2009-2019.

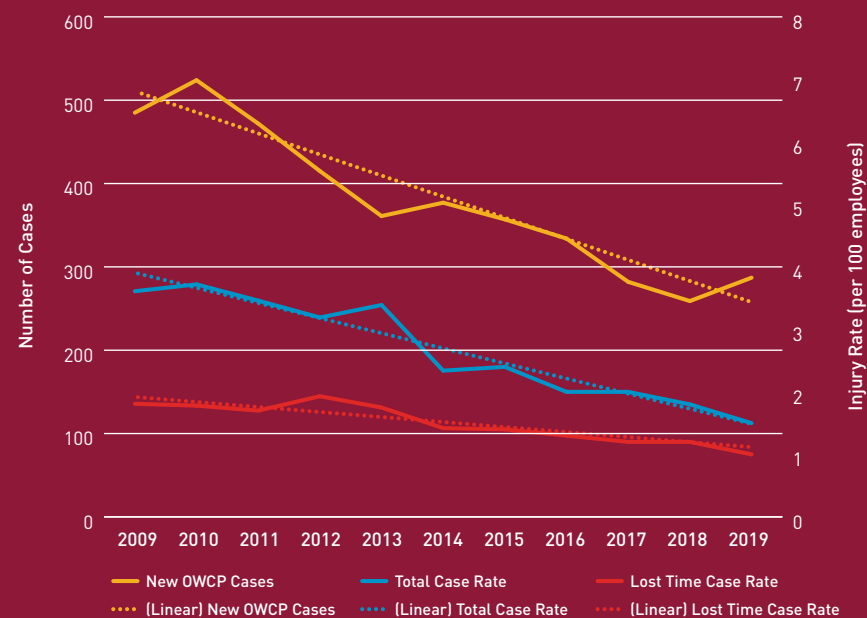
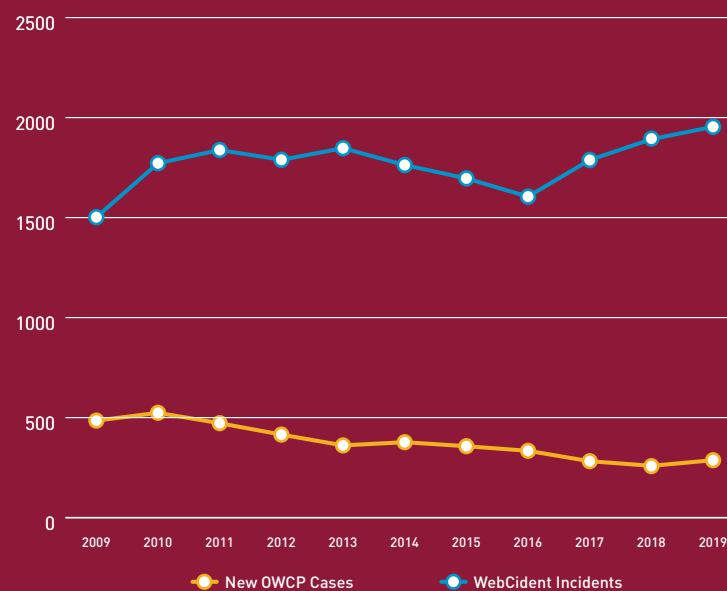


Figure 8: WebCident worker injury incidents and Office of Workers' Compensation Programs injury cases, 2009-2019.







DEHS National Focus Areas



DEHS Services



The DEHS delivers a comprehensive EH program to more than 2.2 million AI/AN people in 36 states. We consult with and provide technical assistance to tribes in an effort to provide safe, healthy environments. This section of the report describes each of the focus areas and highlights projects conducted by the IHS Areas in 2019. Evidence-based or promising practices are used most often, but specific projects are also evaluated for effectiveness. Comprehensive interventions

use a multi-targeted approach involving education, environmental modification, legislation, and enforcement.

Four common activities are related to each focus area:

- Conduct inspections that identify EH risk factors
- Recommend corrective actions to reduce or eliminate risk factors
- Investigate disease and injury incidents
- Provide EH training classes to federal, tribal, and community members

5 Focus Areas



Children's Environment

Prevent illness and injury by reducing risk factors where children live, learn, and play.



Safe Drinking Water

Prevent waterborne illness and ensure safe drinking water supplies.



Food Safety

Prevent foodborne illness and promote food safety and security.



Vectorborne and Communicable Diseases

Prevent diseases transmitted by insects, animals, humans, and the environment.



Healthy Homes

Prevent diseases and injuries in homes caused by unhealthy living conditions.

Children's Environment

The DEHS is responsible for ensuring EH settings for AI/AN children are safe and ultimately provide a healthy environment in which to learn, play, and grow. EH issues associated with children are present in schools, Head Start Centers, and childcare facilities on tribal lands. These issues present an ever-increasing set of complex challenges to be addressed. A few examples of EH-related issues of concern are as follows: indoor air quality, lead exposure, child passenger safety, and infectious disease exposure. The DEHS staff provides services to approximately 3,000 child-occupied facilities as well as services in community housing. Comprehensive interventions, based on local surveillance, are conducted to reduce the impact of disease and injury in the communities.

Many indicators of effective programs focus on reducing the number of critical or repeat violations within a particular facility. Critical violations are threats to the public's health that need to be corrected immediately, and repeat violations occurred in more than one consecutive facility inspection. The DEHS staff focus on eliminating risk factors related to fire safety, emergency response, asthma triggers, lead-based paint, communicable disease exposure, and child passenger safety. Projects with an emphasis on the children's environment conducted in 2019 are presented.



ELEVATED BLOOD LEAD LEVEL RESPONSE BY THE ZUNI SERVICE UNIT

Fleurette Brown, Jerrald Tsalate

Albuquerque Area

Introduction

Childhood lead poisoning has the potential to result in cognitive impairment and other lifelong consequences. Evidence-based guidance for managing children with increased lead exposure include exposure identification and stabilization. The Zuni Service Unit Office of Environmental Health responded by conducting site investigations for a cluster of reported elevated blood lead levels in children under 5 years of age. Confirmed laboratory analysis of ten venous blood draws all resulted in a lead content above the CDC’s action level of 5 µg/dL. The tests were spanned out over a period of one year. Eight of the children resided in the local community, with two outliers residing over 40 miles away. Site investigative lead screenings resulted in the identification of several items with hazardous levels of lead detected on the surfaces. All items were removed or modified to eliminate exposure risks.

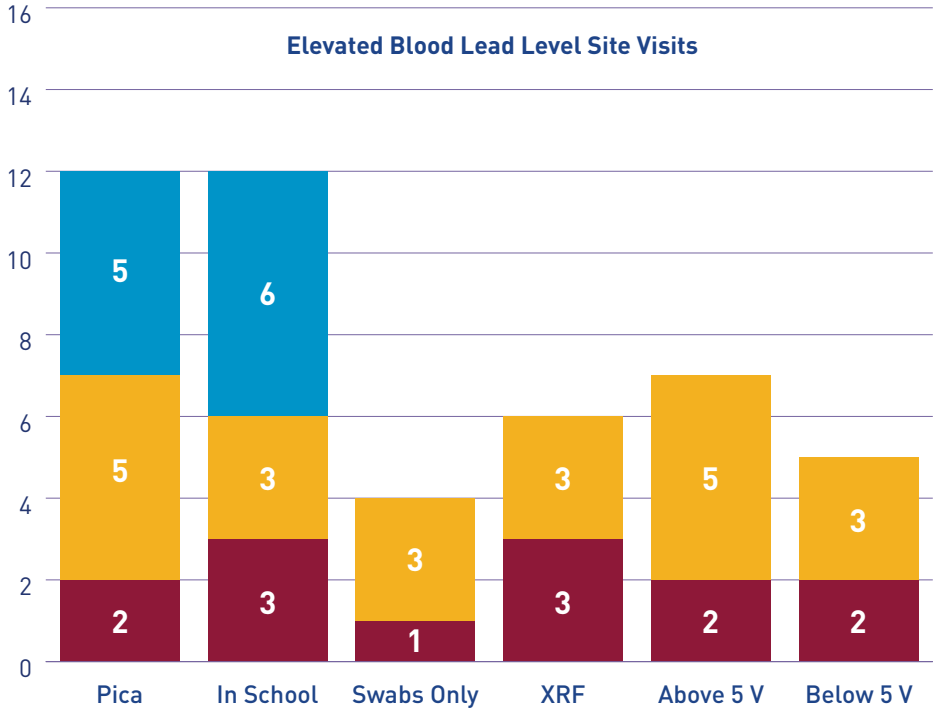
Methods

Site investigations took place in the environments where children lived or frequented on a regular bases, including: homes, relative’s homes, childcare environments, and schools. Investigative data was collected based on in-home assessments through occupant interviews, home inspections, lead screenings with EPA approved Lead Check Swabs / XRF Lead Analyzer, potable water lead analysis for each establishment, and onsite observations. A Lead Epidemiology Response Team was formed, and input from the entities of OEHE, Public Health Nurses, and Medical providers was compiled for management and discussion guidance for each of the cases monitored.

Results

A total of 12 children were referred to OEHE for home investigations. Confirmed six of the children attended school and six were not of school age. Ten home visits were made and all screened with either the EPA approved screening swabs or the XRF analyzer. Since November 2018, the onset of referrals to OEHE, five children have been removed from monitoring with levels at or below 1 µg/dL.

Elevated Blood Lead Level Site Visits



Lead Screenings: Positive Items containing surface lead

Item	Swabs / XRF	Location	Action Taken	Date
Toy maracas	both	School	removed	12/2018
Mini blinds	swabs	Home	removed	10/2019
Playground swings	both	School	removed	12/2019

Discussion

The OEHE onsite investigative responses allowed for the immediate lead screenings of potential surfaces in the environments of children with confirmed elevated blood lead levels. All cases were sporadic over a year, and due to the various follow-up testing recommendations for monitoring decreased levels, the positive lead items and each of the cases remain presumptive. The OEHE home assessments and questionnaires served as a vital component for the Lead Epidemiology Response Team's guidance to formulating critical actions for decreasing elevated blood lead levels. A shift from case identification and management to primary prevention has become the announced goal. The Epidemiology Response Team has generated proposals for the initiation of more preventative measures such as applicable parent education, community partnership with the local housing and utility programs, and heightened awareness of the processes of children's blood lead screenings/venous analysis amongst programs.



SEAT BELT USAGE 2010-2019: A TALE FROM TWO RESERVATIONS

Charles L. Mack

Great Plains Area

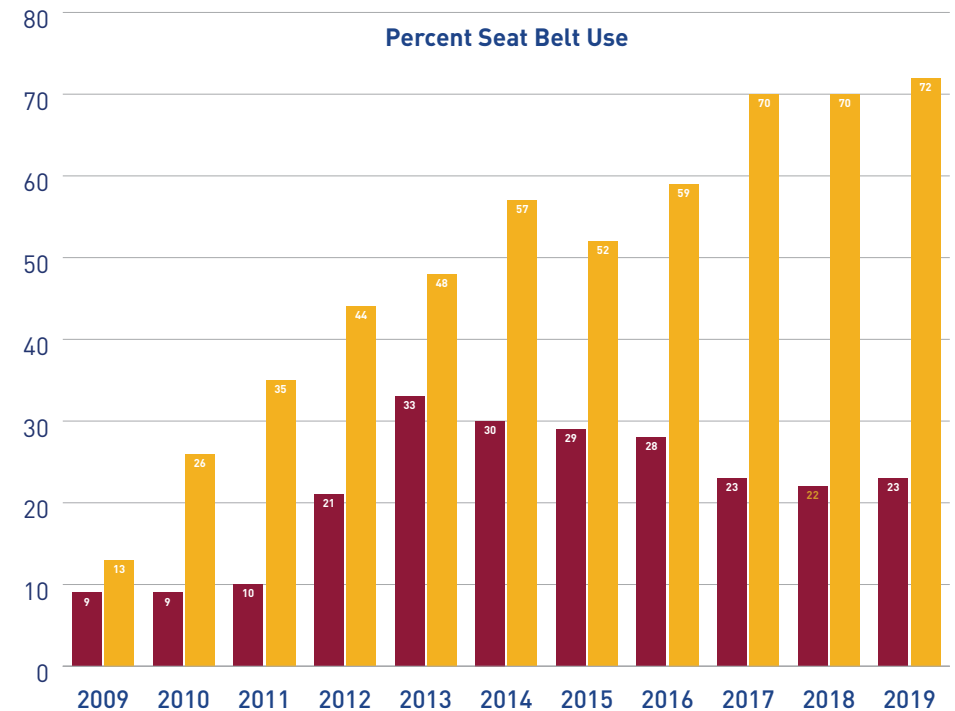
Introduction

Occupant restraint use is an effective method to reduce injuries and deaths from motor vehicle crashes. Two reservations participated in programs to boost their occupant restraint use (e.g., Bureau of Indian Affairs' Tribal Highway Safety Program; Centers for Disease Control and Prevention's Tribal Motor Vehicle Injury Prevention Program) and received ongoing technical assistance from the Division of Environmental Health Services.

Methods

Both reservations used their specific severe injury surveillance profiles (SISS), local Injury Prevention Coalitions, tribal resolutions, education components, and annual seat belt surveys to improve existing seat belt ordinances or create new ones. Both reservations passed their ordinances as a "primary law", one giving emphasis on the "fine" which is \$35 for everyone in the vehicle and a \$250 fine for car seat violations, and the other focused on keeping the fine at \$20 for both adults and child restraint violations.

Results



Discussion

Factors that contributed to program success were:

1. Continuance of a tribal highway safety program
2. Full support from tribal law enforcement
3. Engaged court system (e.g., "traffic court" every Friday)

The reservation with the highest seat belt use also provides motor vehicle crash prevention education at local schools and has a 1-hour weekly spot on the local radio station. Their ongoing efforts have added value to their highway safety program, to include: 1) improved report writing by law enforcement officers; and 2) reporting their "sterile" data to the State which allows them to more accurately report the issues and receive additional State funding.



Safe Drinking Water

The DEHS is one of the partners responsible for ensuring safe drinking water for AI/AN people. EH issues associated with drinking water can be caused by organisms or contaminants spread through water. Examples of waterborne illnesses include giardiasis, shigellosis, cryptosporidiosis, lead poisoning, and copper toxicity. Annually, the DEHS staff report 50-100 activities related to drinking water.

There were no projects with an emphasis in safe drinking water reported in 2019. The DEHS staff also focused on eliminating risk factors related to the operation and maintenance of water systems.



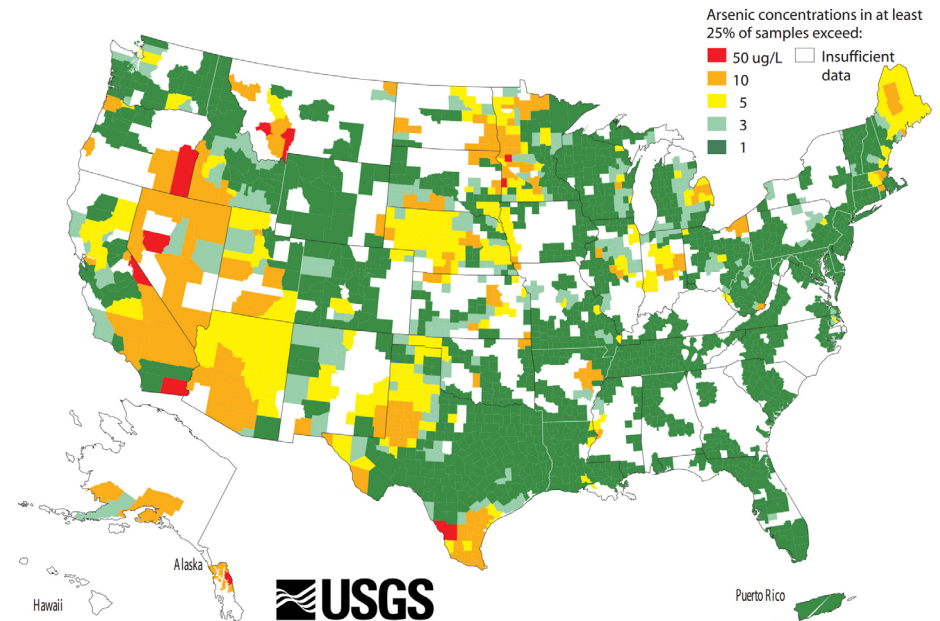
POINT-OF-USE ARSENIC REMOVAL DRINKING WATER MONITORING

Joshua Sims, Landon Wiggins

Phoenix Area

Introduction

While arsenic occurs throughout the United States, it occurs primarily in the west with the highest concentrations being in the Southwest, Northwest, and Alaska. Due to the nature of the associated geology, water supplies have been identified as having high levels of arsenic. When consumed in high quantities arsenic can be harmful to health. In order to address this concern, the Indian Health Service (IHS) along with the Tribal Natural Resources Department provided and installed point-of-use (POU) water filters to reduce the arsenic levels of 16 homes individually served by private wells and impacting approximately 65 individuals. This coordinated effort continued beyond installation to provide an analytical assessment of the efficacy of the point-of-use arsenic removal systems. IHS Environmental Health Services (EHS) and Sanitation Facilities Construction (SFC) staff collaborated to conduct routine sampling events of the drinking water at the homes serviced by the POU Project and submitted them for laboratory analysis to measure the level of arsenic and other heavy metals in the water. IHS also administered survey questionnaires to identify filter usage and homeowner confidence in the filtered water supply. Results were used to confirm the effectiveness of the units, recommend individual filter replacement schedules to the homeowner, and provide both quantitative and qualitative data for future SFC POU projects.



Project Objectives

1. Obtain consent for follow-up water sampling from individual homeowners
2. Install POU treatment for 16 homes (mixture of arsenic filters and RO units)
3. Establish analytical protocol (domestic panels, arsenic, and bacteriological)
4. Conduct three (3) years of quarterly follow-up water sampling
5. Confirm and document the effectiveness of the point-of-use arsenic removal systems
6. Administer homeowner confidence survey questionnaires
7. Develop individual operation & maintenance recommendations for each homeowner
8. Compile and present results to Tribal Natural Resources Department and IHS OEH&E leadership
 - Provide quantitative and qualitative data for future SFC POU projects

DEHS NATIONAL FOCUS AREAS

Quantitative Analysis

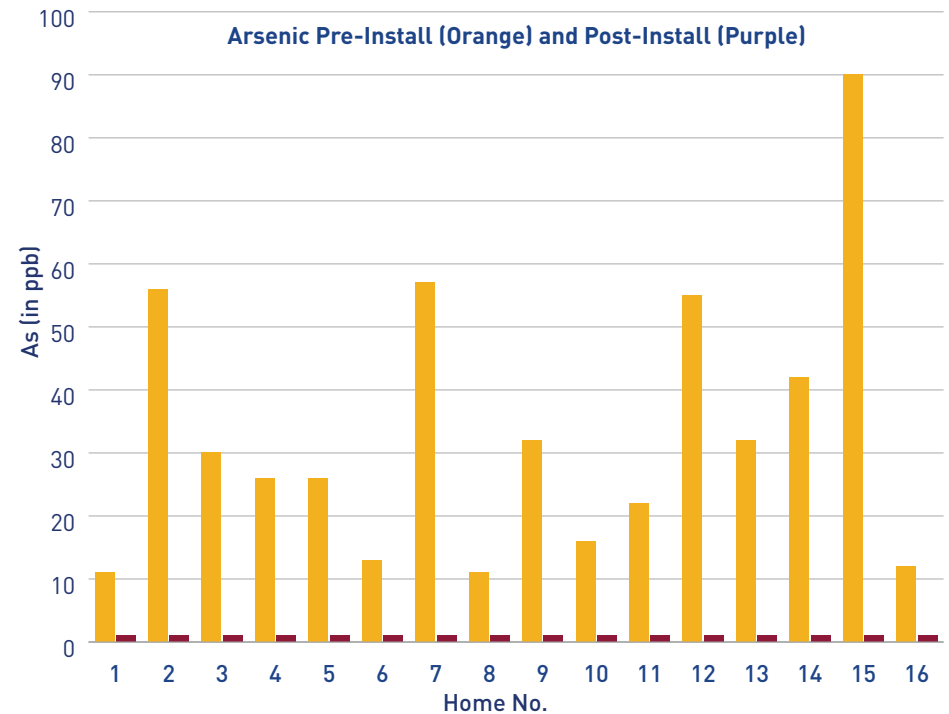
- May 2016 – May 2019
- Quarterly Arsenic for 3 years of Filtered (POU) Water
- Full Domestic Panels – Raw and Filtered
- Bacteriological - Raw and Filtered
- Water quality results indicated that the filters were 100 % effective in removing arsenic to non-detectable levels over the life of the project

Quantitative Questionnaires

Customer Satisfaction [1 = poor, 3 = excellent]

- Water Color = 3
- Water Smell = 3
- Water Taste = 2.8
- Safe/Healthy Perception = 2.9
- Filter Reliability = 2.9
- Filter Convenience = 2.9

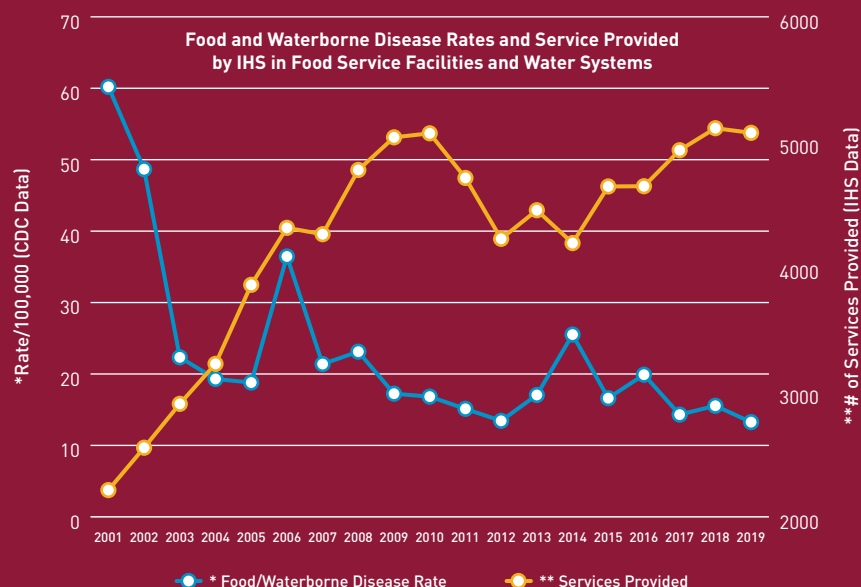
While 55% of respondents felt that their well water was unsafe, 90% felt that the POU units did in fact provide a safe drinking water source. All respondents indicated that overall they were satisfied the POU units and the customer service provided by IHS OEHE.



Outcomes

1. Verification of absolute and percent reductions in post-filtration arsenic concentrations compared to pre-filtration data over the survey period
2. Provided homeowners with filter replacement schedules, O&M information, analytical results and complete set of replacement filters
3. Provided SFC with quantitative and qualitative data for use in future POU projects related to POU operation and maintenance and homeowner satisfaction

Figure 9: Trends in services and reportable food and waterborne illnesses.



Sources:

* CDC MMWR, Summary of Notifiable Diseases, United States.

** IHS WebEHRS Data System.



Food Safety

The DEHS staff provide services at more than 5,000 food service facilities across the country. The CDC estimates over 48 million cases of foodborne illness occur in the United States annually, 128,000 of which require hospitalization and 3,000 of which are fatal. Organisms that result in the most common foodborne illnesses include Norovirus, *Salmonella*, *Clostridium perfringens*, *Campylobacter*, and *Staphylococcus aureus* (CDC, Estimates of Foodborne Illness in the United States, 2011, available at: <http://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html>).

Effective programs focus on reducing the number of critical or repeat violations within a particular facility. Critical violations are threats to the public's health that need to be corrected immediately, and repeat violations occurred in more than one consecutive facility inspection. Some DEHS staff focus on eliminating risk factors related to inspector bias through standardization of the inspection process. Other staff work to persuade tribal councils to pass food code legislation, whereas others focus on eliminating specific deficiencies (e.g., temperature control, hand washing, and/or employee health).

Implementation of effective EH strategies can substantially reduce disease and injury rates. For instance, from 2001 through 2019, as the number of services provided by IHS to food service establishments and drinking water systems increased **129%** (2,214 to 5,072), the incidence of food and waterborne diseases in the United States decreased **78%** (60.2 to 13.26) (Figure 9). Projects with an emphasis on food safety conducted in 2019 can be found on the following pages.

ALBUQUERQUE AREA RETAIL FOOD PROGRAM, STANDARD 2

Sam Frank

Albuquerque Area

Introduction

As one of the five National Focus Areas, Food Safety and the prevention of foodborne illness among tribal populations, is one of the predominate work activities of Environmental Health (EH) professionals. In fact, the Albuquerque Area ranks second in overall number of retail food establishments in operation out of the twelve IHS Areas. To improve program management and staff competencies in conducting retail food surveys, the Albuquerque Area, DEHS, has continued working towards meeting the FDA's Voluntary National Retail Food Regulatory Program Standards. The Retail Food Standards (as they are also known) is an evidence-based program improvement model that has shown tremendous success in jurisdiction's abilities to implement best practices that enhance the quality of public health services provided to stakeholders.

Methods

The Albuquerque Area, DEHS, has steadily progressed towards meeting all relevant Retail Food Program standards as a non-regulatory jurisdiction. Currently only Standard 2 has yet to be met, which involves undertaking a rigorous training program for staff who conduct retail food inspections. This Standard is often the most challenging and time-consuming component of the Retail Food Standards as it requires all EH staff to undergo the 5-step training and standardization process to achieve required levels of competency:

- Step 1:** Completion of "pre" course curriculum in Appendix B-1
- Step 2:** Completion of 25 joint field training inspections; Completion of Food Safety Inspection Officer (FSIO) Field Training Plan
- Step 3:** Completion of 25 independent inspections; Completion of "post" course curriculum in Appendix B-1
- Step 4:** Satisfactory completion of a minimum of four joint inspections with a Training Standard
- Step 5:** Completion of 20 contact hours of continuing food safety education and re-standardization every 36 months after initial training is completed

Results

Albuquerque Area, DEHS, Standard 2 Accomplishments (2019)			
FDA Certified Training Officer	Standardized by Training Officer	Re-Standardized by Training Officer	Undergoing Initial Standardization
1 staff	1 staff	3 staff	2 staff

Discussion

In order to successfully carry out Step 4 of Standard 2, EH staff must complete joint inspections with an FDA Certified Training Officer. This Training Officer must have successfully met all of the training requirements listed in Standard 2, with some additional requirements, including satisfactorily completing a minimum of 8 joint inspections with an FDA Standard (i.e. FDA Retail Food Specialist). One EH staff member from the Albuquerque Area, DEHS, successfully completed all requirements to become the Area's Training Officer.

Conclusions/Recommendations

After completing standardization, EH staff have reported more confidence in their skills, knowledge, and abilities to conduct retail food surveys. This includes being better able to approach retail food inspections from a risk-based perspective, recognizing foodborne illness factors, food code interventions, and good retail practices. The next steps for the Albuquerque Area, DEHS, include completing a self-assessment and verification audit to determine that all of the elements of the Retail Food Standards have been met. Although the Retail Program Standards may seem challenging, the successful outcomes of this evidenced based program improvement model cannot be overstated. I would highly recommend that other Area IHS, DEHS programs consider taking on the Retail Food Standards to better meet the needs of the tribal populations we serve in one of our National Focus Areas.

POW-WOW FOOD SAFETY DEFICIENCIES 2018 – 2019

Joe Sarisky
Great Plains Area

Introduction

The Great Plains Area, Pierre Service Unit, Office of Environmental Health developed a 10-item food safety practices checklist for use at tribal Pow-Wows. The checklist describes food safety practices known to be effective in preventing foodborne illness outbreaks. The checklist was used in 2018 and 2019.

Methods

The 10 food safety practices included on the checklist are based on research conducted by the FDA and the CDC. The 10 practices fit into three broad categories.

- **Safe Food Temperatures** – 4 practices to reach, maintain, and monitor hot and cold food temperatures
- **Hand Hygiene** – 3 practices to keep hands clean
- **Preventing Contamination** – 3 practices to prevent the contamination of food, food contact surfaces, and equipment

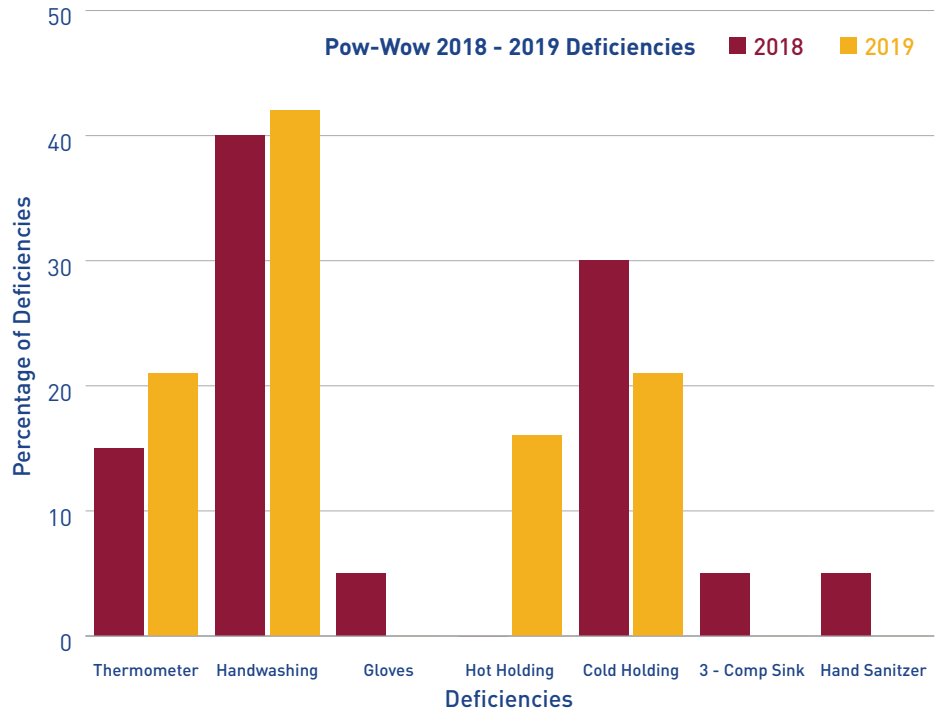
The checklist is written in plain language to be used by temporary food vendors and their staff. The list is not a compliance checklist, it is a learning tool for vendors that explains the most important food safety practices and how these practices can be easily implemented. The list describes equipment that every temporary food service operation needs to implement the 10 priority food safety practices.

Results

The data from two years (2018 - 2019) of Pow-Wow food service sanitation surveys were analyzed to identify the most frequently occurring deficiencies. Of the 10 checklist items, 7 were most frequently identified as deficiencies during food service surveys. Problems related to thermometers, handwashing, glove use, hot holding and cold holding temperatures, use of a 3-comp sink and hand sanitizers were identified. Three items on the 10-item checklist were not reported. No problems with trash receptacles, steam tables, and use of chlorine sanitizers were noted.

The top three deficiencies observed were related to:

1. Handwashing (2018 - 40%, 2019 - 42%)
2. Cold holding equipment (2018 - 30%, 2019 - 21%)
3. Thermometer use (2018 - 15% , 2019 - 21%)



Discussion

The use of a short, 10 actionable item checklist by vendors and surveyors appears to help vendors understand necessary food safety practices and how to implement effective control measures. The continued use of the checklist should contribute to improved food safety practices at Pow-Wow events and temporary food service operations.

A consistent issue for the Pow-Wows is hand washing and handwashing facilities. Poor hand hygiene has been directly implicated in foodborne illness outbreaks.

With these risk factors in play, it is imperative to have an in-person food handler training course before each event. During this training, the importance of hand washing can be emphasized. A short Pow-Wow food safety training session would introduce participants to the 10-item checklist to build awareness of expectations for food safety during the event and promote sound food safety practices.

Conclusions/Recommendations

The introduction and use of the food safety checklist has allowed food vendors to focus on simple and effective food safety practices.

The next step with the project will be to inform the Pow-Wow organizers of the top 3 deficiencies found at the Pow-Wow food service operations and to work with them on ways to prevent these deficiencies at future Pow-Wows.



USING THE FACILITATION METHODOLOGY TO ORGANIZE A VOLUNTEER MASS MEAL EVENT

Patricia Ramirez, Samantha Claw

Navajo Area

Background

In September of 1974, an estimated 3,400 people acquired *salmonellosis* following poor food handling practices involved in the preparation of potato salad for a free barbeque that coincided with a Tribal Fair. (Am. J. Public Health 67: 1071-1076, 1977). Following the largest foodborne illness in the U.S. from a single event (at that time) the Navajo Nation passed a Food Code to bolster the monitoring of food preparation and service at large social events. Despite a food code, gaining compliance in food preparation with a volunteer group of organizers presents many challenges. In November of 2018, a customer appreciation mass meal was conducted by a large-scale farm operation. Sanitary food service and customer safety were identified as concerns for future events.

Goals

- Initiate a collaborative partnership to ensure the competency of volunteers to safely conduct a large-scale food service operation
- Compliance with the Navajo Nation Food Code
- Prevent a reoccurrence of September 1974

Approach

The Farm Managers were contacted 3 months in advance of the planned event. Assistance with planning the event was offered. For the encounter with the volunteer organizers, a facilitated discussion of 2018 event was conducted after a PowerPoint presentation of 2018 event. A best-practice model of another volunteer mass food event was also detailed for the group. Sanitarians provided an event planning check sheet and three recommendations:

1. Include the Farm Safety Officer in planning
2. Consult with a Certified Food Service Manager
3. Conduct food handlers training for all the volunteers

Results

2018

Identified Concerns:

1. Unsanitary food service practices
 - Food on the ground
 - Large vats of condiments contaminated
 - Food was out of temperature
2. Beans were prepared in private homes and transported to the site.
3. Poor crowd control in the food service area. Food service was slow.
4. Limited facilities for handwashing.
5. Limited number of port-a-toilets.
6. Electrical wires ran in public walkways. Electrical panels were accessible.
7. Propane heaters were accessible to the public.
8. Narrow aisles between seating.

2019

Improvements:

1. Certified Food Service Mgr. was consulted and the food handling process streamlined.
2. Beans were prepared by a restaurant.
3. Public did not have access behind the serving line.
4. Line moved faster, enhancing favorable customer feedback.
5. Numerous sites for handwashing for staff and public.
6. More port-a-toilets in more locations.
7. Electrical wires were removed from public areas and protected in public areas.
8. Propane heaters were cordoned off and monitored.
9. Increased aisle width allowing for wheelchair access/evacuation.



Discussion

As a regulatory authority, gaining compliance with a volunteer group presents challenges. Volunteers generally have no ownership of past event mishaps and do not have the skill level for the core event activity. Establishing early dialogue with farm management mobilized the partnership with the volunteer organizers and provided adequate time for the group to plan. Despite having limited food service knowledge, the volunteers accurately identified areas of lapsed food service sanitation and safety in 2018. The facilitated discussion method provided the structure for a constructive dialogue of the groups identified concerns. Allowing the group to identify obstacles they may encounter provided for group ownership of the solutions. At the conclusion, resources to ensure the groups success were identified and provided.



Conclusions/Recommendations

Adequate time for planning was critical as was group ownership of the outcome of the task at hand. The facilitation method provided for a constructive discussion of past events and insightful planning for the impending event. The methodology is best conducted by trained facilitators. The volunteers continue to involve sanitarians in planning large-scale events.

Vectorborne & Communicable Diseases

Diseases transmitted through humans, insects, or animals present an ever-increasing burden on human health. A few examples of vectorborne or communicable diseases include West Nile virus, H5N1 (Avian Influenza), hantavirus, Rocky Mountain spotted fever, and plague.

The DEHS staff work on the elimination of risk factors through identifying H5N1 in bird populations, conducting spay, neuter, and rabies clinics for dogs and cats, and investigating prairie dog die-offs to prevent human plague cases. Projects with an emphasis on vectorborne and communicable diseases conducted in 2019 can be found on the following pages.





MOSQUITO-BORNE DISEASE SURVEILLANCE THROUGHOUT THE BEMIDJI AREA

Garrett Steiner, Barry Hugo, William Crump, Shelby Foerg, Katherine Miller, Kiliegh Meredith Matthew Biven

Bemidji Area

Introduction

The Bemidji Area Indian Health Service (BAIHS), Division of Environmental Health Services (DEHS), provides Environmental Health services to tribes located throughout Minnesota, Wisconsin, and Michigan. Vectorborne disease prevention is a focus area of the national IHS DEHS program. Established vectors of concern throughout the BAIHS include mosquitoes of the *Culex* genus. West Nile Virus (WNV) is endemic to the Bemidji Area and is transmitted via *Culex* mosquitoes. Mosquitoes of the *Culex* genus are also responsible for transmitting other diseases, such as Japanese and St. Louis Encephalitis (SLE). While monitoring for endemic mosquito-borne diseases on tribal land is the primary goal of the BAIHS mosquito program, other invasive mosquito species and uncommon arboviruses are also passively monitored. While *Culex* mosquitoes are not the primary vector that transmits Eastern Equine Encephalitis (EEE), they are able to transmit the virus to humans after taking a blood meal from infected birds or mammals. Jamestown Canyon Virus (JCV) has also been documented in small clusters throughout the area. Since Bemidji Area tribes do not have functioning mosquito surveillance programs, BAIHS DEHS staff aimed to fill this void by creating an area-wide mosquito-borne disease surveillance program.

Methods

Mosquito trapping was conducted in accordance with guidelines provided by the Midwest Center of Excellence for Vector-Borne Disease (MCE-VBD), located at the University of Wisconsin-Madison. Trapping was prioritized in areas often utilized by tribal members, particularly children. Traps were deployed in areas including: Pow-Wow Grounds, playgrounds, tribal Head Start or childcare facilities, commonly used trails, and communal gathering places. Tribal Environmental Programs were designated as the main point of contact for each tribe, as staff members were essential in locating ideal mosquito trapping locations. Mosquitoes were collected from each trap site and stored in a freezer until identified and tested by DEHS staff. *Culex* mosquitoes were tested via VectorTest Kits. These kits allowed DEHS staff to test *Culex* mosquitoes for WNV, SLE, and EEE. While no invasive species were identified, an agreement is in place with the MCE-VBD that they would receive these samples, if collected during future surveillance efforts. In addition, BAIHS staff coordinated with MCE-VBD staff to conduct JCV surveillance in north-central WI, as multiple human cases and positive pools were documented throughout the area in 2018-2019. BAIHS staff are equipped with CDC Gravid Traps, CDC Light traps, and BG-Sentinel 2 traps.

Results

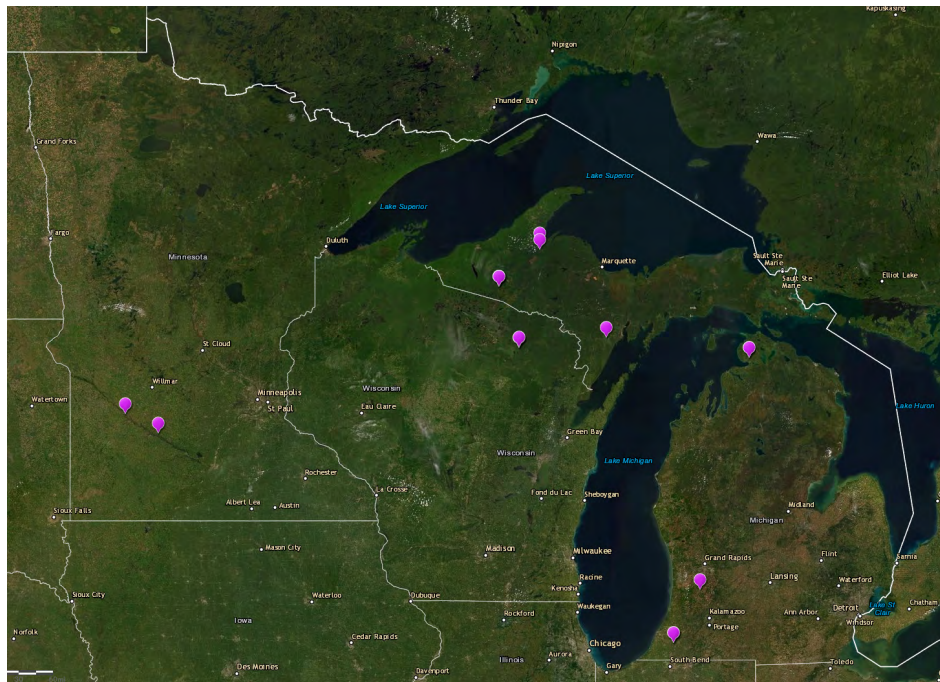
- 2224 total mosquitoes sampled
 - 878 *Culex*. spp sampled
 - 1060 *Aedes*. spp sampled
- 0 positive *Culex* pools detected for WNV, SLE, or EEE
- 17 trap nights throughout 2019

Table 1. Mosquito Collection results.

Collection Method/Trap	Site	County	State	Trap Set Date	Total Mosquitoes	Culex. Spp
CDC Light	HA PW Grounds	Menominee	MI	5/29/19	0	0
Gravid	LVD Golf Course	Gogebic	MI	6/11/19	1	0
BG-Sentinel	LVD Golf Course	Gogebic	MI	6/11/19	8	0
CDC Light	LS Agency Park	Renville	MN	6/15/19	21	0
CDC Light	FC Sugar Shack	Forest	WI	6/18/19	0	0
Gravid	FC Sugar Shack	Forest	WI	6/18/19	2	0
CDC Light	KB Pow Wow	Baraga	MI	6/19/19	0	0
BG-Sentinel	KB Pow Wow	Baraga	MI	6/19/19	3	0
CDC Light	FC Sugar Shack	Forest	WI	6/19/19	43	0
CDC Light	POK Head Start	Cass	MI	6/25/19	25	2
Gravid	POK Head Start	Cass	MI	6/25/19	3	0
CDC Light	LTB PW Grounds	Emmet	MI	6/27/19	9	3
Gravid	LTB PW Grounds	Emmet	MI	6/27/19	9	0
CDC Light	LVD Golf Course	Gogebic	MI	7/3/19	2000*	800*
Gravid	LVD Golf Course	Gogebic	MI	7/3/19	93	65
CDC Light	GL PW Grounds	Allegan	MI	7/13/19	13	5
CDC Light	US Wacipi Grounds	Yellow Medicine	MN	8/2/19	14	3
TOTALS					2224	878

*Estimation-TNTC

Figure 1. Mosquito trapping locations.



Discussion

- In 2019, many lessons were learned regarding the proper use of CO2 and placement of CDC gravid traps
- In addition to the established mosquito program, DEHS staff will be focusing on EEE surveillance in southern MI, and JCV surveillance in north central WI in 2020
- DEHS staff will continue to collaborate with MCE-VBD staff in 2020
- BAIHS mosquito data is expected to significantly increase in 2020

Conclusions/Recommendations

While none of the mosquitoes sampled tested positive for WNV, SLE, or EEE, tribes will be immediately notified of positive test results during future surveillance seasons. Although mosquitoes were not sampled at each location, mosquito trapping was conducted within the boundaries of 9 different Bemidji Area tribes in 2019. In 2019, BAIHS mosquito traps were deployed for a total of 17 trap nights. The 2019 mosquito data will be used as a baseline for future surveillance seasons, as 2019 marked the first year BAIHS staff were able to consistently operate traps and sample mosquitoes. BAIHS will continue to be in contact with the respective tribal authorities to help prevent future mosquito exposures to tribal members. DEHS staff will obtain additional vector surveillance training in the spring of 2020 in order to further develop the BAIHS vector surveillance program.

TICK-BORNE DISEASE RISK ASSESSMENT – BLACK-LEGGED TICK SURVEILLANCE THROUGHOUT THE BEMIDJI AREA

Garrett Steiner, Barry Hugo, William Crump, Shelby Foerg, Katherine Miller, Kiliegh Meredith Matthew Biven

Bemidji Area

Introduction

The Division of Environmental Health Services, Bemidji Area, provides Environmental Health services to tribes located throughout Minnesota, Wisconsin, and Michigan. Vector-borne disease prevention is a focus area of the national IHS DEHS program. Established vectors of concern throughout the BAIHS include the black-legged tick (*Ixodes scapularis*). In 2019, tick dragging activities were equally focused throughout WI, MI, and MN. While tick dragging was conducting throughout the same areas as in previous years, the 2019 tick surveillance season was focused on increasing dragging activities, along with conducting surveillance in additional areas that had not been sampled previously. While monitoring for black-legged ticks, and Lyme Disease, on tribal land is the primary goal of the BAIHS tick program, the presence of other invasive species of ticks are also passively monitored. Examples of invasive tick species to the Bemidji Area include the Lone star tick (*Amblyomma americanum*) and the Asian long-horned tick (*Haemaphysalis longicornis*).

Methods

Tick dragging was conducted in accordance with guidelines provided by the Midwest Center of Excellence for Vector-Borne Disease (MCE-VBD), located at the University of Wisconsin-Madison. Dragging was prioritized in areas often utilized by tribal members, particularly children. Areas surveyed include Pow-Wow Grounds, playgrounds, tribal Head Start or childcare facilities, commonly used trails, and communal gathering places. Tribal Environmental Programs were designated as the main point of contact for each tribe, as staff members were essential in locating ideal tick dragging locations. Ticks were collected via tick dragging and preserved in 95% ethyl alcohol. Black-legged tick samples were identified by BAIHS staff and sent to the Centers for Disease Control and Prevention (CDC), Division of Vector-Borne Diseases, for testing. Through this partnership, black-legged ticks sampled throughout the Bemidji Area will be tested for the presence of *Borrelia burgdorferi sensu stricto*, *Borrelia mayonii*, *Borrelia miyamotoi*, *Anaplasma phagocytophilum*, and *Babesia microti*.

Results

- 259 total ticks
 - 166 *Dermacentor variabilis* (American Dog Tick)
 - 93 *Ixodes scapularis* (Black-legged Tick)
- BAIHS is currently awaiting 2019 pathogen testing results from the CDC

Figure 1. Tick dragging locations.

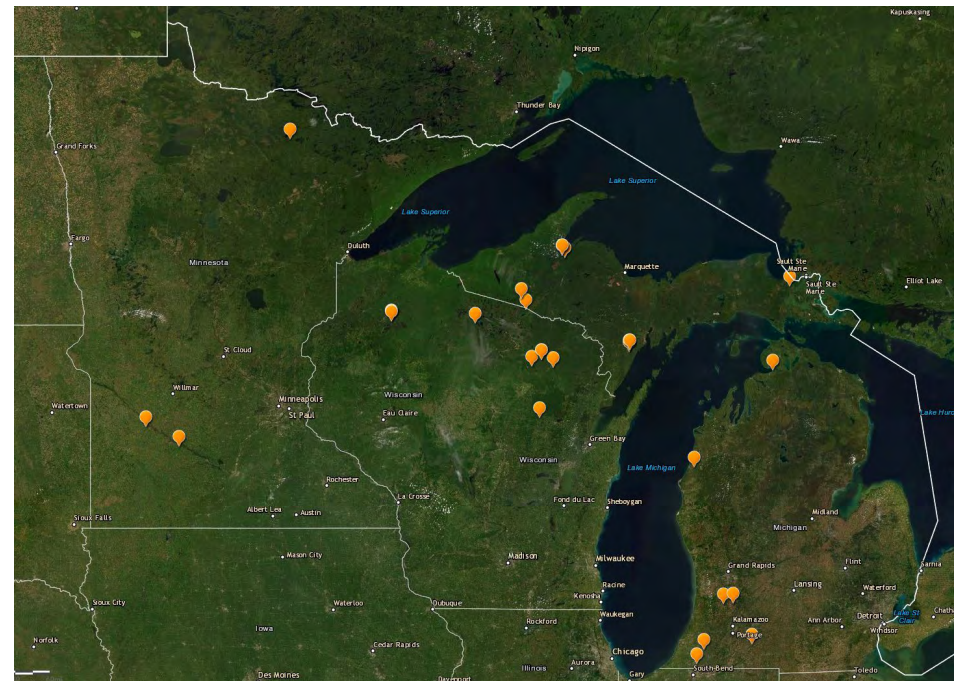


Table 1. Tick dragging results.

Date	Site	County	State	Area	Total Time (min)	Meters dragged	<i>I. scapularis</i>	Total Ticks
5/13/19	HA PW Grounds East	Menominee	MI	PW Grounds Perimeter	75	1448	1	14
5/13/19	HA School Trail	Menominee	MI	Trail edge	50	942	2	9
5/14/19	LCO PW Grounds	Sawyer	WI	PW Grounds Perimeter	60	1110	11	20
5/20/19	LCO Headstart	Sawyer	WI	Headstart	90	2200	10	18
5/20/19	LCO Campground	Sawyer	WI	Campground Perimeter	135	3100	7	22
5/21/19	LCO Clinic Trail	Sawyer	WI	Trail Edge	45	588	25	31
5/29/19	LVD PW Grounds	Gogebic	MI	Pow Wow Grounds	120	1375	0	1
5/30/19	HA PW Grounds West	Menominee	MI	PW Grounds Perimeter	30	500	0	33
5/31/19	BF Nett Lake Park	St. Louis	MN	Baseball Diamond	60	1064	0	26
6/5/19	FC Pow Wow	Forest	WI	PW Grounds Perimeter	120	840	5	16
6/6/19	SOK Pow Wow	Forest	WI	PW Grounds Perimeter	120	4954	6	10
6/11/19	HUR PW Grounds	Calhoun	MI	Pow Wow Grounds	60	620	0	0
6/12/19	LVD Golf Course	Gogebic	MI	Sewage Effluent	30	100	1	1
6/12/19	GL PW Grounds	Allegan	MI	Pow Wow Grounds	120	2120	0	1
6/15/19	LS Agency Park	Renville	MN	MN River Trail	45	942	0	0
6/17/19	FC Sugar Shack	Forest	WI	Trail Edge	90	1725	3	3
6/19/19	KB Farm	Baraga	MI	KB Farm Perimeter	240	2008	0	0
6/19/19	KB Pow Wow Light House	Baraga	MI	KB Pow Wow Lighthouse	60	1400	0	1
6/19/19	KB Pow Wow Campground	Baraga	MI	KB Pow Wow Campground	60	880	0	0
6/19/19	FC Sugar Shack	Forest	WI	Trail Edge	120	1836	2	10
6/25/19	POK Headstart	Cass	MI	Behind Playground	60	750	0	0
6/26/19	POK Gage Lake	Cass	MI	Trail edge	60	1520	0	0

DEHS NATIONAL FOCUS AREAS

Date	Site	County	State	Area	Total Time (min)	Meters dragged	<i>I. scapularis</i>	Total Ticks
6/27/19	LR PW Grounds	Manistee	MI	PW Grounds Perimeter	90	884	13	13
6/27/19	LTB PW Grounds	Emmet	MI	PW Grounds Perimeter	60	620	0	0
7/9/19	Upper Sioux	Yellow Medicine	MN	Pow Wow Grounds/River Entrance	45	600	0	0
7/12/19	GL LCCC	Allegan	MI	Nature Trail Edge	120	1200	0	1
7/17/19	FC Sugar Shack	Forest	WI	Trail Edge	60	1725	3	3
7/24/19	HA PW Grounds	Menominee	MI	PW Grounds Perimeter	60	1800	0	14
7/26/19	KB Pow Wow Grounds	Baraga	MI	KB Pow Wow Grounds	60	1440	0	1
7/26/19	KB Farm	Baraga	MI	Farm Perimeter	120	2500	0	6
7/26/19	KB Lighthouse	Baraga	MI	Lighthouse	60	1600	0	1
8/1/19	BM Community Center	Chippewa	MI	Old Shooting Range/Community Center	90	1600	0	0
8/8/19	SM RV Park	Shawano	WI	RV Park Perimeter	45	1110	0	0
8/14/19	LDF Iron County Land Parcel	Iron	WI	LDF Iron County Land Parcel	360	9400	4	4
TOTAL					3020	56501	93	259

Discussion

Corduroy tick drag material was used in 2019. Although more data is needed, this change in material seemed to make tick drags more effective when sampling for black-legged ticks. DEHS staff coordinated with the MCE-VBD to document multiple life stages of black-legged ticks in Iron County, WI.

Conclusions/Recommendations

Tribal authorities will be notified immediately if testing results indicate that infected black-legged ticks were sampled within the boundaries of the tribe. Although ticks were not found at each location, tick dragging was conducted within the boundaries of 17 different Bemidji Area tribes in 2019. A total of 50.30 hours were spent tick dragging, resulting in a total of 56.5 kilometers dragged. Total tick samples collected in 2019 (259) resulted in a **166%** increase of total samples when compared to 2018 data (154). In particular, 93 black-legged ticks were sampled in 2019, whereas only 8 black-legged ticks were sampled in 2018. BAIHS will continue to be in contact with the respective tribal authorities to help prevent future tick exposures to tribal members. DEHS staff will obtain additional vector surveillance training in the spring of 2020 in order to further develop the BAIHS vector surveillance program.

USING SPATIAL ANALYSIS TO REDUCE THE TRANSMISSION OF ROCKY MOUNTAIN SPOTTED FEVER

Rachel Stokes

Phoenix Area

Introduction

The purpose of this project is to develop a mapping tool which could be used to identify consistent areas of high tick load (hotspots) and inform targeted prevention efforts to reduce contraction of Rocky Mountain spotted fever (RMSF) among residents of a tribe in Arizona.

RMSF is a vectorborne disease caused by a bacterium, *Rickettsia rickettsii*, which is transmitted by the bite of an infected tick¹. The incidence of RMSF is high in Native Americans and is four times that of whites the United States. The morbidity rate for Arizona is 7%, while the national rate is less than 1%², with most cases occurring on reservations. Current prevention measures for high risk communities include reservation-wide application of pesticide, applying tick collars to dogs, and community education, which primarily occurs during biannual campaigns. Many tribes don't have a 911 addressing system, which made it difficult to use current practices to identify locations of high tick load.

Methods

Materials

- Home surveys from previous prevention campaigns
- Map of homes, obtained from other departments
- ArcGIS Earth
- Campaign volunteers

Data Collection Activities

- Updated the campaign survey form
- Identified gaps in survey completion (e.g., surveys incomplete or incorrectly filled out)
- Interventions were established to address gaps

Mapping Data

- All dogs with greater than 20 ticks or category "C", were matched with a house identified using the housing map
- C-dogs were then entered into ArcGIS using a red dog icon
- Positive human cases (2013-2017) were layered in ArcGIS and flagged with a different color by year
- Spatial analysis was completed to understand the relationship of human positive cases vs. location of C-dogs
- Spatial analysis was completed looking at the location of C-dogs over the course of multiple campaigns to identify hot spots

Results

Data Collection

- A 26% improvement in the ability to accurately plot C-dogs over the course of 3 campaigns was measured
- The number of correctly completed surveys identifying C-dogs increase from 71% to 97.5%

Mapping

- Ninety-five percent of the time, a positive human case was noted within 1/8 (or 0.125) mile from a C-dog; using this information, hot spots were defined as the circle of 0.125-mile radius around the location where C-dogs were observed in the same spot over two or more campaigns
- Thirty-two (32) hot spots were identified throughout the project area, of which 18 were consistent C-dogs and 14 were higher priority because they were also associated with positive human cases

¹ Drexler N, Miller M, Gerding J, et al. Community-based control of the brown dog tick in a region with high rates of Rocky Mountain spotted fever, 2012-2013. PLoS One. 2014; 9(12). Published 2014 Dec 5.

² Drexler, N. A., Traeger, M. S., McQuiston, J. H., Williams, V., Hamilton, C., & Regan, J. J. (2015). Medical and Indirect Costs Associated with a Rocky Mountain Spotted Fever Epidemic in Arizona, 2002-2011. The American Journal of Tropical Medicine and Hygiene, 93(3), 549-551.



While there appears to be some correlation observed between human cases and C-dogs in the map, not all cases were within the 1/8-mile proximity which could be for several reasons such as (1) the case may have been infected at a different location, or (2) a C-dog was not observed during a campaign, etc.

Area 3 had the highest number of priority hot spots when comparing total numbers. However, two areas had the same number of hot spots relating only to C-dog observation.

	Area 1	Area 2	Area 3	Area 4
C Dog Only	7	3	6	6
C Dog and Human Case	3	0	5	2
TOTAL	10	3	11	8

Lessons Learned

Data Collection

- Limited training for volunteers can affect the accuracy of information gathered via survey form
- When possible keeping consistency in teams was a beneficial intervention; teams seemed to develop a routine the more they worked with each other, which lead to more accurate data

Mapping

- The RMSF Prevention Campaign data only captured a snapshot of the tick burden; further research would need to be conducted to determine an average radius of travel for a free roaming dog
- It is difficult to assure accurate mapping when there is no 911 addressing on homes, and cell service is not always available.
- The home locations were marked for human cases, however, the place of exposure may not be the home
- While Area 3 was identified as having the most hotspots, rates were not calculated because the size or per capita differences between areas was unknown

Next Steps

- The hot spots already identified on the map could be used to increase focus prevention efforts to areas of known tick activity, which may reduce the need for reservation wide pesticide application
- Future studies may wish to evaluate additional factors that may contribute to tick populations, such as trash accumulation or moisture, comparatively to C-dog populations
- Data entry could be improved by utilizing a mobile application; this would allow users to input data in real time, reducing the lag between data collection and data input

HEALTHCARE FACILITY HAZARDOUS WASTE DISPOSAL GUIDANCE

Samuel Aboagye, David Cramer, John Hansen

Phoenix Area

Introduction

The Challenge

- IHS and Tribal healthcare safety programs have long struggled with non-biomedical hazardous waste disposal due to the complex web of regulations and the variety of departments generating unique wastes. This leads to non-compliance with rules and in some cases the exposure to personnel to hazardous materials.

The Project

- The PAIHS Institutional Environmental Health Program reviewed select hospital and clinic hazardous waste streams to characterize waste amounts, types, and origins; facilities included PIMC, Pyramid Lake Health Center, Ft. Yuma Health Center, and the Whiteriver IHS Hospital
- The IEH Program inventoried state and federal regulations and IHS policy relevant to hazardous waste disposal
- The IEH program interviewed representatives of Clean Harbors, Inc., a hazardous waste disposal contractor, to better understand options available to hospitals and clinics

Methods

Waste Stream Characterization

IEH found there’s a common profile regardless of size and scope of service of the facility. Nevertheless, PIMC was studied more closely because it generates the broadest range of chemical waste, including chemotherapeutic waste and pathology waste (xylene, formalin). The graphic to the right captures the common waste stream found at most IHS and Tribal facilities.

Applicable Rules & Regulations

EPA-RCRA 40 CFR, 261	<ul style="list-style-type: none">• Facilities must identify the amount of waste generated per month.• Based on weight, they are Very Small Quantity Generator (VSQG), Small Quantity (SQG) or Large Quantity (LQG).• SQG and LQG must obtain an EPA ID Number.• All generator sizes must contract with a waste hauler with an EPA ID Number.• Waste goes to a licensed treatment, storage, or disposal facility (TSDF).• The facility receives and maintains a signed manifest identifying the final TSDF.
OSHA	<ul style="list-style-type: none">• 1910.132 Personal Protective Equipment• 1910.151(c) Emergency eyewash stations within 55 feet of corrosives• 1910.1200 Access to Safety Data Sheets• 1910.120 Spill response including 40 Hour HAZWOPER training
DOT	<ul style="list-style-type: none">• 49 CFR, Part 172, Subpart H Hazardous waste shippers training for staff packaging and signing manifests• 40 CFR, Part 263 EPA has adopted DOT rules; compliance with EPA = compliance with DOT
State	<ul style="list-style-type: none">• States follow EPA Hazardous Waste Rules (EPA doesn’t regulate medical waste)• Nevada allows small rural communities to dispose of medical waste in the landfill; however, facilities located in Clark or Washoe Counties must dispose using licensed medical waste haulers

DEHS NATIONAL FOCUS AREAS

Niche Vendors and Ad Hoc Contractors

Several vendors handle niche waste streams including expired Rx, hazardous Rx, community Rx, scrap dental amalgam, fluorescent bulbs, and batteries. Other wastes like formalin, housekeeping chemicals, and paints can be collected on an ad hoc basis by hazardous waste vendors for less than the common P-Card purchase limit of \$2,500. See examples below of several niche waste vendors for the three common waste streams. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

Pharmacy	<ul style="list-style-type: none">• Returns R Us for Expired Medications• Stericycle for Hazardous Drugs• MedSafe for Community Medications
Universal Waste	<ul style="list-style-type: none">• Violia North America for fluorescent bulbs and batteries• Clean Harbors for other universal
Clinical	<ul style="list-style-type: none">• Amalgaway Scrap Mercury Amalgam• Solmetex for Amalgam Separator• Clean Harbors or Transchem for all other chemical waste

Next Steps

8 Steps to Compliance

- Analyze waste stream and weights
- Determine your generator status
- Request an EPA ID # if SQG or LQG
- Contract with niche vendors
- On an ad hoc basis, contract with a licensed hazardous waste disposal company
- Follow OSHA rules for PPE especially gloves, eye protection and eyewashes
- Provide Hazardous Waste Shippers Training to the manifest signers
- Manage your manifest and store them in retrievable location for reference during an accreditation survey

Acknowledgements

- Special thanks to DEHS leadership, the IEH Team, safety officers of selected healthcare facilities, and state environmental quality departments of the Arizona, California, Nevada, and Utah for supporting this project.

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Healthy Homes

EH issues associated with housing on tribal lands present an ever- increasing set of complex challenges to be addressed. A few examples of EH related issues of concern are lead exposure, asbestos exposure, mold, disease vectors, lack of potable water, radon gas, solid and liquid waste disposal, injuries (e.g., fires, electrocution, and slips/ trips/falls), chronic chemical exposures, and asthma triggers.

Many programs focus on capacity building and education related to reducing asthma attack rates, mold and moisture problems, chemical exposure, and other events that are documented through health surveillance systems and through a home inspection program. Home inspections identify threats to the health of occupants and the DEHS staff focus on identifying and eliminating related risk factors. A project with an emphasis on healthy homes was conducted in 2019 and can be found on the following pages.



DRUG ENFORCEMENT ADMINISTRATION CHANGES ALLOW HEALTHCARE FACILITIES TO ASSIST WITH REMOVING OPIOIDS FROM THE ENVIRONMENT

David Bales

Oklahoma City Area

Background

In 2016, poisonings were the leading cause of unintentional injury death among AI/AN ages 25-54. The CDC estimates 66.5 out of every 100 persons in the U.S. were prescribed an opioid in 2016. Opioids were involved in 42,249 deaths in the U.S. in 2016—more than 115 deaths every day, on average. In 2014, the Drug Enforcement Administration (DEA) authorized hospitals and clinics with on-site pharmacy to collect controlled substances from patients by voluntarily administering mail-back programs and maintaining collection receptacles. With the DEA rule changes coupled with the current opioid epidemic, opportunities to implement the use of consumer drug take-back (CDTB) programs within IHS Hospitals and Clinics became available. The purpose of this poster is to share the steps taken to implement the CDTB program and the results of the program, in an effort to assist other facilities obtain leadership support and implement the program.

Methods

- Leadership support and funding for the initial cost of the CDTB receptacle must first be obtained
- Initial cost per facility was under \$2,100 for the receptacle and three replacement liners. The annual cost of liners will depend on use but is estimated to be under \$500 per year.
- Medication Disposal Policy & Procedures were developed at each facility utilizing information from vendors and policies of other facilities that had already implemented the CDTB program
- Internal training was conducted with the pharmacy staff to ensure proper implementation and documentation of the program
- Registered their pharmacy license with the DEA as collector status prior to the purchase of the CDTB receptacle

- Collaborated with a facility manager and safety officer for correct placement and installation of the CDTB receptacle; the recommended location is in direct view of the pharmacy pickup window and in an area viewable by the camera system within the facility
- Marketing and education were done among the target population through the use of patient counseling, fliers, electronic bulletin boards, public presentations, and social media

Results

The CDTB was implemented in six (6) Tribal Healthcare facilities in October of 2018. The boxes were placed at Indian Hospital A, Indian Hospital B, Indian Health Center A, Indian Health Center B, Indian Health Center C, and Indian Health Center D where patients could easily access them. The box liners were monitored by the staff and replaced when filled. Between October and December of 2018, over 1,000 lbs. of Rx waste was removed from the drop boxes and sent for disposal by the waste management contractor.

Conclusions/Recommendations

The results show that the CDTB program is utilized by the public and will reduce medications in the home environment to reduce the risk of accidental poisonings. This program would not have been possible without the DEA change authorizing hospitals and clinics with on-site pharmacy to collect controlled substance from patients by voluntarily administering mail-back programs and maintaining collection receptacles. We will continue to evaluate the use of the CDTB containers and make necessary changes.

POISONING RISK REDUCTION THROUGH IMPROVED COMMUNITY-BASED RX DISPOSAL

Rob Morones, Martin Stephens, Isaac Ampadu, Andrea Tsatoke

Phoenix Area

Introduction

According to the most recent CDC National Center for Health Statistics Report, 130 Americans die each day from an opioid overdose. Prescription medications permitted to accumulate in the home environment represents potential increased risk for both diversion and overdose. An article¹ published in JAMA found more than 90 percent of individuals failed to dispose of leftover prescription medications in recommended ways.

To learn more about the prescription medication disposal practices in the Phoenix Area, the Injury Prevention Program interviewed 55 elders from nine tribal communities.

From the interviews we learned:

- 1 out of 5 disposed of Rx meds correctly
- 73% were prescribed pain killers
- 31% reported lost/misplaced meds

Methods

Goals

To help address the alarming results from the interviews and other feedback, the program developed a plan intended to achieve:

- Increased awareness of disposal methods
- Increased availability of disposal equipment and materials
- Increased community-based partnerships
- Decreased unused or expired medications in the home environment

The Plan

1. Determine disposal knowledge, attitudes, and behaviors
EEHS # 2-Diagnose and investigate health problems and health hazards in the community
2. Educate on available disposal options and proper procedures
EEHS # 3- Inform, educate, and empower people about health issues
3. Determine new or improved options to increase the disposal of unused or expired medications
EEHS # 10- Research for new insights and innovative solutions to health problems
4. Establish partnerships with state and local health programs to connect tribes with disposal equipment and material
EEHS #7- Link people to needed personal health services and assure the provision of health care when otherwise unavailable
5. Partner with community-based health programs to design and implement new or improved Rx disposal processes
EEHS #4- Mobilize community partnerships and action to identify and solve health problems
EEHS #5- Develop policies and plans that support individual and community health efforts
6. Design and distribute program evaluation tools for the new or improved processes.
EEHS #9- Evaluate effectiveness, accessibility, and quality of personal and population-based health services

1 Johns Hopkins Medicine. "Most prescribed opioid pills go unused, study confirms: Most are improperly stored, as well." ScienceDaily. 2 August 2017.

Results

The program developed several partnerships between tribes and state and local health programs to implement pilot interventions based on the interview feedback.

Drug De-activation Pouches

When used properly, medications can be disposed of safely in the clinic or home environment using de-activation pouches. Medications can be placed into these pouches with warm water and then discarded in the domestic trash. The pouches use water activated carbon powder that neutralizes the medications and makes the contents environmentally friendly to dispose of in the domestic waste stream. Through state partnerships, over 1,700 pouches have been obtained for tribes.

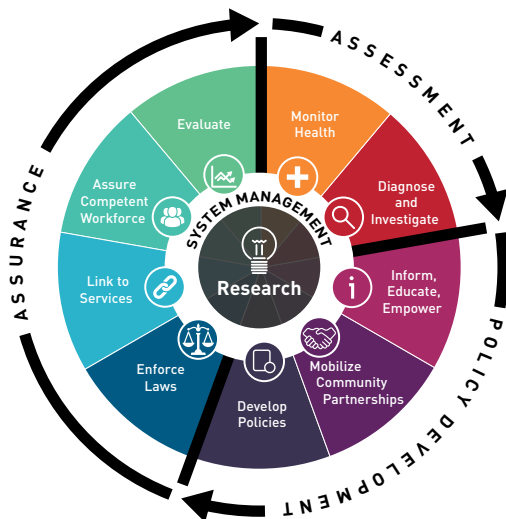
Over 860 prescription medications have been voluntarily disposed of in the home environment from four communities.

Medication drop boxes

These drop boxes are collection receptacles with pre-paid ship-back liners designed for DEA licensed facilities. Patients can drop their expired or unused medications into these boxes similar to a mailbox. Four facilities have installed drop boxes.

Over 1,200 lbs. of prescription medications have been deposited in drop boxes in four communities in 120 days.

Ten Essential Environmental Health Services



Discussion

Program costs

- There are many variations of the products used for this project available through GSA or open market
- Drug de-activation pouches can typically be purchased for \$10 each; one large pouch can de-activate ~90 pills
- Medication drop boxes can be purchased through GSA; average start-up cost is ~\$1500; annual maintenance costs, which includes shipping and disposal of discarded medications is ~\$300-\$500 per year

Conclusions

We have seen a great response from our tribal communities interested in learning more about the various methods to improve safe medication disposal. This project delivered a heightened awareness of medication disposal options to community-based health workers and those they serve.

We are continuing to expand the partnerships to build on early successes in Arizona and Nevada as we work with California and Utah public health programs to extend our outreach to more tribal communities in need.

Conclusions

This project was implemented and evaluated through the efforts of several partners that include:

- Tribal and IHS pharmacies
- Public Health Nursing
- Community Health Representatives
- AZ and NV State Health Departments
- IHS Division of Environmental Health Services

DESCRIBING UNSPECIFIED EVENTS FOR “OTHER” INJURIES

Tim Wildcat

Great Plains Area

Introduction

For the Great Plains Area (GPA) Severe Injury Surveillance System (SISS), the “other” category contains all injuries, including unspecified or undetermined, that do not fit into one of the other six categories. This study will help to identify the events that lead to categorizing injuries as “other” types of injuries. To better understand what injuries and causes are in the “other” category, GPA Injury Prevention staff attempted to describe all 2016 “other” injuries from the current data collection for the Service Unit. Staff utilized the local Electronic Health Record (EHR) to list injuries, cause, and location of injury. It was determined the majority of injuries resulted from a standing/walking position, which resulted in lower leg injuries.

Methods

When the SISS is initiated, the Resource Patient Management System (RPMS) is accessed, but it only provides a limited provider narrative for all potential cases captured. To better describe the injuries seen in the other category, staff had to access the Service Unit’s Electronic Health Record (EHR). An ITAC request was made and when completed, a user access and verify code was delivered via secure data transfer. Once in EHR, staff selected the provider notes tab, set the view to only show the 2016 consults and used patient chart numbers to access date of visit/s. Most of the injury’s detail could be found in the provider notes, but at times additional information was found in the X-ray tab (to confirm injury) or in Vista Imaging, if the case was seen at a non-Indian Health Service facility. The data collection tool was developed by staff and only collected an internal identification number, type of injury, location where injury occurred, and reason behind the injury. Additional information such as demographics, chart numbers, and cost of injury was collected in the initial data pull from RPMS.

Results

Once all data collection was complete, staff were able to categorize injuries into six events:

- Walking (37%)
- Violence (10%)
- Horse-play (16%)
- Sports (16%)
- Home auto repair (10%)
- Unknown (11%)

All events led to fractures, with walking causing **47%** of the injuries seen. Furthermore, **47%** of all injuries occurred in a home environment, and **32%** were unknown or not reported. Among the injuries, **47%** occurred to lower legs and **37%** were to hands and wrist.

Discussion

To address injuries, risk factors need to be identified and targeted to reduce or prevent their effect on the community. The other category has become the second leading cause of injury and needs to be better defined to identify risk factors. This study was able to show where these types of injuries occurred and how. This can be helpful in setting a long term plan to address these injuries. One limitation of this study was the availability of accessible data. Only being able to access one of two medical facilities in the community limits the ability to show a more precise picture of other types of injuries and what causes them. Continuing to describe this category may point to additional events that lead to injuries, but that will increase opportunities to focus associated risk factors.

Conclusions/Recommendations

The next steps will be to continue describing 2017 and 2018 data for the Service Unit. Once completed, a multi-year profile will be shared with local leadership and coalition for program planning.

THE GROUNDWATER INTRUSION EVENT OF 2019: A DYNAMIC AND FLUID EVENT – COMMUNICATION, COLLABORATION & DAMAGE ASSESSMENTS ON THREE RESERVATIONS

Dorothy Kramer, Justin Bunn

Great Plains Area

Introduction

The Sioux City District, Great Plains Area experienced significant flooding throughout much of 2019. Flooding was kicked off due to an exceptionally snowy winter and rapid Spring thaw. This resulted in significant flooding in Southern South Dakota and Nebraska. Spring flooding also caused several dams to burst in the region, like the Spencer Dam incident along the Niobrara River near the Santee Reservation. These incidents washed out bridges and roads and impacted Tribal and non-tribal homes and communities. The overland flooding was compounded by groundwater intrusion into basements in many of the impacted communities (Rosebud Reservation, Yankton Sioux Tribe, and Santee Sioux Tribe of Nebraska). The Yankton Sioux Reservation (YSR) was affected by overland and groundwater intrusion into basements in several areas but the Lake Andes Area experienced the greatest impacts in the District overall. Flooding on the YSR occurred at the end of May, and again in late August 2019, as a series of storms continually dumped rain on the Area.

Methods

Across the District, damage assessments of affected homes were conducted after the weather events. Staff checked the high-water marks inside and/or outside the home, presence of moisture damage, mold growth, impact to the HVAC and electrical systems, and other damage as applicable. Efforts were made to collect as much relevant information as possible. Staff used a moisture meter to collect “point in time” moisture readings on surfaces (wooden and drywall) in homes. Each of the 3 reservations surveyed had unique challenges. Flyers were handed out in the communities detailing how to address moisture issues (how to remove moisture from homes, mold clean up, and what kind of PPE to wear when cleaning). Cards with OEH contact information were left at homes where no one was home. Information about each home was recorded on a form tailored to the community.

Results

A total of about 121 home assessments were completed throughout the 3 reservations. On the Santee Reservation, 20 homes were surveyed by Tribal and Sioux City Staff. On Rosebud, 18 homes were surveyed during the initial flooding and at YSR, 49 homes were surveyed. In August and September, 34 YST homes were surveyed after an additional 15 inches of rain fell in the region.

Flooding impact to the Lake Andes Tribal Housing area is due to overland flooding from nearby Lake Andes, which essentially doubled in size due to a combination of snow melt, rainfall, and limited drainage out of the basin. Lake Andes has increased in size from 6,500 acres to approximately 12,000 acres and has still not fully receded as of January 2020.

Surveyors noticed several patterns of damage to homes on the reservations.

- **Basements:** Water may have entered through cracks in the walls and floors or gaps between the wall-floor juncture. Another common entry point noted was water entry through window wells.
- **Roof damage:** During blizzards, snow entered attic areas of mobile homes through vents on the roofs or through roof soffit areas on the North side of the homes. The snow then melted inside the homes and damaged ceilings.
- **Saturated ground:** Rising groundwater began to impact septic systems in rural areas. The ground in the Lake Andes Community remains saturated appears to be contributing to the basement moisture issues. Tribal leadership is exploring the possibility of moving the affected homes to higher ground and with 11 families being moved to alternative home sites already.
- **Sump pumps:** As surveyors surveyed homes with basements, it was observed that some sump pumps were not functioning, or the sump pump was not able to keep up with the inflow of water. In some instances the outlet piping was discharging too close to the home, allowing the water to flow back through the basement and re-enter the sump.

DEHS NATIONAL FOCUS AREAS

Discussion

OEH staff worked with homeowners, tenants, and various tribal programs to document damage and provide technical assistance on addressing moisture damage issues. Reports generated by OEHE staff have been used by the tribes to apply for FEMA disaster assistance and other grant funding.

During this event, concerns about unsafe drinking water spread throughout the Lake Andes Community. DEHS and SFC staff worked to address the concerns of community members and insure confidence in the municipal water supply.

Being able to be on site as homeowners were allowed back to their homes and providing timely assistance helped to insure indoor air issues were addressed timely and safely.

Conclusions/Recommendations

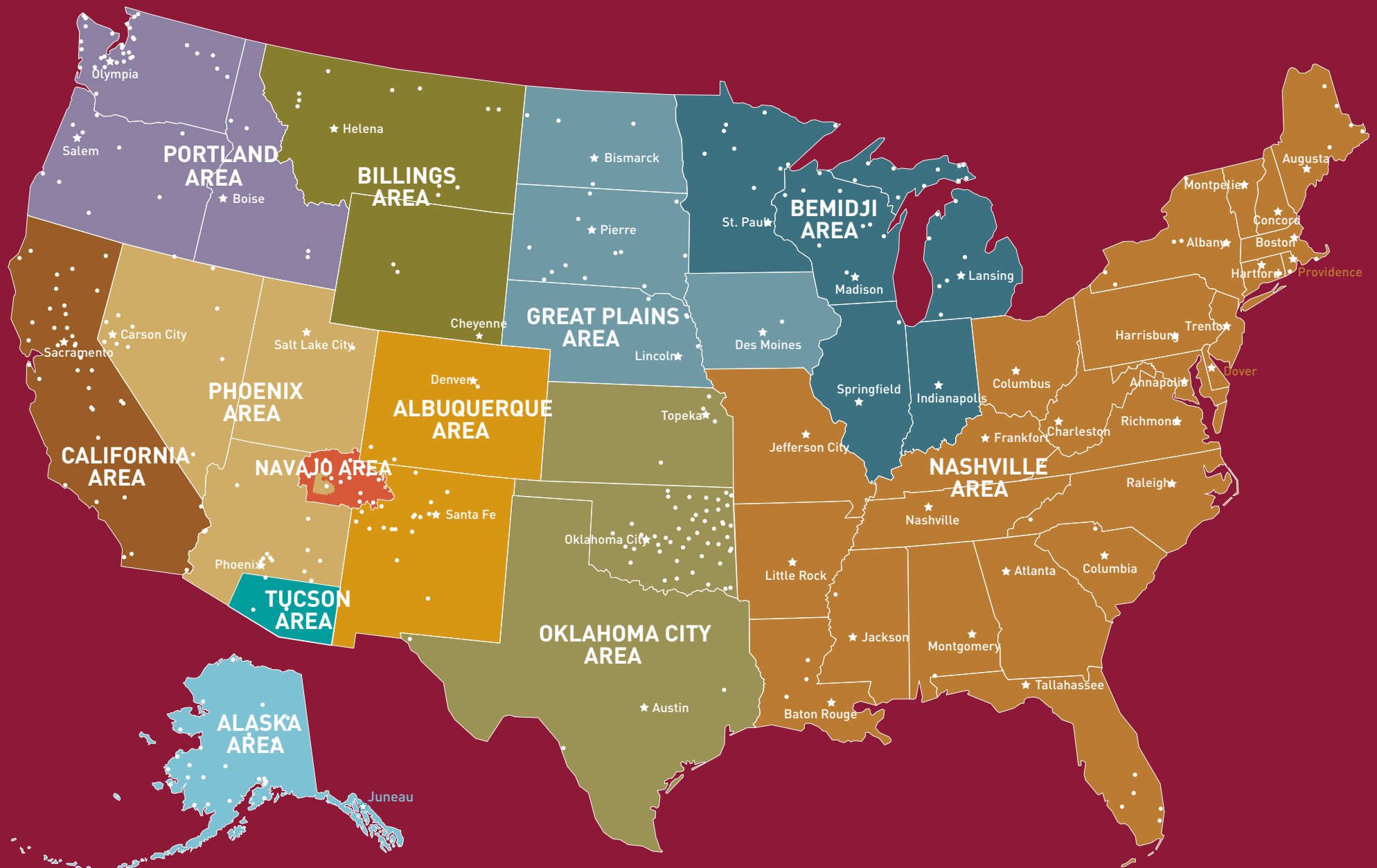
DEHS staff documentation of the conditions in writing and with photos was of great value to the homeowners and tribal leadership. It is also important to communicate daily with Area supervisor, local Service Unit CEO, tribal leadership, and residents of the affected communities. Rumors can abound in a disaster situation. Calm, clear, concise, and frequent communication from OEHE staff helped to address these situations and eventually dispelled rumors. Providing tribal leaders and community members with accurate information promotes discussion and sound decision making.

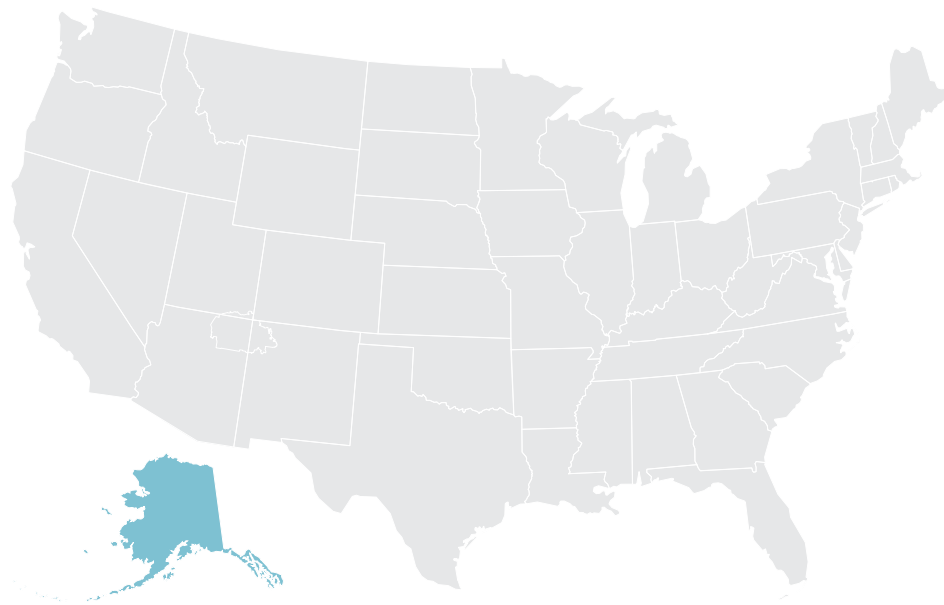
Acknowledgements

Great Plains Area, DEHS would like to thank all of the individuals and organizations who assisted with our damage assessments and reports.



Area DEHS Programs





Alaska

EH programs in the Alaska Area are all tribally managed under the authority of the Indian Self-Determination and Education Assistance Act (Public Law 93-638), as amended. Seven regionally-based EH programs serve a specific geographical area. These organizations include the South East Alaska Regional Health Consortium (Sitka), the Bristol Bay Area Health Corporation (Dillingham), the Yukon- Kuskokwim Health Corporation (Bethel), the Norton Sound Health Corporation (Nome), the Maniilaq Association (Kotzebue), the Tanana Chiefs Conference (Fairbanks), and the Alaska Native Tribal Health Consortium (ANTHC, of Anchorage).

Typical services include assistance related to water, sewer, solid waste, air, and vector control activities. Other services include disease outbreak investigations, support for community-based clinics related to infection control and safety, and IP efforts. Additionally, several of the tribal EH programs operate State of Alaska certified drinking water laboratories that assist communities in ensuring the safety of their drinking water and ensuring compliance with state and federal regulations.

The regional EH programs, together with ANTHC, offer communities and tribes a comprehensive set of environmental health services that protect and enhance the wellbeing of AI/ANs.

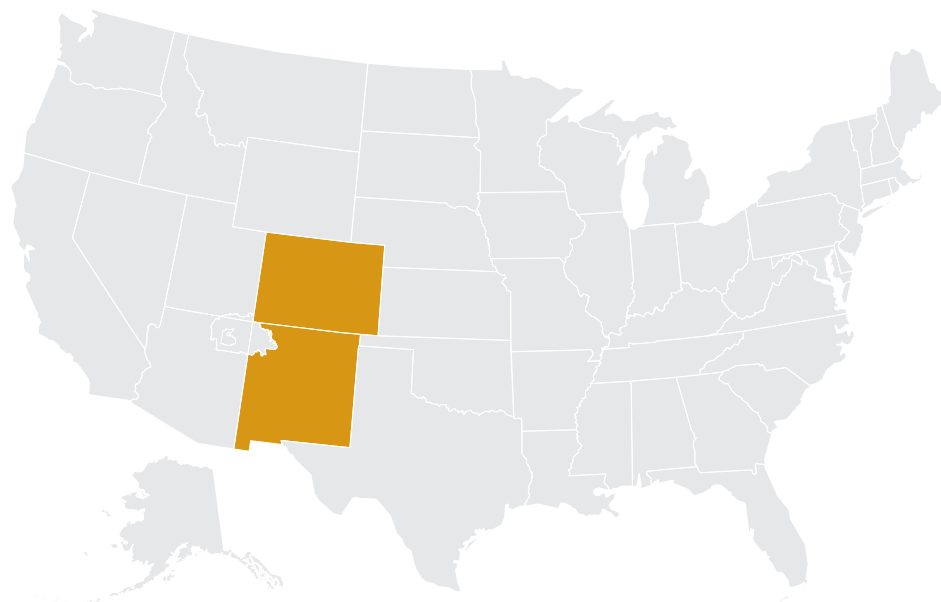


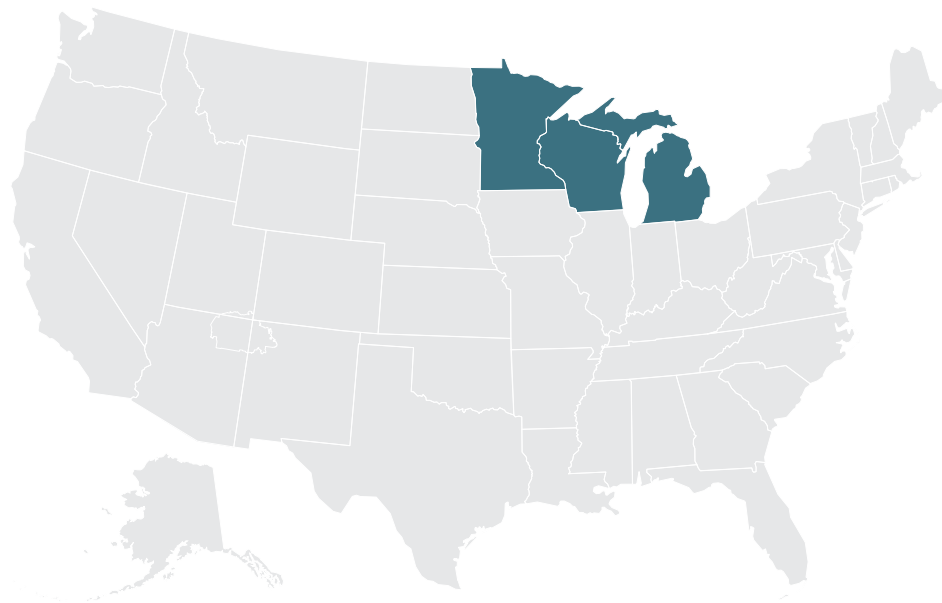
Albuquerque

The Albuquerque Area DEHS Program serves 27 federally recognized tribes in Colorado, New Mexico, Texas, and Utah. The Area's service population of over 100,000 members comprises 20 Pueblos, three Navajo Nation Chapters, two Apache Reservations, and two Ute Reservations. The Area's EHS staff is stationed at the Area Office and six Service Units. Professional positions include the DEHS Director, District and Service Unit Environmental Health Officers, Environmental Health Technicians, an Industrial Hygiene and Safety Manager, and an IEH Specialist.

The Albuquerque Area DEHS is responsible for a wide range of general EH services, including surveys, investigations, consultations, assessments, and technical assistance. The DEHS staff provide training and community outreach on a broad range of topics. Additional services are provided in IP and IEH. The IEH Manager serves as the Area Emergency Management point of contact, providing needed coordination in emergency situations. Staff often participates in national program work, as well as working in partnership with many tribal, federal, state, county, and local groups.

The Albuquerque Area DEHS implements creative methodologies to provide high quality services to their tribal partners. The Area is committed to program excellence and staff expertise. With consideration of tribal needs and priorities, extensive long-range planning is conducted to ensure the provision of necessary and timely services. The Albuquerque Area DEHS Program strength is in its staff's commitment to continuous program, team, and individual improvement, collaborative partnerships, and innovation in providing quality services to tribes in a myriad of programmatic areas.





Bemidji

The Bemidji Area DEHS program serves 31 federally recognized tribes and over 120,000 American Indians in an area covering 5,183 square miles throughout the states of Minnesota, Wisconsin, and Michigan. Staff includes six field EHS, two District EHS, one DEHS Director, one IP Specialist, and one Area IEH Specialist within four offices. Both the area office and a district office is located in Bemidji, Minnesota. The second district office is located in Rhinelander, Wisconsin, and there is a field office in Ashland, Wisconsin.

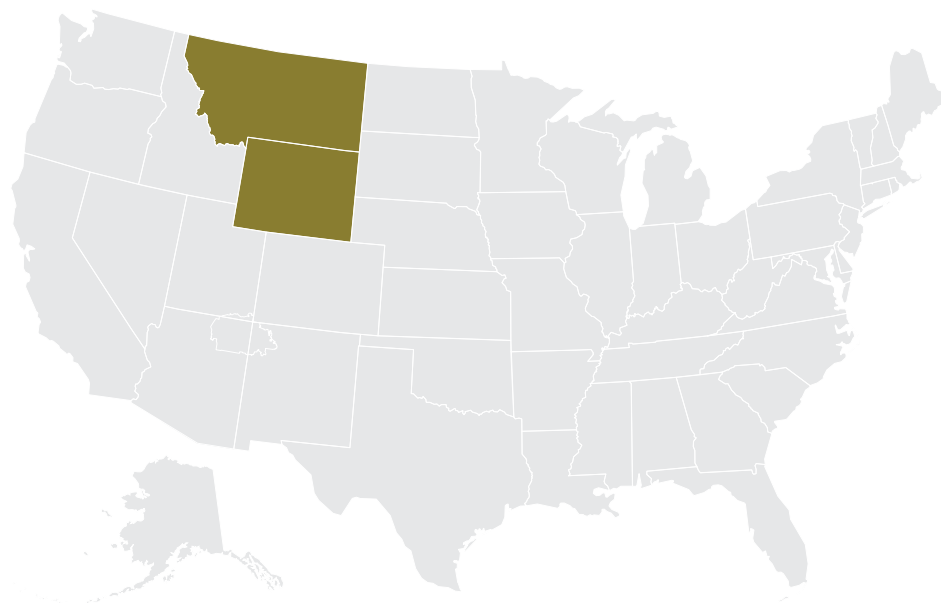
The Bemidji Area provides EH services in the form of surveys, investigations, testing and monitoring, training, policy development, program support and facility plan reviews. This is done in effort to improve food safety, solid and liquid waste management, water quality, hazard communication, epidemiology, vector control, recreation/celebration sanitation, indoor/outdoor air quality, home sanitation and safety, and childcare environments. The DEHS is also responsible for specialized services in injury prevention, environmental sustainability, and institutional EH.

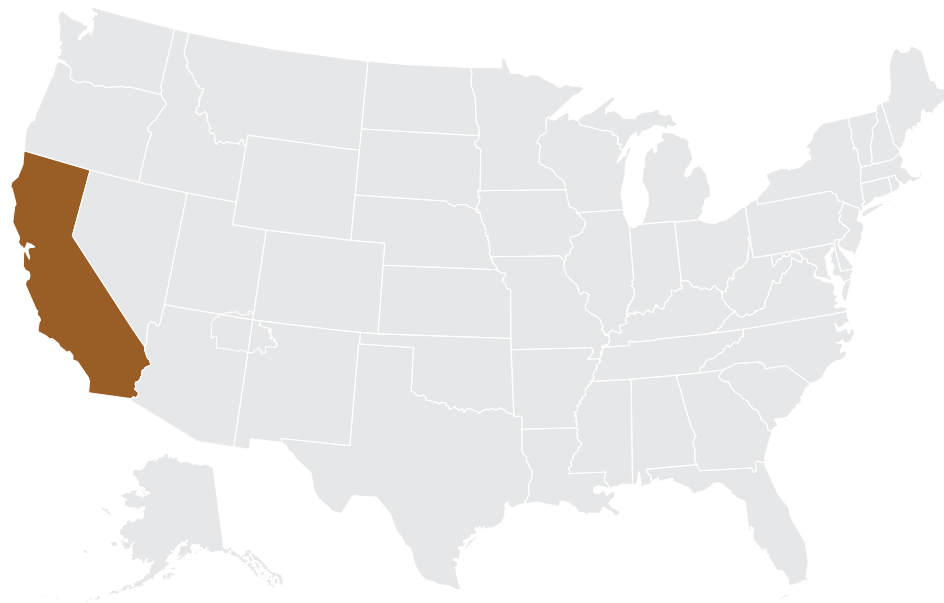
The Bemidji Area emphasizes a shared decision-making process to champion the systems change necessary to create vital healthy tribal communities by preventing environmentally related diseases and injury through environmental health practices.



Billings

The Billings Area DEHS serves nine tribes (totaling 70,000 people) on eight reservations throughout Montana and Wyoming. Fully staffed, the Billings Area DEHS Program consists of the DEHS Director, an Area Environmental Health Officer, an IEH Officer, and an IP Specialist. The Billings Area has three direct service tribes, four Title I tribes that have contracted the DEHS Program, and two Title V tribes that have compacted all IHS services. Field staff in the area include three federal EHSs, five tribal EHSs, and two tribal EH Technicians. Although the tribes and reservations of Montana and Wyoming are diverse in their cultures, landscapes, and communities, the Billings Area DEHS Program seeks to provide comprehensive services that address environmental health, including the two specialty areas of IP and IEH. The focus of the program includes food safety, vector control, health, and safety at schools, Head Starts, IHS hospitals and clinics and other community facilities, technical assistance to the hospital and clinics safety officers, and prevention of injuries from falls, motor vehicle crashes, assaults, and suicides. Implementation of the DEHS Program consists of technical assistance, training, health and safety inspections, and communication and coordination between the tribes, other government agencies, and the IHS.





California

The California Area serves approximately 104 federally recognized tribal governments in the state of California who represent a service population of 151,242 persons in nearly 1685 facilities. The California Area DEHS is comprised of career tribal employees, federal civil service and PHS Commissioned Corps Officers. Staff directly employed by the IHS are stationed in the Area office located in Sacramento, district offices located in Redding and Escondido, and field offices located in Clovis and Ukiah. All of our staff are registered Environmental Health Specialists who possess a bachelor's degree or higher in environmental health or a related discipline.

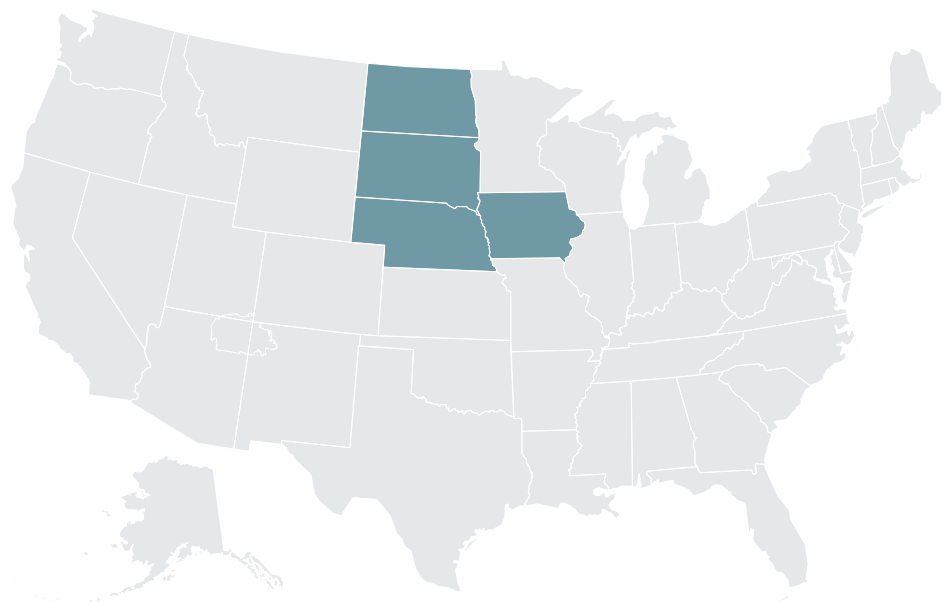
The majority of services provided by California Area DEHS fall into the category of general environmental health. Technical consultation, training, surveillance, and investigative services are provided in the following program areas: children's environmental health, communicable disease control and epidemiology, food safety, recreational water, community facilities, and institutions, operation and maintenance sanitation facilities, and solid waste management. The California Area DEHS also provides IEH services to support partner tribal programs in their efforts to reduce chemical, biological, radiological, and ergonomic workplace hazards. Healthcare accreditation, infection control, and compliance are priorities for our IEH Program.

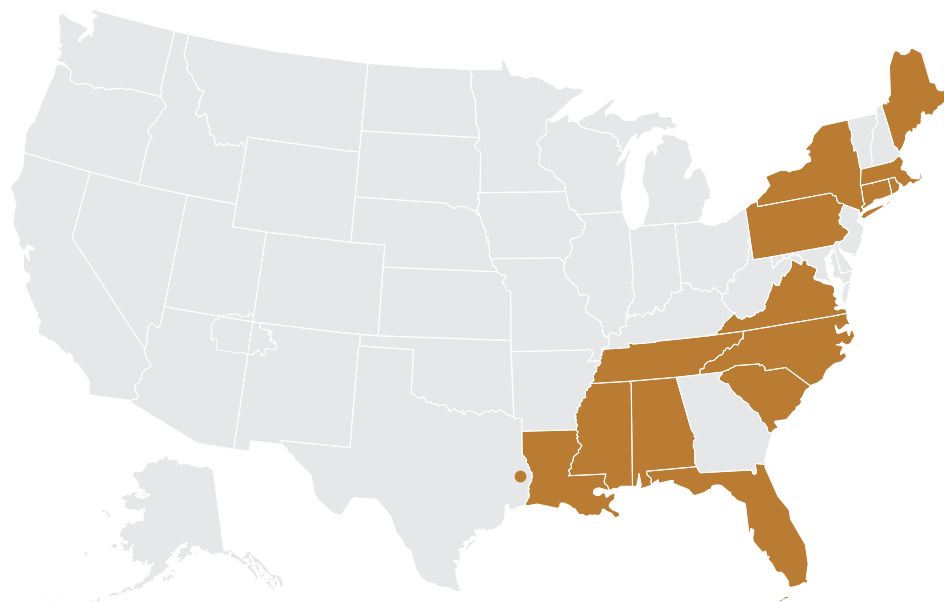
The California DEHS injury prevention program is dedicated towards increasing the capacity of tribes to reduce injury problems within their community. Our program currently provides technical assistance, funding, and other resources to tribes for use in the collection of injury data, training, and the development and implementation of interventions based on best practices.



Great Plains

The IHS Great Plains Area encompasses 18 tribes in four states (Iowa, Nebraska, North Dakota, and South Dakota) totaling 281,459 square miles and is the fifth largest Area in the IHS. The DEHS is one of three divisions (DEHS, DSFC, and Facilities Management) within the Great Plains Area OEHE. The DEHS program is comprised of career tribal employees, federal civil service, and PHS Commissioned Corps Officers. At the Area level, Great Plains has a DEHS Director, an Area IP Specialist, and a Staff Environmental Health Specialist. In addition, the DEHS Program funds one IEH Officer, which is managed through the Area Chief Medical Officer and works closely with the compliance program. At the district level, the DEHS Program has three staff located in Minot, North Dakota; Pierre, South Dakota; and Sioux City, Iowa. At the field level, the program has 13 offices with Field EHS and/or IP Specialists. Seven of the field offices are contracted programs that are managed by the tribes. The other six field offices are direct service programs and staffed with Civil Service or PHS Commissioned Corps staff. All DEHS district and field staff are responsible for providing environmental health and safety surveys of facilities listed in the WebEHRS database, technical consultation and trainings to tribal programs and beneficiaries, and carrying out epidemiological investigations as necessary. The remaining facility survey work is covered by the IEH Officer. District and field staff spend approximately **60%** of their time working on general EH issues and **40%** of their time engaged in IP activities related to data collection and assisting communities with implementing proven interventions. Injuries have had a significant negative impact on the health of Great Plains Area communities, and as a result, IP is a significant focus for the DEHS Program.





Nashville

The Nashville Area Indian Health Service serves 36 tribes or nations with 14 Title I (contracted) Tribally Administered programs, nine Title V (compacted) Tribally Administered programs, three IHS Federal Direct Care Service Unit programs, three Purchased/Referred Care operations, three Urban Indian Health programs, and one Youth Regional Treatment Center. These tribes and nations are dispersed across 15 states, although the Nashville Area also assists patients in a total of 24 states in the eastern, southeastern, and mid-United States.

The Nashville Area DEHS provides EH training courses that train both federal and tribal employees in the FDA Food Code, hazard communications/bloodborne pathogens, incident reporting and worker safety. Annual surveys of numerous facilities, including casinos, hotels, pools, food service venues, and tribal and federal healthcare facilities are conducted. The Area IEH Specialist is part of a comprehensive team that conducts The Joint Commission and Accreditation Association of Ambulatory Health Care mock surveys to ensure federal facilities are ready for accreditation. All Area federal facilities except the newest Service Unit have received and maintained accreditation. One of the EHOs is the Project Manager for Injury Prevention grants.



Navajo

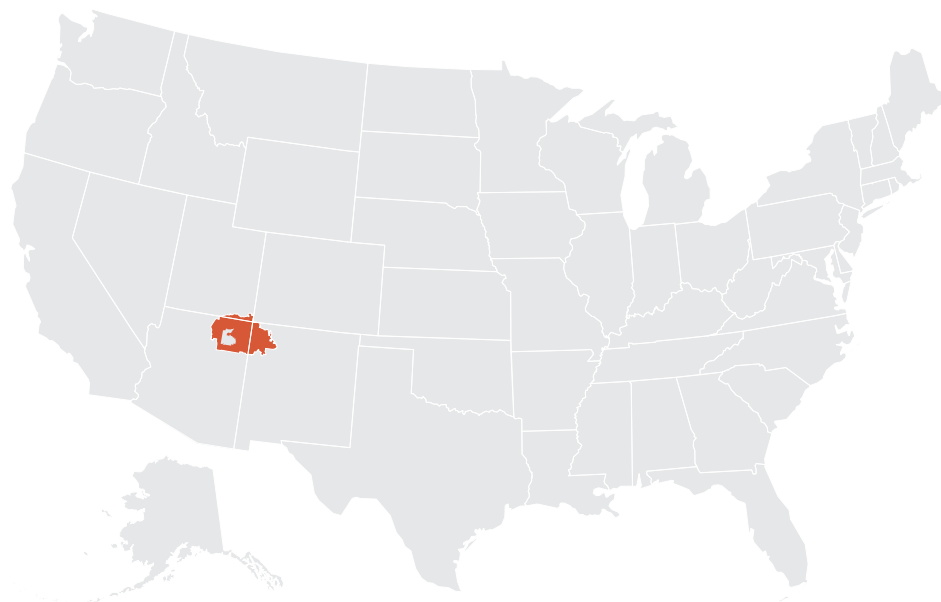
The Navajo Area DEHS is a large comprehensive EH program serving more than 250,000 members of the Navajo Nation and the Southern Band of San Juan Paiutes. EH services are provided to Indian communities on reservations encompassing more than 25,000 square miles of land in northeast Arizona, northwest New Mexico, and southern Utah.

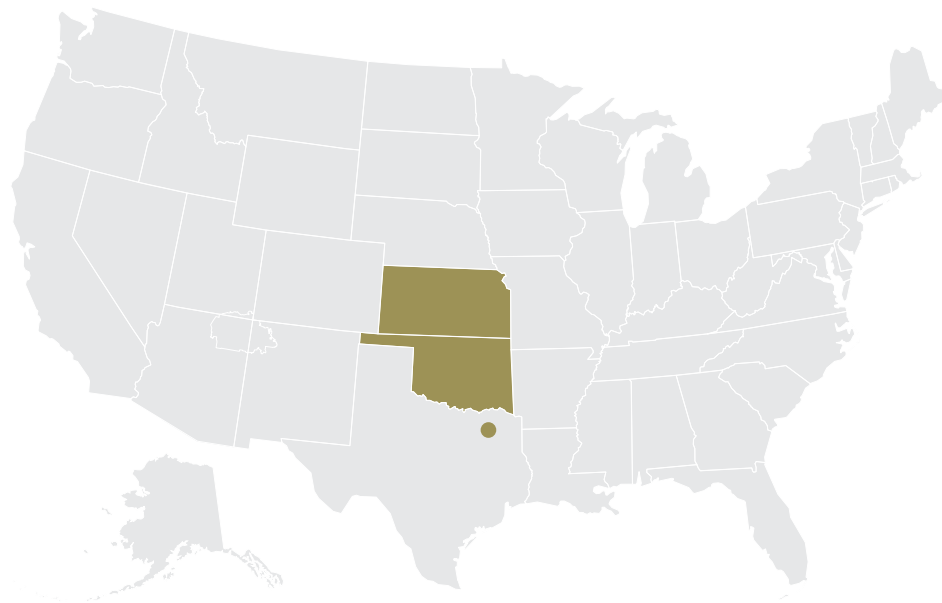
The DEHS staff plan and provide EH programs and services in many areas such as food safety, prevention of elder falls, motor vehicle injuries, emergency preparedness, water and sewer sanitation, and prevention of zoonotic diseases including plague, rabies, hantavirus, and West Nile virus. Public health assessments in the form of facility surveys, training, investigations, sampling, and technical assistance (i.e., participation on facility and community committees, facility plan reviews) are just a few services provided by the program to tribes.

The Navajo Area DEHS also provides an IP Program and IEH services through the Division of Occupational Health and Safety Management (DOHSM). The IP Program provides services that address traumatic injuries that can often greatly affect communities while the DOHSM deals with IEH issues in healthcare facilities. Both programs rely heavily on assessments, surveillance, and best practice interventions to target health risks in communities. Training is also offered to build tribal capacity for IP and occupational health and safety issues.

These programs and services are provided through multiple offices, including the Navajo Area Office in Window Rock, Arizona; three district/field offices in Fort

Defiance, Arizona, Shiprock, New Mexico, and Gallup, New Mexico; and field offices at three Service Units in Kayenta, Arizona, Many Farms, Arizona, and Crownpoint, New Mexico. The professional, technical, and clerical staff of the Navajo Area DEHS and tribal EH programs work as a team in partnership with tribes to promote healthy environments in Indian communities.





Oklahoma City

The IHS Oklahoma City Area serves 43 tribes with a service population of nearly 350,000 AI/AN people. The service area covers the States of Kansas, Oklahoma, and Texas. The DEHS provides direct EH support services to 31 Tribes and has five field offices located in Okmulgee, Shawnee, Clinton, Lawton, and Pawnee, Oklahoma, and one in Holton, Kansas.

The DEHS Program includes 11 staff members: one Director, one IEH Specialist, one Injury Prevention Specialist, one District Environmental Health Officer, and seven field staff, that provide a wide range of EH services that include, but are not limited to, food safety, solid and liquid waste management, water quality, hazard communication, epidemiology, vector control, emergency management and response, infection control, recreation/celebration sanitation, indoor/outdoor air quality, home sanitation and safety, Head Start and childcare food and safety, in addition to meeting a wide selection of specific training needs.

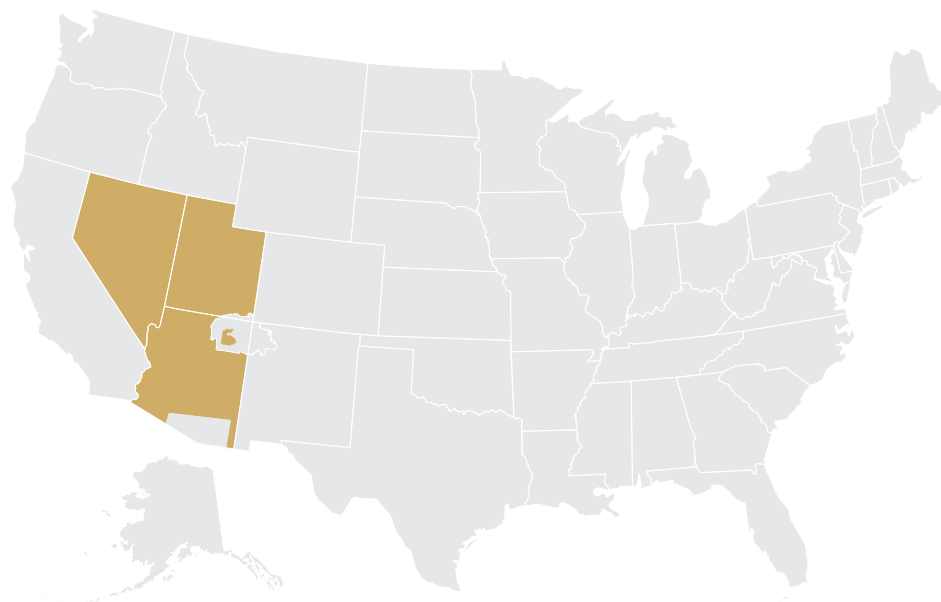
The DEHS is also responsible for specialized services in the areas of IP and IEH. The goal of the Oklahoma City Area IP program is to reduce the incidence and severity of injuries and deaths within the tribes they serve and work in collaborations with. IP services include training, partnership building, and IP grant funding technical assistance. In addition, an Area IP specialist provides direct oversight to ensure an effective implementation and completion of established program goals and objectives. Program objectives are met by conducting injury surveillance surveys and by identifying problem areas that can be solved through direct intervention and through community activities. The IEH Program assists healthcare facilities provide a safe environment for patients, visitors, and staff. The IEH Specialist provides direct technical assistance to safety officer and committees, infection control officers and committees, facilities management, and leadership. In addition, the IEH Specialist is responsible for conducting annual radiation protection surveys of all x-ray equipment within IHS and tribal hospitals and clinics to ensure safe levels of radiation are used and maintained; and also to conduct comprehensive industrial hygiene surveys within those facilities to ensure that a safe environment is being achieved and maintained.

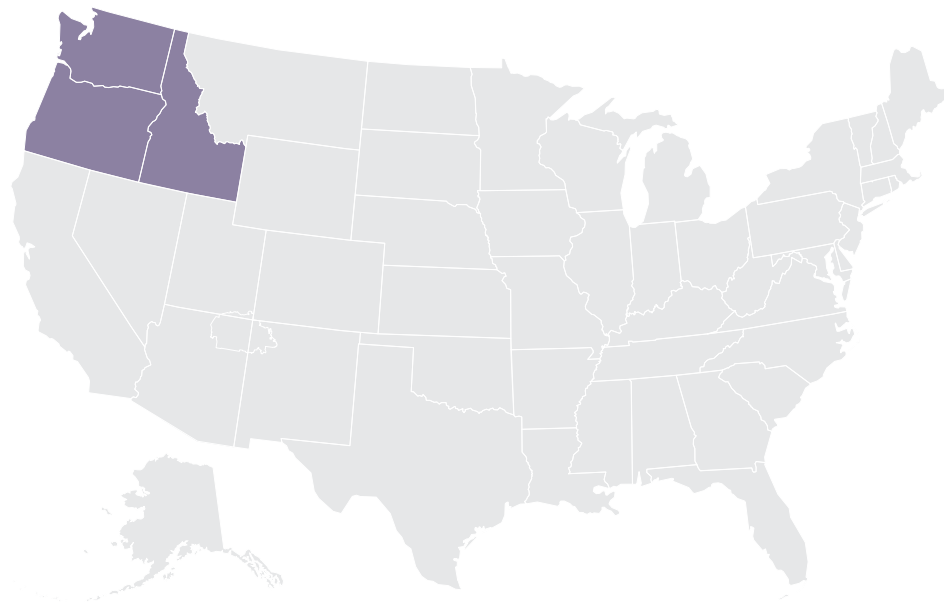


Phoenix

The Phoenix Area serves 46 tribes/tribal organizations with a combined population of nearly 170,000 and over 2,000 facilities in four states (Arizona, California, Nevada, and Utah). A cadre of EH professionals accomplish the work of the DEHS. The staff is located in the Area Office; three district offices; and nine Service Units/field offices.

The DEHS provides a breadth of technical and consultation services that include facility hazard assessments, policy development, investigations, and training. The diverse technical scope of the program includes food sanitation, vector control, water quality, waste management, air quality, infection control, and occupational safety. Specialized services are provided in IP and IEH. The IP services include epidemiology, training, partnership building, and the development of proven intervention strategies for community-based injury prevention. The IEH services include industrial hygiene, occupational health, emergency preparedness, and healthcare accreditation consultation.

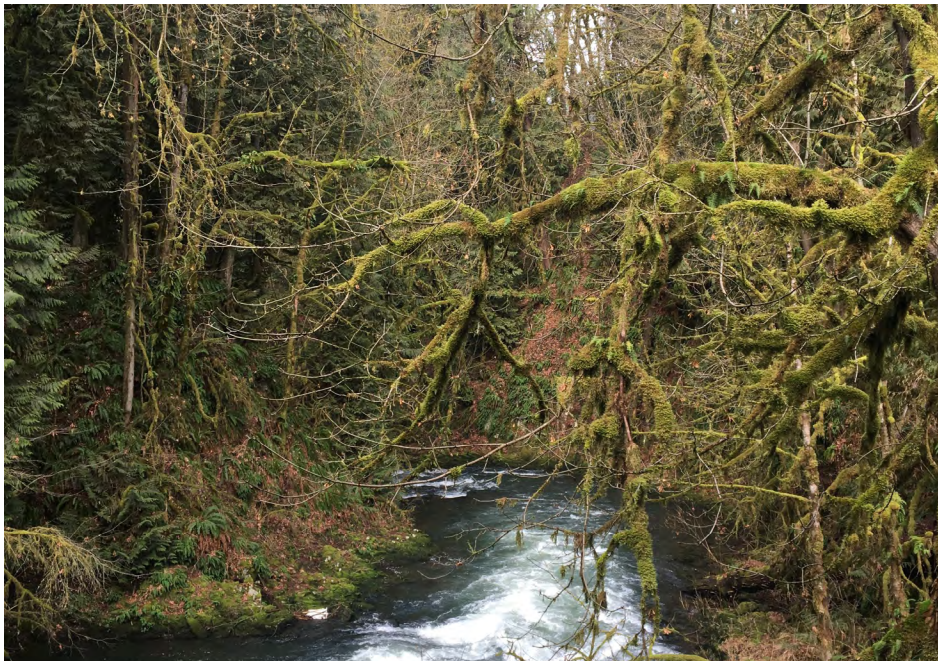




Portland

The IHS Portland Area provides a health system for an estimated 150,000 American Indian residents of Idaho, Oregon, and Washington. Health delivery services are provided by a mix of health centers, health stations, preventive health programs, and urban programs. The Portland Area DEHS works in partnership with tribes, the six Service Units, and other organizations/agencies to implement a comprehensive service delivery model that includes the following: monitor and assess environmental hazards and conditions in AI/AN homes, institutions, and communities; educate and inform residents about EH issues; develop policies for addressing EH and injury concerns; evaluate programs, plans, and projects; and conduct projects and studies to determine best practices and solutions to environmental public health problems. The outcomes and impacts of these services control and prevent environmentally related disease and injury and improve personal and overall community wellness.

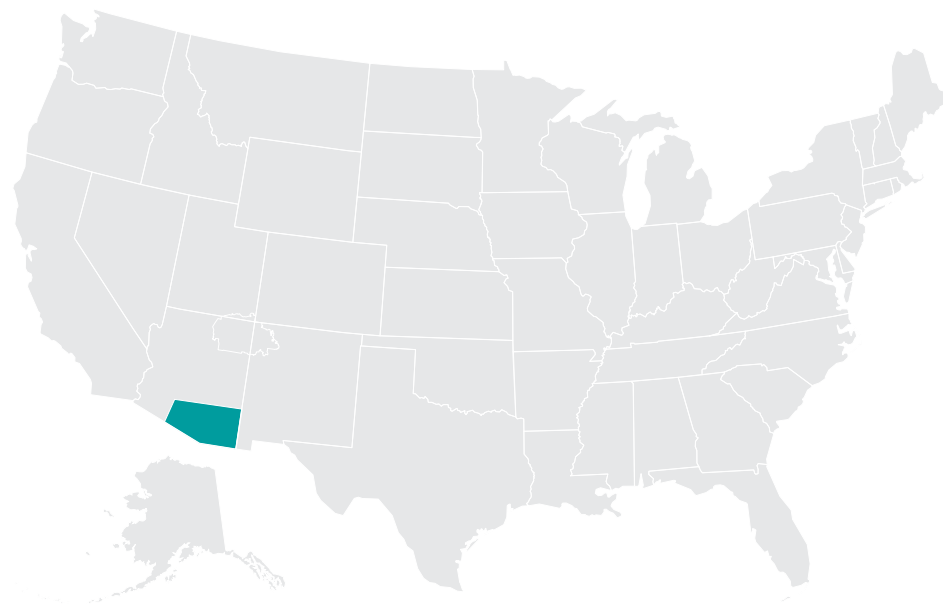
The Portland Area DEHS Program has enhanced services in pesticide safety through an interagency agreement with EPA Region X. In the Portland Area, many of the 43 tribes have assumed all or a portion of the DEHS Program under the authority of the Indian Self- Determination and Education Assistance Act (Public Law 93-638, as amended). The direct service tribes are provided services through a DEHS Director and IEH Specialist at the Area Office as well as EHS positions in district and field offices. This organizational structure maximizes the delivery of direct services to 23 tribes. The Portland Area IEH Officer also serves as the Area Emergency Management Coordinator, providing services in emergency preparedness and response and continuity of operations planning.



Tucson

The Tucson Area Environmental Health Services Branch (EHSB) serves the Pascua Yaqui Tribe, which has a total population of about 20,000. The EHSB program consists of an Environmental Health Director and an Environmental Health Officer. The program strives to provide comprehensive EH support by including IP, industrial hygiene, and general EH areas. The specific services include, but are not limited to, food safety, vectorborne disease surveillance, accreditation assistance, life safety surveys of public buildings, child safety seat installations, exposure analyses, and clinical referrals pertaining to environmental health.

The EHSB staff also provide training in bloodborne pathogens, food handling, and multiple vector related issues. The IP and industrial hygiene sections of the program assist the tribe by collecting injury statistics and exposure assessment data to determine the most appropriate evidence-based intervention strategy. The intent of which is to both preserve health and wellness as well as reduce morbidity and mortality. Great emphasis is also placed on strengthening external partnerships (i.e., collaborating with federal, state, and local stakeholders) and building capacity within the respective tribal programs.





IHS Area DEHS Program Directory



Partnerships are an essential force multiplier that enhance the successful implementation of community-based environmental health services.

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The Division of Environmental Health Services

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ANNUAL REPORT 2019



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INDIAN HEALTH SERVICE

Office of Environmental Health and Engineering

Division of Environmental Health Services

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