

ANNUAL REPORT 2021



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 2021

This Annual Report for Calendar Year 2021 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:

INDIAN HEALTH SERVICE

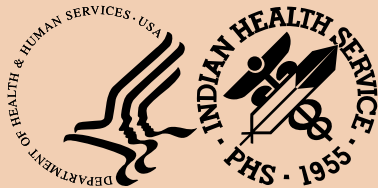
Office of Environmental Health and Engineering

Division of Environmental Health Services

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On the cover: The 2021 photo contest winner... LTJG Katherine Miller measuring the water chemistry of a hotel swimming pool during a routine inspection, taken by LT Joe Sarisky, both of Bemidji Area IHS (Bemidji Area; August 2021)



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COVID-19

The COVID-19 pandemic continued to impact our staff, customers, and the work we conducted in 2021. Readers may notice some of the metrics in this report skew from historical trends as a result of the pandemic. For example, activities we conducted (*Figure 7*) and quantity of projects highlighted in the Focus Areas section of this report all show notable changes.

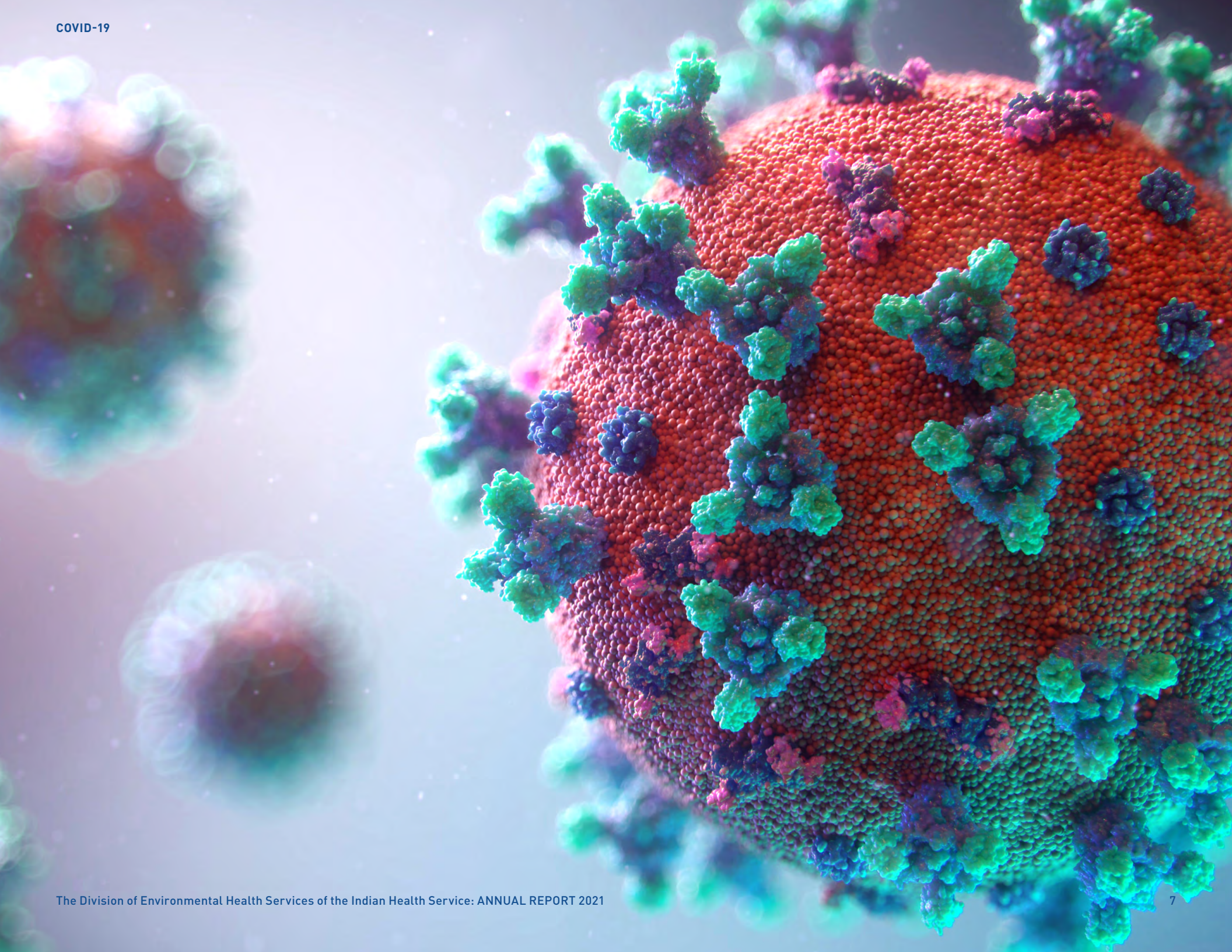
The COVID-19 pandemic challenged not only the healthcare industry, but also public health infrastructure more broadly in new and wide-ranging ways. Environmental Health (EH) professionals proved to be an essential component of the interdisciplinary public health solution required to prevent, respond to, and recover from the COVID-19 pandemic.

The Indian Health Service's Division of Environmental Health Services (DEHS) is comprised of talented professionals who fulfilled various roles in the prevention of, response to, and recovery from the COVID-19 pandemic related to community-based environmental health, occupational safety and health, and within incident command systems.

DEHS staff roles in the prevention, response to, and recovery from the COVID-19 pandemic

- Community-based EH
 - technical assistance/guidance/outreach to community programs
 - plans and preparations to reopen tribes and establishments
- Institutional EH
 - personal protective equipment training/management/supply
 - safety/infection control assessments
 - various support of vaccine distribution
- Incident Command System Support
 - Healthcare Facility and Area Office safety officers
 - Incident Commanders
 - Emergency Management Point of Contacts
 - preparations for surge capacity/recovery

DEHS staff were sought to provide critical leadership and used their established, trusted, interdisciplinary partnerships to help ensure critical resources and services were available in Indian Country. Throughout the pandemic, DEHS staff modeled unselfish commitment to service, utmost professionalism, and steadfast resilience in the face of ever-changing conditions.



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 Sanitaricians 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.

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.”

Our Operational Model is available in the [OEHE Technical Handbook, Volume VIII, Part 112-1](#) and aligns with [Part 3 Chapter 11 of the Indian Health Manual](#). It identifies core services all Areas should provide the tribes.



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 2021 can be found in the [National Focus Areas](#) section of this report.

[The Ten Essential Public Health Services were revised in 2020](#) to align the framework with the future of public health practice. The DEHS will work with environmental health partners to determine how the revised version will impact the Division.



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 (*Figure 1*). In 2021, the national DEHS program consisted of a total of 260 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 in Rockville, Maryland, is staffed similarly to the Areas.



RADM Kelly Taylor
Director



CDR Martin Smith
Deputy Director



CAPT 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



CAPT Mike Reed
Senior EH Officer



LCDR Brandon Parker
IEH resident

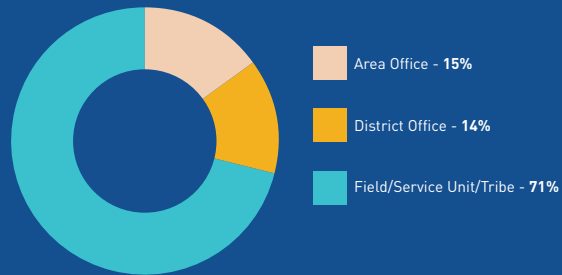
The DEHS is a comprehensive, field-based program.



CDR Greg Calvert
inspecting an air filter

Figure 1: Environmental Health Staff by Duty Station.

Environmental Health Staff by Duty Station 2021



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



LT Joe Sarisky and LTJG Katherin Miller dragging for ticks as part of a vectorborne disease surveillance program

Performance Measures

Performance measures are required by Federal agencies and designed to improve program management throughout the Federal government. In general, they represent a fiscal year (FY) performance period, should align with the Department of Health and Human Service’s Strategic Plan, and should fit at least one of three basic criteria:

1. demonstrate the impact of the budget request
2. demonstrate a key benefit to the public
3. inform/support program-level management decisions

Performance measures represent key outcomes that the program can reasonably expect to influence and should be selected with a focus on mission and key activities a program performs.

Environmental Surveillance

The Division of Environmental Health Services and Area Environmental Health Directors selected Food and Drug Administration (FDA) 2-102.12 Certified Food Protection Manager (CFPM) as the performance measure at the annual DEHS Directors meeting in 2019 based on a Centers for Disease Control and Prevention Environmental Health Specialist-Network (EHS-Net) study. That study recognizes the presence of a CFPM reduces the risk of foodborne illness outbreaks for an establishment and was a distinguishing factor between restaurants/food services that experienced a foodborne illness outbreak and those that had not. The measure aligns with the DEHS Operational Model and Ten Essential Environmental Health Services.

The FY 2021-2025 Environmental Surveillance Performance Measure, the percent of establishments with a Certified Food Protection Manager, is tracked in the DEHS Web-based Environmental Health Reporting System (WebEHRS) for food service establishments. In FY 2021 it was 87.5% (it was 86.7% in FY 2020).

Injury Prevention

This measure was selected at the annual DEHS Directors meeting in 2019. It focuses on the importance of injury prevention training to help build the capacity of staff and tribes to prevent injuries and deaths due to injuries in tribal communities. It raises awareness and empowers individuals and communities. Training is also one of the components of 3Es (Education, Environmental modifications, and Enforcement) that are essential in a comprehensive approach to reduce health impacts from injuries.

The FY 2021-2025 Injury Prevention Performance Measure, the number of persons who received injury prevention training, is tracked in WebEHRS. In FY 2021 it was 473 (it was 154 in FY 2020).

The FY 2021-2025 Environmental Surveillance Performance Measure, the percent of establishments with a Certified Food Protection Manager.



The FY 2021-2025 Injury Prevention Performance Measure, the number of persons who received injury prevention training.



Program Resources

The current budget of the DEHS Program is approximately \$34.5 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 2021, the DEHS share of the EHSA budget was approximately 35%, or \$30,666,818. *Figure 2* depicts a historical comparison of the workload-based Resource Requirement Methodology (RRM) versus the distribution of Program funds from 2012 to 2021. *Table 1* depicts a historical comparison of the workload-based Resource Requirement Methodology (RRM) versus the distribution of Program funds from 2012 to 2021. *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.

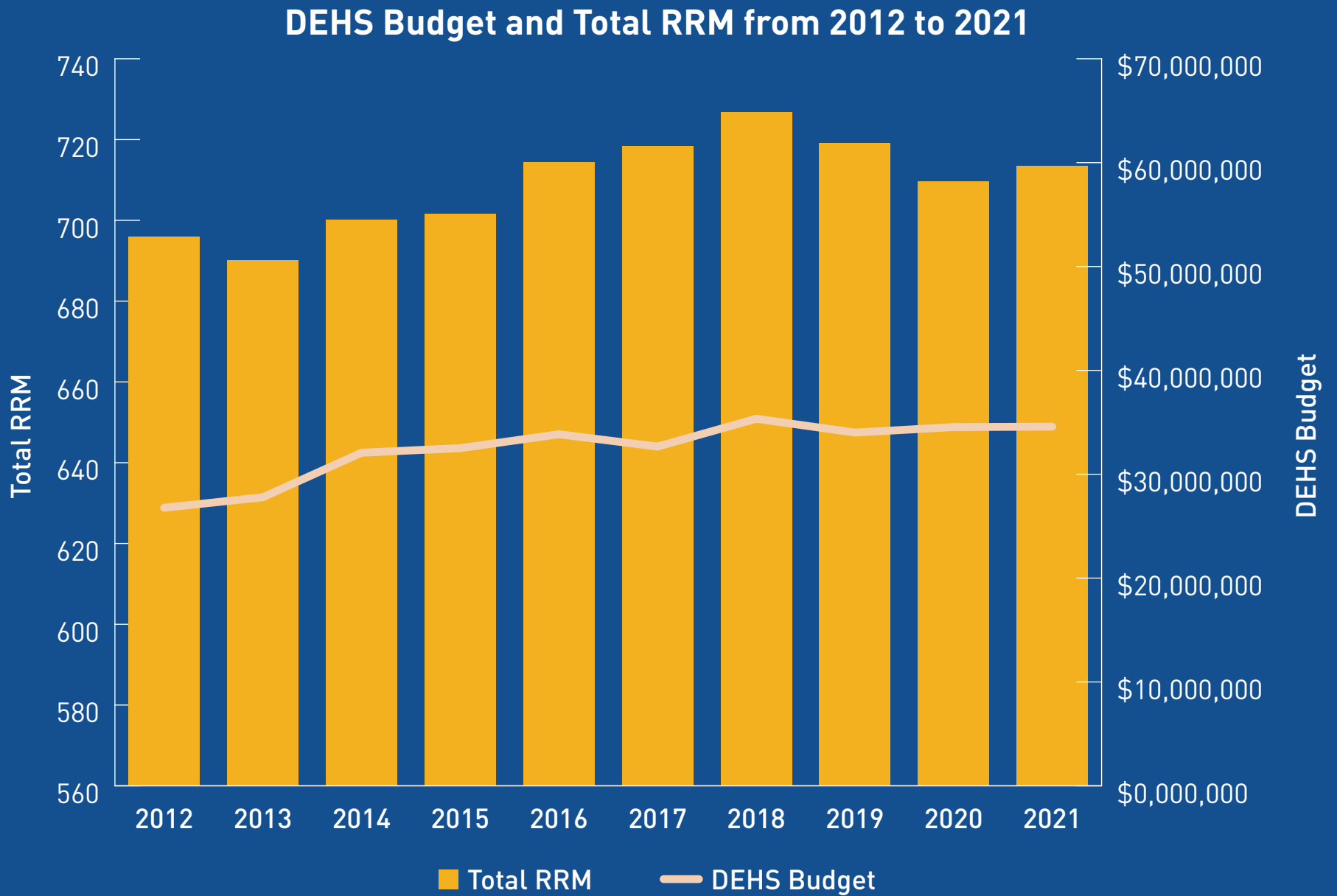
Fiscal Year	Total EHSA Budget	DEHS RRM Share	DEHS Budget*	OEHE Funds Provided to DEHS			IHS Director's Initiative***	Injury Prevention Budget Enhancements***	Total DEHS Budget
				COSTEP**	Injury Prevention**	Residency**			
2012	\$69,703,294	34.00%	\$23,699,120	\$160,000	\$49,000	\$100,000	***	\$2,763,473	\$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
2020	\$80,707,396	38.00%	\$30,660,740	\$16,000	\$0	\$120,000	***	\$3,734,092	\$34,535,832
2021	\$ 80,723,396	35.00%	\$30,666,818	\$56,000	\$0	\$125,000	***	\$3,734,093	\$34,581,911

*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 2: RRM (workload) vs. actual DEHS funding from 2011 to 2021.



PROFILE OF THE DEHS PROGRAM

As Table 2 shows, the DEHS Program strives to accomplish its tasks at a funding level of 36.4% 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 have included:

- Centers for Disease Control and Prevention (CDC)
- National Highway Traffic Safety Administration
- Uniformed Services University of the Health Sciences
- National Institutes of Health (NIH)
- Johns Hopkins University
- University of North Carolina
- University of Colorado Denver

Table 2: Level of Need Funded (LNF) 2021.

Area	Total Staff*	RRM	%LNF	Federal Staff	Tribal Staff
Alaska	37	101.207	36.6%	0	37
Albuquerque	17	34.559	49.2%	17	0
Bemidji	24	51.861	46.3%	11	13
Billings	17	27.907	60.9%	6	11
California	10	53.468	18.7%	7	3
Great Plains	25	53.774	46.5%	16	9
Nashville	15	42.124	35.6%	4	11
Navajo	31	109.406	28.3%	26	5
Oklahoma City Area	33	105.31	31.3%	12	21
Phoenix	36	68.387	52.6%	23	13
Portland	12	52.409	22.9%	3	9
Tucson	3	13.09	22.9%	2	1
Total**	260	713.502	36.4%	127	133

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

**Total is not exact due to rounding. Data from 2020 determines the 2021 LNF.



Education

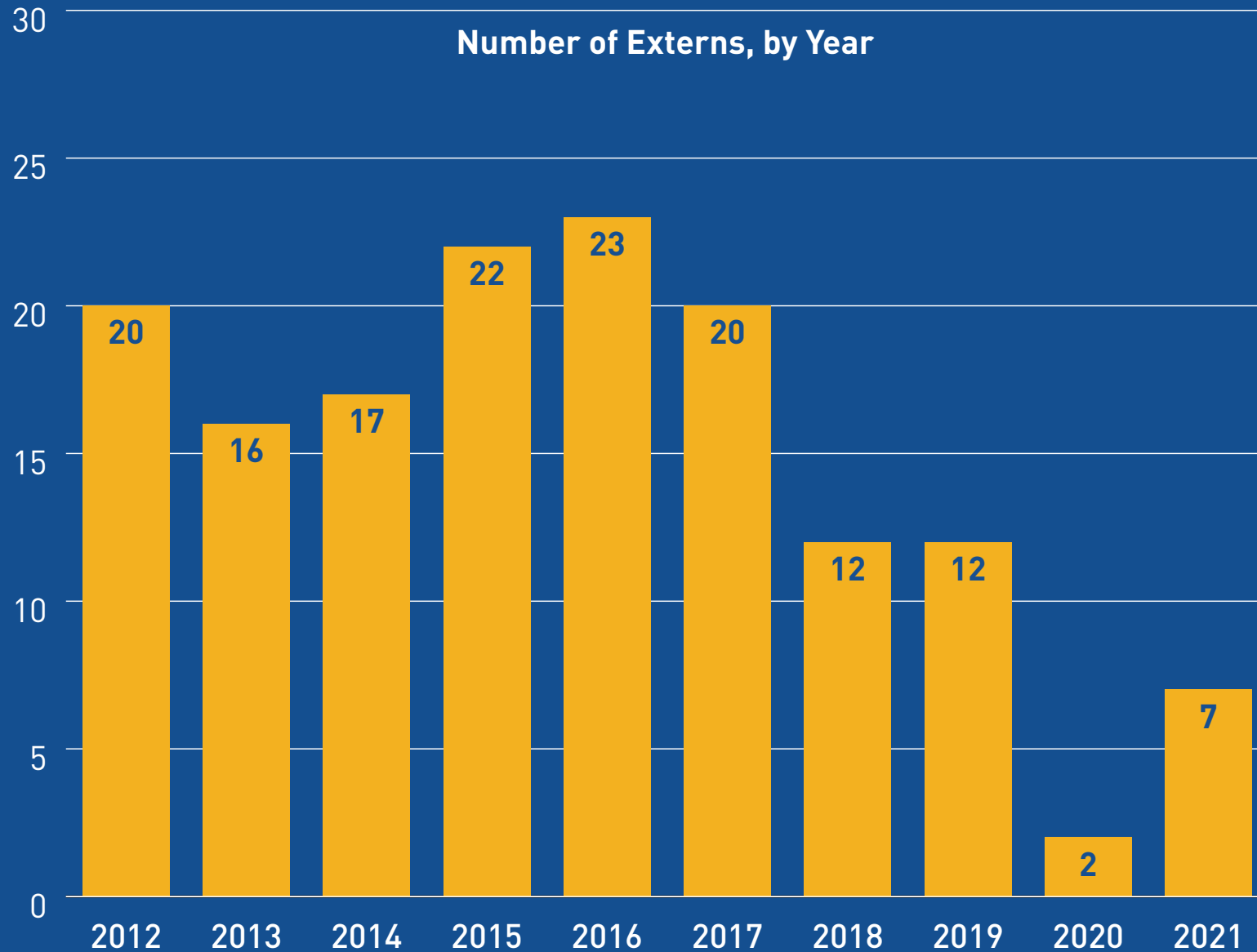
Education is a cornerstone of any successful public health program because it is the first step in raising awareness and empowering individuals and communities to participate in resolving community health issues. DEHS staff conducted training sessions during 2021 on a variety of topics. The Environmental Health Support Center (EHSC) in Albuquerque, New Mexico, provided program management, IP, topic-specific EH, and IEH courses or webinars. In 2021 there was one in-person class with ten students, and 26 webinars with 611 students, for a total of 621 participants (*Table 3*).

Successful delivery of environmental health services to tribal communities rests on the foundation of a competent and motivated workforce. *Figure 3* shows the numbers of student externs hired since 2012. The number of externs hired annually fluctuated from 23 to 02. DEHS supported seven student externs in 2021.

Table 3: EHSC Sponsored Courses – 2021.

Course	Date	Location	Number of Participants
AHA Certified Health Care Environmental Services Technician (CHEST) Course	5/24/2021	Albuquerque, NM	10
TOTAL Classroom Participants			10
Webinars	Date	Location	Number of Participants
ASHE Virtual Conference	9/15/2021	Online	12
California Area Car Seat Observational Survey Training	6/1/2021	Online	35
Head Start Summit-Albuquerque	7/15/2021	Online	141
Introduction to Injury Prevention	8/23/2021	Online	67
Leading Others Virtual Cohort	8/24/2021	Online	14
Leading Self Virtual Cohort	5/18/2021	Online	2
LPD Webinar Series - 5 Steps to Employee Accountability	12/17/2021	Webinar	18
LPD Webinar Series - Creating a Positive Work Environment	9/27/2021	Webinar	16
LPD Webinar Series - Delegating Effectively	5/24/2021	Webinar	8
LPD Webinar Series - Managing Performance & Conduct	8/16/2021	Webinar	16
LPD Webinar Series - Recipe for Successful Teams	8/30/2021	Webinar	23
LPD Webinar Series - Tools for Managing Remotely	7/26/2021	Webinar	10
LPD Webinar Series: Critical Conversations	10/25/2021	Webinar	17
LPD Webinar Series: Latest Tips/Tools for Managing Time	6/7/2021	Webinar	5
LPD Webinar: Managing Self Through Change and Turmoil	6/28/2021	Webinar	9
NFPA 101 Life Safety Code Virtual	11/16/2021	Online	59
NFPA 99 Healthcare Facilities Code Virtual	12/15/2021	Online	18
Online Injury Prevention Course 2	11/15/2021	Online	28
Sanitary Surveys: Distribution Systems	12/14/2021	Webinar	9
Sanitary Surveys: Drinking Water Regulations	12/7/2021	Webinar	11
Sanitary Surveys: Overview and Organizing Sanitary Survey	12/6/2021	Webinar	11
Sanitary Surveys: Water Sources	12/8/2021	Webinar	10
Sanitary Surveys: Water Supply Pumps, Pumping Facilities, and Storage	12/9/2021	Webinar	9
Sanitary Surveys: Water Treatment Processes	12/10/2021	Webinar	11
Technical On-Demand Training: Account Access	7/1/2021	On-Demand	8
Virtual Lay Vaccinator Conference	10/12/2021	Online	44
TOTAL Webinar Participants			611
TOTAL PARTICIPANTS			621

Figure 3: Number of college students participating in the DEHS extern program, 2012 to 2021.



PROFILE OF THE DEHS PROGRAM

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 24 DEHS staff funded by IHS for college courses in 2021. Of the 24, 19 were federal employees and five were tribal employees.

There are 15 IEH Residency Graduates currently active with IHS and tribal programs (*Table 4*), and a resident graduated from the program in 2021.

Table 4: Active IEH Residency Graduates.

Graduate	Residency Year
Brandon Parker	2021
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



CDR Sarah Snyder conducting an inspection of wastewater treatment plant drying bed

Figure 4: Distribution of environmental health staff within the national program.

2021 Environmental Health Staff (N=260)

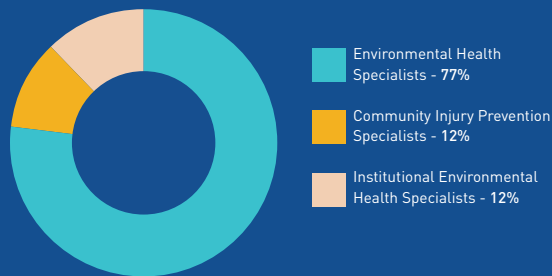


Figure 5: Percentage of environmental health staff with master's degrees.

Percentage of DEHS Staff with Master's Degrees (2021)

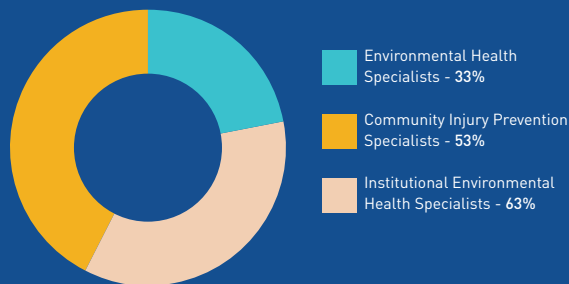
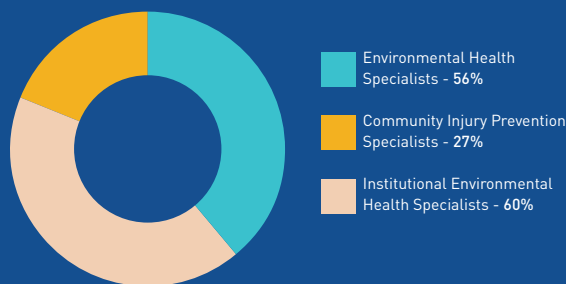


Figure 6: Percentage of environmental health staff with REHS/RS credentials.

Percentage of Environmental Health Staff with REHS/RS Credentials



Distribution of federal (127) and tribal (133) staff (N=260) within the national program (this excludes headquarters staff) (Figure 4).

- Environmental Health Specialists (EHS) – 77% (200/260)
- Community Injury Prevention (IP) Specialists – 12% (30/260)
- Institutional Environmental Health (IEH) Specialists – 12% (30/260)

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

- Total – 39% (102/260)
- Federal – 53% (68/127)
- Tribal – 27% (36/133)

Staff with master's degrees by specialty (Figure 5).

- EHS – 33% (67/200)
- Community IP Specialists – 53% (16/30)
- IEH Specialists – 63% (19/30)

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

- Total – 53% (137/260)
- Federal – 65% (83/127)
- Tribal – 41% (54/133)

Staff with REHS/RS by specialty (Figure 6).

- EHS – 56% (111/200)
- Community IP Specialists – 27% (8/30)
- IEH Specialists – 60% (18/30)

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

- Child Passenger Safety Technicians – 24% (62/260)
- IHS IP Fellowship Program Graduates – 15% (40/260)
- Certified Pool Operators – 15% (38/260)
- Certified Professional in Food Safety – 13% (33/260)

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*	111	8	18	137	53%
IP Fellow	26	11	3	40	15%
Certified Safety Professional	4	0	5	9	3%
Certified Industrial Hygienist	1	0	3	4	2%
Child Safety Passenger Safety Technician	48	13	1	62	24%
Certified Playground Safety Inspector	12	0	0	12	5%
Certified Radiation Protection Surveyor	2	0	4	6	2%
Certified Environmental Health Technician	4	0	0	4	2%
FDA Standard	12	0	0	12	5%
Lead/Asbestos Certification	7	1	4	12	5%
IEH Residency	3	0	10	13	5%
Certified Pool Operator	37	0	1	38	15%
OSHA 40 Hr HAZWOPER‡	13	0	3	16	6%
Healthy Homes Specialist	9	0	2	11	4%
Certified Professional in Food Safety	27	4	2	33	13%

*Registered Environmental Health Specialist/Registered Sanitarian

‡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 2021.

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 Awards	82		82
Indian Health Service Area Awards	28		28
Civil Service Personnel Awards	5		5
National IHS Awards	13		13
Other National Awards	6		6
TOTAL	134	0	134





LTJG Garrett Steiner conducting an inspection of a paint shop

Individuals who received Area EHS of the Year (2021) were:



Katherine Hubbard
Alaska Area



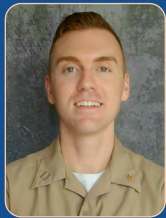
Braden Hickey
Albuquerque Area



Shelby Haddeland
Great Plains Area



Richard Skaggs
Navajo Area



Zachary Hargis
Phoenix Area

These Area EHSs of the Year were nominated for the IHS EHS of the Year (2021) and **Braden Hickey**, 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, 2021 through 1993.

Year	Recipient
2021	Braden Hickey, Albuquerque Area IHS
2020	George Chung, Phoenix Area IHS
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

Year	Recipient
2006	Troy Ritter, Alaska Native Tribal Health Consortium
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

**2021 ENVIRONMENTAL HEALTH SPECIALIST OF THE YEAR –
BRADEN HICKEY, MPH, REHS**



LT Braden Hickey, MPH, REHS, was selected as the [2021 Environmental Health Specialist of the Year](#). LT Hickey consistently demonstrated outstanding leadership, professionalism, and commitment to the mission of the IHS. In collaboration with DEHS headquarters, she documented the successes and challenges experienced by DEHS staff nationally as part of the DEHS COVID-19 workforce analysis. She completed a 30-day deployment to the Navajo Nation COVID-19 Water Access Mission, earned a graduate degree, and demonstrated technical expertise and ability to develop strong relationships with her tribal partners that allowed her to provide the highest quality environmental health services to the communities she serves, and beyond.



RICK SMITH INJURY PREVENTION AWARD

Beginning in 2019, DEHS has annually recognized leaders in injury prevention (*Table 8*). The purpose of the award is to recognize the performance of individuals or groups whose special efforts and contributions in the field of injury prevention resulted in a significant impact and led to improved public health for American Indians and Alaska Natives.

Table 8: Smith Award Winners, 2021 through 2019.

Year	Recipient
2021	Medication Disposal Team, Bemidji, Oklahoma City, and Phoenix Areas IHS
2020	Debbie Whitegrass Bullshoe, Blackfeet Nation, Billings Area
2019	Robert Morones, Phoenix Area IHS

2021 RICK SMITH AWARD WINNER – MEDICATION DISPOSAL TEAM



The Medication Disposal Team, consisting of 12 staff from the IHS Bemidji, Oklahoma City, and Phoenix Areas, received the [2021 Rick Smith Injury Prevention Award](#). The team was recognized for: utilizing an applied public health approach to raise awareness, provide education and improve prescription drug disposal practices by pilot testing two innovative drug disposal systems; facilitating the drop box project and writing a manuscript for publication; facilitating a community-based drug deactivation project with assistance from community partners; and for receiving 1,700 drug deactivation bags for distribution at no cost to IHS and participating tribes through partnerships with state entities. The team includes: CDR Casey Crump; CDR David Bales; LCDR Isaac Ampadu; LCDR Andrea Tsatoke; LCDR George Chung; LCDR Martin Stephens; LCDR Kathryn Pink; LT Braden Hickey; LT Zachary Hargis; LT Patricia Wrong; Sherry Chase; and Daniel Dicks.

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 (*Table 9*).

2021 GEFROH AWARD WINNER – KATHERINE HUBBARD



CDR Katherine Hubbard, Senior Institutional Environmental Health Consultant, Alaska Native Tribal Health Consortium (ANTHC), Alaska Area, received the [2021 Gary J. Gefroh Safety and Health Award](#). CDR Hubbard distinguished herself as an independent leader who analyzes national best practices, solicits multi-disciplinary feedback, and ensures ANTHC’s customer-oriented program has a positive impact. Her specific achievements were related to safe patient handling and mobility, in which she led a patient handling and movement

assessment in collaboration with a multi-disciplinary group of staff to acquire patient lifts for all critical care unit beds in the Alaska Native Medical Center (ANMC), secured funding for patient lifts at 70% of all inpatient beds at ANMC, and served as a passionate advocate, leader, and team player to elevate awareness and educate staff.

Table 9: Gefroh Award Winners, 2021 through 2008.

Year	Recipient	Profession	Area/Facility
2021	Katherine Hubbard	Senior Institutional Environmental Health Consultant	Alaska Native Tribal Health Consortium
2020	Michelle Livingston	Infection Preventionist	Portland Area
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



Alex Sjoboen conducting a ventilation assessment in a dental operator

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.

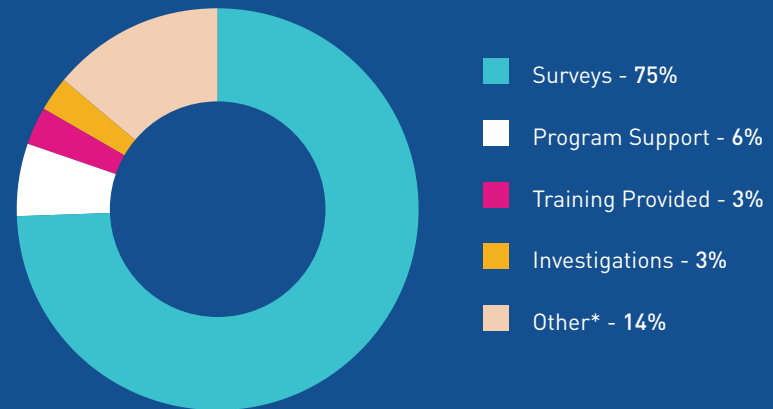
A snapshot of activities related to these services include (*Figure 7*):

- Approximate number of establishments¹ – 20,100
- Staff recorded activities – 6,104
 - Surveys – 75% (5,514/7,382)
 - Program support – 6% (414/7,382)
 - Training provided – 3% (241/7,382)
 - Investigations – 3% (199/7,382)

¹ WebEHRS Reports, National Establishment Counts 2021 (excludes Headquarters items)

Figure 7: Activities completed in 2021 as reported in WebEHRS.

Activities Completed in 2021 as Reported in WebEHRS (percent of total)



*Other includes: Mobilize Community, Policy Development, Sample/Test, Evaluation, Control, Training

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.

The DEHS manages the Notifiable Disease and External Cause of Injury (NDECI) web-based data retrieval system. NDECI tracks and reports specific disease and injury categories that can provide reports by national, Area, Service Unit (SU), facility, and community levels. Data can be retrieved by International Classification of Diseases (ICD), 10th Revision, codes used to define the groupings for asthma, notifiable diseases, intestinal diseases, vectorborne diseases, and injuries. 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 was piloted in 2019–2020, with system refinements in 2021, and a projected launch in 2022. NDECI provides DEHS staff an environmental health relevant dashboard of key health indicators from which to monitor public health status and enhance the ability to run ad-hoc reports tailored to program needs.

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 2020:

- 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

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.

The 2021–2025 TIPCAP funding cycle began with 27 tribes or tribal programs from 11 IHS Areas being awarded a cumulative total of \$2.4M per year. Injury topics addressed include motor vehicle related injuries, falls, and other emerging issues based on tribal needs. These could include, poisoning/opioids, suicide, traumatic brain injury, or drowning. Also in 2021, sites closed out projects from the 2016–2020 funding cycle.

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, and program evaluation.

The IEH Program provides extensive technical assistance and training to safety and facility management staff as well as the many inter-related medical program and leadership staff. These efforts have led to a reduction in the IHS total occupational injury and illness case rate, which has decreased from 4.35 injuries/100 employees in 2004 to 1.43/100 employees in 2021.



Daniel Dicks inspecting a portable fire extinguisher

DEHS National Focus Areas



DEHS Services



The DEHS delivers a comprehensive EH program to more than 2.6 million AI/AN people in 37 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 2021. 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. A project with an emphasis on the children's environment can be found on the following pages.



ANNUAL HEAD START SUMMIT: IN-PERSON, VIRTUAL, AND ON-DEMAND

Amanda Parris, Ann Buchanan, Debby Chavez-Bird, Kristin Kaydahzinne, Antoinette Toya

Albuquerque Area

Introduction

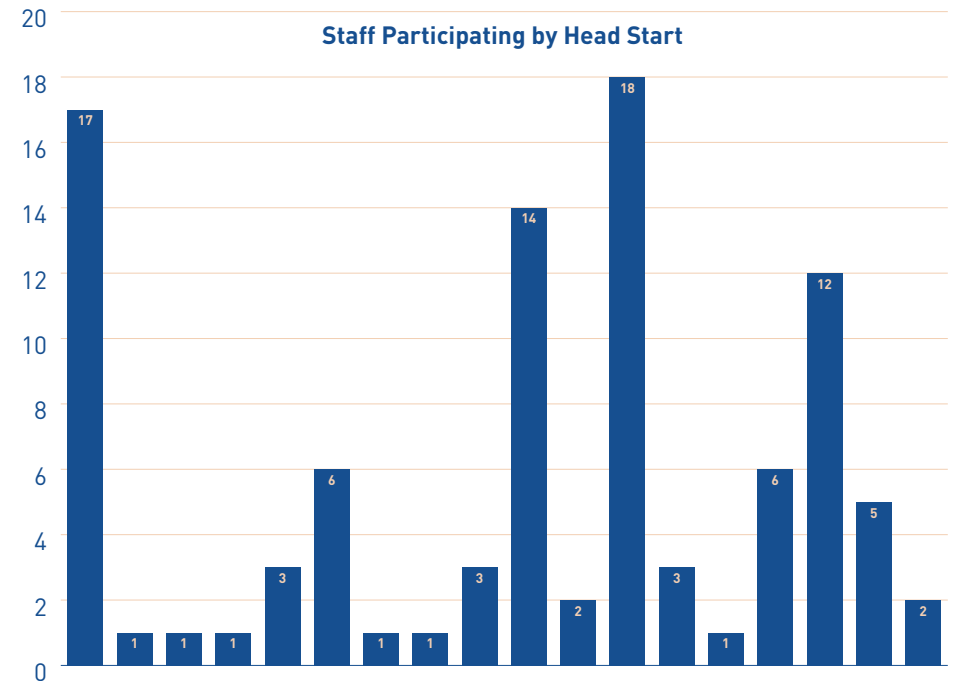
National Head Start (HS) standards require HS staff receive annual training on environmental health topics. The Albuquerque Area DEHS staff provide these trainings for the 24 centers in our service area. Historically, the trainings were conducted at each center. This approach presented a variety of challenges and did not allow staff to maximize time. DEHS and HS staff sought an improved approach for providing training. Collaboratively, they recognized the benefits of providing a centralized training, a one-day class in each of the Area’s two districts which brought together HS staff from individual centers. The centralized training allowed better use of resources and provided a networking opportunity for HS staff. Due to COVID-19 restrictions, DEHS staff utilized an online platform to register all HS applicants and developed a virtual training session for 2021. After the virtual event, DEHS provided an on-demand training option available on the IHS YouTube page for HS staff that were unable to attend the live session. This allowed them to listen to sessions and take a challenge test to attain certification needed for HS standards.

Methods

DEHS worked closely with the IHS, Office of Environmental Health and Engineering’s Environmental Health Support Center (EHSC) to create a training platform to house the HS registration process, pre- and post-course testing process and YouTube website for the HS Summit training classes. DEHS staff developed all training materials to include presentations, session knowledge checks, pre- and post-course tests and the evaluations. DEHS staff uploaded materials needed for the HS Summit to the EHSC website and held the training on 15 July 2021. DEHS staff reached out to HS Directors and program leads to coordinate attendance of all HS staff. DEHS staff recorded the virtual training, and each video was 508 compliant. Staff then worked with EHSC to upload all HS Summit training courses to the internal IHS YouTube page. Finally, the videos were approved and uploaded. In December 2021, EHSC permissions allowed the course to be accessible to HS staff.

Results

Training topics: Bloodborne Pathogens, COVID-19, Fire Safety, HazCom, Playground Safety & Sanitization



Evaluation Results from Virtual Sessions		
Did you gain any new knowledge from this training?	Yes= 93	No= 4
What was your favorite presentation?	Playground Safety= 39	Covid-19 Precautions= 33
Was the technology easy to navigate?	Yes= 80	No= 17

Discussion

The project focused on creating a foundational training opportunity to be available to as many HS staff as possible while accommodating the restrictions of the COVID-19 pandemic. Over 62% (n=15) of the HS centers in the Area attended the virtual training. Additionally, three partner programs attended (e.g., BIA, FACE, Early Childhood Program). The evaluation results showed the virtual training was successful in meeting HS training needs and attendee expectations. For example, one of the goals of the virtual training was to increase knowledge, skills, and abilities regarding overall safety within the centers, and 96% (n=93) of respondents felt they gained new knowledge from the training. Additionally, using new technology for the online training could have been challenging; however, 83% (n=80) of respondents felt the technology was easy to navigate. Favorite audience presentations were playground safety 40% (n=39) and COVID-19 precautions 34% (n=33).

Notable comments were:

- “it was the first time I had training on playground safety”
- “how things have changed so much—the safety of playground equipment”
- “because COVID is so new and I want to be as safe as possible”

Conclusion/Recommendations

The results support using this platform for future trainings. For the HS centers unable to participate, the directors can be contacted to better understand why they did not attend and to provide them the on-demand training link to ensure staff remain certified.

Best practices for developing this type of training summit are:

1. plan around the school year
2. hold practice sessions to work out technical difficulties
3. plan for poor connectivity, or situations where multiple participants attend via one connection (e.g., taking attendance)
4. consider if tribes or centers can donate prizes for staff games

During the training, if knowledge check questions are not being answered correctly, be sure to spend time reviewing those concepts to ensure understanding and correct application of the material. Finally, analyzing the most frequently missed questions or where answers were split from the pre- and post-course tests can be used to improve/enhance future trainings.

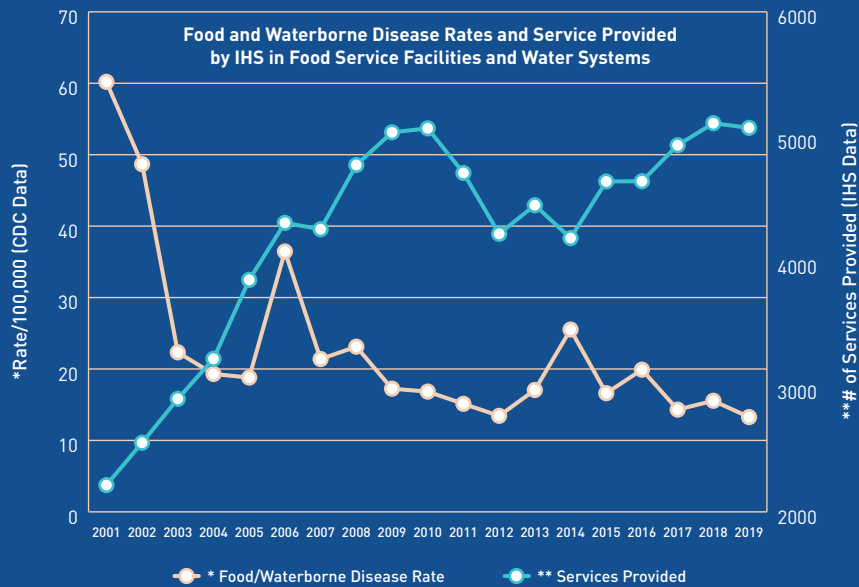
Safe Drinking Water

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.

Due to the amplified emphasis on COVID-19 prevention, response, and recovery efforts, no projects were reported in 2021.



Figure 8: 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 that 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 (latest data available), 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 8). A project with an emphasis on food safety conducted in 2021 can be found on the following pages.

THE PREVALENCE OF FOODBORNE ILLNESS RISK FACTORS IN EASTERN ARIZONA

Cori Crocker, George Chung

Phoenix Area

Introduction

The Eastern Arizona District (EAD) consists of three service units (SU) staffed by six environmental health employees who provide services to four tribal communities with a combined estimated service population of 40,000 people. Limited time and person-power drive the need to focus resources and target interventions to reduce illness.

Foodborne illness presents an economic burden to affected individuals as well as society due to health care costs, potential loss of income, and loss of productivity. CDC estimates that about 48 million foodborne illnesses occur every year in the United States, and 128,000 of these illnesses result in hospitalization and 3,000 deaths. There are five major risk factors related to food safety that contribute to foodborne illness: poor personal hygiene, contaminated equipment, improper food holding time and temperature, improper cooking time and temperature, and food obtained from unsafe sources. Prevention of foodborne illness is a priority of the EAD, which can be accomplished through inspections of foodservice operations.

Over the past 20 years, survey management has changed from paper forms to word-processing documents to digital data systems that allow program managers to export and analyze violation data. After six years of data entry in the DEHS Web-based Environmental Health Reporting System (WebEHRS), EAD was ready to analyze the information for trends and patterns of food safety risk factors to develop focused interventions.

Project Goals

1. Determine the most common risk factor in the District and each Service Unit
2. Determine any differences between establishment types
3. Determine any differences between surveyors

Methods

Digital routine food inspection reports from 2015 to 2019 were exported from WebEHRS using the business intelligence software, SplashBI. All follow-up, focused, and pre-operational surveys were excluded from the dataset.

Only establishment type 47s (cafes & restaurants) and type 80s (institutional kitchens at schools, senior centers, detention facilities, and other institutions) were utilized (n=~130).

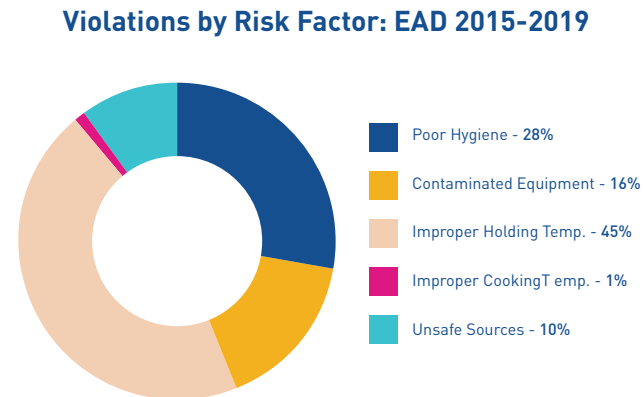
When evaluating staff, only individuals who had completed more than 30 surveys within the District were included. Data was exported from SplashBI to MS Excel for analysis.

Results

The analysis reviewed 367 routine surveys that had a total of 2,865 violations, of which 700 (24.4%) involved one of the five risk factors.

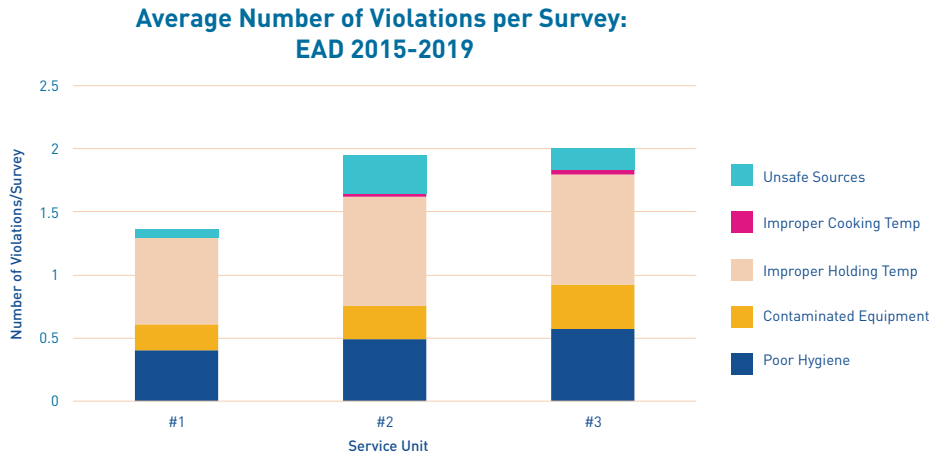
The most common risk factor in the district was improper holding temperature, which was cited 45% of the time (*Figure 1*).

Figure 1: Violations by Risk Factor: EAD 2015-2019



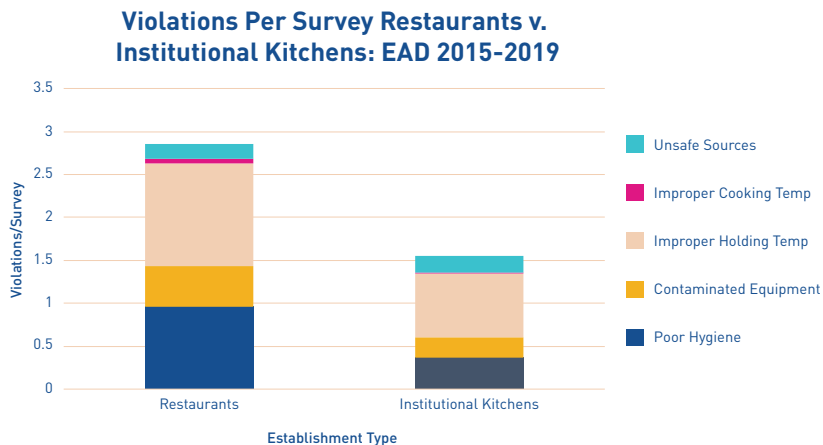
Improper holding temperature was also the most cited risk factor violation for all three service units, followed by poor hygiene, and contaminated equipment (Figure 2).

Figure 2: Average Number of Violations per Survey: EAD 2015-2019



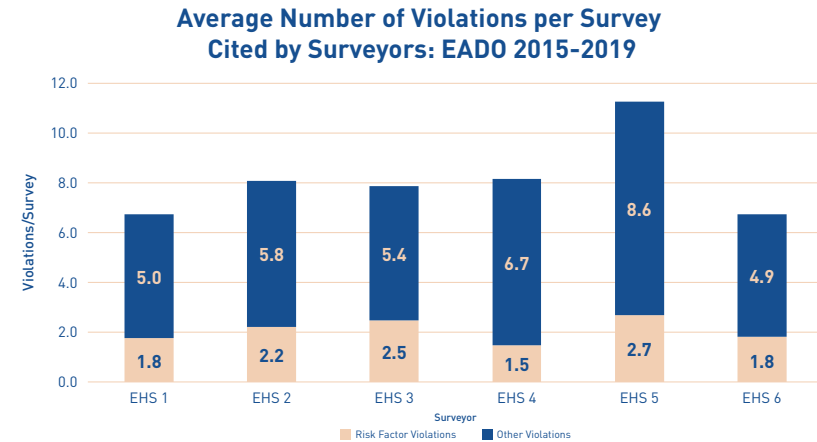
Restaurants had more risk factor violations per survey when compared to institutional kitchens (3.13 vs 1.6) (Figure 3).

Figure 3: Violations Per Survey Restaurants v. Institutional Kitchens: EAD 2015-2019



Staff who completed the standardization process were observed citing a higher number of risk factor violations per survey than staff who had not (Figure 4).

Figure 4: Average Number of Violations per Survey Cited by Surveyors: EAD 2015-2019



Conclusion/Recommendations

While all five risk factors are cited by staff, improper holding temperature violations were the most common. These results will help the District develop targeted interventions. Several identified strategies, including focused training activities, in-services, educational materials, will be discussed with staff and foodservice employees. Various tactics will be implemented to help facilities address and reduce the risk of foodborne illness.





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, plague, and SARS-CoV-2 (COVID-19).

The DEHS staff work on the elimination of risk factors through COVID-19 prevention/response/recovery efforts, conducting spay, neuter, and rabies clinics for dogs and cats, and conducting case investigations. Projects with an emphasis on vectorborne and communicable diseases conducted in 2021 can be found on the following pages.



**SAFE PATIENT HANDLING AND MOBILITY: PREVENTING INJURIES AND PROMOTING EARLY MOBILITY
IN THE ALASKA NATIVE MEDICAL CENTER CRITICAL CARE UNIT**

Katherine N. Hubbard, Taneisha McComb

Alaska Area

Introduction

Nurses and nursing aides experience musculoskeletal injuries far more than any other occupation, including warehouse workers, truck drivers, and construction laborers. These injuries are a direct result of nursing employees doing their everyday jobs of lifting and moving patients. The implementation of safe patient handling and mobility (SPHM) programs and the effective use of patient handling equipment have proven to be highly successful in reducing the number of injuries, lost workdays, and the direct and indirect costs associated with patient handling activities.



Early mobilization of patients results in improved clinical outcomes such as reductions in ICU-acquired weakness, patient falls, hospital-acquired pressure injuries (HAPI), and rates of hospital acquired infections such as ventilator-acquired pneumonia (VAP). Early mobility is also shown to decrease the length of hospital stays and allow patients to be functionally independent and able to go directly home after their hospitalization.

The Alaska Native Medical Center (ANMC) Critical Care Unit (CCU) cares for patients with the highest acuity and most demanding patient handling needs in the hospital. ANMC injury data from FY 2014 – FY 2018 shows that 64% of patient handling-related injuries were experienced by Registered Nurses and Certified Nursing Assistants, and the injuries occurred most frequently in the CCU.

Methods

The ANMC SPHM Workgroup partnered with CCU nursing managers and front-line staff to conduct a Patient Handling and Movement Assessment (PHAMA). The PHAMA is a component of the Safety Risk Assessment in the Facilities Guidelines Institute (FGI): *Guidelines for Design and Construction of Hospitals or Outpatient Facilities*. Through the PHAMA process, we created a unit profile, with evaluation of the typical patient population, their mobility needs, and the frequency and physical exertion required for a variety of patient handling activities. The unit profile for CCU directed recommendations for patient handling assistive equipment and patient room coverage, based on the SPHM Technology Coverage and Space Recommendations from the Veterans Health Administration (VHA).

Results

The ANMC Critical Care Unit PHAMA identified the following

- 50% of the patient population had total physical dependence, meaning they cannot help at all with their own mobility
- 30% of the patient population required extensive assistance with mobility, meaning they can perform part of an activity, can usually follow simple directions, can bear some weight, or may be able to pivot-transfer without assistance, but require assistance for weight-bearing transfers

DEHS NATIONAL FOCUS AREAS

- The average number of bariatric patients (defined as overweight by 100-200 pounds or body weight greater than 300 pounds) on the unit at any one time was two (average weight of the bariatric patients was 250-300 pounds, highest weight of a bariatric patient seen on the unit was 700 pounds)

Based on frequency and degree of physical exertion required, the types of patient handling activities performed in the CCU that presented the highest risk of injury include

- Lifting a patient to the head of the bed
- Repositioning a patient in bed side-to-side
- Making an occupied bed
- Changing an absorbent pad

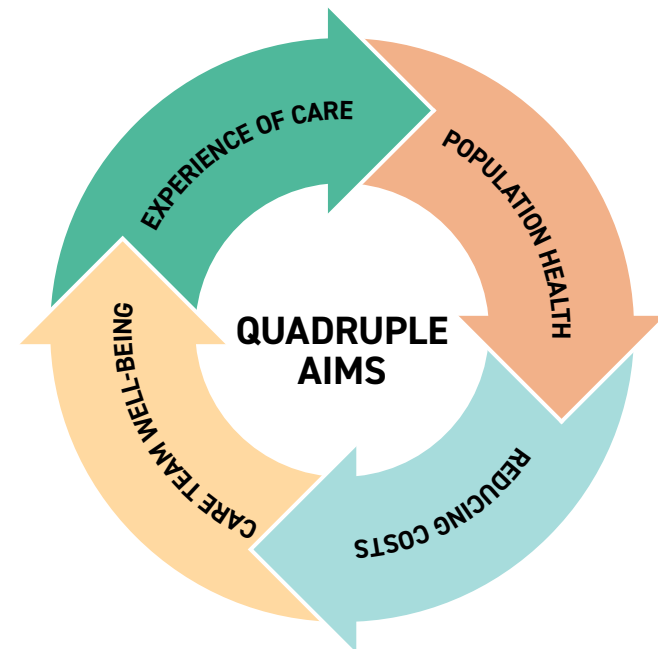
Discussion

The PHAMA served as supporting documentation for a capital budget request to ANMC leadership to fund 22 overhead patient lifts for coverage of all CCU patient beds. This request was approved with initial funding for two lifts, and the remaining 20 were installed during a unit renovation project. The overhead patient lifts have proven to be an invaluable asset for patient care, particularly during the COVID-19 pandemic where proning, or turning a patient from their back onto their stomach to improve respiration, is a common treatment methodology. Proning patients is a labor-intensive, high-risk activity made safer and more efficient with the use of an overhead lift. An estimated 115 patients with COVID-19 have been proned with the use of the lifts, representing 50% of the total number of COVID-19 patients seen on the unit since the start of the pandemic.

Conclusion/Recommendations

Based on these findings and accepted best practices for SPHM equipment coverage, we recommended 100% coverage of CCU beds with overhead patient lifts on traverse track systems that cover the entire footprint of the patient room.

ANMC has adopted the Quadruple Aim Framework to guide their Quality Improvement Initiatives. The SPHM initiative touches on all four of the Quadruple Aim areas: Experience of Care; Population Health; Care Team Well-Being; and Reducing Costs. Funding was secured to install at least 64 overhead patient lifts on four inpatient units, providing overhead lift coverage for 70% of the patient beds. These projects further the overall goal of ANMC becoming a no-manual lift hospital and providing the highest quality of care to the patients we serve.



NITROUS OXIDE ASSESSMENTS

Carolyn Garcia

California Area

Introduction

The California Area Environmental Health Services Section began offering nitrous oxide exposure assessments to each tribal health program using nitrous oxide as part of their dental program in 2019. There are currently 22 tribal health clinics (12 tribal health programs) using nitrous oxide in the California Area. A total of eight programs (17 clinics) agreed to having DEHS staff perform an exposure assessment in their clinics. Follow-up assessments were performed at facilities documented to have an exposure exceedance as defined by the ACGIH STEL or TLV and at facilities that lacked an exposure monitoring program.

The goals for the nitrous oxide exposure assessments were to:

1. by 2021 decrease the number of exposure exceedance deficiencies by **80%**
2. increase the number of clinics with an exposure monitoring program to **90%**

Methods

Nitrous oxide exposure assessments and equipment leak detection were performed using a Thermo Scientific Miran Sapphire Portable Ambient Analyzer. The method used to perform the exposure assessment and leak detection was based on the IHS Oklahoma City Area's Guidance Document, *Safely Administering Nitrous Oxide during Dental Procedures*.

Results

Initial Exposure Assessments

- Exceedances of the ACGIH TLV were found in **35%** of the clinics
- **59%** of the clinics lacked an exposure monitoring program

Other notable deficiencies

- **41%** had insufficient vacuum exhaust
- **18%** lacked written nitrous oxide policy and procedures
- **65%** did not perform equipment inspections prior to use
- **41%** did not perform and document leak checks

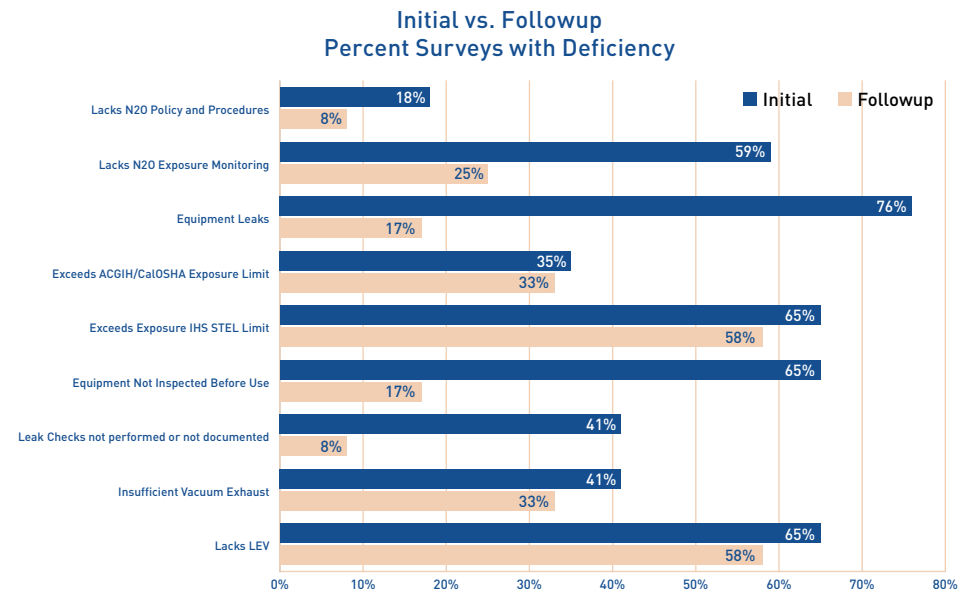
Follow-up Exposure Assessments

- Exceedances of the ACGIH TLV were found in **33%** of the clinics
- **25%** of the clinics lacked an exposure monitoring program

Thus, exposure exceedances decreased by **2%**, and **75%** of the clinics performed exposure monitoring.

Other notable deficiencies

- **33%** had insufficient exhaust
- **8%** lacked written nitrous oxide policies and procedures
- **17%** did not perform equipment inspections prior to use
- **17%** did not perform and document leak checks



Discussion/Conclusions

Performing nitrous oxide assessment were an effective means to ensure clinics using nitrous oxide as part of their dental services employed the necessary policies, procedures, and practices to ensure staff and patient safety.

The assessments were most effective in improving exposure monitoring practices, policy and procedure development and adoption and safe use of the nitrous oxide equipment. The assessments were less successful in modifying conditions that lead to exposure exceedances.

Continued issues with exposure exceedances may be due to facility or equipment attributes. Many clinics had insufficient vacuum exhaust and recommended corrective actions were not effective in addressing this issue for some clinics. Also, many of the clinics lack local exhaust ventilation in the operatories where nitrous oxide is administered.



LCDR Tim Shelhamer conducting a nitrous oxide assessment

EVALUATION OF ENVIRONMENTAL SURFACE CLEANING AND DISINFECTION IN HEALTHCARE SETTINGS DURING COVID-19

Sung Jik “Andrew” Park

Phoenix Area

Introduction

The IHS Phoenix Area Division of Environmental Health Service provided environmental surface disinfection assessments as an initiative to support COVID-19 response. Effective environmental surface disinfection is critical in responding to COVID-19, especially in a clinical setting. To quantify the effectiveness of surface cleaning in the facility, adenosine triphosphate (ATP) swab assessments were conducted to monitor the efficacy of the surface cleaning procedures. The ATP swabs use bioluminesces to detect residual ATP as an indicator of surface cleanliness. The presence of ATP on a surface indicates improper cleaning and presence of contamination. One Native American health clinic located within the Phoenix Area Indian Health Service (PAIHS) participated in the ATP Swab Assessment, and a total of 8 ATP Swab Assessments were conducted. The ATP Swab assessment also involved programmatic and education interventions to identify potential deficiencies in environmental surface disinfection policies and practices.

Methods

The environmental surface disinfection assessment utilized both programmatic and educational interventions to include:

- Review/Revision of Policies & Procedures
- Define Roles & Responsibilities
- Review of Chemical Inventories
- Provide Environmental Surface Disinfection Training
- Implement Revised Policies & Procedures

Equipment

- SystemSURE Plus Luminometer
- SureTrend data analysis software
- UltraSnap ATP test swabs

Sampling

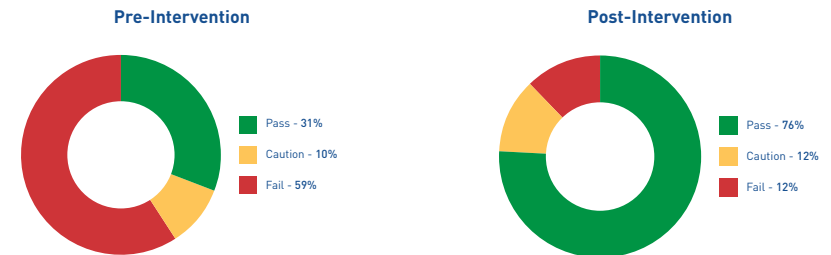
- 50 Testing locations identified
- Locations sampled once every month for eight months

Reporting

- Results for each site consisted of pass, caution, and fail, which were reported with data comparing the initial results and previous assessment’s trend

Results

- Programmatic and education interventions resulted in an improvement from a 31% initial pass rate to a final 76% pass rate of the 50 testing locations
- Updated environmental services policies and procedures were developed and implemented
- Developed more defined roles and responsibilities between different clinic departments
- 15 clinic staff were trained, to include nurses and environmental services staff, in chemical inventory (EPA List-N), environmental surface disinfection, and storage of cleaning and disinfecting supplies



Discussion

The ATP swab assessments led to more effective environmental surface disinfection practices by all staff. The quantitative method of ATP swab assessment demonstrated real-time efficacy of the effectiveness of surface cleaning in the facility. The ATP swab assessments provide the quantitative data necessary to introduce programmatic and education interventions to improve environmental surface disinfection practices and, therefore, reduce the transmissions of healthcare acquired infections related to contamination of near-patient surfaces and equipment.

Conclusion/Recommendations

The environmental surface disinfection assessment utilized both programmatic and educational interventions to include:

Challenges

- Staffing shortages
- Altering established behavior and practices
- Lack of developed and implemented policies and procedures

Recommendations

- Clearly defined roles and responsibilities among staff
- Policies and procedures language to be clear and avoid subjective language
- Refresher training for existing staff, training for new staff on chemical inventory and contact times
- Adherence to proper chemical storage; ensuring disinfectant wipes do not dry out from open lids or exceed expiration dates
- Follow-up surveys



LT Andrew Park conducting adenosine triphosphate swab assessment

ALBUQUERQUE AREA ENVIRONMENTAL HEALTH DEPLOYMENTS

Sam Frank, Braden Hickey, Jamie Wyatt, John Fluette

Albuquerque Area

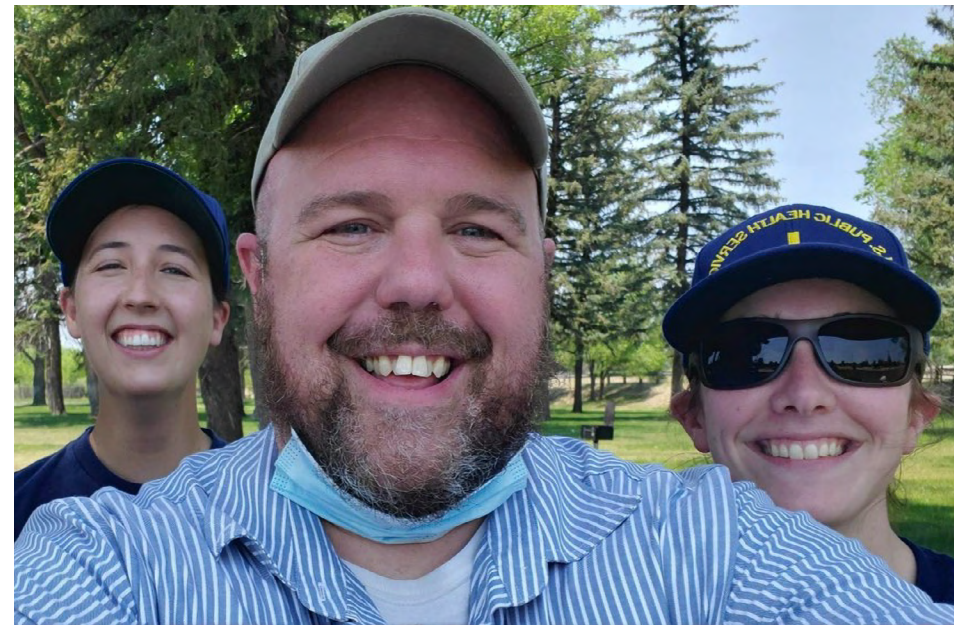
Introduction

The COVID-19 pandemic highlights the vital services DEHS staff provide to AI/AN populations at the community level. While managing the critical COVID-19 response, the Albuquerque Area DEHS team successfully coordinated comprehensive workload management of four interagency deployers to the Area over an eight-month period in 2021. These crucial deployments addressed critical Environmental Health (EH) work during staffing shortages within the Area. Working alongside DEHS field staff, multiple agency partners and Area leadership, deployers provided emergency support to the Area's 27 Tribes and Pueblos. The deployments resulted in many successes including: completing overdue inspections, identifying gaps/needs for high-risk establishments (i.e., schools, childcare, senior centers) and providing SME cross-training to staff. All these deployment successes would not have been possible without the incredible dedication and professionalism demonstrated by the DEHS staff who provided the strategic planning, oversight, and support during each mission.



Methods

Working closely with the Albuquerque Area Incident Command Team (ICT), DEHS leadership submitted multiple interagency deployer requests to support tribal missions. Utilizing FEMA Resource Request Forms (RRF), DEHS submitted requests and provided the necessary details/descriptions of deployment needs including: skillsets/technical assistance, # of deployment days, location(s) of deployment and overall logistics. The CDC Tribal Field Deployment Support Team, IHS Headquarters and PHS fulfilled deployment requests depending on supplying agency. Once deployers confirmed, turnaround time for boots on the ground was fairly quick (± 1 week) with deployments ranging from 4 to 8 weeks in length. Working closely with DEHS Staff, incoming deployers received initial onboarding/orientation with IHS data systems, coordination of field work itineraries, tribal support letters and overall prioritization of work. Demonstrating exceptional oversight, DEHS field staff assisted deployers with day-to-day completion of workload assignments by leveraging resources within their respective Service Units to accomplish overall mission goals.



Results

Deployer work consisted primarily of conducting comprehensive EH surveys, occupational health and safety assessments, infection control assessments, laboratory risk assessments, and re-opening consultations at Tribal and Federal sites. Stratifying the inspection data, deployers accomplished roughly 44% of the 2021 EH inspection workload. Further highlighting deployer accomplishments, DEHS prioritized three establishment types based on public health risk. This resulted in the completion of: Food Service (n=220), Institutional (n=41), and School & Childcare (n=34) surveys.

Figure 1. Survey Work completed.

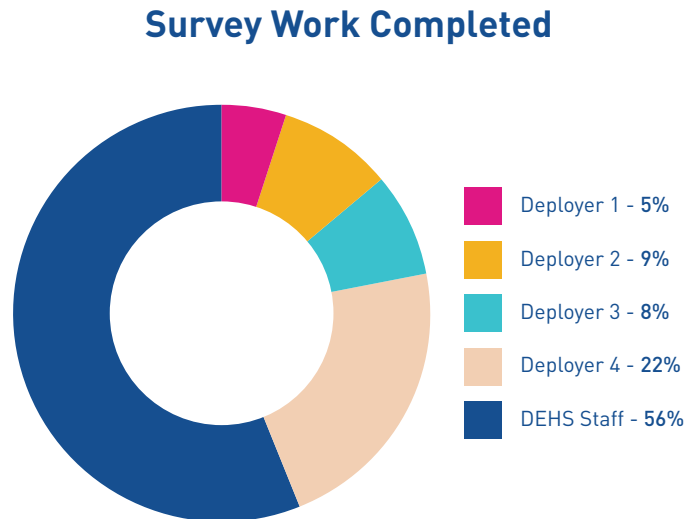
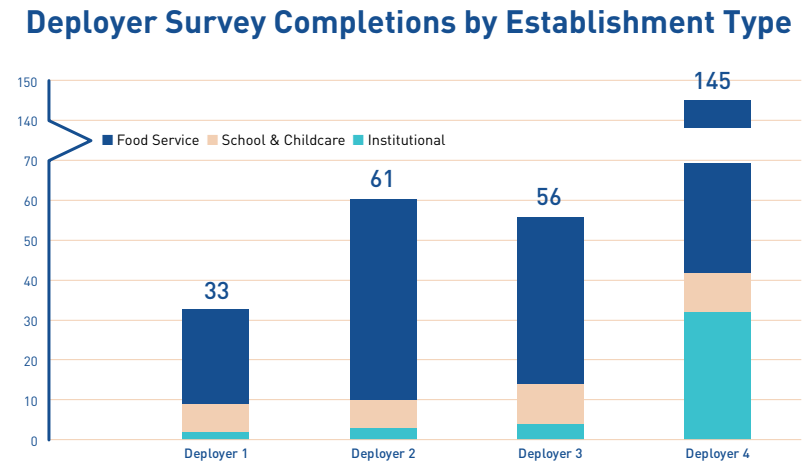


Figure 2. Top three survey types completed by deployer.



Discussion

As shown by the number of surveys completed, interagency deployments proved to be an extremely valuable tool for the Area and allowed DEHS to continue to provide quality EH services during staffing shortages and the pandemic. The success of these deployments relied heavily upon field staff who were instrumental in connecting deployers to tribal contacts and supporting deployers. Deployers also brought experience from their daily work and provided specialty trainings to DEHS staff, helping to increase staff’s technical competencies. However, it should be noted the process of requesting interagency deployers is cumbersome and time consuming, potentially limiting future deployment opportunities.

Conclusion/Recommendations

The beneficial outcomes created by the deployers demonstrate the positive impacts of partnerships among agencies with shared goals in protecting public health. Specifically, the deployers provided cross-training to staff as well as assisted with workloads during a global pandemic and staffing shortage. The cross-training allowed for an exchange of methods, ideas, and techniques among deployers and IHS staff, increasing the perspectives and experiences of both parties. These partnerships provide significant value and ultimately contribute to the ability of IHS to effectively deliver on its mission within the communities in its care. Future assistance utilizing interagency deployers is highly recommended for DEHS staffing needs during future emergency operations.

HOSPITAL SUPPORT SAFETY TEAM

Rebekah Abangan, Isaac Ampadu, Kayla Davis, Patricia Wrona

Phoenix Area

Introduction

The IHS Phoenix Area's Western Arizona District Environmental Health Services (EHS) program provides routine EHS services and support to local hospitals and healthcare centers. Services include routine and follow-up institutional environmental health assessments of facilities, worker safety training, respirator fit-testing, and follow-up disease and injury investigations. During the winter of 2020–2021, local EHS team members responded to a call from the local IHS regional hospital Environmental Health & Safety (EH&S) Safety Officer's request for assistance. The services were requested in part to assist with routine critical safety activities, while EH&S addressed worker and patient safety during the winter surge of COVID-19.

Methods

Team Formation

- 4 Western AZ District EHS team members (3 field EHS & 1 District IP Coordinator)
- Priority planning with PIMC Safety Management Program Managers
- 3 months/2x per week rotations

Safety Rounds

- Hazard surveillance
- Ergonomic assessments of workstations
- Emergency drills
- I-STAR system closeouts
- Hospital fit testing process evaluation
- PPE use observations
- Analyzed new work processes

Results

Safety Rounds

- Hazard surveillance rounds in 12 departments
 - Multiple safety risks discovered and resolved
 - Elimination of possible electrocution hazard at one of the outdoor screening stations
 - Identified egress hazards in Warehouse, inadequate post-COVID-19 terminal cleaning in Women's Clinic and improper re-use of PPE across the hospital
- Assessed 4 workstations for ergonomic hazards, including poorly designed workstations attributed to 2 workers with severe musculoskeletal injuries
- Conducted 12 fire drills, including 11 business occupancy drills
- Completed entry of backlog of worker incidents in the I-STAR system
- Evaluated and improved the hospital fit testing process
- PPE observations provided recommendations to improve PPE donning and doffing
- Analyzed new work processes including ultra-cold vaccine storage, worker screening stations and the surge floor established to manage the inpatient overflow

Additional Support Activities

- Adenosine triphosphate (ATP) assessments
 - 4 departments (ER, ICU, Medical Surge Unit, Dental)
 - 12 high touch surfaces tested
- Hospital food safety program assessments and consults
 - 7 assessments of hospital food safety (cafeteria, program)
 - DEHS Activity Log to chronicling surveys, trainings and TA consults
- COVID-19 on-site testing support

Discussion/Conclusion

- The Hospital Safety Support Team improved safety conditions and relieved the burden off of the lone safety officer until his deputy arrived
- The Team kept the hospital on schedule with accreditation requirements in anticipation of its Joint Commission survey
- By completing simple fire drills, maintaining the hazard inspection schedule, and identifying and resolving worker incidents for the I-STAR system, the hospital is positioned to achieve triennial accreditation
- The team of EHOs demonstrated the can-do spirit by bridging the gap until permanent help could arrive and normalcy could be re-established



LT Patricia Wrona conducting a respirator fit test

DEVELOPING WASTEWATER TREATMENT SYSTEM TRAININGS FOR ENVIRONMENTAL HEALTH STAFF

George Chung, Sarah Snyder

Phoenix Area

Introduction

Wastewater (WW) treatment systems play an important role in reducing disease risk by removing harmful substances from WW. Surveys of WW treatment systems are critical in identifying deficiencies to reduce the public health risk of contamination of the environment. WW treatment systems make up one-third (n=48) of environmental health (EH) staff survey workload in Eastern Arizona District. Approximately 50% (n=23) of systems are tied to a business or a non-residential community building. From 2013 to 2020, only 11 surveys of WW treatment systems have been conducted. A lack of knowledge in WW treatment systems and a lack of confidence in conducting the surveys using the eSurvey checklist from DEHS Web-based Environmental Health Reporting System (WebEHRS) contributed to the low survey rates. A comprehensive training program was developed to address these two issues.

Objectives

- Increase EH staff knowledge of WW treatment systems
- Increase EH staff confidence in surveying WW treatment systems using the eSurvey checklist
- Develop a reference list for EH staff to cite and use
- Develop training modules to present information on WW treatment systems
- Develop marking instructions for the checklist
- Develop evaluation methods to assess EH staff knowledge and confidence
- Present training program to EH staff
- Long term objective: increase survey completion rates of WW treatment systems by using this training program

Methods

- Researched references that can be used by EH staff to reference and cite observations during surveys
 - IHS Manual Chapter 11
 - References chosen based on revision frequency, section labeling, WW treatment topics covered

- Developed marking instructions for all 127 items on the checklist. Checklist is divided into 13 sections. Field tested the marking instructions
- Developed training modules on PowerPoint (PPT) for the following sections: manholes and lines, lift stations, community septic tank system, waste stabilization pond or lagoon, beneficial reuse/land treatment processes, sewage treatment plants, mechanical equipment/pre-treatment, advanced treatment processes, and plant safety
- Developed a pre-/post-test to assess knowledge of WW treatments systems and confidence in surveying and using the checklist
- Conducted the training program virtually by presenting the reference list, marking instructions, training modules, and pre-/post-test
- Conducted a field survey of a WW treatment system after each training session



Improperly abandoned 10-foot deep septic tank.

Results

- Developed a comprehensive training program on WW treatment systems which includes
 - A reference list
 - Detailed marking instructions for all 127 items
 - Training modules for 9 out of the 13 sections
 - A pre-/post-test to evaluate knowledge and confidence
- Two separate training sessions were held where each session was supplemented by a field survey of a different type of WW treatment system
 - Session 1: 8 EH staff participated
 - Session 2: 9 EH staff participated
- The tables summarize the results of the pre-/post-test; note that the confidence section was administered during the 2nd session only
- As of January 2022, 13 new WW treatment systems have been surveyed by EH staff
- EH staff increased both knowledge of WW treatment systems and confidence to survey using the checklist after each training session

Knowledge Scores	Average score pre-test	Average score post-test	Average Score increase
Session 2 (Total possible score: 32)	13.6	23.4	9.8
Session 1 (Total possible score: 20)	11.6	16.5	4.9

Confidence Scores (scale of 1-5: 1= not confident & 5=super confident)	Average score pre-test	Average score post-test	Average Score increase
Confidence in completing a survey	2.375	3.125	0.75
Confidence in using the checklist	2.625	3.375	0.75

Discussion

- Training is critical to developing staff competency
 - Not all EH staff have WW experience
 - Increased knowledge and confidence help to increase survey completion rates
- Completed surveys with correctly marked checklist helps to identify patterns of health risk in WW treatment systems when there is sufficient data

- Surveys have identified critical health hazards that would have gone unnoticed by the operators (Photo 1)
- There are many WW treatment systems that are more complex than what is covered in this training program
- These training modules can be adapted to the types of WW treatment systems in the EH staff coverage area

Recommendations

- Teaching in person instead of virtually allows for more engagement, especially for technical subjects
- A field survey should accompany the presentations to reinforce learned knowledge
- Confidence evaluations should be conducted after the field survey
- Consider developing training programs for other establishment types with low survey completion rates



Wastewater undergoing aeration process.





Healthy Homes

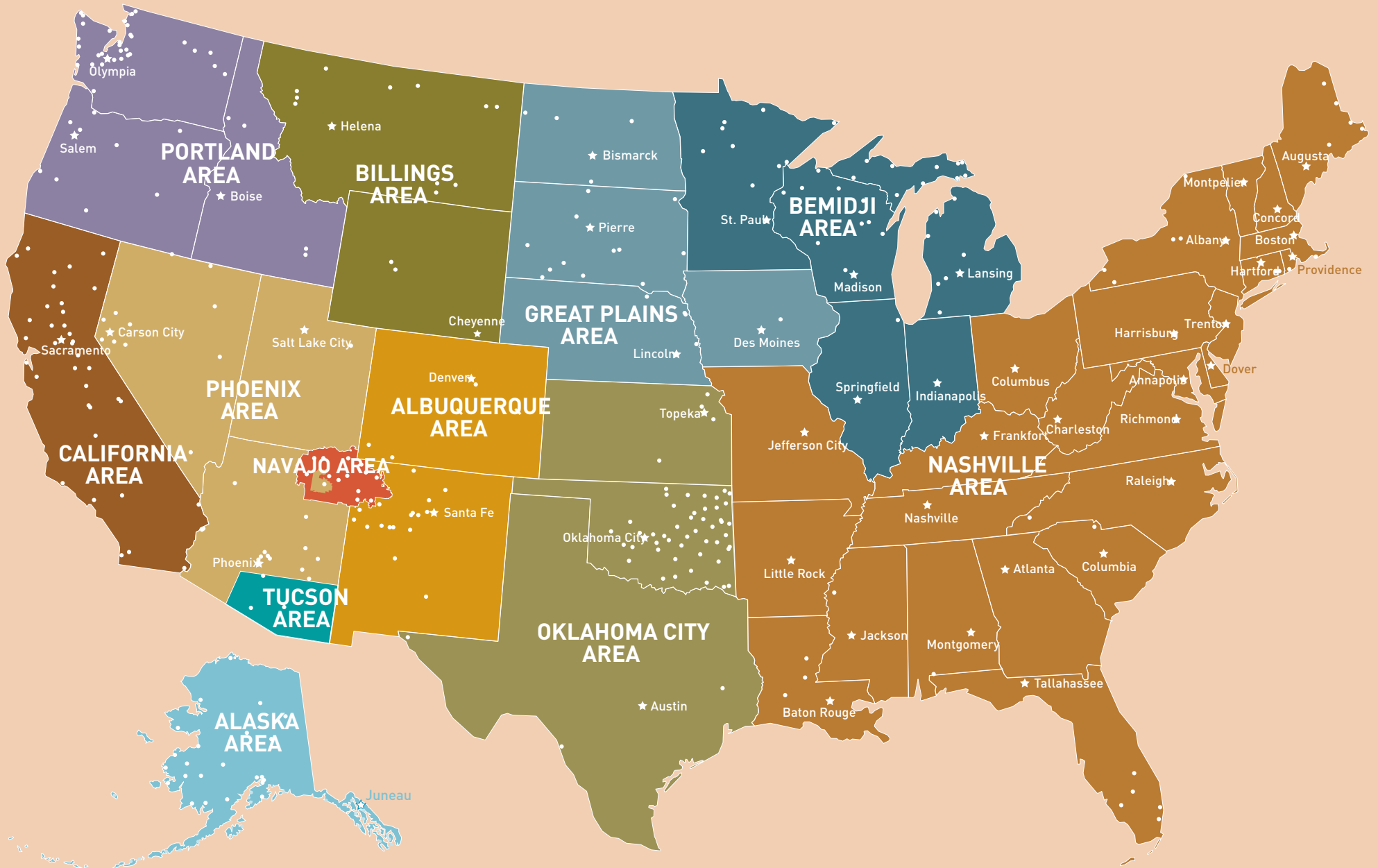
EH issues associated with housing on tribal lands present an ever-increasing set of complex challenges to be addressed. A few examples of EH related issues of concern are lead exposure, asbestos exposure, mold, disease vectors, lack of potable water, radon gas, solid and liquid waste disposal, injuries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

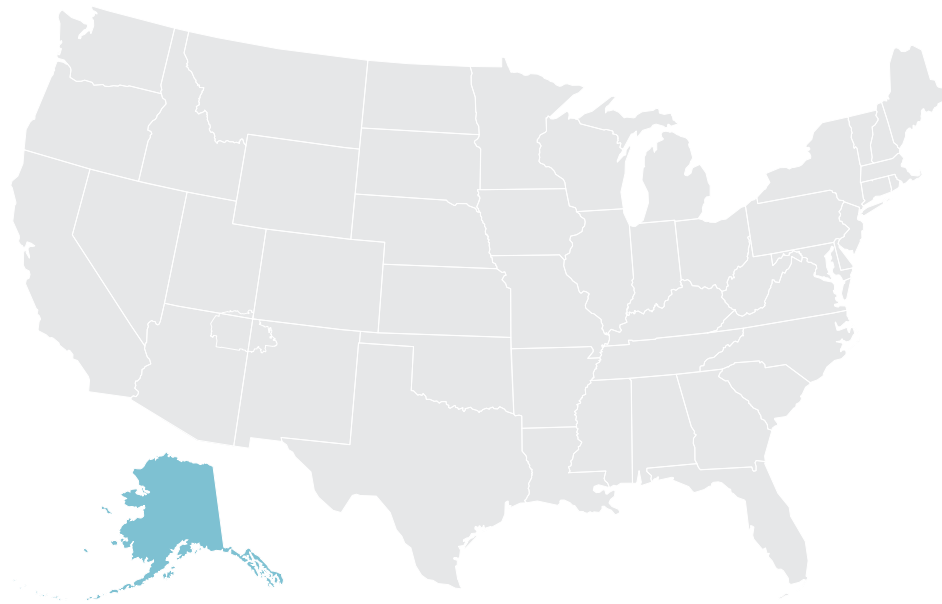
Many programs focus on capacity building and education related to reducing asthma attack rates, mold and moisture problems, chemical exposure, and other events that are documented through health surveillance systems and through a home inspection program. Home inspections identify threats to the health of occupants and the DEHS staff focus on identifying and eliminating related risk factors.

Due to the amplified emphasis on COVID-19 prevention, response, and recovery efforts, no projects were reported in 2021.



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.

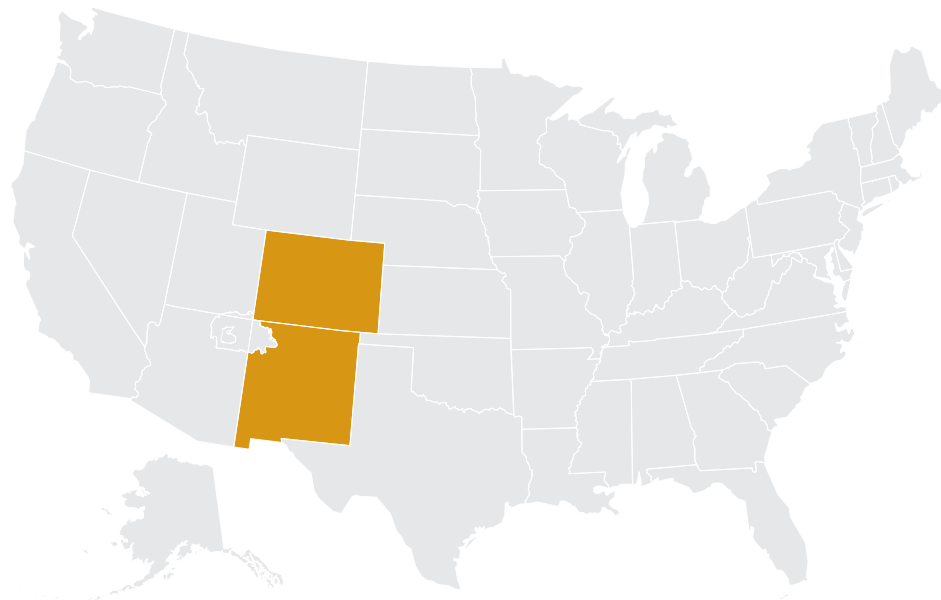


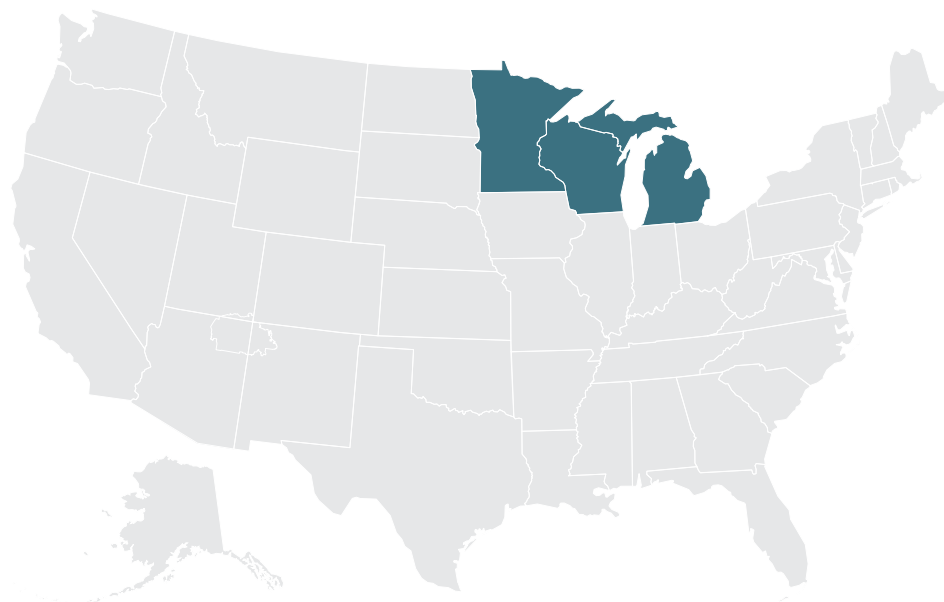
Albuquerque

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 are located in Bemidji, Minnesota. The second district office is located in Rhinelander, Wisconsin, and there is a field office in Ashland, Wisconsin.

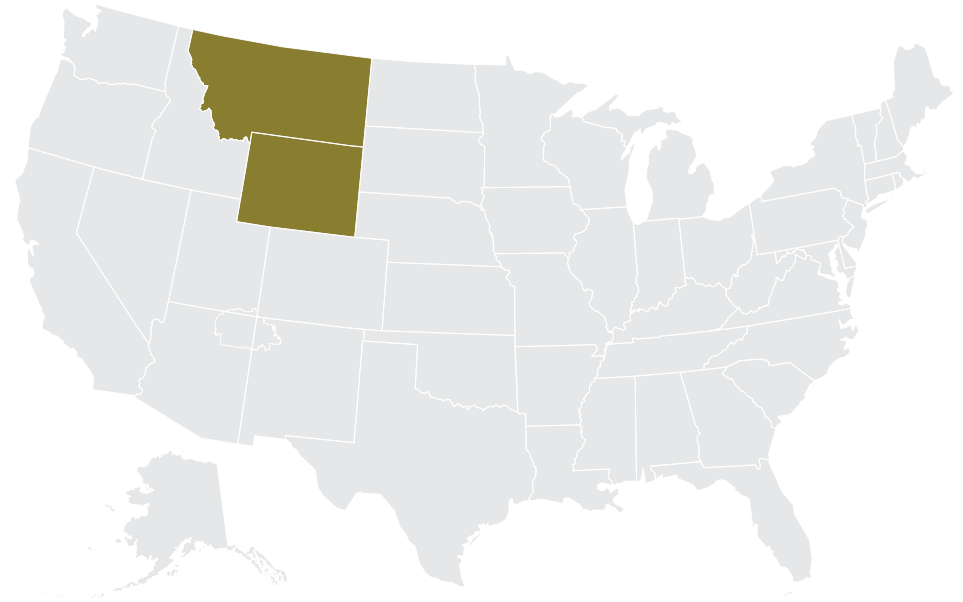
The Bemidji Area provides EH services in the form of surveys, investigations, testing and monitoring, training, policy development, program support and facility plan reviews. This is done in effort to improve food safety, solid and liquid waste management, water quality, hazard communication, epidemiology, 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.

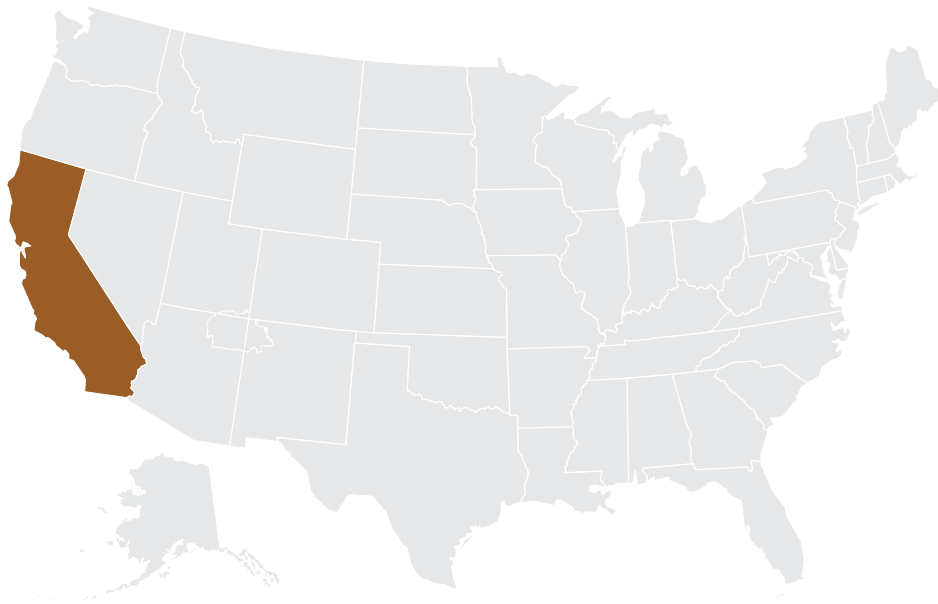


Billings

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

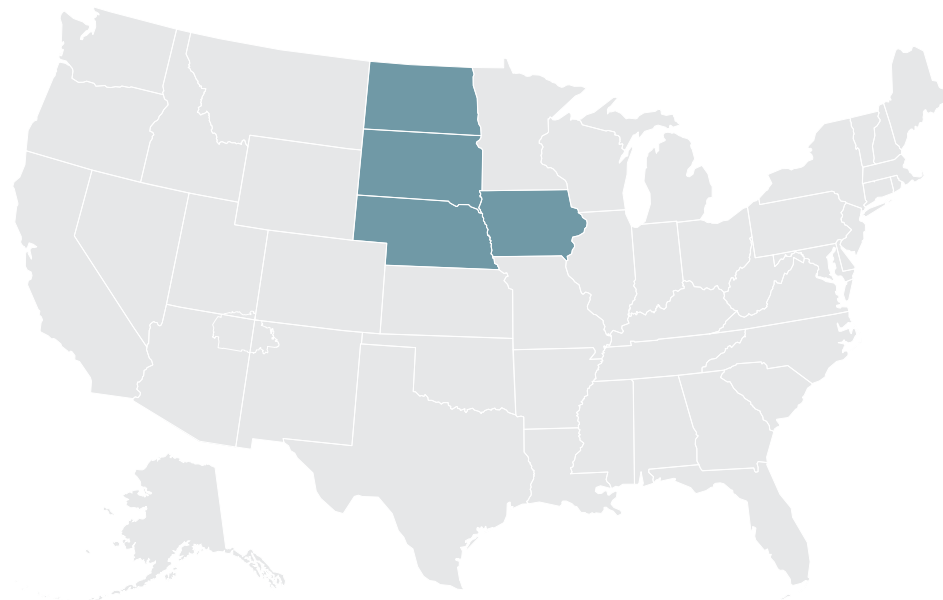
environmental health, communicable disease control and epidemiology, food safety, recreational water, community facilities and institutions, operation and maintenance sanitation facilities, and solid waste management. The California Area DEHS also provides IEH services to support partner tribal programs in their efforts to reduce chemical, biological, radiological, and ergonomic workplace hazards. Healthcare accreditation, infection control, and compliance are priorities for our IEH Program.

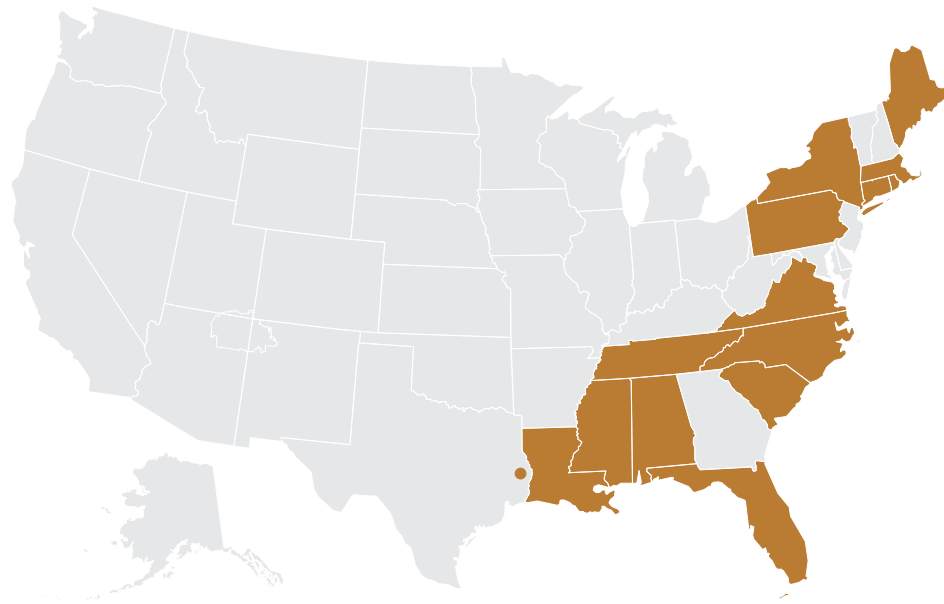
The California DEHS injury prevention program is dedicated towards increasing the capacity of tribes to reduce injury problems within their community. Our program currently provides technical assistance, funding, and other resources to tribes for use in the collection of injury data, training, and the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



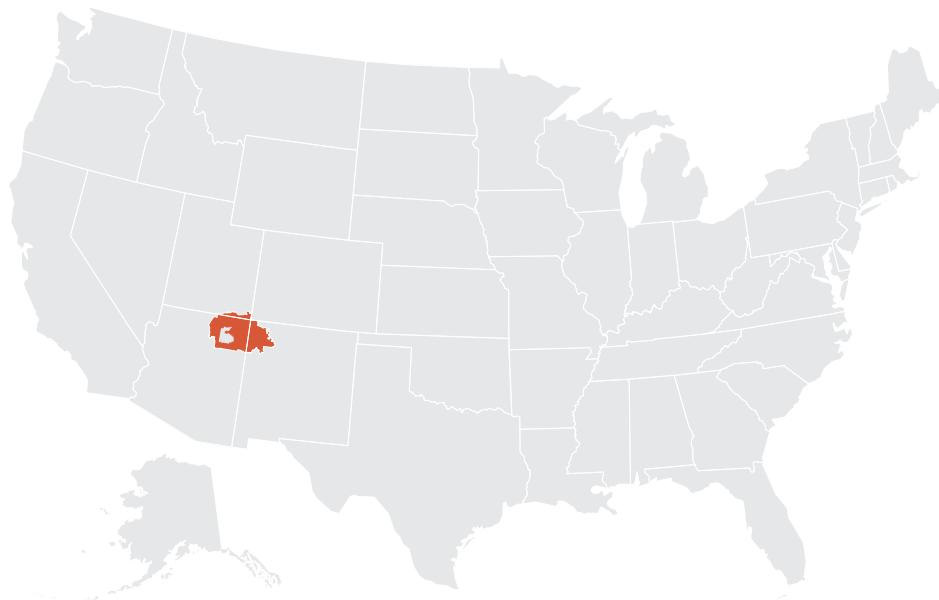
Navajo

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.

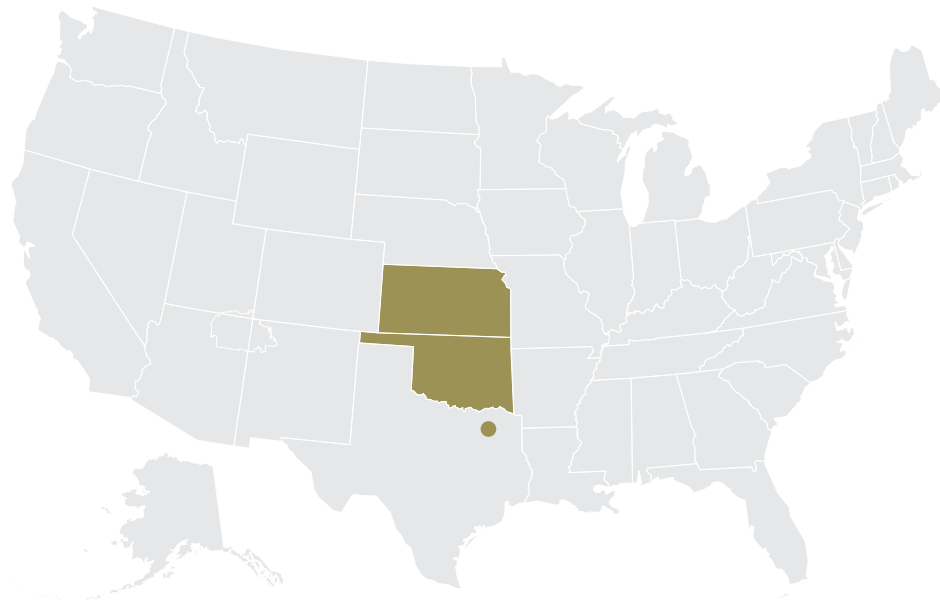
The DEHS staff plan and provide EH programs and services in many areas such as food safety, prevention of elder falls, motor vehicle injuries, emergency preparedness, water and sewer sanitation, and prevention of zoonotic diseases including plague, rabies, hantavirus, and West Nile virus. Public health 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.

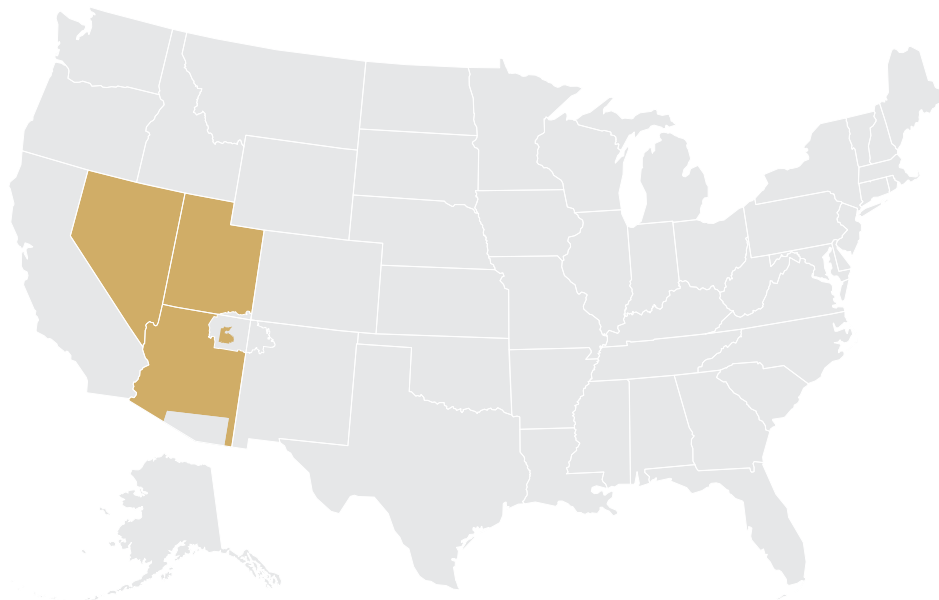
The DEHS is also responsible for specialized services in the areas of IP and IEH. The goal of the Oklahoma City Area IP program is to reduce the incidence and severity of injuries and deaths within the tribes they serve and work in collaborations with. IP services include training, partnership building, 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.

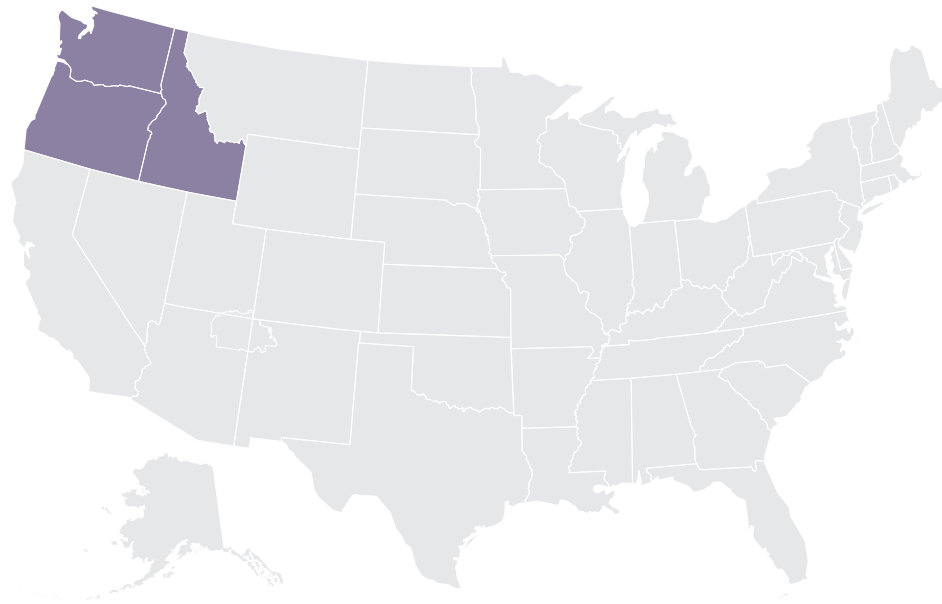


Phoenix

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.

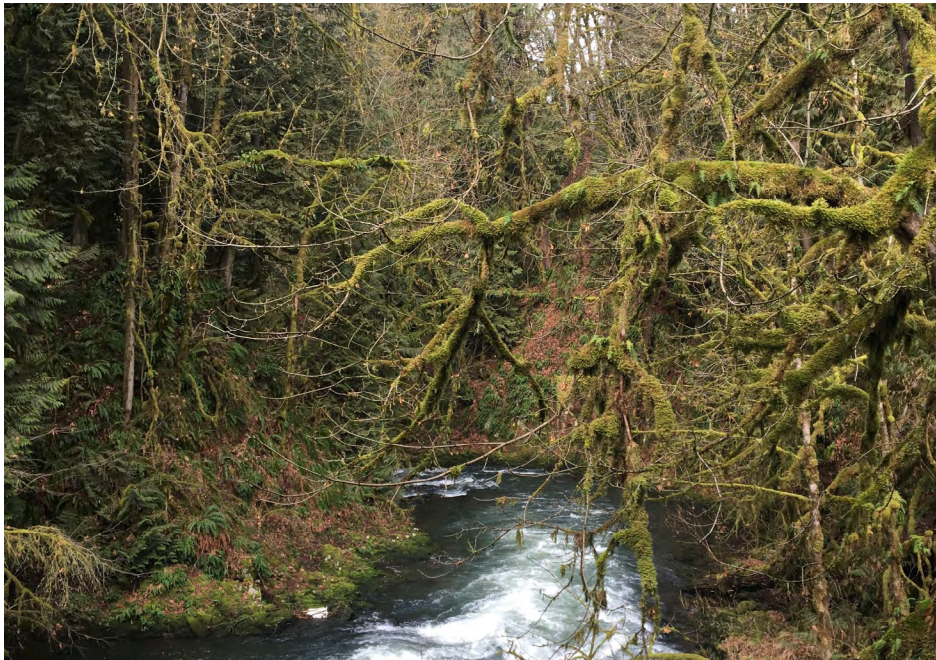




Portland

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.

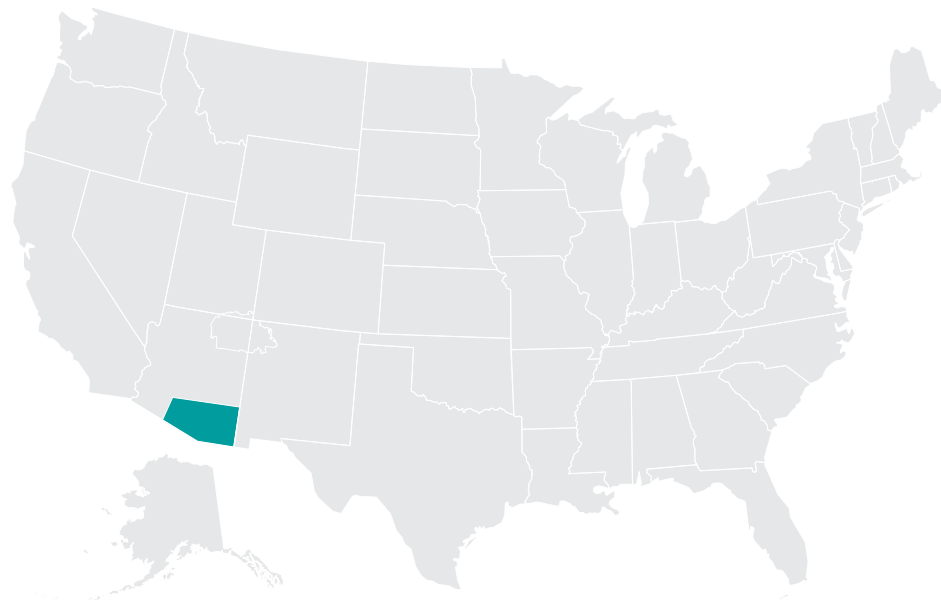
The Portland Area DEHS Program has enhanced services in pesticide safety through an interagency agreement with EPA Region X. In the Portland Area, many of the 43 tribes have assumed all or a portion of the DEHS Program under the authority of the Indian Self- Determination and Education Assistance Act (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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Anchorage, AK 99508
Ph. (907) 729-3501

ALBUQUERQUE AREA/DEHS

4101 Indian School Road
NE Albuquerque, NM 87110
Ph. (505) 248-4947

BEMIDJI AREA/EHSS

2225 Cooperative Court
Bemidji, MN 56601
Ph. (218) 444-0503

BILLINGS AREA/OEHE

2900 4th Avenue
North Billings, MT 59101
Ph. (406) 247-7090

CALIFORNIA AREA/DEHS

650 Capitol Mall, Suite 7-100
Sacramento, CA 95814
Ph. (916) 930-3981, ext. 336

GREAT PLAINS AREA/DEHS

115 4th Avenue SE
Room 309, Federal Building
Aberdeen, SD 57401
Ph. (605) 226-7597

NASHVILLE AREA/DEHS

711 Stewarts Ferry Pike
Nashville, TN 37214
Ph. (615) 467-1622

NAVAJO AREA/DEHS

P.O. Box 9020
Window Rock, AZ 86515
Ph. (928) 871-5807

OKLAHOMA CITY AREA/DEHS

701 Market Drive
Oklahoma City, OK 73114
Ph. (405) 951-6001

PHOENIX AREA/DEHS

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Phoenix, AZ 85004
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PORTLAND AREA/DEHS

1414 NW Northrup Street, Suite 800
Portland, OR 97209
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TUCSON AREA/EHSB

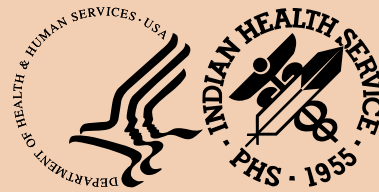
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The Division of Environmental Health Services

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

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INDIAN HEALTH SERVICE

Office of Environmental Health and Engineering

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