



Region 9 - Regional Tribal
Operations Committee Meeting
February 4, 2020

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“You could go days without food
and hours without water, but you
would last only a few minutes
without air”

[The Plain English Guide to the Clean Air Act](#)

Indoor Air Quality and Health

EPA studies show that indoor air pollutants can be two to five times—and occasionally more than 100 times—higher than outdoor levels

Source, EPA Report on the Environment:
<https://www.epa.gov/report-environment/indoor-air-quality>



Sensitive groups:

- **Elders**
- **Those suffering from heart and lung disease**
- **Asthmatics**

Children:

- Breathe more than adults, relative to their body weight
- Children are rapidly growing and developing
- Less developed natural defenses
- Spend more time close to the floor, where contaminant levels can be higher
- Childhood exposures can have life-long effects

Indoor Air Quality and Health cont.

- **Indoor air pollution can have immediate effects**
 - trigger asthma
 - irritation of the eyes, nose, and throat,
 - headaches, dizziness, and fatigue
- **Indoor air pollution can have long-term effects**
 - occur years after exposure
 - after long or repeated periods of exposure
 - respiratory diseases, heart disease and cancer

Indoor air quality affects your health even if symptoms are not immediately noticeable

Source, EPA indoor air quality webpage:

<https://www.epa.gov/indoor-air-quality-iaq/introduction-indoor-air-quality#health>

Asthma in Tribal Communities

Protecting the health of the next generation

- 12% of people living in tribal communities – nearly double the current national average of 7.7%.¹
- 10.2% of American Indian/Alaska Native children compared to 7.5% of children in the U.S.²



1. <https://www.cdc.gov/nchs/fastats/asthma.htm>

2. https://www.cdc.gov/asthma/most_recent_national_asthma_data.htm

Health Connections for COVID

Air Pollution results in poor outcomes for COVID

1 microgram/m³ PM

=

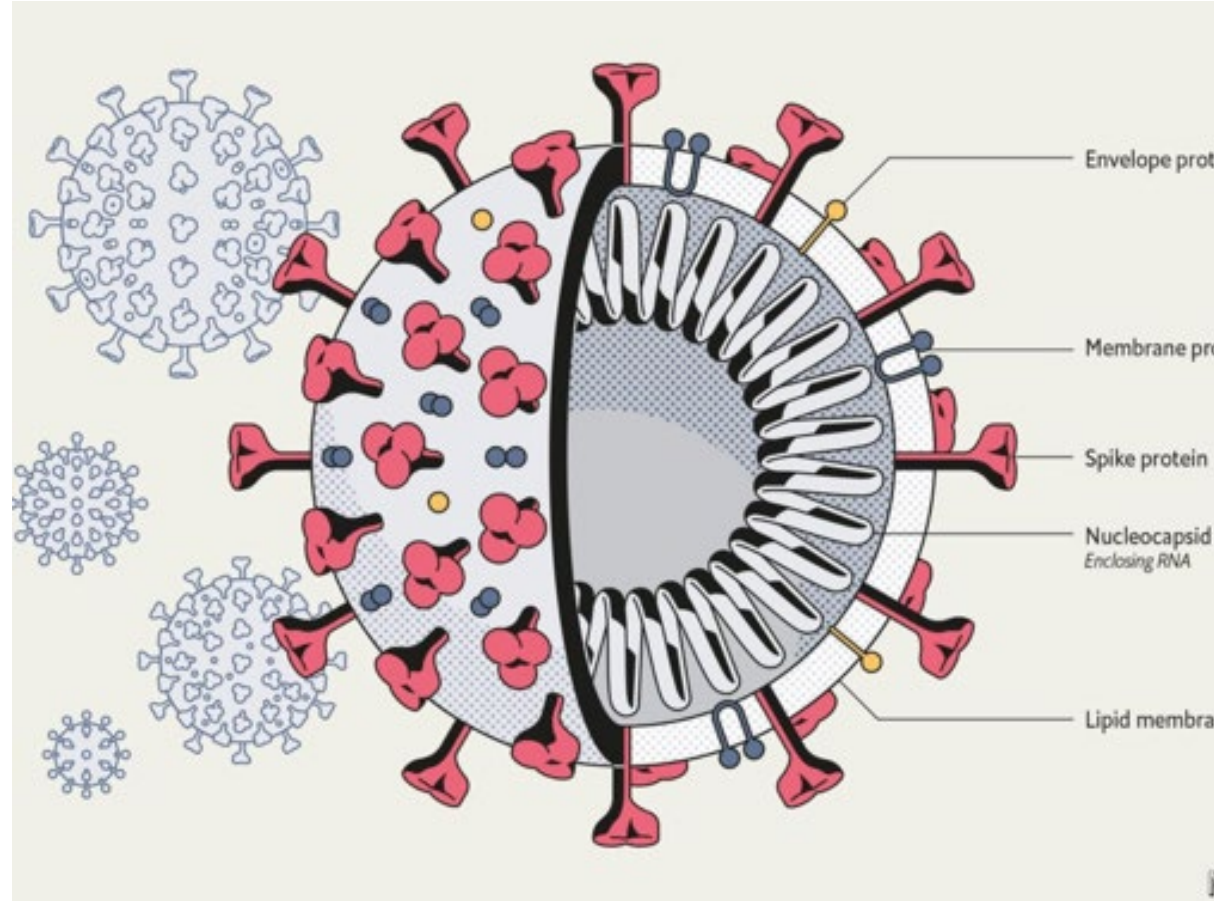
8% to 15% increase in COVID death

Study Conclusions: A small increase in long-term exposure to PM_{2.5} leads to a large increase in the COVID-19 death rate. Despite inherent limitations of the ecological study design, our results underscore the importance of continuing to enforce existing air pollution regulations to protect human health both during and after the COVID-19 crisis.

Study link: <https://projects.iq.harvard.edu/covid-pm/home>

Risk Reduction Actions - COVID

- Wear mask
- Distancing
- Ventilation and Air Cleaning
- Wash Hands
- Cleaning with non-toxic cleaners
- Avoid crowded, poorly ventilated indoor spaces



Resources for COVID Risk Reduction

IAQ Considerations for Re-Opening Tribal Buildings

- Recording available at: www.ntaatribalair.org/indoor-air-quality/

Other resources:

- **EPA Corona Virus website:** <https://www.epa.gov/coronavirus>
- **EPA indoor air and coronavirus:** <https://www.epa.gov/coronavirus/indoor-air-and-coronavirus-covid-19>
- **American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE):** <https://www.ashrae.org/technical-resources/resources>
- **Centers for Disease Control (CDC) on ventilation -** <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/Improving-Ventilation-Home.html>
- [Great webinar slides on COVID-19, asthma and the importance of indoor air](#) (no audio, pause to slow it down) or [download here](#)

Developing a Tribal Indoor Air Program through GAP

- This is a voluntary program with limited regulations and statutes—unlike ambient air
- Education and outreach is key in improving indoor environments and environmental health
- Why work on this?
 - To directly protect human health
 - Immediate return – it's practical and tangible
 - You learn about your community, build relationships and help them in a way that is practical and real to them



GAP ELIGIBILITY AND WHERE TO BEGIN

A few examples

General GAP Guidance

1.2 Program Priorities

“Funding is provided under GAP for the purposes of planning, developing, and establishing tribal environmental protection programs consistent with programs and authorities administered by the EPA”.

As further detailed in Appendix I (aka: Guidebook), **GAP resources should support:**

- Developing and maintaining **core environmental program capacities** (administrative, financial management, information management, **environmental baseline needs assessment, public education/communication**, legal, and technical/analytical)

B: Building Core Environmental Protection Program Capacities

B.6 Establishing Core Public Participation, Community Involvement, Education, and Communication Capacities

Establishing public participation, community involvement, education, and communication core capacities includes **assessing, modifying, or developing systems** to ensure that the tribal environmental protection program can **notify the general public** of **important events** or information, **publicize activities** related to its projects and programs, **engage community members to understand their environmental and public health concerns, educate the public on human health and environmental protection issues important to the tribe, and be responsive to concerns raised.** These systems should identify the various routes or methods of disseminating information, and the time frame and particular audience that each method would reach.

C: Building capacity on Air Quality from the GAP Guidebook

Air: “The first stage in developing an air quality management program is to **develop the necessary expertise and skills to identify, address, and manage air quality issues**. Tribal capacity-building activities should focus on **assigning staff, acquiring initial training, compiling relevant data** on which the tribe can make program development decisions, **engaging the tribal community on air quality issues, collecting and analyzing new air quality data**, and using this information to make decisions on further development of an air quality management program.”

C: Building Tribal Ambient and Indoor Air Quality Program Capacities

- ❑ C.3.1 Tribe has established a **staffing plan** (position description and recruitment/retention/promotion plan) for who will serve as **tribal air quality/indoor air quality program coordinator(s)**.
- ❑ C.3.3 Staff has completed appropriate **indoor air quality training** and acquired skills related to indoor air quality (e.g., **Healthy Homes training**)
- ❑ C.3.5 Tribe is receiving **funding under the CAA** or other related EPA media specific program.
- ❑ C.3.10 Tribe has completed an **indoor air quality assessment and report**.
- ❑ C.3.11 Tribe has **established a radon program** that tests residential and other occupied structures for radon, identifies those above the EPA action level, and **conducts outreach and education in the community**.

C: Building Tribal Ambient and Indoor Air Quality Program Capacities(cont.)

- C 3.12 Tribe has **prepared a report recommending actions to improve indoor air quality** and reduce levels for radon, mold, moisture, and environmental pollutants.
- C 3.13 Tribe has **incorporated indoor air quality improvements or features as part of building renovation programs** (e.g., weatherization and rehabilitation) and new construction.
- C 3.31 Tribe has **enacted green building codes, guidelines and/or protocols that promote healthier indoor air quality** and apply these practices to new and retrofitted buildings.
- C 3.32 Tribe has established **a program to conduct indoor air quality outreach, education, and/or training** for tribal government personnel and/or community members.
- C.3.33 Tribe has with effective compliance assurance and enforcement provisions **enacted indoor air quality laws, codes, and/or regulations**

G: Building Tribal Chemical Safety and Pollution Prevention Program Capacities

- G.3.4 - Tribe has completed an asbestos, pesticides, lead-based paint, and **pesticides needs assessment** that: collects and evaluates existing data on pesticide use and other relevant factors; assesses the need to develop related projects and/or programs; and evaluates short-term and long-term options to address those identified needs.
- G.3.5 - Tribal staff has acquired necessary **training/accreditation/certification to conduct lead-based paint hazard evaluations** at pre-1978 tribal housing/pre1978 child occupied facilities.
- G.3.7 Tribe has **established community outreach/education programs**.
- G.3.8 Tribe has established **mechanisms to provide meaningful opportunities for public participation/community involvement** to identify concerns related to chemical safety and pollution prevention and/or solicit input on decisions.
- G.3.9 Tribe has **completed inventory of all pre-1978 target housing and child-occupied buildings** and gathered information on the presence of **lead-based paint** and/or lead-based paint hazards in or around these buildings.
- G.3.10 Tribe has completed an **inventory of asbestos** (in accordance with the AHERA), **pesticides, and toxics in K-12 schools**.

GAP Guidance

- FAQ's answer many important questions that have come up over the years: <https://www.epa.gov/tribal/frequently-asked-questions-about-indian-environmental-general-assistance-program-gap>
- The full, 2013 GAP Guidance is here: <https://www.epa.gov/tribal/2013-guidance-award-and-management-general-assistance-agreements-tribes-and-intertribal>

First Steps

- Work with your Project Officer to see if you need to modify your [EPA-Tribal Environmental Plan](#) (ETEP) to include indoor air quality, environmental health, education and outreach. This is your strategic planning document.
- Reach out for technical assistance as needed:
 - Mansel Nelson: Mansel.Nelson@nau.edu/928-523-1275, or Alheli Banos-Keener: banos.alheli@epa.gov/619-235-4767 and/or talk to your project officer
- Create an indoor air baseline needs assessment

EPA-Tribal Environmental Plan (ETEP)

The ETEP is a strategic planning document that covers 4-5 years and it can be updated as priorities change, or new priorities emerge. Talk to your project officer to see if modifications need to be made to your plan.

Minimum ETEP Requirements (see GAP Guidance, page 16 of 22)

- Identification of environmental issues facing the tribe.
 - Perhaps you don't know yet and would like to build capacity to find out.
- Identification of tribal priorities (roughly 4-10 priorities)
 - Work with the Tribe and community to identify these. Is it all indoor air issues in tribal buildings, schools, daycares, homes, or specific issues such as housing deficiencies and how to address them? You may not know what the priorities are, so you want to build capacity, investigate and do a baseline needs assessment.

EPA-Tribal Environmental Plan (ETEP)

continued...

- Long-term goal (4-5 years) for addressing each issue (with capacity indicators from the GAP Guidance and Guidebook)
- Intermediate (1-4 year) plans for working towards long-term goals (rough timeline, and key milestones)
- Funding and/or technical assistance needed (from EPA or otherwise) to achieve intermediate and long-term objectives.
- R9 Sample ETEPs
- R9 sample ETEP with an indoor air component



NEEDS ASSESSMENT

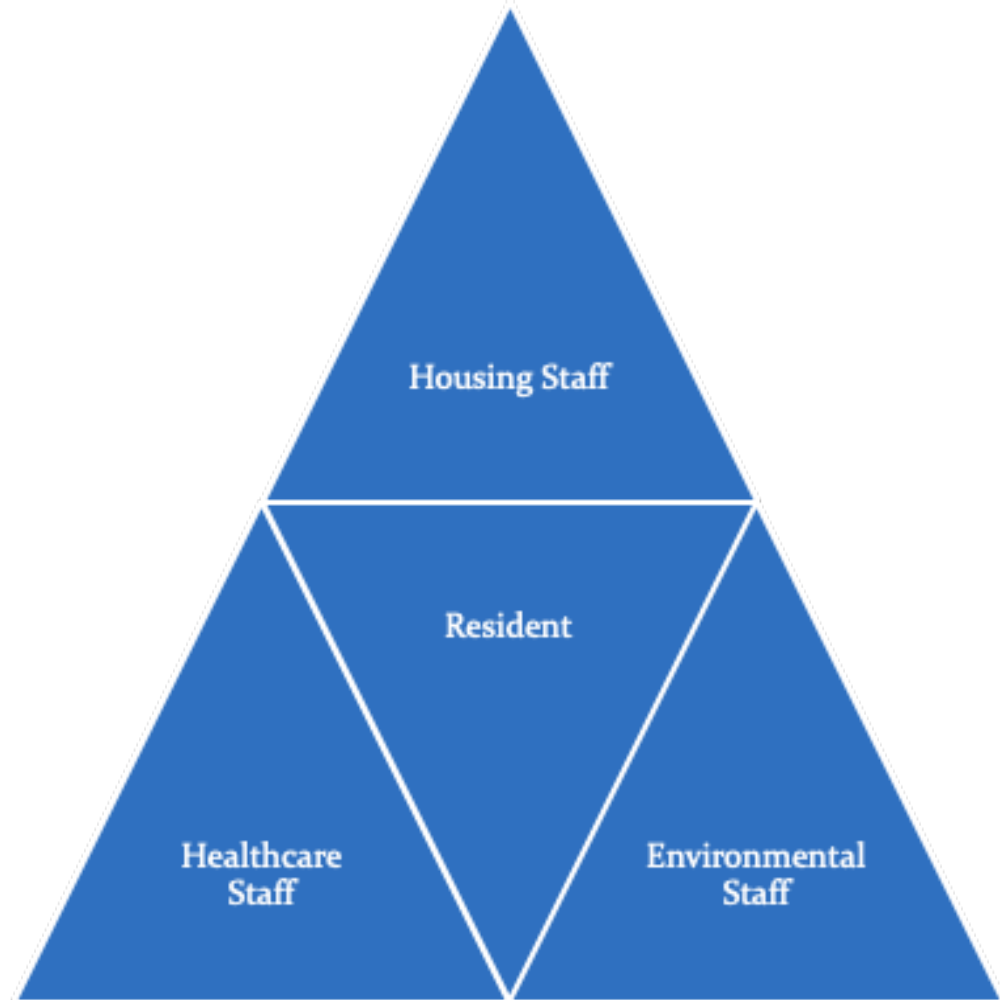
A few examples

Doing a needs assessment

- Use a healthy homes checklists to guide you: [HUD Tribal Healthy Homes Publications](#)
- High level needs assessment is done for a Tribe
 - What resources and issues do you need to identify
 - Talk to the health clinic, housing office, facilities managers, maintenance staff at schools, health department, nurses at the school, daycare, community health outreach workers
 - Find out information and get feedback on asthma rates, housing maintenance needs (mold or leaky roofs), lead paint, wood stove usage (or drive around and see smoke coming from homes).
- Check with your PO to see if you need to do a Quality Assurance Project Plan (QAPP). If you are collecting data, a QAPP may be needed.

Partnerships

- Environmental Staff
- Housing Staff
- Health Staff



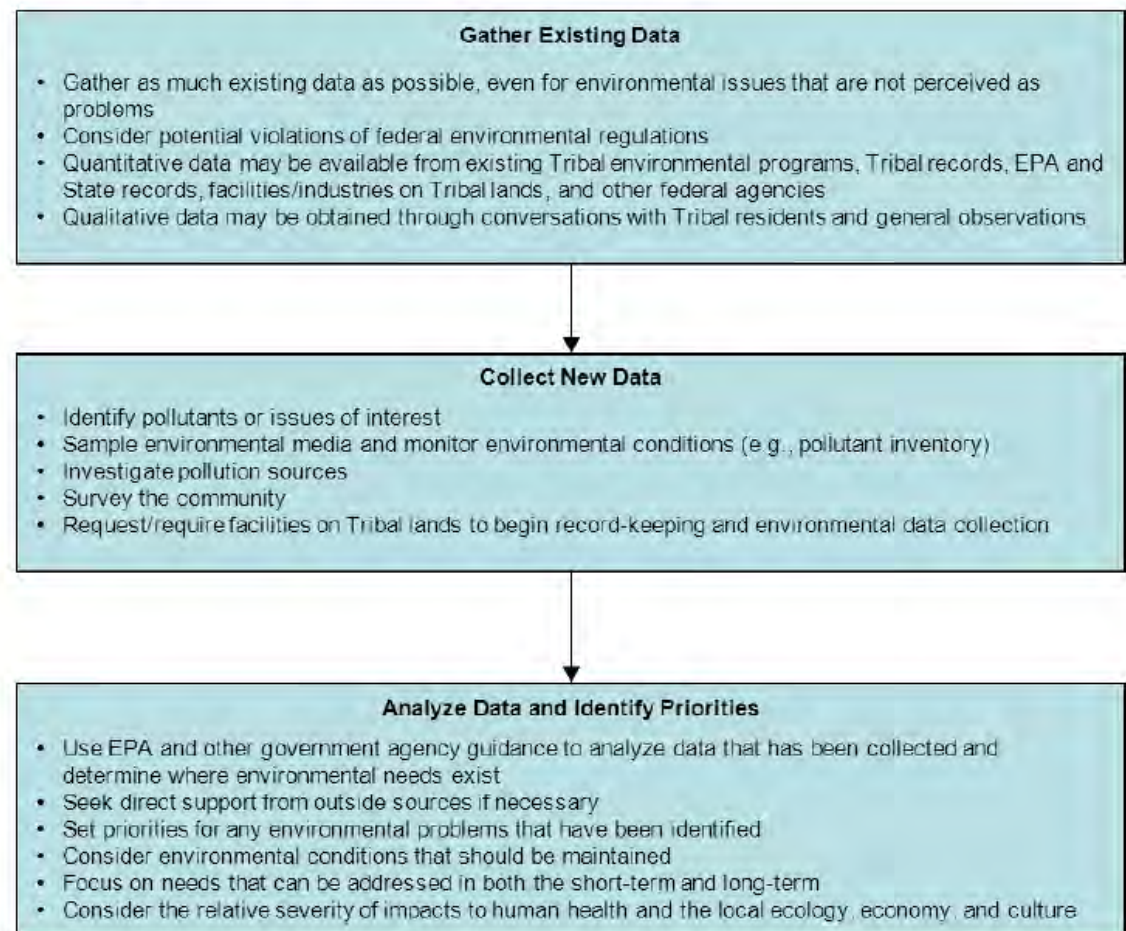
From the GAP Guidebook Appendix II

Appendix II

Baseline Needs Assessment

The diagram below illustrates the types of steps that tribes can take to identify and prioritize the environmental issues they want to address. Such an assessment can help inform a tribe's approach for undertaking protection and restoration efforts. As a tribe develops a more sophisticated environmental program, it may undertake extensive sampling and monitoring efforts. The baseline needs assessment is not meant to be such an extensive data collection effort, but rather a primary step to prioritize general environmental issues.

Conducting a Baseline Needs Assessment



Possible Priorities

MAJOR INDOOR POLLUTANTS

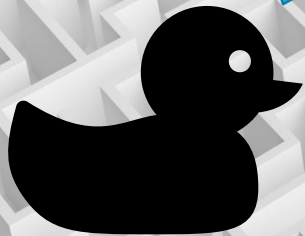
KILL MANY	KILL QUICK	SERIOUS IMPAIRMENTS	IRRITATION/ DISCOMFORT
<u>Tobacco</u> 430,000 deaths per year	<u>Carbon Monoxide</u> 500 deaths per year, US residential	<u>Lead</u> .450,000 > 5mcg/dl <i>Per CDC reference value criterion of 2012</i>	<u>Formaldehyde</u> Strong irritant
<u>Radon</u> 15,000 to 22,000 deaths per year		<u>Dust Mites</u> Asthma: 14 Million Doctor visits/year, 1/3 Attributed to dust mites	<u>Mold</u> Allergens, toxic particles, VOC's
<u>Environmental Tobacco Smoke</u> 40,000 deaths		<u>Mold</u> Allergens, Particles, VOC's	<u>VOC's</u> Irritants, poss. or known carcinogens

Source:USEPA, CDC

J. Ponessa, Rutgers Cooperative Extension 3/01

Quality Assurance Project Plans

A QAPP describes your plan for collecting and using environmental information and data.

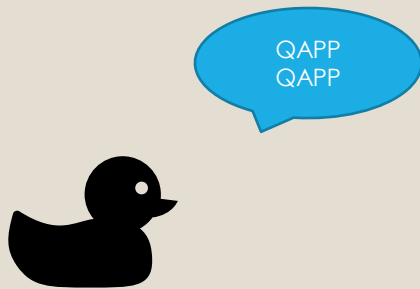


Quality Assurance Project Plan (QAPP)

- Look into developing QAPPs, especially if you are going to be doing home assessments.
- Plan early and prepare for a QAPP – avoid delays
- The process for an IAQ QAPP is different from the traditional “TURBO QAPP” used for ambient air.
- QAPPs are needed if you are doing observation and gathering/collecting information

Does My Project Need A QAPP?

- Make sure to contact the EPA Region 9 Quality Assurance Unit before you begin, especially if this is a new project, or you are new to environmental project planning.
- By law, any EPA-funded monitoring project must have an EPA-approved QAPP before it can begin collecting samples.
- The purpose of this requirement is to ensure that the data collected by monitoring projects are of known and suitable quality and quantity.



QAPP CONTACTS:

Josie Kamkoff- ITEP

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Audrey Johnson

Johnson.AudreyL@epa.gov

Six Elements of Indoor Air Quality QAPP's for Educational Outreach



1. Title and
Approval Sheet



2. Project
Description and
Task Description



3. Data Quality
Objectives and
Criteria



4. Sampling
Process and
Network Design



5. Requirements
for Analytical
Methods



6. Requirements
for Quality
Control



QAPP
QAPP



DEVELOPING A WORKPLAN

A few examples

Healthy Homes

Keep It Dry

Keep It
Ventilated

Keep It Safe

Keep It Pest-
Free

Keep It
Thermally
Regulated

Keep It
Contaminant-
Free

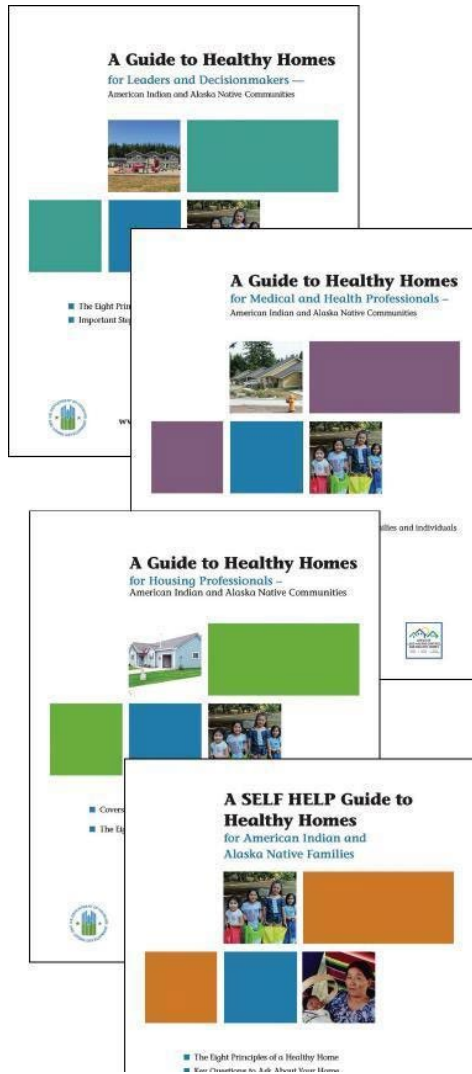
Keep It Clean

Keep it
Maintained



Build Capacity on Healthy Homes

- [Read: The Healthy Homes Program Guidance Manual](#)
- [Read: HUD Tribal Healthy Homes Publications](#)
- [Read: EPA/CPSC: The inside story a guide to indoor air quality](#) – the three basic strategies are source control, ventilation, and air cleaning



Healthy Homes Sample Workplan – R10

Template II: Healthy Homes Assessment & Outreach

Indian General Assistance Program WORK PLAN TEMPLATE			
Tribe/Tribal Consortia: EPA Region 10 Project/Budget Period:			
Title		Healthy Homes Assessment & Outreach	
Description			
Long-Term Outcome		Home environments are healthier and safer for community residents. Indoor air quality and health are improved.	
Measure(s)		C.3.1, C.3.3, C.3.10, C.3.11, C.3.12, C.3.13, C.3.15, C.3.17, C.3.19, C.3.20, C.3.30, C.3.31, C.3.32, C.3.33, C.3.34	
Intermediate Outcomes		<ul style="list-style-type: none"> • Tribal environmental staff are trained on healthy homes, indoor air, home remediation, weatherization, energy efficiency, or other relevant topics. • Possible solutions for addressing issues are outlined, resulting in potential action steps to improve environmental conditions. • Relationships with other tribal, local, state, or federal partners are created or strengthened. • A community healthy housing team including staff from health, housing, and environment is developed. 	
Estimated Component Cost			
Estimated Work Year			
Commitments		End Date	Outputs & Deliverables
1.1	Gather community concerns about housing and indoor air quality.	November 30	Concerns identified and progress shared in EPA Quarterly Progress Reports.
1.2	Attend training (could be healthy homes, indoor air quality, energy efficiency, radon, or other related training).	September 30	Trip reports and/or certificate of attendance submitted to Tribal Council and EPA.
1.3	Gather resident education materials to share on healthy homes, indoor air, or associated issues of concern. Contact EPA, your regional health corporation, Tribal Healthy Homes Network , HUD, RuralCAP , ANTHC , American Lung Association , UAF Cooperative Extension Service , Cold Climate Housing Research Center , ITEP , and/or other organizations to find out what they have to share. Tailor outreach materials to community as needed.	December 30	Progress (e.g. list of outreach tools that were developed or identified) shared with EPA in quarterly progress reports and with Tribal Council at regularly scheduled meetings.
1.4	Hold a community meeting to assemble interested community agencies/organizations or join environmental committee, Tribal Council and/or City Council meetings to assess concerns, share information learned during trainings, and brainstorm solutions.	January 30	Meeting minutes or summary submitted to EPA with Quarterly Progress Reports.
1.5	Share information on community housing concerns and educational information in IGAP newsletter, put printed materials in PO Boxes, and/or hang posters around community. Share information during school environmental education activities and Clean Up/Green Up week, on the radio, or on social media.	May 30	Progress reported in Quarterly Reports to EPA. Photos and/or copies of articles and outreach materials shared with EPA.

Last Updated – 11/9/18

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Make sure not to copy and paste, especially since many of these links are specific to Region 10

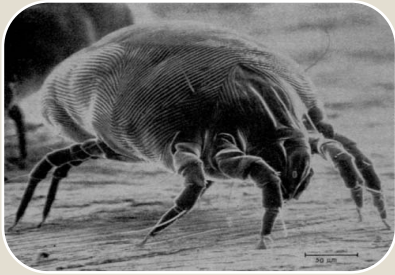
1.6	Determine whether Tribal Council would like to create a Healthy Homes Team and, if so, invite community organizations/agencies to join. Potential team members are housing staff, health aides or other clinic staff, regional health corporation staff, local contractors, and/or youth. (If stipends or snacks needed to motivate attendance at meetings, include in budget).	March 30	Meeting summary or minutes and list of working team members submitted to EPA.
1.7	Determine common home environmental hazards (e.g., indoor and outdoor air quality issues, hazardous household products, and sanitation issues) in and around homes that affect the health of residents. Note: If a survey or home assessment tool, like ANTHC's Healthy Homes Checklist is used, a QAPP will need to be developed in consultation with EPA.	June 30	List of potential issues and potential solutions submitted to EPA and Tribal Council with Quarterly Reports (including resources, strategies, and additional partners needed if appropriate.). QAPP developed and approved by EPA.
1.8	Identify possible solutions to these problems and determine which specific strategies to use in the community. Options may include increasing use of ventilation, using safer wood burning practices, controlling moisture levels indoors and in wood stove fuel, using treated water, and increasing use of water for hand washing.	July 30	Outline of options shared with tribal council and EPA. Copy of information shared with community in newsletter or during meetings/events shared with EPA.
1.9	Share outreach materials and ideas for home improvements that residents can do in their homes to make them healthier. Improvements could include using/fixing/installing ventilation, installing carbon monoxide detectors, testing for radon, getting rid of bed bugs using integrated pest management strategies, operating wood stoves more cleanly, and using green cleaning supplies. Example outreach resources include: <ul style="list-style-type: none"> • Alaska Healthy Homes guide and poster • Tribal Healthy Homes Network Renters Healthy Homes Calendar • Air Matters Toolkits (include costs in Supplies section of budget \$200/toolkit) 	September 30	Summarize materials shared, progress, and any feedback from residents in quarterly reports.
1.10	Finalize action plan and present to Tribal Council for approval.	July 30	Develop and share project plan with Tribal Council, any collaborators (city or housing staff) and EPA.
1.11	Attend additional training in support of action steps (for instance home walk-through training, indoor air quality, water safety, mold and moisture, general healthy homes courses).	September 30	Share trip reports with EPA and Tribal Council.
1.12	Collaborate with the community health aide and the housing staff so they can better identify and discuss indoor air quality issues in homes with families with young children or elderly who have asthma or other respiratory diseases.	September 30	Summarize progress in quarterly reports.
1.13	Research, identify, and apply for healthy homes grants or technical resources. See Tribal Healthy Homes Network Funding Guide for ideas.	August 30	List of resources or copies of grant proposals shared with Tribal Council and EPA with Quarterly Progress Reports.

<https://www.epa.gov/sites/production/files/2018-11/documents/r10-gap-tools-air-workplan-templates.pdf>

Build Capacity on Asthma

- Healthy Homes, indoor air and asthma trigger management go hand in hand.
- Coordinate with health clinic/hospital staff, schools, rec centers, head start centers, childcare centers, senior centers and talking to the community
- Next steps and actions? Use the healthy homes or asthma checklists to plan next steps.
 - Referral program or coordination plan/program between the health center/clinic and the environmental program.
 - Home visits – to help identify environmental asthma triggers and do personalized education and outreach
 - Healthy home assessment, figure out how to mitigate (look into getting medicaid reimbursement)

Household Environmental Asthma Triggers



dust mites



roaches and pests



mold/mildew



chemicals/cleaners



pet dander



cold air



scents and odors



pollen



nitrogen dioxide



outdoor pollution



smoke



thirdhand Smoke

Asthma Resources

- Visit the [Indoor Air Quality Tools for Tribal Communities](#) and review the [Asthma Basics presentation for Tribal Environmental Professionals](#)
- Listen to this ITEP recommended [pre-recorded webinar](#) on asthma
- American Lung Association has great training information and links to resources. [Start with the Asthma Basics page](#)
- [Effects of Wildfire Smoke and Asthma and other Webinars and information](#) from Regional Asthma Management and Prevention (RAMP)
- Familiarize yourself with the [Asthma Checklist](#)
- Visit the [CDC's asthma page](#)

Wood burning stoves

Burn Wise

CONTACT US

SHARE



Burn Wise Home

What You Can Do

Wood Smoke Resources in Your State

Wood Smoke and Your Health

Consumers

Air Agencies

Businesses

Education and Outreach

Wood-Burning Changeout Resources for Tribes

Residential wood smoke is an issue in many tribal communities. This page contains information that may help tribes that are considering a changeout campaign or wood smoke education initiative.

Case Studies and Final Reports

- [La Conner, WA - Swinomish Tribal Changeout](#)
- [Makah Tribal Changeout Final Report](#)
- [Makah Tribal Changeout Presentation Slides](#)
- [Nez Perce Tribal Changeout Final Report](#)
- [Measurable Outcomes of a Woodstove Changeout on the Nez Perce Reservation, University of Montana](#)

Tribal Outreach Materials



Photo Courtesy of Gary Elthie

- [Tribal Wood Smoke Brochure: Wet Wood is](#)

**WET
WOOD IS A
WASTE**

**BURN DRY FIREWOOD
TO SAVE MONEY AND HEALTH**

<https://www.epa.gov/burnwise/wood-burning-changeout-resources-tribes>

https://www.epa.gov/sites/production/files/2019-06/documents/tribalbrochure_final_6_2019.pdf

Residential Woodsmoke Sample Workplan – R10

Template IV: Residential Woodsmoke Reduction

Indian General Assistance Program WORK PLAN TEMPLATE			
Tribe/Tribal Consortia: EPA Region 10 Project/Budget Period:			
Title	Residential Woodsmoke Reduction		
Description			
Long-Term Outcome	Reduced wood smoke in the community and improved health of residents, particularly among vulnerable populations.		
Measure(s)	C.3.3, C.3.10, C.3.13, C.3.19, C.3.20, C.3.31, C.3.32		
Intermediate Outcomes	<ul style="list-style-type: none"> Increased awareness of the production and health impacts of wood smoke so that informed decisions can be made on developing strategies to address this pollution. Identification and implementation of strategies for reducing wood smoke in the community – possible intermediate outcomes may include clean burning education and outreach activities, fuel quality improvements (lower moisture content in cord wood or other fuels used), improved operation and maintenance of appliances, appliance upgrades. 		
Estimated Component Cost			
Estimated Work Year			
	Commitments	End Date	Outputs & Deliverables
1.1	Obtain training on wood smoke related air quality issues and health impacts. Contact EPA , Tribal Healthy Homes Network , or ANTHC for assistance identifying training. Or attend sessions at conferences that feature this information. Note: Please be as specific as possible. If travel is involved, those trainings or conferences must be in the budget.	September 30	Training summary and trip report to EPA and tribal council.
1.2	Inventory possible outreach materials that may be used to raise community awareness about wood smoke and related topics. Examples include: <ul style="list-style-type: none"> BurnWise Alaska materials EPA BurnWise program materials Alaska Tribal Air Toolkit fact sheets and videos Tribal Healthy Homes Network NTAA's wood smoke workgroup 	October 30	Summary of materials that will be used for outreach listed in EPA in quarterly report.
1.3	Conduct a community assessment about home heating, wood stoves and wood burning practices. Summarize the results into a report or document. IGAP staff could distribute questionnaires in PO boxes, or talk to community members (door to door), the local housing authority, the energy assistance program, or others. The assessment should determine the following: <ul style="list-style-type: none"> How many homes burn wood or wood products for heat 	November 30	Copy of report to EPA and Tribal Council.

Make sure not to copy and paste, especially since many of these links are specific to Region 10

	<ul style="list-style-type: none"> • How many wood stoves or boilers are being used regularly • How many are EPA-certified • How many are outdated • How many are in need of maintenance (e.g. chimney cleaning, new door seals) • How many are properly vented • Where people obtain and store their wood • How long is wood seasoned before use <p>Contact EPA, ANTHC, or Tribal Healthy Homes Network for assistance with this process. A QAPP will need to be developed.</p>		
1.4	Share results of community home heating assessment with tribal council, community, EPA, and others to identify and prioritize recommendations for improvements.	January 30	Summarize findings in quarterly report to EPA.
1.5	<p>Based on findings from home heating assessment, educate the community about wood heating/burning best practices to protect health, improve safety, reduce heating costs, and improve the life of wood stoves. Example activities (each of the below items can be a commitment):</p> <ul style="list-style-type: none"> • Share information, at a tribal council meeting, through a newsletter article, at health fairs, at youth events, at the school, and other tribal gatherings. • Demonstrate how to use a moisture meter in wood. • Conduct a demonstration: burn wet wood, dry wood, and a compressed wood product (briquettes or pellets); evaluate the amount of smoke produced. <p>Demonstrate how to build a hot, clean-burning fire and how to split, stack, and store cordwood.</p>	September 30	Summary of outreach and education shared in quarterly report to EPA. Share where outreach information was provided, how many people were reached and the feedback that was provided.
1.6	<p>Identify additional strategies for wood smoke reduction. Each of the below ideas could be their own commitments.</p> <ul style="list-style-type: none"> • Develop a wood banking program (a program where residents can exchange wet wood for dry wood). • Work with the clinic, energy program, or other partners to develop a program that provides moisture meters and dry wood/briquettes to vulnerable populations (elders, people with heart and respiratory disease, children, pregnant women). • Work with the tribal wood providing/heating assistance program to measure moisture content of wood and only give out properly seasoned wood. 	March 30	Share list of ideas with EPA in quarterly report. Share with Tribal Council.

<https://www.epa.gov/sites/production/files/2018-11/documents/r10-gap-tools-air-workplan-templates.pdf>

Build Capacity on IPM

- EPA resources: [Introduction to Integrated Pest Management](#) – an environmentally friendly, common sense approach to controlling pests.
- Stop pests – provides training: <http://www.stoppests.org/>
- Reach out to those who understand pests in your area. Universities have local extension programs
 - [The University of Arizona, IPM information](#)
 - [University of Nevada, Reno IPM](#)
 - [University of California IPM](#)
- National Pesticide Information Center: www.npic.orst.edu/ or 1-800-858-7378

Integrated Pest Management

- Who is in charge of pest management for the Tribe?
- Research which pests are a problem in your community
- Are residents using insecticides?
- Research what can be done first, before resorting to pesticides.



Healthy Cleaning

Cleaning that protects public health, without harming the health of staff, building occupants, and the environment

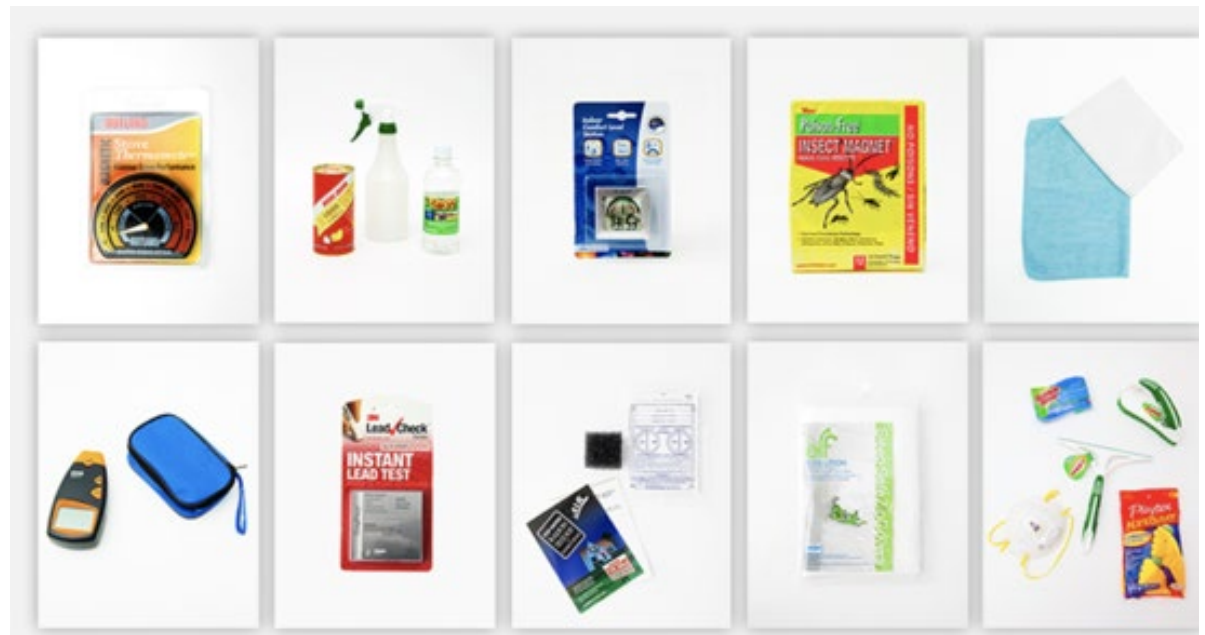


Prevent exposure to chemicals that either cause or are associated with:

- Hormone disruption
- Cancer
- Headaches
- Asthma attacks
- Damage to lungs and brain
- Unknown health effects

Air Matters Toolkit

- Healthy Home Toolkit and Cue Cards
- Education Tool for health fairs and one-on-one visits
- Tools for change



Not an endorsement or recommendation – Examples
These items can be tailored to your community and region

Basic IAQ Instruments

- Smoke Puffer
- Relative Humidity Meter
- Carbon-monoxide Meter
- Particulate Matter (PM) Meter
- Combination Meter
- More as needed



Not an endorsement or recommendation - Examples

Summary

- Learn, investigate, train – it's about building your knowledge base
- Identify needed skills, especially in the age of COVID
- Identify environmental health/indoor air priorities by meeting with the community
- Reach out to other Tribes and learn from them
- Call EPA, ITEP, NTAA, NAEPC and others for technical support and training needs
- Look into workgroups and consortia doing similar work
- Collaborate with local health department, IHS, HUD, Head Start, senior centers, and after school programs
- What tools do you need? Webinar platform, listserv, moisture meters?

Contact information



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TRIBAL IAQ TRAINING AND RESOURCE DIRECTORY

ALLISON REIBACH
EPA -REGION 8

TRIBAL INDOOR AIR QUALITY TRAINING & RESOURCE DIRECTORY



FOR USE IN DEVELOPING
INDOOR AIR PROGRAMS

Created by:

THE US ENVIRONMENTAL PROTECTION AGENCY

In collaboration with:

THE INSTITUTE FOR TRIBAL ENVIRONMENTAL PROFESSIONALS
AND THE NATIONAL TRIBAL AIR ASSOCIATION

What is it?

- A directory to connect tribal governments to resources that aid in the creation or expansion of IAQ programs

Topics Covered:

- Asthma
- Mold
- Radon
- Commercial Tobacco and Secondhand Smoke
- Healthy Homes, Schools, and Buildings
- Residential Wood Smoke and Other Combustion Hazards
- Disaster Preparedness, Response, and Recovery
- COVID-19 and Other Pathogens
- Grants
- Helpful IAQ Contacts

What are these resources?

- High-quality sources of information
- Distributable materials for various audiences
- Examples of tribal policy
- Toolkits and guides for various projects
- Training webinars and materials
- Protocols and assessment sheets
- Program implementation examples

When possible, the resources are specifically written for tribal audiences

Healthy Homes, Schools, and Buildings

Americans spend around **90%** of their time indoors, where pollutants can be **2-5 times** the outdoor concentration.¹

Investing in healthy indoor environments yields **health benefits** and **economic benefits**.²

There were **13.8 million missed school days** due to asthma in 2013. Healthy homes and schools can help to keep kids learning!³

Recent innovations have enabled **virtual assessments** to identify home health risks and improvement actions.⁴

Follow these 8 principles:

1. Keep it dry
2. Keep it clean
3. Keep it Safe
4. Keep it well-ventilated
5. Keep it pest-free
6. Keep it contaminant-free
7. Keep it maintained
8. Keep it thermally controlled

1. Environmental Protection Agency 2. forhealth.org 3. Center for Disease Control 4. Department of Housing and Urban Development

Resources by Type: Healthy Homes

<h3>Healthy Homes Action Brochure</h3> <p>A homeowner's or renter's guide to creating a healthy home environment for themselves and their family.</p>	<h3>Green & Healthy Homes Virtual Assessment Toolkit</h3> <p>A toolkit of free documents to support virtual healthy homes assessments, including intake forms, assessment documents, and guidance resources. (More home assessment resources in the asthma section)</p>
<h3>Tribal Healthy Homes Calendar Checklist</h3> <p>Although this was designed for 2017-2018, this tribal resources is an organized checklist of action items that homeowners and renters can complete on an annual basis to ensure a safe and healthy home.</p>	<h3>Healthy Homes Partnership</h3> <p>Offers tools for both families and educators for healthy homes, including tips for keeping a healthy home for families, and healthy homes lesson plans for educators.</p>

GET INVOLVED:

Would you like to help guide this project?

1. Review or “test drive” our directory
2. Share your tribe’s IAQ story to be featured as a case study

To get involved, email me at
reibach.allison@epa.gov