TRIBAL EPIDEMIOLOGY CENTER
ENVIRONMENTAL PUBLIC HEALTH
TRACKING PROGRAM

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TRIBAL EPHT SYMPOSIUM
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Presentation Overview

Tribal Environmental Tracking Program

Tribal Healthy Homes Pilot Project
  ◦ Indoor Radon Surveys
  ◦ Injury Prevention Risk Survey
  ◦ Chronic Conditions

Environmental Health Survey
  ◦ Questions
  ◦ Responses

Comments/Questions
Tribal Environmental Tracking Program

Tribal Epidemiology Centers
- Received pilot funds through Great Lakes Inter-Tribal Epidemiology Center (GLITEC)
- Conduct environmental health project

Projects
- Environmental Health Survey
- Tribal Healthy Homes Project
Tribal Healthy Homes Project

Collaborative project
- Two communities
- Programs in each community
- AASTEC

Community Meetings
- Discuss community priorities
- Formulate timeline

Opportunities for partnerships
Healthy Home Assessment
Healthy Home Principles

7 Healthy Homes Principles

Keep It:
1. Dry
2. Clean
3. Ventilated
4. Pest-Free
5. Safe
6. Contaminant-Free
7. Maintained

Figure: Healthy Home Principles
Home Indoor Radon Exposure
EPA Radon Zone Regions

EPA developed map for illustrating varying predicted Radon (Rn) organized into 3 zone regions

Zone 1: Rn > 4 pCi/L
Zone 2: Rn 2-4 pCi/L
Zone 3: Rn < 2pCi/L

Average Rn levels
  ◦ Inside home  1.3 pCi/L
  ◦ Outside home  0.4 pCi/L

Figure: EPA Radon Zone Map
Source: Retrieved from https://www.epa.gov/radon/epa-map-radon-zones
Radon Exposure Is the Second Leading Cause of Lung Cancer

Lung Cancer (American Cancer Society, 2014) (USEPA, 2014)
- Leading cause is cigarette smoking
- Second leading cause is radon exposure

Uranium Epidemiologic studies
- Excess respiratory cancer deaths associated with cumulative exposure to radon progeny (WLM) among underground uranium miners (Archer et al., 1976)
Home Fall Prevention
Fall Prevention Checklist

HOME FALL PREVENTION CHECKLIST FOR TRIBAL MEMBERS
Data Collection
Data Collection

Housing List

Two Visits Per Home
  ◦ Written Consent
  ◦ Home characteristics
    ◦ Developed
    ◦ Type of home
    ◦ Ventilation characteristics
  ◦ Indoor Radon Samples
  ◦ Geolocation
    ◦ Latitude/Longitude
  ◦ Elevation (Feet)
  ◦ Temperature (ºF) retrospective

Figure: House Cartoon
Source: Google Images

Figure: Trimble TDC 100 Device
Source: Trimble website
Training

Knowledge
- Home assessments
- Radon exposure and assessment
- Fall injury prevention

Trimble training
Field experience
GIS training
Sampling

Buildings
- Residential
- Public

Community 1
- Smaller
- Goal-sample
  - All residential
  - All public buildings

Community 2
- Larger
- Goal-sample
  - Over half of residential
  - All public buildings
Impacts of Project

Short term
- Strengthen tribal capacity
- Spatial map of each community
- Updated indoor radon concentration levels (pCi/L)

Long term
- Advanced training in utilizing geographical information system (GIS) software and hardware
- Spatial map will assist in prioritizing funds in each community
- Spatial map could assist in prioritizing resources in cases of emergencies (i.e., flood, fire)
Next Steps

Benefits
- Community Education
- Community Outreach
- Data used for overall welfare of community
- Household assessments
- Radon assessments
- Geospatial map of communities

Expand beyond pilot
- Reach out to more tribal communities
- Explore additional environmental health concerns
HOW DO I TEST MY HOME FOR RADON?

- Testing is the only way to know your home's radon levels.
- Testing for radon is easy and inexpensive.
- You should first do a “short-term” test.
- These kits should remain in place for 3-7 days depending on the device.
- When testing, follow “closed house” conditions by keeping windows and outside doors closed as much as possible during the test except for normal exit and entry.

WHAT DO THE RESULTS MEAN?

- If the initial test is at or above 4.0 pCi/L, follow up with 2nd test.
  - 4.0 to 8.0 pCi/L: Long-term test (90 days to 1 year) under normal lived-in conditions.
  - Above 8.0 pCi/L: An immediate short-term test (48 hours)
- If your radon level is 4.0 picocuries per liter (pCi/L) or higher, take action to reduce your risk from radon.

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4.0 The EPA recommended radon action level
Environmental Health Survey

Environmental Concerns
- Air Pollution
- Water quality
- Radon Exposure
- Climate Change

Link between personal health and the environment

Available information on health issues in communities
Q1. What do you feel are the top three environmental concerns in your community? (Please select up to 3 choices)

- Waste Management (sewage/sewer systems, landfills, illegal dumping)
- Stray Dogs
- Climate Change
- Poor Quality Drinking Water
- Air Pollution
- Natural Disasters
- Water Pollution
- Infectious Disease Outbreaks
- Radon
- Radiation Exposure (waste piles; proximity to nuclear facilities)
Q2. Do you feel there is a link between your personal health and the environment?
   ◦ Yes
   ◦ No
   ◦ Don’t Know/Not Sure

Q3. In your opinion, how much of a priority is environmental health to your tribal leadership?
   ◦ High Priority
   ◦ Medium Priority
   ◦ Low Priority
Environmental Health Survey

Q4. How much information do you currently have on environmental health issues?
   ◦ A lot of information
   ◦ Some information
   ◦ Little or no information

Q5. What is the name of your Tribe?

Q6. Additional Comments: Please provide any additional environmental concerns in your community.
References


Community Uranium Exposure Journey To Healing Program. 2014.


Eichstaedt PH. If You Poison Us: Uranium and Native Americans. Santa Fe: Red Crane Books; 1994.


References


Navajo Population Profile Based on Census 2010. Window Rock, AZ: Navajo Division of Health/Navajo Department of Behavioral Services/Navajo Epidemiology Center; 2013.


