



University of Connecticut
Technical Assistance To Brownfields Program EPA Region 1

Engaging Rural Healthcare Providers – Brownfields Awareness and Advocacy



Nylab Noori, MPH
NERHA Environmental Program
Manager

July 30th, 2025



Agenda

- New England Rural Health Association and University of Connecticut Technical Assistance to Brownfields
- Panel Introduction
- Environmental Contamination – Healthcare Concern
- "Brownfields to Healthfields"
- Panel Discussion/Q&A

NEW ENGLAND RURAL HEALTH ASSOCIATION (NERHA)

UConn TAB Partner – Rural Outreach and Engagement



NERHA supports UConn TAB by serving as a link between rural communities and technical experts. This helps foster collaboration among communities and municipalities, ensures public health considerations are included in Brownfield assessment and cleanup, and strengthens local capacity to address these challenges.

For over 25 years the New England Rural Health Association (NERHA) has served as the state rural health association for the six New England states. We are a non-profit organization dedicated to advancing rural health. NERHA provides education, training, consulting, and advocacy in support of the rural health organizations and individuals in our region.

Connect with Community Hubs: Libraries, Health Center, State Offices Of Rural Health (SORHs), Organizations

Conduct Individual Outreach: MAP 2025
30+ Municipalities reached

NERHA Reach, By The Numbers:

- ✓ 10,000+ People Served by NERHA Programs
- ✓ 100+ Partner Organizations Across New England
- ✓ 300+ Communities Impacted
- ✓ 550+ Members
- ✓ 5,500+ Mailing List

Stay Connected With Us:

- ✓ Nerha.org
- ✓ Join our Newsletters
- ✓ Read "*Rural Roots*"
- ✓ Become a Member

Panel Presentations



Dr. Kimberly Aviado, Ph.D, Toxicologist from
the New Hampshire Department of
Environmental Services



Dr. Karen Simone, PharmD, Director of
Northern New England Poison Center



Suzi Ruhl, JD, MPH, Senior Research
Scientist in The Child Study Center, Yale
School of Medicine



From Exposure to Action: Collaborative Approaches to Environmental Contaminants

Dr. Kimberly Aviado, NH Department of Environmental Services
Dr. Karen Simone, Northern New England Poison Center

July 30, 2025



Environmental Contamination and Health Risk

For a **health risk** to occur:

PRESENCE

+

EXPOSURE

+

TOXICITY

=

RISK

- Contaminants must be **present** in environmental media at the site (water, soil, or air).
- A pathway must exist for contaminants to enter a person's body, leading to **exposure**.
 - Drinking contaminated water or eating contaminated food
 - Breathing in airborne contaminants
 - Direct skin contact with contaminated soil
- The contaminant must have a **toxic effect** in the body at the concentrations people are being exposed to.
 - Lead – impaired neurological development in children
 - Asbestos – mesothelioma, lung cancer, asbestosis
 - Volatile Organic Compounds (VOCs) – eye/throat irritation, headaches, nausea, liver and kidney damage, nervous system and respiratory system issues, cancer
 - Arsenic – digestive and respiratory issues, cardiovascular disease, neurodevelopmental effects, cancer

Brownfield Redevelopment Process

Brownfield Definition:

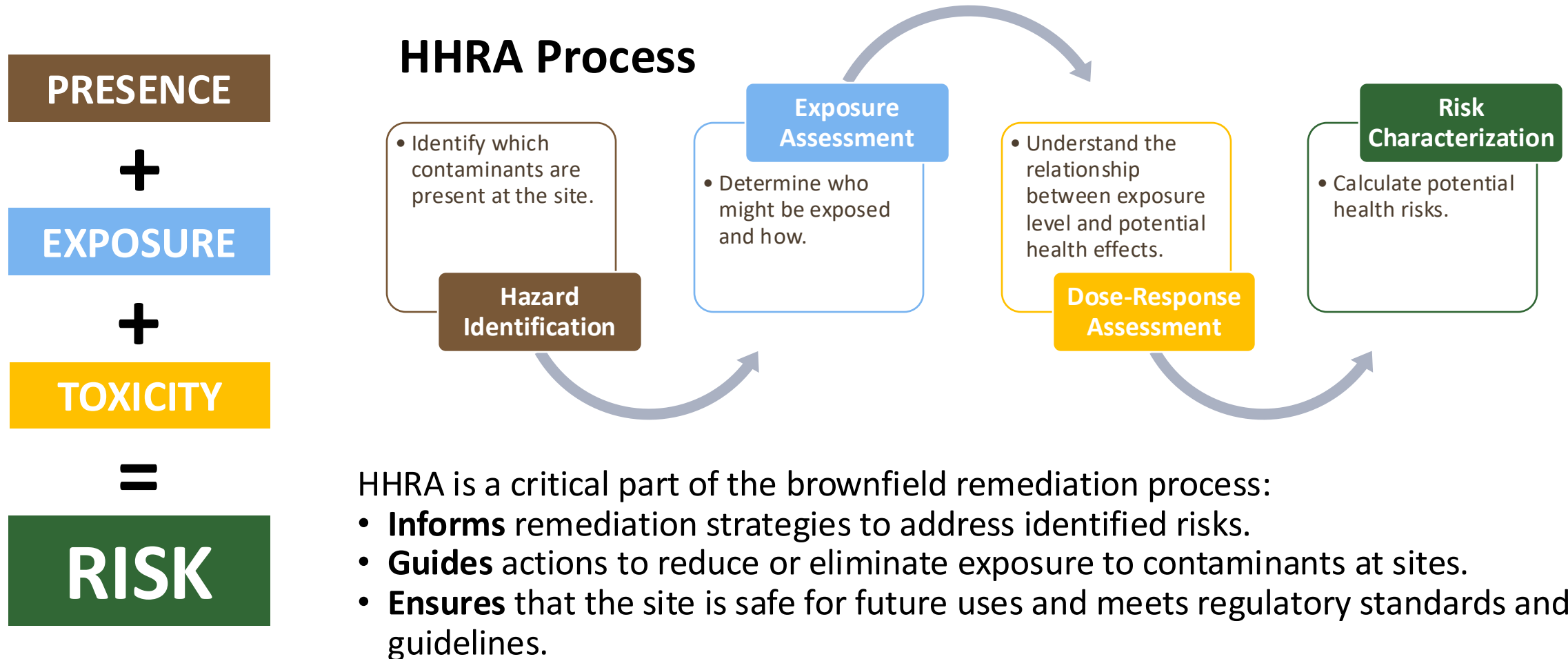
“Real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.”*

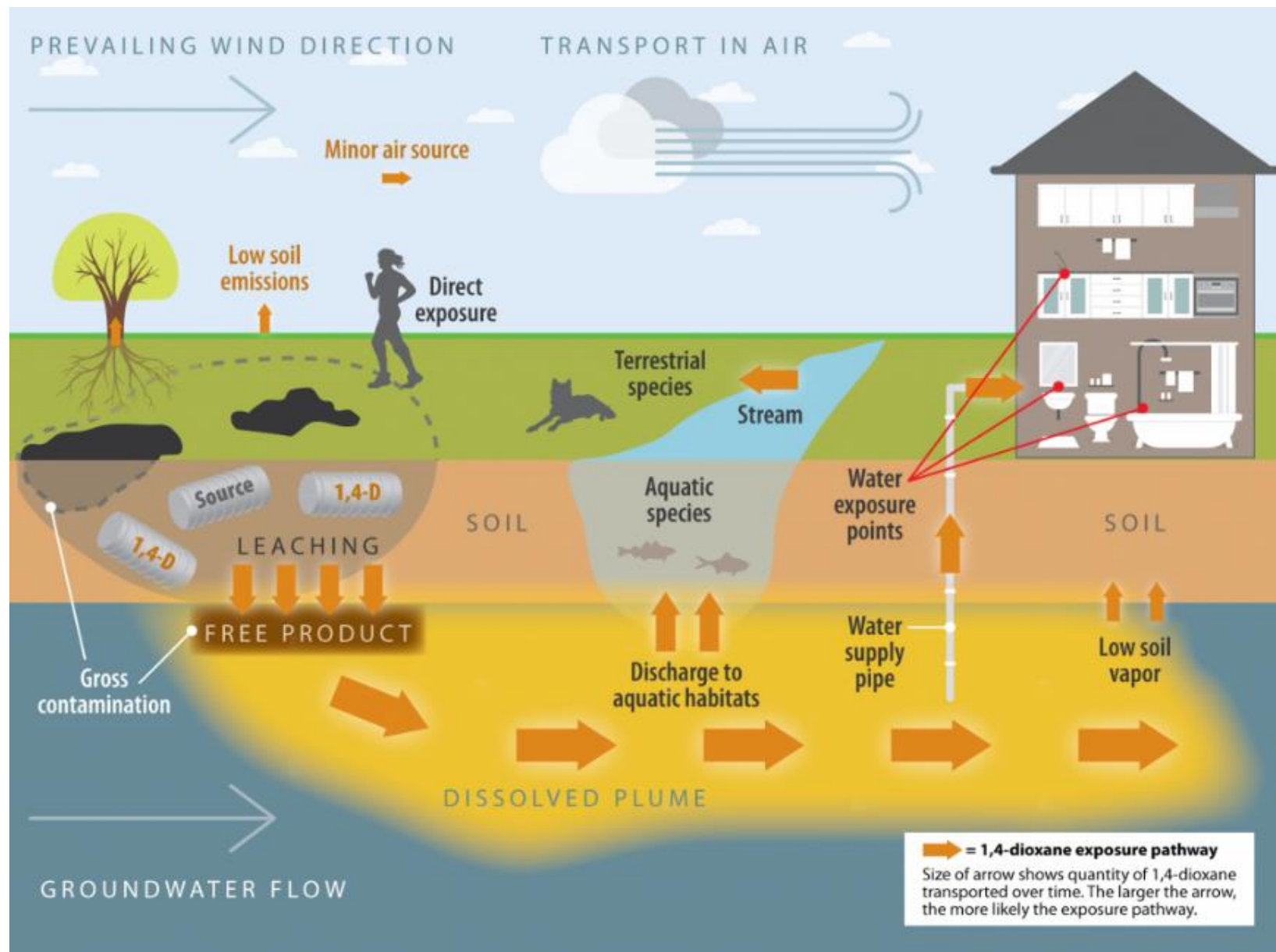
– Brownfields Revitalization Act of 2002

***Presence of a hazardous substance, pollutant, or contaminant does not always equal health risk.**



Human Health Risk Assessment (HHRA) in Brownfield Redevelopment





Common Contaminants:

- Toxic metals (lead, arsenic, mercury)
- Gasoline/petroleum contaminants
- Asbestos
- Polycyclic aromatic hydrocarbons (PAHs)
- Volatile organic compounds (VOCs)
- Polychlorinated biphenyls (PCBs)



ITRC conceptual site model

What If Exposure Occurs?

Case Study: Lead exposure in trespassers ATVing at a former factory site.

Key Takeaways: Collaboration between environmental toxicologists and risk assessors, clinical toxicologists, and providers is key to protecting human health.



What If Exposure Occurs?

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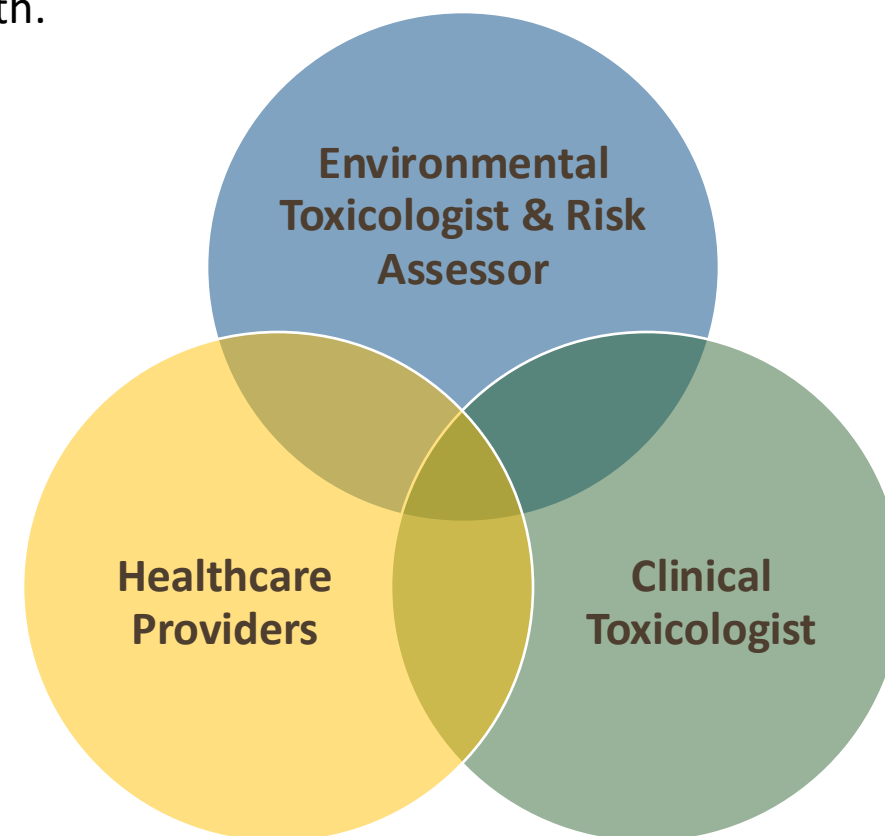
Key Takeaways: Collaboration between environmental toxicologists and risk assessors, clinical toxicologists, and providers is key to protecting human health.

Environmental Toxicologist and Risk Assessor:

- **Site Information:** share information on presence and concentration of lead in soil and other environmental media at the site.

[OneStop | NH Department of Environmental Services](#)

- **Exposure Risk Information:** understand the risk of lead exposure to individuals, particularly vulnerable populations such as children, and the pathways leading to exposure (ATV riding).
- **Collaborate with Clinical Toxicologist and Clinicians:** share information on site history, extent of contamination, and exposure pathways (soil dust inhalation).
- **Public Health Communication:** communicate risks and safety measures to the community to prevent further exposure.



From Concern to Risk Assessment to Clinical Care

PATIENT



PRIMARY CARE PROVIDER



TOXICOLOGY CONSULTATION



ASSESSMENT AND MANAGEMENT

Paracelsus (1493-1591): Poison is in everything, and no thing is without poison. The dosage makes it either a poison or a remedy.

Northern New England Poison Center

Maine, New Hampshire, Vermont

- Nationally credentialed poison center
- Nurses, pharmacists and physicians with poisoning and toxicology certification/boarding
- 24 x 7 hotline, chat and text

Call Type Examples:

- Childhood exposure to lead paint
- Older adult self-harm attempt with cardiac medications
- Substance use with contaminated heroin/fentanyl
- Workplace exposure to metals fumes
- Malicious mass arsenic poisoning
- Environmental exposure to mercury

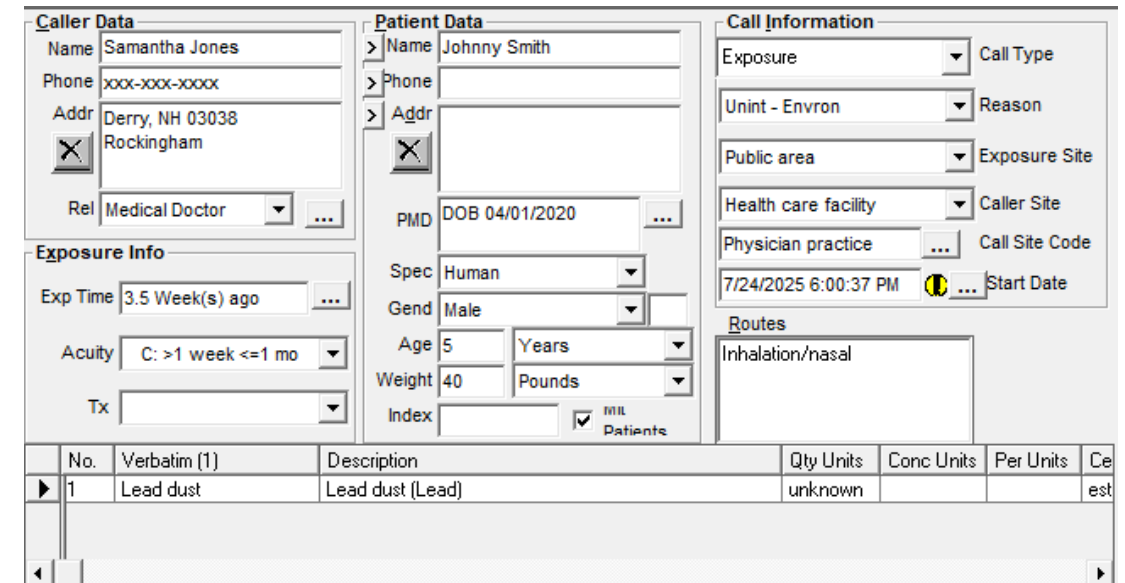


Maine Public picture by Patty White

1 in 4 calls are from healthcare facilities

Necessary Information to Guide Care*

- Specific concern as stated by the patient
- Complaints (what, for how long, improving or worsening, what makes it worse or better)
- Physical findings
- Laboratory findings
- Description of exposure (what, where, when, how, how often for how long, dose if known)
- Job
- Hobbies
- Medications, including OTC and Dietary Supplements
- Health history
- Diet, tobacco use, other substance use
- Chemicals at home or work (PPE, engineering controls, description of work/hobby space)
- Chemical sampling (if done, if known)



No.	Verbatim (1)	Description	Qty Units	Conc Units	Per Units	Ce
1	Lead dust	Lead dust (Lead)	unknown			est

*Can vary depending on the patient and the anticipated source of exposure.

What to Expect from the Poison Center



Help with the assessment and plan:

- Many questions for proper assessment
- Determination as to whether labs to date are interpretable based on the circumstances and the results
- Possible recommendation for further physical examination or laboratory testing
- Guidance on treatment (if indicated)
- Suggested follow-up monitoring (if indicated)

Other assistance:

- Determination of likelihood the exposure is of clinical concern
- Opinion regarding whether clinical effects in the patient are related to a Brownfield or other toxic exposure
- Assistance with communication strategies

--- **Thu Jul 24, 2025 @ 18:07 By xx:Simone, Karen** ---

Possible lead exposure from **ATVing** through a contaminated area.

S: Dr. Jones calling regarding a **5yo** child who rode on an **ATV** with his Dad through an area NH DES indicates is contaminated with lead. This occurred every Saturday for the last 3 weeks including 5 days ago. The child has no obvious clinical effects, denies gastrointestinal effects, is eating normally and has no complaints. His parents deny recent behavioral or eating changes

O: BP 100/60, **P** 90, RR 22, **T** 37C. No neurological or other abnormalities.

A: Difficult to assess amount of exposure. Will need to ask additional questions and speak with NH DES. Serious exposure probably unlikely but may warrant a blood lead level.

P: Consult NH DES and Clinical Toxicologist on call. If appropriate, recommend a venous blood lead level. Obtain information on any prior lead levels and recent iron or CBC labs.

What Happens After an Exposure Occurs?

Case Study: Lead exposure in trespassers ATVing at a former factory site.

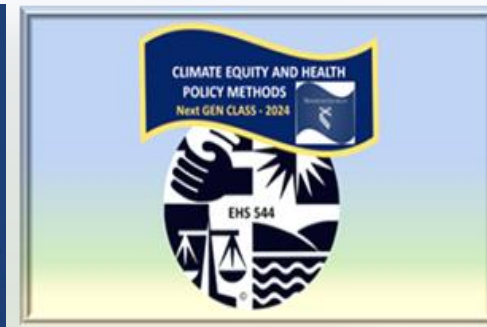
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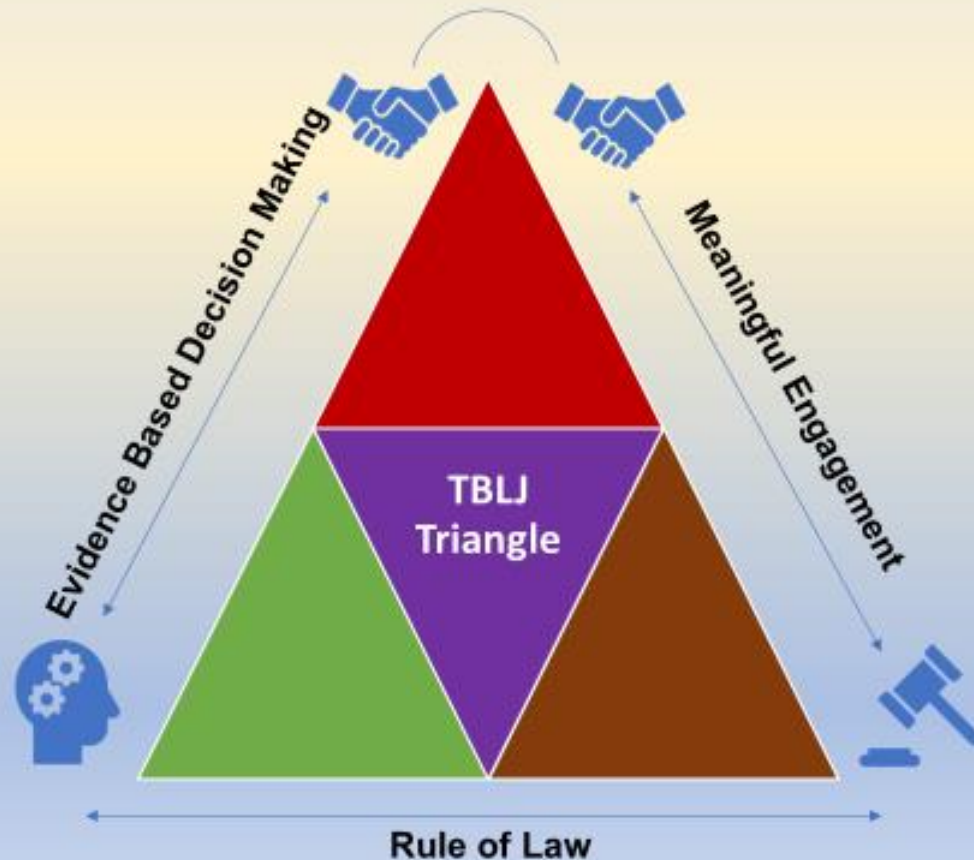
Chat at nnepc.org • Text POISON to 85511



Triple Bottom Line Justice & Brownfields to Healthfields: Pathway for Health and Hope



TBLJ Triangle



Blueprint for Action to Advance Family Mental Health with Triple Bottom Line Justice

Suzi Ruhl, JD, MPH

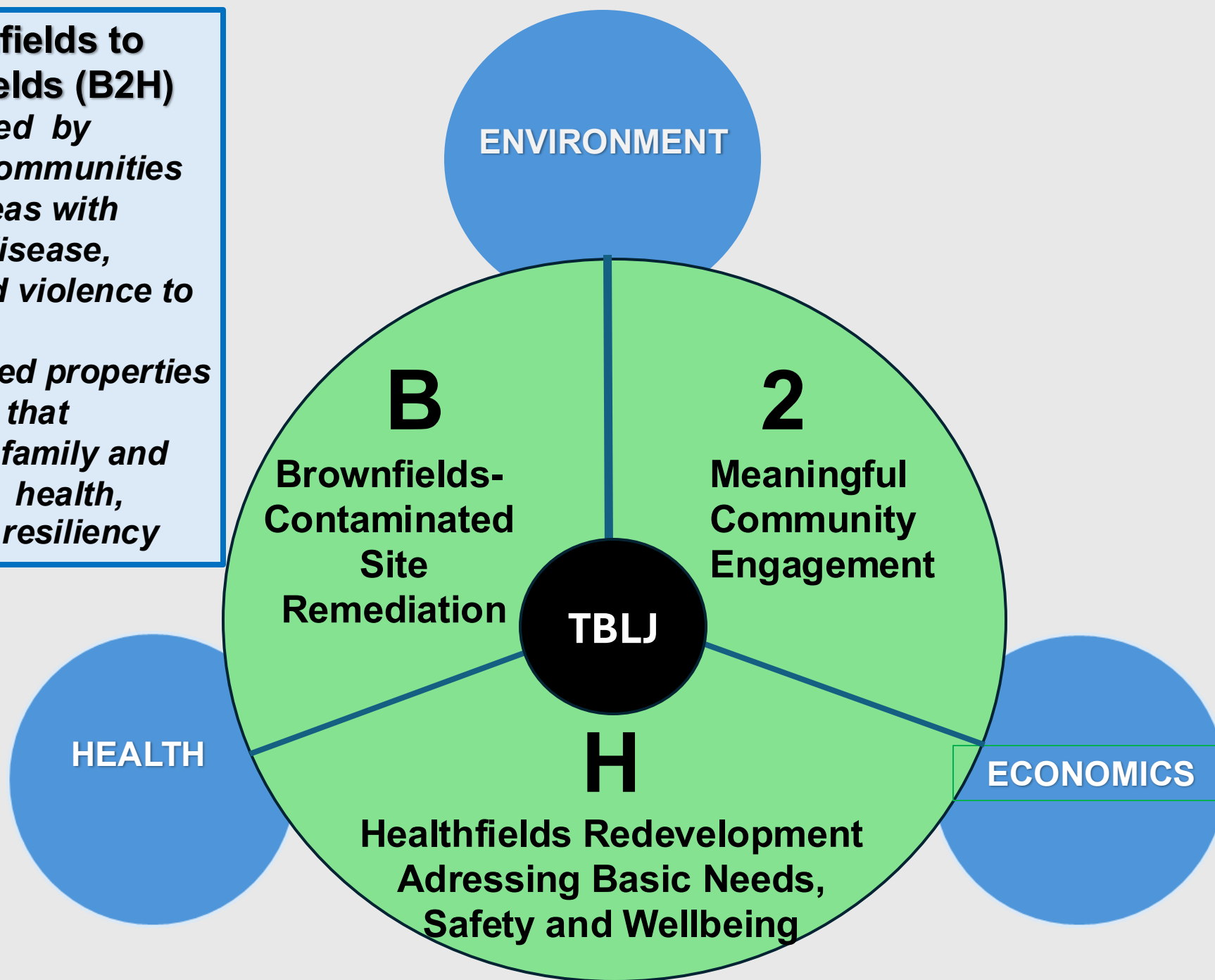
Senior Research Scientist

Yale School of Medicine, Child Study Center

**Yale School of Public Health, Department of Environmental
Health Sciences**

Brownfields to Healthfields (B2H)

Approach led by impacted communities living in areas with pollution, disease, poverty and violence to transform contaminated properties into reuses that strengthen family and community health, equity, and resiliency



Mt. Trashmore to Mt. Growmore

Hydroponic Farm, Wellness Campus and Learning Center

Vision: *To turn one of County's most Notorious Brownfields into Productive Use!*

- Provide fresh vegetables year-round, support Pop-up Market, Job Training and Entrepreneurs
- Foster community well-being through health care access and prevention services
- Advance civic justice engagement of community members in government decision-making

Partners: YALE Schools of Medicine and Public Health, CT DEEP, US EPA, CITY of BPT, Bridgeport Hospital, UCONN School of Agricultural, State of CT, BEDCO, Local, State and Federal Elected Officials, others....

Capacity: \$3.5 million (raised): Awarded Federal Earmark (\$1M), State Bond (\$2M), US EPA/CT DEEP (\$.5M technical assistance), and more



B2H and Rural Health: New Opportunity New Capacity

New Authority (July 4, 2025)

- Social Security Act amended to create Rural Health Transformation Program within US HHS Centers for Medicare and Medicaid

Funding Opportunity

- \$50B will be allocated to 50 states over 5 years- Half Distributed Equally Among States With Approved Applications and Half Distributed Based on Approach Determined by CMS

Purpose

- Enhance healthcare access and sustainability in rural areas by addressing systemic challenges faced by rural healthcare providers
- Improve health outcomes and ensure long-term viability of rural healthcare facilities

Use of Funds

- States use funds for
 - improving access to hospitals and other health care providers and for health care items and service
 - evidence-based interventions for prevention and chronic diseases; consumer-facing, technology driven solutions for prevention, training and technical assistance, mental health services, sustainable access to health care, etc

B2H Alignment

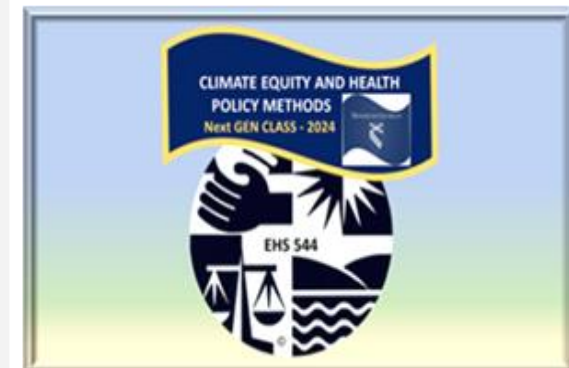
- Leverage brownfields funding with rural health funding to increase access to health care in rural areas

Engaging Rural Health Care Providers: Brownfields Awareness and Advocacy

Thank you!

Suzi Ruhl, JD, MPH

Barbarasuzi.ruhl@yale.edu



Panel Questions:

- How can community members advocate for themselves, if they suspect an environmental or contaminant issue? - who should they contact and where should they go?
- What are some meaningful ways communities can get involved in brownfield redevelopment and ensure their input is included in the process?