# Conceptualizing Implementation Science Approaches for Environmental Public Health Problems

Gwen W. Collman, PhD

Senior Advisor to the Director, NIEHS/NIH

Advancing Environmental Health Equity through Implementation Science Workshop

February 28, 2022

#### The Environmental Public Health Continuum



## **Moving from Documenting Health Disparities to Action**

**Interventions and Implementation Science Approaches** 

- Exposure reduction, mitigation, and remediation
- Access to health promoting resources, services, and spaces
  - Primary/mental health care services
  - Health screening and environmental monitoring
  - Green space, parks, trees, trails
  - Urban gardens, supermarkets, food co-ops









## Moving from Documenting Health Disparities to Action

**Interventions and Implementation Science Approaches** 

- Infrastructure to address climate/disaster preparedness
  - Climate justice
  - Prevent issues with water systems and mold
- Infrastructure and structural changes to promote clean and safe housing and neighborhoods
  - Trash pick-up to reduce pests and odors
  - Traffic control routes and tactics to reduce air pollution
  - Walkability











## **Trajectory of Intervention and Implementation Research**



#### **Natural Experiments**

- Regulation or policy actions that alter exposures
- Events resulting in abrupt change in exposures (e.g., COVID-19)





- Reducing hazardous exposures
- Behavior change
- Improving environmental health literacy and awareness
- Positive improvements to the built environment
- Providing health care, health promotion, safety net services



#### Implementation research

- Adoption Uptake, reach, scale
- Technology, behavior change, policy

#### **Develop New Best Practices**

- Observe then intervene to improve EH equity
- How to improve uptake, adoption and scaling interventions
- Incorporate SDOH
- Focus on HD factors such as access to health care, systemic racism, and preventive health services as drivers
- Incorporate EH interventions into on going health trials when possible
- Take advantage of natural experiments

