# Mitigating Health Risks for Auto Mechanics in Ghana: Education, Awareness, and Solutions

## Amy Fulton, Global Health & Neuroscience Major, Chemistry Minor

### **OBJECTIVES**



Talking with mechanics about their daily work habits and discussing safe handling of materials like used motor oil

The project sought to:

- Educate mechanics and create awareness on the dangers of heavy metal exposure from substances like used motor oil, to which they are frequently exposed
- Understand mechanics' current knowledge of the issue and daily work practices to inform future interventions and policies
- Develop and help implement reasonable, sustainable safety interventions

### METHODOLOGY

The project group met with mechanics in small groups at their shops to discuss research on the health risks associated with heavy metal exposures, suggest solutions, and assess their feasibility. The group also conducted surveys to collect data on mechanics' understanding of the issue and work practices.

Duke University team members: Sara Goodhue, Sidd Amirneni, Linda Cao, Maura Ott, Hayden Black, Bright Aboah KNUST team members: Tabitha Osiban-Fordjour, Maame Efua Essuman, Stella Simmons

## RESULTS

Several important data trends were identified, for example:

1. Very few mechanics wear protective gloves, which is mostly because gloves make them hot, slow down work, or are uncomfortable.



2. Mechanics who re-use motor oil most often dump it on the ground to harden the dirt or prevent dust.

What is motor oil re-used for?

Not re-used 58.3%





# CONCLUSIONS

The project was able to provide a variety of suggestions to decrease exposure-related health risks among mechanics in the community, and also collected data from several hundred auto mechanics at various shops to inform future interventions and policy.

Revised suggestions for safety were produced, including: hand washing, eating with utensils instead of hands, regular medical checkups, use of long-sleeved shirts, washing clothing at shops instead of in the home, and storage of used oil in suitable closed containers.

Future project groups may use this data to implement policy and structures of funding to ensure access to protective equipment and infrastructure such as motor oil recycling.



### Thank you to the Duke Engage Ghana program, Dr. Fred Boadu, and partners at Kwame Nkrumah University of Science and Technology for supporting this project.

Project team members and partners from Duke and KNUST