



It Takes a Village: A Multidisciplinary Approach to Bringing “Earth Day” to a Local Elementary School

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Medical and undergraduate students should partner with k-12 schools to lead planetary health programming, nurture interest in STEM, and support education in local communities.

Background:

Climate change has multi-dimensional impacts on life. Exacerbated air pollution, extreme weather events, and the spread of insect-borne diseases are among many human health impacts (1). However, students are often not exposed to the concepts of planetary health until later stages of their education.

The Community Health Advocacy Program (CHAP) at Brown University and Alpert Medical School partners with local elementary schools to promote the physical, mental, and emotional wellbeing of students within the greater Providence community. CHAP offers monthly health and STEM lessons to k-5th grade.

This event marked the first collaborative Earth Day event for students at this local elementary school. 4th and 5th graders were introduced to planetary health through interactive lessons taught by older students.

Event Overview:

- CHAP collaborated with organizations and student interest groups: AMS Environmental Coalition, Be Real About Sexual Health, Dermatology IG, Teddy Bear Clinic, and the Office of Sustainability.
- Medical and undergraduate students identified planetary health areas of interest and developed hands-on activities to engage students
- The event was 1.5 hours and had five, 15-minute stations
- The event ended with a group Q&A, and students were provided with a NASA goodie bag and a key takeaways document

Event Stations

- **Sun safety and the importance of sunscreen**
 - Lesson (L): UV radiation, skin cancer, and different types of sunscreen
 - Activity (A): UV color changing bracelets
- **Nutrition and Composting:**
 - L: Balanced diets, plant-based diets, introduction to composting
 - A: Creating a DIY hydroponic gardening system from recycled water bottles
- **Water Conservation**
 - L: Contaminants in water and the impact of oil spills on marine life
 - A: Simulating an oil spill/clean-up with feathers



Fig. 1. Undergraduate student (Right) teaches 4th and 5th graders the ABCDE's of skin cancer as part of the sun safety station.

- **Lyme disease and global warming**
 - L: Global warming and tick population increase
 - A: Finding hidden ticks in teddy bear
- **Renewable energy: wind energy**
 - L: Fossil fuels vs. renewable energy: air pollution's impact on health conditions
 - A: Demonstrating wind turbine blades with a DIY system



Fig. 2. Elementary school students engaging in a “tick check” exercise simulated as pipe cleaner “ticks” hidden on the teddy bear.

Discussion:

- Increased exposure to climate change and its down stream health affects should be integrated into k-12 education as the global climate crisis worsens.
- This service-learning opportunity aims to pilot a planetary health focused “Earth Day” at a local elementary school while engaging a multifaceted team from the Brown University community.
- Support from the university in addition to the local elementary school is paramount to hosting a successful collaborative event



Fig. 3 Brown University volunteers on the day of the event ranging from undergraduate students to medical students.

Volunteer Testimony:

“Perhaps the most important reason to lead such events is to build on the students’ curiosity and inspire a passion for important subjects... hopefully they are motivated to ask and find the answer to the challenging climate change related questions we face today!”

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References: (1) US EPA O. Climate Change Impacts on Health. Published October 19, 2022. Accessed February 3, 2024. <https://www.epa.gov/climateimpacts/climate-change-impacts-health>