



# CLIMATE HEALTH EQUITY DAY 2026



## RESEARCH SYMPOSIUM PROGRAM FEBRUARY 28, 2026



# WELCOME

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Dear Attendees,

It is with great joy that we welcome you to the Research Symposium within our third annual Climate Health Equity Day, hosted by Medical Students for a Sustainable Future and supported by the Medical Society Consortium on Climate & Health. We are thrilled to host you for this important event exploring the critical nexus between climate change and health equity.

Today, we come together as a dedicated and passionate community of students, advocates, researchers, and change-makers committed to rising to the challenge of protecting the health of current and future generations from the urgent challenges posed by a changing climate. As you embark on this journey with us, we encourage you to embrace the wealth of knowledge and insights that will be shared throughout the day. The presentations and discussions you will experience this afternoon are the culmination of student-driven research, with the support of faculty mentors and community members. They serve as a testament to our collective commitment to understanding and addressing the complex dynamics between our environment and our well-being.

As you engage with speakers and attendees alike, we encourage you to consider how you can leverage this knowledge to spark positive change in your own communities. Each of us has the power to make a difference, and together, we can drive meaningful progress towards a healthier, more sustainable future for all.

Thank you for joining us today, whether you are at the beginning of your journey as a climate advocate or a seasoned organizer. We are honored to have you with us, and we look forward to an afternoon of inspiring conversations and collaborative action.

Warm regards,

Maya Navarro, Northwestern University Feinberg School of Medicine  
Austin Le, University of Illinois College of Medicine Peoria  
Anna Mulhern, Harvard Medical School  
Shreya Gupta, Rutgers Robert Wood Johnson Medical School  
MS4SF Research Co-Chairs

# ORAL PRESENTATIONS



## ***Reaching Communities Where They Are: A Hybrid Digital and Community-Based Approach to Extreme Heat Resilience***

**Sruthi Shriram, MS2 at Oakland University William Beaumont School of Medicine**

Sruthi Shriram (Shree) is a second-year medical student at Oakland University William Beaumont School of Medicine (OUWB) with interests in climate resilience and health policy. Prior to medical school, she completed the Cal-PPH Fellowship with the California Department of Public Health and the UCSF Institute for Global Health Sciences, a 13-month program for early-career public health professionals serving within local health jurisdictions. During this fellowship, she worked on a CDC-funded BRACE grant, helped lead a countywide extreme heat resilience campaign in Santa Clara County, and contributed to integrating climate and health considerations into the Santa Clara County General Plan. At OUWB, she currently serves as President of the Lifestyle and Integrative Medicine Interest Group and hopes to pursue a career in primary care, caring for both children and adults, while integrating sustainable, prevention-focused approaches as a future physician.



## ***Plant-Based Diet Education in Health Professional Schools: Utilizing Data from the Planetary Health Report Card to Explore Global Trends and Pedagogical Approaches***

**Emma Willcocks, MS4 at Mayo Clinic Alix School of Medicine  
Jessica Mo, MS3 at Johns Hopkins School of Medicine**

Emma is a 4th year medical student at Mayo Clinic Alix School of Medicine's Scottsdale, AZ campus who is pursuing internal medicine, with interests at the intersection of environmental and women's health. Jessica is a 3rd year medical student at Johns Hopkins in Baltimore, Maryland. Her research interests include reducing waste in the healthcare setting and the role of healthcare workers in addressing climate change.



## ***Climate-Related Environmental Stressors, Migration, and Health Vulnerability Among Central American Migrants at the U.S.–Mexico Border***

**Kaycie Meinhardt, MS3 at Wake Forest University School of Medicine**

Kaycie Meinhardt (she/her) is a third-year medical student at Wake Forest University School of Medicine (WFUSM). She graduated from Wake Forest University in May 2023 with a BS in Health and Exercise Science, with minors in Chemistry and Health Policy and Administration. During her undergraduate training, she prioritized service to underserved local communities, including supporting underinsured mothers through a volunteer doula program and providing transportation to medical appointments for older adults without means of travel. Inspired by North Carolina's natural beauty and the intersection of climate advocacy and healthcare, she joined WFUSM's original chapter of MS4SF as Treasurer and currently serves as Vice President. In this role, she contributed to WFUSM's first Planetary Health Report Card and continues to support the integration of planetary health concepts into the preclinical curriculum.

# POSTER SESSION

## IN PERSON SESSION I: 3PM - 3:45PM

01

Krishna Chandrasekhara MS 1

1 Baylor School of Medicine, Houston, TX

### *Rain to Sustain: The Community and Climate Health Impacts of Rainwater Harvesting in the Mexico City Region*

**Objective:** Understand how rainwater harvesting systems (RWHS) influence health and wellbeing among residents in the Mexico City region, particularly in the context of increasing water scarcity and climate-related stressors.

**Methods:** Long-form qualitative interviews and survey questionnaires with approximately 30 community members across different neighborhoods in Mexico City. Study participants included household residents and school administrators.

**Results:** Residents consistently reported uncertainty regarding water availability and rising costs, particularly during the dry season. RWHS improved perceptions of water security, reducing stress related to obtaining water and supporting better mental wellbeing. School administrators described greater resilience to climate-driven fluctuations in water supply. Schools that installed RWHS observed declines in contagious skin infections and gastrointestinal illnesses, attributed to improved access to clean water for hygiene and sanitation.

**Conclusion:** Equitable access to clean and reliable water supply remains essential for vulnerable populations, especially children, as climate change intensifies water scarcity. RWHS in the Mexico City region have enhanced community climate resilience by stabilizing water access, improving mental health, and reducing water-related illnesses. These improvements are especially important as climate change is projected to increase the burden of water-borne illnesses. The use of RWHS in Mexico City holds promise for adaptation efforts in other climate-vulnerable communities.

02

Hannah Kelley 1, Laura Weil CNM NP 2

1 University of California, Berkeley, CA  
2 University of California San Francisco Health, San Francisco, CA

### *Rethinking Waste in the Birth Center: Small Changes Big Impact*

**Objectives:** The project focuses on identifying sources of unnecessary waste and excess cost within the Birth Center and implementing targeted sustainability initiatives to address them. These efforts include staff education and changes to supplies. The initiatives aim to quantify both the environmental and financial impacts of these interventions to evaluate effectiveness. Specific goals include reducing regulated medical red bag waste by minimizing upstream waste generation and introducing a landfill waste stream within operating rooms to divert waste. Additionally, the project seeks to establish a medical supplies donation program within the Birth Center to redirect unused materials and further reduce waste.

**Methods:**

The project began with workflow observation, including shadowing midwives, physicians, and nurses during procedures such as vaginal births, cesarean sections, and dilation and curettage to understand clinical practices and material use patterns. Areas of high waste and cost were identified through informal staff interviews, routine surveys, and analysis of institutional purchasing records. Based on these findings educational presentations for staff were created, and collaboration with management and the Sustainability Department to support changes. Waste audits and data collection were conducted in Labor and Delivery operating rooms using the Zabbl app. Carbon dioxide savings were calculated using red bag steam sterilization data to quantify the environmental impact of the initiatives.

**Results:**

Foley urine emptying, BP cuff and monitor belt standardization, and tap water substitution are projected to save \$17,000 in annual costs while achieving substantial CO<sub>2</sub> reductions. The placement of landfill bins in Labor and Delivery operating rooms diverted more than 70 pounds of non-bloody waste in one week, with less than 10% contamination. Additionally, the Medical Supply Donation program donated over 1,000 pounds of medical supplies within three months.

**Conclusion:**

Small, low-barrier workflow changes can produce meaningful environmental and financial benefits in Labor and Delivery. Sustainability interventions can be implemented without compromising patient safety or clinical efficiency, demonstrating that operational improvements and high-quality care are not mutually exclusive. Furthermore, these strategies are scalable and transferable to other hospital units, supporting broader institutional impact.

03

Sebastian Pinteá 1, Ava Acevedo 1, Juliet Horezniak 1, Khushi Kohli 2, Stephanie Wang 2, Anissa Kurani 3 4, Eugene T. Richardson MD PhD 3 5, David Introcaso PhD 6, Abrania Marrero PhD 7 8

1 Stanford University, Health Disparities Think Tank, Stanford, CA  
2 Harvard College; Health Disparities Think Tank, Cambridge, MA  
3 Harvard Medical School, Boston, MA  
4 Georgetown University School of Medicine, Washington DC  
5 Brigham and Women's Hospital, Boston, MA  
6 Washington DC Independent Consultant  
7 Harvard T.H. Chan School of Public Health, Boston, MA  
8 New York University School of Global Public Health, New York, NY

### *Overlooked Toll of Climate Change on Migrant Children in the Americas*

**Objective:** To describe how climate change exacerbates health risks for migrant children from Latin America and the Caribbean across the migration continuum, and to identify gaps and opportunities in the United States (US) healthcare and health policy responses.

**Methods:** We synthesized epidemiologic literature, climate disaster databases, migration surveillance data, and policy documents to characterize climate-related health risks for migrant children before, during, and after migration. Migration estimates were drawn from UNICEF and the Migration Policy Institute, representing 113,500 child encounters annually in recent U.S. data.

**Results:** Children in climate-vulnerable regions face compounded risks from extreme weather, food insecurity, infectious diseases, and mental health stressors contributing to displacement. During migration, they are exposed to extreme heat, dehydration, injury, and inadequate medical care in detention settings. After arrival in the US, non-citizen children remain disproportionately affected by heat, air pollution, hazardous work, housing instability, and limited access to preventive care.

**Conclusions:** Climate-related displacement magnifies existing inequities for migrant children and reveals critical shortcomings in US clinical care and safety-net policies. Health systems and governments can respond by expanding inclusive coverage, strengthening migrant-serving clinics, integrating climate- and trauma-informed care, and investing in community-based resilience programs that center the needs and voices of migrant youth.

04

# POSTER SESSION

## IN PERSON SESSION I: 3PM - 3:45PM

04

Hope Beyer 1, Deborah Podolin PhD 1

1 Rowan-Virtua School of Osteopathic Medicine, Stratford, NJ

### **Rowan-Virtua School of Osteopathic Medicine's Planetary Pulse: Charting a Course for Planetary Health Excellence**

**Objective:** Despite international acceptance of climate change as the largest threat towards human health, American osteopathic institutions fall short of their allopathic colleagues in adopting a planetary health curriculum. This study (1) evaluates the desire of Rowan-Virtua School of Osteopathic Medicine (Rowan-Virtua SOM) students to learn about planetary health within their medical education, (2) assesses the current planetary health infrastructure supported by Rowan-Virtua SOM and their parent institution, Rowan University, and (3) proposes an adapted planetary health equity curriculum.

**Methods:** Medical student interest was gauged by use of a Qualtrics survey modeled off of Dr. Karly Hampshire's 2020 survey of allopathic medical students. The current planetary health infrastructure was evaluated using the internationally accepted Planetary Health Report Card (PHRC) metrics.

**Results:** Student survey showed 70% of Rowan-Virtua SOM students want to see planetary health education within the pre-clerkship curriculum but only 14% currently believe Rowan-Virtua SOM is adequately educating on the intersection of planetary and patient health. The 2025 PHRC demonstrates that Rowan-Virtua SOM meets 52% of metrics with a grading of "C."

**Conclusions:** This study establishes a student desire and a curriculum gap within planetary health content at Rowan-Virtua SOM. The proposed health equity curriculum provides an integrative, adaptive, and engaging planetary pre-clerkship curricular solution.

05

Sydney Warner 1

1 Wake Forest University School of Medicine, Winston-Salem, NC

### **Climate-Smart Healthcare: Promoting Community Resilience through a Local Nutritional Initiative**

**Background:** Climate-smart healthcare is a framework that includes mitigation, resilience, and leadership.

**Objective:** The objective of the Education and Composting Outreach (ECO) program is to strengthen community resilience by developing a circular system of existing networks to reduce waste and support local, nutritious food supply.

**Methods:** The ECO pilot launched in September 2025 as a partnership with Brenner Families in Training (Brenner FIT), a hospital-affiliated pediatric lifestyle management program, and Triad Compost Service (TCS), a local pick-up service that produces compost for personal and commercial use. ECO trains Brenner FIT cooking class leaders to collect food waste. TCS repurposes this into compost that is bought to maintain a hospital-affiliated garden for the underserved. A garden planting event will be open to Brenner FIT participants in spring 2026.

**Results:** TCS collected compost twice a week in fall 2025 for a total of 26 Brenner FIT classes. 577.5 lbs of waste was diverted from landfill, with October having the highest amount diverted (275 lbs).

**Conclusion:** Utilizing existing services to bridge gaps in climate-smart practice is likely to have a beneficial impact on community resilience. Future directions include evaluating ECO training through qualitative analysis and expanding documentation to provide more robust data in subsequent assessments.

06

Jaspreet Kaur MPH 1, Diti Ketankumar Shah MPH 1, Lindsay Tallon PhD MSPH CPH 1

1 Massachusetts College of Pharmacy and Health Sciences, Boston, MA

### **Legacy Asbestos Exposure as an Environmental Justice Threat in a Changing Climate: A Risk-Assessment Perspective**

**Objective:** To assess legacy asbestos exposure as an environmental justice issue in the context of climate change, highlighting how climate-driven infrastructure stress increases exposure risks for marginalized and underserved communities.

**Methods:** This project synthesizes peer-reviewed literature and federal environmental health reports to assess asbestos exposure pathways, health impacts, and regulatory gaps under climate-related infrastructure deterioration. A literature review was conducted to identify peer-reviewed studies, journal articles and federal environmental health data and literature examining legacy asbestos exposure as a public health and environmental justice issue. Studies were included if they (1) were published in English, (2) reflected human, community, occupational, or environmental exposure to legacy asbestos or asbestos-containing materials (ACM), (3) reported outcomes related to exposure, characterization of risk, or asbestos-related disease, and (4) were relevant to environmental justice and/or climate-related disturbance. Studies were excluded if they were non-human, purely laboratory-based, non-U.S., based, or irrelevant to public health. Based on these criteria, 12 studies were included in the final review.

**Results:** Asbestos remains a persistent carcinogenic hazard with no safe level of exposure. Climate-related flooding, extreme weather, and increased renovation and demolition activity heighten the disturbance of asbestos-containing materials, particularly in older housing and water infrastructure. Communities with limited resources face elevated exposure risks due to aging buildings, occupational vulnerabilities, and unequal access to remediation. Existing regulatory frameworks inadequately address legacy asbestos and equity-centered mitigation.

**Conclusions:** Legacy asbestos exposure represents an underrecognized climate health equity challenge. Policy action is needed to strengthen surveillance of aging infrastructure, expand equitable asbestos abatement programs, and integrate climate-resilient building and housing standards into public health and environmental decision-making.

05

# POSTER SESSION

## IN PERSON SESSION I: 3PM - 3:45PM

07

Dhruti Patel 1, Shreya Gupta 1

1 Robert Wood Johnson Medical School, New Brunswick, NJ

### *Ambient Air Pollution and Angiogenic Imbalance in Preeclampsia*

**Objective:** To synthesize the mechanistic and epidemiological links between air pollution exposure, angiogenic biomarker dysregulation, and preeclampsia risk.

**Methods:** A targeted review of prospective cohort studies, meta-analyses, Mendelian randomization, and animal models examining relationships between air pollution exposure, angiogenic biomarkers, and preeclampsia incidence.

**Results:** Preeclampsia is a leading cause of maternal and neonatal morbidity and mortality and is characterized by angiogenic imbalance, including elevated antiangiogenic factors such as soluble fms-like tyrosine kinase-1 (sFlt-1) and reduced proangiogenic factors such as placental growth factor (PlGF). Maternal exposure to PM2.5 and NO2 during pregnancy is consistently associated with increased sFlt-1/PlGF ratio, elevated sFlt-1, and decreased PlGF, reflecting placental dysfunction and heightened susceptibility to preeclampsia. Mechanistic studies demonstrate that air pollution induces oxidative stress, systemic and placental endothelial dysfunction, and impaired trophoblast invasion, culminating in angiogenic imbalance. Causal evidence from Mendelian randomization and animal models corroborates PM2.5-induced deficits in placental vascularization and preeclampsia-like phenotypes. Epidemiological studies and meta-analyses demonstrate dose-response relationship between air pollution and hypertensive disorders of pregnancy.

**Conclusion:** Ambient air pollution, particularly PM2.5 and NO2, is mechanistically and epidemiologically linked to angiogenic biomarker dysregulation and increased risk of preeclampsia. These findings highlight the need for targeted public health policies and environmental interventions to minimize pollutant exposure in pregnant populations.

08

Becky King MIS 1

1 University of Pittsburgh Health Sciences, Pittsburgh, PA

### *Environmental Benefits of eConsent Adoption in Clinical Research Workflows*

**Objective:** Paper consent in clinical research produces avoidable carbon emissions from printing, storage, physical transport, and secure destruction. This project quantifies the environmental benefit of adopting REDCap eConsent workflows, including emissions avoided when study teams and participants no longer need to travel for in-person signatures, while maintaining accessibility to support health equity.

**Methods:** Simulated paper vs. REDCap eConsent workflows were compared. Sustainability estimates included paper volume, printer energy use, secure transport of consent documents, and modeled travel emissions avoided per 1,000 signatures.

**Results:** eConsent eliminated 100% of paper use per consent cycle and reduced printing-related energy demand by 30–60% based on device and volume. For 1,000 consents, average savings of 6,000–8,000 pages prevented 50–70 kg CO<sub>2</sub>-equivalent from printing and secure transport. Additionally, eliminating required travel for wet signatures avoided an estimated 400–1,200 vehicle miles per 1,000 signings, preventing 160–480 kg CO<sub>2</sub>-equivalent depending on commute distance and transportation mode.

**Conclusions:** REDCap eConsent substantially reduces operational waste and carbon emissions, including travel burden, without compromising participant understanding. Broad adoption of digital consent could meaningfully lower research-system environmental impact while advancing equity.

09

Halle J Kincaid 1

1 Wake Forest University School of Medicine, Winston-Salem, NJ

### *Community Garden*

This oil pastel drawing depicts the Schuylkill River Park community garden in Philadelphia, Pennsylvania. The ability to create a space filled with nature and sustainability in the heart of Philadelphia despite the surrounding skyscrapers reminds me that we can still make sustainable efforts in the most unlikely of places. Seeing the gardeners working together to maintain this haven of greenery further highlights the presence of the powerful community that actively advocates for climate health.

10

Simrin Phatak 1, Cameron Quick 1

1 University of Missouri-Kansas City School of Medicine, Kansas City, MO

### *UMKC School of Medicine Sustainability Report per the Planetary Health Report Card*

**Objectives:** This study assesses the University of Missouri-Kansas City (UMKC) School of Medicine's (SOM) planetary health readiness using the Planetary Health Report Card (PHRC) framework and to identify areas for improvement relative to peer institutions.

**Methods:** Student evaluators assessed UMKC SOM across five PHRC domains: planetary health curriculum, interdisciplinary research, institutional support, community outreach and advocacy, and campus sustainability. Data was collected through curriculum and research database reviews, keyword audits, interviews with students and mentors, and analysis of campus energy infrastructure. Fifty-one standardized objectives converted qualitative findings into quantitative scores, aggregated into domain-specific and comprehensive letter grades.

**Results:** UMKC School of Medicine received an overall grade of D, ranking 61st of 62 U.S. participating schools in 2025. We performed strongest in student-led initiatives, reflecting recent sustainability committees and outreach programs. Weakest areas included campus sustainability, planetary health curriculum, and interdisciplinary research, with minimal renewable energy use and limited curricular integration of climate-related topics.

**Conclusion:** This assessment highlights gaps in UMKC SOM's planetary health infrastructure regarding sustainability planning, curriculum, and research. While administrative and student-led support is emerging, targeted investment and curricular reconstruction is needed to advance planetary health education and align with evolving priorities in medical training.

06

# POSTER SESSION

## IN PERSON SESSION I: 3PM - 3:45PM

11

**Charita Kunta 1, Isabel Chris 1, Gwyneth Sullivan MD 1, Schuyler Hilton MLIS 1, Lorena E. Juarez MLIS 1, Jennifer C Westrick MSLIS AHIP 1, Brian C Gulack MD 1, Ami N Shah MD 1**

**1** Rush University Medical College, Chicago, IL

### ***Occupational Exposure to Microplastics in Hospitals: A Systematic Review of Health Risks & Knowledge Gaps***

**Objective:** As technology has evolved to produce effective products for healthcare providers, microplastics have become a ubiquitous part of daily operational tasks in hospitals. There is a need for recognition of plastics and particulate matter of microplastics as an emerging occupational hazard for healthcare providers. Recent evidence has indicated that microplastics are released from plasticizers, sutures, face masks, and single-use plastics. The objective of this systematic review aims to trace occupational exposures as it relates to plastic devices, potentially offering awareness for healthcare providers.

**Methods:** Following the PRISMA-ScR guidelines, PubMed/MEDLINE, Scopus, and Google Scholar were searched on 10/7/2025, using keywords and MeSH terms related to perioperative plastic-related occupational exposures. After screening 2,223 titles and abstracts and conducting 286 full-text reviews, 29 studies were included that characterized exposure routes (e.g., inhalation, dermal, ingestion) or health outcomes for healthcare workers in procedural environments.

**Results:** This literature review preliminarily reveals how microplastics can potentially enter the human body through inhalation, ingestion, and dermal contact, with documented effects including cytotoxicity, inflammation, and endocrine disruption. Despite these findings, major knowledge gaps remain regarding long term effects of occupational microplastic exposure, especially for newer plastic additives.

**Conclusions:** These findings illustrate the threat of harm to various roles in the healthcare setting, and that there is a great need for solutions to be developed in order to identify and treat emerging health implications that may come from microplastic exposure.

12

**Eli Thalos MS 1**  
**1** George Washington School of Medicine and Health Sciences, Washington, DC

### ***Keeping Children Close to Home: Environmental, Social, and Financial Benefits of Pediatric Infectious Disease Telemedicine Consultation for Community Hospitals***

**Objective:** To evaluate the environmental, social, and financial impact of pediatric infectious disease telemedicine consultations in community hospitals, with emphasis on environmental benefits from avoided interfacility transport.

**Methods:** From June 2024 to December 2025, pediatric infectious disease tele-consultations were provided to community hospitals including Shady Grove, Holy Cross, and Reston. Consultation volume and patient disposition were recorded. For patients managed locally rather than transferred, estimated transfer distances were used to calculate miles avoided.

Environmental impact was quantified using U.S. EPA greenhouse gas emissions factors. Social and financial implications were inferred using transfer avoidance as a proxy for reduced family burden and improved hospital revenue retention.

**Results:** Over 18 months, telemedicine consultations prevented an estimated 9,146 miles of patient transport, reducing approximately 3.8 metric tons of CO<sub>2</sub>e. This reduction is equivalent to 423 gallons of gasoline, 173 propane cylinders, 1.3 tons of recycled waste, or 303,903 smartphone charges. Avoided transfers likely reduced direct and indirect costs for families and allowed community hospitals to retain pediatric patients who would otherwise require transfer.

**Conclusions:** Telemedicine for pediatric infectious diseases meaningfully reduces environmental emissions while supporting local care delivery. By preventing unnecessary transfers, tele-consultation decreases family disruption, preserves community hospital resources, and enhances sustainability of pediatric services in community settings.

# POSTER SESSION

## IN PERSON SESSION II: 4PM - 4:45PM

01

Melissa Blum 1,2, Yoko Nomura PhD MPH 1,2

1 Icahn School of Medicine at Mount Sinai, New York, NY  
2 Queens College, City University of New York, New York, NY

### ***Prenatal Heat Exposure Sensitizes Early Childhood HPA Axis Responses to Postnatal Heat***

**Objective:** Prenatal stress reprograms development of the hypothalamic-pituitary-adrenal (HPA) axis, resulting in lasting alterations in glucocorticoid regulation. While psychosocial stressors have been widely studied, the impact of prenatal heat exposure and its interaction with postnatal heat exposure on HPA axis activity in early childhood remains unknown.

**Methods:** Data were drawn from the Stress in Pregnancy Study, a longitudinal birth cohort enrolled in New York City from 2009 to 2015 (N=154). Prenatal heat exposure was estimated using machine-learning based daily ambient temperature models at participants' residential addresses across pregnancy. Postnatal heat exposure was defined as the number of days exceeding 95°F during the year prior to child hair collection. Hair samples collected at age 5 were analyzed for cortisol and cortisone. Generalized linear models examined interactions between prenatal and postnatal heat exposure.

**Results:** Among children with high prenatal heat exposure, postnatal heat exposure was associated with higher hair cortisol ( $\beta=6.50$  pg/mg/day>95°F,  $p=.01$ ) and lower cortisone ( $\beta=-1.55$  pg/mg/day>95°F,  $p=.02$ ), suggesting increased interconversion of inactive cortisone to active cortisol.

**Conclusions:** Prenatal heat exposure may sensitize the developing HPA axis to postnatal thermal stress. While potentially adaptive for hemodynamic stability in the setting of heat stress, sustained glucocorticoid elevation has been linked to adverse behavioral outcomes, warranting further study.

02

Fiona Conway 1, Roma A. Kankaria 2, Hope Beyer 3, James Lee, MBBS MSc 4, Jessica Mo 5

1 Dalhousie University School of Medicine, Halifax, Canada  
2 Vanderbilt University School of Medicine, Nashville, TN  
3 Rowan-Virtua School of Osteopathic Medicine, Stratford, NJ  
4 East Kent Universities Hospitals Trust, East Kent, England  
5 Johns Hopkins University School of Medicine, Baltimore, MD

### ***International Trends in Planetary Health Education: Insights from the Planetary Health Report Card's Global Team***

**Objective:** The Planetary Health Report Card (PHRC) aims to serve as a tool to guide the development of planetary health education in health professional schools worldwide. Our organization's goals include expanding the number and geographic diversity of published PHRCs across health professions and fostering interdisciplinary collaboration in the evaluation of institutional commitments to planetary health.

**Methods:** From September through February, teams of students and faculty at participating institutions collaboratively assess their school's engagement with planetary health across five domains: curriculum, interdisciplinary research in health and the environment, community outreach and advocacy, support for student-led initiatives, and campus sustainability.

**Results:** In 2025, 188 institutions representing 21 countries and 10 disciplines completed PHRCs, including 111 returning schools. Participation increased across several non-medical health professions. Longitudinal analysis over the past three years demonstrated a steady improvement in curriculum-related scores. Repeated participation was associated with higher scores.

**Conclusions:** Rising PHRC scores reflect sustained student engagement in advocating for the integration of planetary health into health professional education. Recent PHRC cycles have shown increased communication across disciplines. Many institutions still receive low scores, underscoring persistent deficiencies in planetary health education. Medicine remains the most represented discipline, highlighting opportunities to further expand interprofessional participation.

03

Kaycie Meinhardt 1

1 Wake Forest University School of Medicine, Winston-Salem, NC

### ***When Systems Fail***

To illustrate how hidden environmental insults accumulate steadily and ultimately undermine both planetary and human health, I am creating a mixed-media sculpture of a dying kidney with impacted vasculature. Constructed from air-dry clay, paint, and recycled materials from my home, the piece centers on the kidneys as a symbol of filtration, balance, and vulnerability.

The renal artery and vein are filled with recycled debris, representing pollution in our waterways and land—systems that serve as our planet's source of nutrients. The renal cortex is dying vegetation surrounding dried water reservoirs, the renal pyramids, reflecting resource depletion and environmental stress. The ureter is dried and constricted, symbolizing impaired filtration and downstream systemic failure.

This work draws a parallel between ecological pollution and bodily harm, particularly how poor environmental conditions and resource inequities translate into chronic health consequences. Though the insults may go unnoticed initially, they accumulate over time, ultimately manifesting as organ failure. By framing environmental degradation through human anatomy, this piece emphasizes the deep interdependence of climate, health, and equity.

If time allows, I hope to create a companion heart sculpture exploring similar themes, drawing parallels between atherosclerotic disease and the buildup of environmental pollutants within our ecosystem.

04

Sydney Warner 1, Kaycie Meinhardt 1, Jacob Corrales 1, Olivia Little 1, Elaina Alzaibak 1, Olivia Lannom 1, Allyson Howard-Green 1, Kameron Downs 1, Mia Guzynski 1, Aaron Levy DO 1, Alexandre Guével PhD 1, David Callaway MD 1

1 Wake Forest University School of Medicine, Winston-Salem, NC

### ***Advancing Planetary Health Education Through a Nature-Based Leadership Intervention***

**Background:** At Wake Forest University School of Medicine (WFUSM), planetary health (PH) initiatives have largely been informed by PH Report Card findings and Advocate Health leadership. Based on their discoveries, the Advocate Health Climate Action Corps launched a one-day, nature-based leadership training for healthcare leaders. Three constructs were assessed: connectedness to nature (CN), systems thinking (ST), and sense of purpose (SP).

**Objective:** This pre-post study aimed to assess changes in CN, ST, and SP following the intervention. We hypothesize that CN, ST, and SP will significantly increase.

**Methods:** A voluntary online survey was administered before and after the intervention. Participants included WFUSM medical students and Advocate Health medical professional attendees (n=9). Analyses included descriptive statistics and paired t-tests; correlational analyses are ongoing.

**Results:** CN ( $p < 0.05$ ) and ST ( $p < 0.05$ ) showed statistically significant increases. SP remained stable, as changes were statistically insignificant ( $p > 0.05$ ). CN and ST demonstrated large effect size and power ( $d=1.82, 0.83$ ; power = 99.7%, 59%, resp.), despite the small sample size.

**Conclusion:** CN and ST may be more responsive to targeted, experiential learning than SP, which may be more complex. Outcomes will be further explored through PH leadership development within WFUSM and Advocate Health.

08

# POSTER SESSION

## IN PERSON SESSION II: 4PM - 4:45PM

05

Olivia Keenan <sup>1</sup>

<sup>1</sup> Icahn School of Medicine at Mt. Sinai, New York, NY

### *My Gap Years with the NYC Urban Forest*

For my two gap years before medical school, I explored the world within the NYC urban forest. It began as a part of my role at Weill Cornell Medicine researching the impact of trees on heat-related health outcomes, and it has turned into so much more. In this project, I have split up my journey into three sections: 1. The Urban Forest and Our Health, 2. The People Who Care for the Urban Forest, and 3. The Great Trees of New York (<https://www.nycgovparks.org/facilities/great-trees>). Each section includes stories and poems from all five boroughs. The Urban Forest and Our Health explores what we know about the health benefits of trees and what institutions in New York and elsewhere are doing about it. The People Who Care for the Urban Forest describes the parks departments, conservancies, and community organizations that care for the urban forest, as well as tips and tricks for taking care of it yourself. Finally, The Great Trees of New York dives into one's personal journey with nature/trees, and tips on how to journal/write throughout the seasons.

06

Kennah Konrad <sup>1</sup>, Macy Wood PhD D(ABMM) <sup>1</sup>

<sup>1</sup> Medical College of Wisconsin, Wisconsin, MI

### *Implementation of a Stool Parasite Decision Support Tool to Enhance Test Utilization at Froedtert & the Medical College of Wisconsin*

**Objective:** To evaluate intestinal parasite test utilization at Froedtert and the Medical College of Wisconsin and assess the impact of an evidence-based ordering algorithm with integrated clinical decision support on diagnostic yield, resource utilization, and cost.

**Methods:** Ova and parasite (O&P) stool examination positivity rates were analyzed 12-months prior to algorithm implementation (n = 3,239). A random subset of 146 O&P orders underwent individual chart review to assess clinical indications for testing. Post-implementation O&P positivity rates, test volume, and cost savings were assessed over 12 months.

**Results:** Pre-implementation O&P testing demonstrated a 2% positivity rate. Among 146 reviewed orders, 97% lacked evidence-based indications. Following implementation of the decision support tool, O&P testing decreased by 64% (average 230 to 83 tests/month), and the monthly positivity rate peaked at 7%. Under a conservative 10% test volume reduction scenario, projected annual cost savings exceed \$80,000 to patients and \$70,000 to the institution.

**Conclusions:** These findings indicate that the O&P stool examination is overordered. Implementation of an integrated decision-support tool improved diagnostic yield and reduced unnecessary testing, enhancing resource utilization and demonstrating associated cost savings. The intervention is expected to reduce laboratory waste and the environmental burden associated with inappropriate stool microscopy testing.

07

Gabriela Christensen <sup>1</sup>, Leyla Taghizadeh <sup>1</sup>, Jameleddine Benhamida <sup>1</sup>, Peyton Nelson <sup>1</sup>, Aarohi Shah, Bachelors of Science <sup>1</sup>

<sup>1</sup> University of Minnesota Medical School, Minneapolis, MN

### *2024-2025 Planetary Health Report Card Advocacy Implementation at the University of Minnesota*

**Objective:** In its sixth year of participation in the Planetary Health Report Card (PHRC), our aim was to use the 2024-2025 University of Minnesota Twin Cities Medical School PHRC as a tool to identify sustainability weaknesses, create recommendations, and share findings with a broad audience.

**Methods:** Through review of institutional resources, the UMN team assigned scores to discrete metrics of the PHRC, and subsequently created evidence-based recommendations for improvement.

**Results:** The UMN 2024-2025 PHRC scored an A- overall. Areas of strength included the Research sector, Support for Student-Led Initiatives, and significant improvement in Medical School Curriculum with the new 2023-2024 SERVE curriculum. The PHRC highlighted weaknesses in Campus Sustainability and Community Outreach and Advocacy. We directed efforts towards improving community outreach, through reviving the University's interdisciplinary Health Students for a Healthy Climate (HSHC) group. HSHC is planning events to engage students with local climate activists, community organizations, and volunteer opportunities. HSHC has been a launching point to assist multiple programs in collaboratively completing this year's PHRC, allowing us to better address campus-wide sustainability goals.

**Conclusions:** Using results of the UMN 2024-2025 PHRC, community outreach and advocacy are an ongoing priority, with hopes to increase campus sustainability efforts going into 2026 with interdisciplinary collaboration.

08

Isabel O'Malley-Krohn <sup>1</sup>

<sup>1</sup> Columbia Vagelos College of Physicians and Surgeons, New York, NY

### *Combining Institutional Values and Collective Action to develop a Focused Health and Climate Equity Elective in New York City*

**Objective:** We recently implemented a longitudinal Climate & Health Equity curricular thread into the pre-clinical and clinical curriculum at a medical school. Here, we describe the development of an additional in-depth climate-focused fourth-year elective.

**Methods:** 1) Top-down approach: Used learning objectives developed for the pre-clinical and clinical curricula to propose a two-week elective syllabus; 2) Collective Action: Presented findings to develop connections with faculty and local groups; 3) Education: Worked with administrators and faculty to list elective and create schedule; 4) Community Impact Plan to evaluate impact through annual survey producing iterative changes.

**Results:** Syllabus development established the educational aim focused on policy development, advocacy, and research methodologies specific to climate health and environmental justice. Three initial lecturers were identified. Presenting Climate & Health Equity curriculum at a medical center climate day yielded seven more connections. Further administrative input yielded nine total planned lectures for the two-week elective. Asynchronous materials and final schedule are in development.

**Conclusions:** Integration of climate concepts adds to core institutional values, creating a positive feedback loop that unites individuals at all levels of training with shared values and increases community awareness through a combination of top-down and collective action approaches. Future elective development will incorporate feedback from the preliminary class.

09

# POSTER SESSION

## IN PERSON SESSION II: 4PM - 4:45PM

09

Ritika Chanda <sup>1</sup>, Kriti Shrestha, MS <sup>1</sup>, Elena Iltadis <sup>1</sup>, Joel Licor <sup>1</sup>, Yusra Rafeeqi <sup>1</sup>, Caroline Wellbery MD PhD <sup>2</sup>

<sup>1</sup> Georgetown University School of Medicine, Washington, DC  
<sup>2</sup> Department of Family Medicine, Georgetown University School of Medicine, Washington, DC

### ***A Framework for Embedding Environmental Health into Core Clinical Clerkships Without Increasing Curricular Burden***

**Objectives:** To develop and implement a scalable framework integrating environmental health into core clinical clerkships by aligning evidence-based topics with existing clerkship objectives.  
**Methods:** We conducted a literature review to identify significant environmental issues affecting our community and completed our institution's Planetary Health Report Card, which revealed gaps in environmental health content within the core clerkship curriculum. Opportunities for curricular integration of climate-forward topics were identified through review of clerkship materials and discussion with clerkship leadership and current students.  
**Results:** Curricular changes were implemented in two core clerkships—Family Medicine (FM) and Pediatrics—for the 2026-2027 academic year. These clerkships were selected for targeted intervention based on favorable factors for integration, including clinical relevance to environmental exposures, feasibility of integration into existing curricular activities, and alignment with established clerkship objectives. Both clerkships also include existing public-health focused activities, such as a Vulnerable Populations presentation, and practice-level change through student-driven Quality Improvement projects, which served as platforms for integrating environmental health content. Lastly, a pre-existing appreciation for environmental health education by clerkship leadership further facilitated implementation.  
**Conclusion:** This project demonstrates a model for incrementally integrating environmental health into clerkship medical education without adding curricular burden, while highlighting it as an essential clinical competency.

10

Ursula Gately <sup>1</sup>

<sup>1</sup> Johns Hopkins University School of Medicine, Baltimore, MD

### ***Breath Is Not Equally Distributed***

Breath Is Not Equally Distributed is an art installation that treats the human lung as a living archive of environmental exposure. Through visual representations, it shows lungs under different conditions shaped by climate change, pollution, and place.

The installation points to land use, climate instability, and environmental decision-making as the forces that shape who gets sick and how. By centering breathing, something involuntary and shared, the work asks us to see the lung not as an isolated organ, but as a porous interface between people, their environments, and the systems that govern both.

Each lung is paired with environmental cues, particulate matter, soil disturbance, heat, waste combusting, to make visible how exposure becomes embodied. Coccidioidomycosis in the U.S. Southwest, intensified by drought and dust storms, and chronic asthma in South Baltimore, shaped by industrial pollution and waste incineration, are not coincidences. They are outcomes of the systems we build, regulate, and allow to persist.

11

Riya Bhatia <sup>1</sup>, Julianne Park <sup>1</sup>

<sup>1</sup> Stanford University, Stanford CA

### ***Building Community-Led Resilience: A Tailored Intervention for Extreme Heat in North Fair Oaks***

**Objective:** Extreme heat is a growing climate-health issue disproportionately impacting marginalized communities. This project aimed to design and implement a culturally competent, community-oriented heat preparedness intervention and identify key components of a scalable framework for community-tailored disaster preparedness.

**Methods:** In partnership with nonprofit Climate Resilient Communities, Stanford Climate & Health designed a two-stage intervention in North Fair Oaks, a predominantly Latino, under-resourced community. In May 2025, a listening session gathered residents' input on extreme heat experiences, barriers to resource access, knowledge gaps, and preferred education methods. In July 2025, we held a workshop directly tailored to these needs.

**Results:** The listening session (40 residents) revealed a key barrier: reluctance to leave home for cooling centers, preferences for visual Spanish-language materials, and in-community education. At the workshop, 60 residents received "heat kits" (rechargeable fans, medication cooling pouches, electrolytes, power banks, Spanish-language pamphlet). A physician-led presentation covered heat illness, protecting vulnerable populations, labor protections during heatwaves, and other community questions. Three components for scalable disaster preparedness emerged: community-led design, sustainable (low plastic) resources, and medical education that fosters trust.

**Conclusions:** This intervention demonstrates that climate-health preparedness strategies are most effective, sustainable, and scalable when built with communities and tailored to local needs.

10

# POSTER SESSION

## VIRTUAL SESSION I: 3PM - 3:45PM

01

**Zoe VanderHoek** 1, Ryan Christ DPhil 2, Brian Prigmore MD 3, Molly Joyce MPH 1, Haley D. Smith 1, Ruth Carver Bondurant MM 1, Sydney Laxson 1, Elise Brannen MD 1, Fiona Stefanik MD 1, Jenny Rose Park MD 4, Lori Sun 1, Alexandra Hoffman 1, Eden VanderHoek 1, Derek Wong 1, Zachary Yellowman 1, Patrick Quinn 5.

1 Oregon Health & Science University Hospital, Portland, OR  
2 Yale Medicine, New Haven, CT  
3 University of Utah Health, Salt Lake City, UT  
4 University of Wisconsin, Madison, WI  
5 Medical College of Wisconsin (Froedtert Hospital), Milwaukee, WI

### *Virtual or In-Person? A Census of United States Residency Interview Formats for Match 2025*

**Objective:** Traditionally in-person, residency interviews transitioned to virtual formats during the COVID-19 pandemic. In 2024, the AAMC recommended a continued virtual preference to mitigate applicant expenses, preserve clinical time, and reduce carbon footprints. This study sought to provide a definitive census of how U.S. residency programs chose to interview for the Match 2025 cycle following those recommendations.

**Methods:** We analyzed 4,863 programs across 23 specialties using ERAS and direct verification. Modalities were categorized as virtual, hybrid, or in-person and analyzed according to specialty and against geographic region and Doximity prestige quartiles.

**Results:** Of 4,014 verified programs, 75% remained virtual, 17% were in-person, and 8% were hybrid. While most specialties were majority-virtual, surgical subspecialties, including neurosurgery (85%) and otolaryngology (86%), showed a significant return to in-person formats. Specialty type was the primary driver of format selection.

**Conclusions:** A growing divergence exists between surgical fields and other specialties regarding recruitment. The shift back to in-person interviews in certain fields challenges efforts to minimize the Match's carbon footprint and increases barriers for socioeconomically diverse applicants. We hope the results of this census inform stakeholders as residency interviews continue to evolve.

02

Lauren Kann 1, Noel Tomy 1, **Joshua Garelik** 1, Elisha Eisenberg 1, Eric Sinton 1, Moshe Levy 1, Greg Spaulding 1, Valentin Martchenko 1, Raey Gesese 1.

1 New York Medical College, Valhalla, NY

### *New York Medical College Planetary Health Report Card 2025*

**Objective:** To assess and strengthen planetary health education and institutional practices at New York Medical College School of Medicine (NYMC SOM) using the Planetary Health Report Card framework.

**Background:** Planetary health is an interdisciplinary field that examines how environmental and ecological changes affect human health. Medical schools play a key role in preparing future physicians to address these challenges.

**Methods:** Medical students completed the Planetary Health Report Card (PHRC), evaluating five domains: curriculum, interdisciplinary research, institutional support, community outreach and advocacy, student-led initiatives, and campus sustainability. Data were collected through review of course syllabi, NYMC websites, internal student resources, and outreach to faculty and administrators. Quantitative scoring was used to assign letter grades (A–D) to each domain. An external PHRC reviewer evaluated the report prior to finalization. The completed report was shared with NYMC leadership to support institutional dialogue and improvement.

**Results:** NYMC SOM received the following grades: Curriculum, C–; Research, C; Community Outreach and Advocacy, C+; Support for Student-Led Initiatives, B–, and Campus Sustainability, D.

**Conclusions:** Although planetary health efforts remain inconsistently integrated, NYMC SOM demonstrates a strong foundation, particularly in student engagement. Several lower-scoring domains could be improved through targeted, low-cost interventions, positioning the institution for meaningful advancement.

03

**Patrick Quinn** 1, Zoe VanderHoek 2, Ryan Christ DPhil 3, Brian Prigmore MD 4, Molly Joyce MPH 2, Haley D. Smith 2, Ruth Carver Bondurant MM 2, Sydney Laxson 2, Elise Brannen MD 2, Fiona Stefanik MD 2, Jenny Rose Park MD 5, Lori Sun 2, Alexandra Hoffman 2, Eden VanderHoek 2, Derek Wong 2, Zachary Yellowman 2, Katherine Velicki MD 2

1 Medical College of Wisconsin, Milwaukee, WI  
2 Oregon Health & Science University, Portland, OR  
3 Yale University School of Medicine, New Haven, CT  
4 University of Utah, Salt Lake City, UT  
5 University of Wisconsin, Madison, WI

### *Virtual or In-Person? A Cross-Sectional Study of United States Residency Interview Formats for Match 2025*

**Background:** Residency interviews in the United States were historically conducted in person. However, there was an abrupt transition to virtual interviews during the COVID-19 pandemic. In the years that followed, no group published data on whether programs opted to continue virtual interviews or return to the in-person format.

**Objectives:** This study aimed to determine residency interview formats across 23 specialties in the United States during the 2024-2025 residency application season.

**Methods:** Our group investigated whether residency programs conducted virtual, hybrid, or in-person interviews for Match 2025. Main sources included specialty databases, individual program websites, and emails with program coordinators.

**Results:** Residency interview format was successfully determined for 4014 of 4863 total programs (83%). Most interviews were held virtually (2989, 75%), though some were conducted via in-person (700, 17%) and hybrid (325, 8%) formats. In-person interviews were most favored by otolaryngology (86%), plastic surgery (85%), neurosurgery (85%), orthopaedic surgery (70%), and thoracic surgery (56%).

**Conclusions:** When traveling to all in-person residency interviews, each applicant routinely spends more than \$5,000 and burns the equivalent of about 440 gallons of gasoline. In a time when 70% of medical students carry educational debt and the planet exceeds 1.5 C of warming, it is time to optimize the residency interview process.

# POSTER SESSION

## VIRTUAL SESSION I: 3PM - 3:45PM

04

Annik Irving <sup>1</sup>, Mary Neil Hodt MS <sup>1</sup>, Evan Wade <sup>1</sup>, Bea Calvert MA MLIS, AHIP <sup>2</sup>, Kerstin Honer Zu Bentrup PhD <sup>1</sup>, Marc Futernick MD, FACEP <sup>3</sup>, Ann-Christine Duhaime MD <sup>4</sup>.

<sup>1</sup> Tulane University School of Medicine, New Orleans, LA  
<sup>2</sup> Rudolph Matas Library of Health Sciences at Tulane University, New Orleans, LA  
<sup>3</sup> US Acute Care Solutions, Canton, OH  
<sup>4</sup> Harvard Medical School, Boston, MA

### *Irrigation of Traumatic Lacerations in the ED: Evidence on Tap Water as an Alternative to Sterile Saline – A Scoping Review*

**Background:** To assess the safety, effectiveness, and resource implications of using tap water versus sterile saline for wound irrigation in emergency department settings.

**Methods:** We conducted a scoping review following PRISMA-ScR guidelines. Searches of PubMed, Embase, CINAHL, and Scopus through October 2024 identified 913 records; 27 studies met inclusion criteria (RCTs, observational studies, systematic reviews).

**Results:** Across included studies, infection rates did not differ significantly between tap water and sterile saline. High-pressure and large-volume irrigation were consistently associated with reduced infection risk, regardless of fluid type. Cost analyses estimated potential annual savings of \$65.6 million with tap water use. Variability in irrigation techniques and limited data in vulnerable populations remain key gaps.

**Conclusions:** Tap water appears to be a safe, effective, and economical alternative for irrigating uncomplicated lacerations in ED settings. Future research should prioritize standardized protocols, controlled trials, and implementation strategies to optimize wound care and reduce resource burden.

05

Kayla Keenan MHA <sup>1</sup>, Lauren Kraker <sup>1</sup>, Madison Wolkov <sup>1</sup>, Amanda Cooper MD <sup>1</sup>.

<sup>1</sup> Penn State College of Medicine, Hershey, PA

### *Impact of Acute PM2.5 Exposure from the 2023 Canadian Wildfires on Postoperative Outcomes in Central Pennsylvania*

**Objective:** In June 2023, Canadian wildfire smoke caused severe air pollution across the United States, with PM2.5 levels far exceeding WHO guidelines. While chronic PM2.5 exposure has been linked to worse surgical outcomes, the impact of acute extreme exposure remains poorly understood. This study evaluates the effect of acutely elevated PM2.5 levels during the 2023 wildfires on postoperative outcomes in rural central Pennsylvania.

**Methods:** A retrospective NSQIP analysis was conducted for selected procedures performed between January and August 2023. Procedures during the June 2023 wildfire period were compared with similar procedures performed six months prior. PM2.5 exposure was categorized as high ( $\geq 101 \mu\text{g}/\text{m}^3$ ) or low ( $\leq 100 \mu\text{g}/\text{m}^3$ ), and outcomes were compared using independent t-tests.

**Results:** Mean PM2.5 during the wildfire period was  $117 \mu\text{g}/\text{m}^3$ . Higher PM2.5 exposure was associated with increased LOS, reaching statistical significance among lung wedge resection patients (7.0 vs 1.62 days,  $p = 0.004$ ). No significant associations were observed for mortality, readmission, pneumonia, or sepsis.

**Conclusion:** Acute PM2.5 exposure during wildfire events is associated with increased postoperative length of stay in select surgical populations, highlighting the importance of considering air quality when scheduling non-emergent procedures.

06

Philip Shih MS <sup>1</sup>, Alex Ha MS <sup>1</sup>.

<sup>1</sup> UCSF School of Medicine, San Francisco, CA

### *Cultivating a Greener Curriculum: A Narrative of Synergy in the Planetary Health Report Card*

**Objective:** To evaluate the UC Berkeley-UCSF Joint Medical Program's (JMP) commitment to planetary health and leverage the findings as an advocacy tool for curricular and institutional reform.

**Methods:** We utilized the Planetary Health Report Card (PHRC) framework, a student-led initiative auditing medical schools across five categories: curriculum, research, community outreach, student-led initiatives, and campus sustainability. Our team conducted a comprehensive qualitative and quantitative evaluation of the JMP using these standardized metrics.

**Results:** The JMP received an overall grade of A-. The program demonstrated significant strengths in interdisciplinary research (A+) and community outreach (A), supported by robust faculty mentorship and activist partnerships. However, the audit identified a critical gap in the core curriculum, where only 9% of clinical cases integrated planetary health concepts. These findings directly led to the establishment of an official student liaison for sustainability and the integration of new climate-health content into the longitudinal curriculum.

**Conclusions:** The PHRC is an effective catalyst for institutional change. By identifying specific areas for improvement, students can successfully advocate for the integration of planetary health into medical education, ensuring that future physicians are prepared to address the health impacts of the climate crisis.

# POSTER SESSION

## VIRTUAL SESSION I: 3PM - 3:45PM

07

Tyler Staten 1, Bruce MacWilliams,  
PhD 2, Laura L Bellaire MD MSt 2.

1 University of Utah School of  
Medicine, Salt Lake City, UT  
2 Department of Orthopaedics,  
University of Utah, Salt Lake City, UT

### ***Assessing Environmental Knowledge, Attitudes, and Behaviors Exhibited by American Medical Students: A Single-Center Study***

**Objectives:** Medical students face major challenges from environmental degradation. Understanding climate–health impacts is essential for patient care and advocacy. Little is known about U.S. students' environmental knowledge, attitudes, and behaviors. This study describes participants' comprehension of and engagement with environmental health.

**Methods:** Students at a single U.S. medical school were surveyed using a validated knowledge assessment, measures of attitudes, values, and behaviors, and questions on sustainability in clinical education. Results were summarized descriptively, with inter-group relationships assessed using Kruskal-Wallis, Wilcoxon rank-sum, and Pearson correlation tests.

**Results:** Participants averaged 83.8% correct on the knowledge assessment. Environmental attitudes, values, and behaviors trended positively. Students expressed little optimism about influencing change. A gap was found between environmental knowledge and behaviors ( $p=0.88$ ), while attitudes were significantly associated with favorable behaviors ( $p<0.01$ ). Female participants reported more favorable attitudes, values, and behaviors than males, despite similar knowledge scores ( $p<0.01$ ). Only 9.6% of students discussed sustainability with physicians.

**Conclusions:** Medical students' environmental knowledge exceeds that of other recently studied populations (83.8% vs. 58.5% for university undergraduates). Attitudes strongly predicted behavior, while knowledge did not. These findings demonstrate the need for mentorship and curricular efforts that shape attitudes, connect environmental and human health, and guide patient care.

08

Sayyeda Hasan 1, Vikas Reddy MPH 1,  
Maaida Kirmani 1, Journie Gaeta 1, Dalia  
Salam Ahmed 1, Margaret Daher 1, Zehra  
Abbas MS 1, Robert Slater MD MPH 1

1 University of Incarnate Word School of  
Osteopathic Medicine, San Antonio, TX

### ***Climate Change as a Mental Health Stressor: Emerging Risks and Clinical Considerations***

**Objective:** To analyze the relationship that exists between climate change and mental health through synthesizing current research on acute, anticipatory, and chronic climate-related events' impact on psychological health and well-being, with a particular focus on vulnerable populations.

**Methods:** This project is an extensive literature review surveying mental health outcomes correlated with climate change event exposures. It is categorized into three groups: acute events, chronic environmental exposures, and anticipatory stressors. Findings were synthesized from epidemiological studies, systematic review and population-based analyses to determine the patterns and clinical implications of climate change-related exposures.

**Results:** The evidence clearly illustrates increased risks of anxiety, depression, PTSD, and suicide risk following climate-related disasters and environmental degradation. Chronic exposures like pollution and loss of green spaces further contribute to psychological distress, and anticipatory stressors increase the mental health burden through ecological grief and climate anxiety. There is a disproportionate burden of these effects on vulnerable populations.

**Conclusion:** Climate change is contributing to a growing mental health crisis and requires recognition within the spheres of medical education, public health planning, and clinical practice. A thorough integration of mental health screening and resilience-building strategies is essential to mitigate long-term psychological damage to the population.

09

Evie Morgan 1

1 University of St Andrews, St Andrews,  
United Kingdom

### ***Does reproductive decision-making, in the context of climate change or extreme climate events, vary globally? A scoping review.***

**Objectives:** To map out the available evidence on the impact of climate change and extreme climate events on reproductive decision-making globally, to assess the dependent variables used and highlight gaps for future research.

**Methods:** A scoping review was conducted, following the population, concept context format. Three databases were searched as well as a google search to identify grey literature.

**Results:** 22 sources were included which originated within a variety of countries and used several different outcomes to measure reproductive decision-making. Opinion vs action on reproductive decision-making, individual vs collective responsibility for climate mitigation and future impact of climate change on children were three themes which emerged.

**Conclusion:** Reproductive decision-making, in the context of climate change or climate events, does vary globally. Some evidence reports a significant negative relationship whereby climate concerns or events lead to a reduced childbearing preference whereas others report a positive relationship. The remaining sources recognise the climate crisis is impacting on individual's reproductive choices; however, the magnitude of this influence is undetermined. Future studies should be longitudinal and assess views of individuals before and after childbearing. Studies which incorporate rating scales to quantify the size of the climate crisis' impact on reproductive decision-making are also warranted.

# POSTER SESSION

## VIRTUAL SESSION I: 3PM - 3:45PM

10

Samira Mehta 1, Sanjana  
Kannikeswaran 1

1 University of Michigan Medical  
School, Ann Arbor, MI

### ***Building Climate Resilience among the Unhoused Population: Existing Assets and Identified Needs in Washtenaw County, MI***

**Objective:** To 1) identify existing community assets and resources that protect unhoused individuals from extreme weather accompanying climate change and 2) highlight community-identified needs for future climate resilience among this population.

**Methods:** We conducted interviews with unhoused individuals, physicians, social workers, and local shelter administrators focused on the intersection of climate change and health. Grounded theory analysis was used to identify significant themes of health impacts, existing protective factors, and areas for improvement in climate resilience.

**Results:** Exacerbation of chronic respiratory conditions, heat-related illness, and mobility challenges were the most common reported health effects from severe weather on unhoused individuals. Physical shelter, weather-protective supplies, and accessible food and water were the most important existing community assets. Identified needs include overnight physical shelter in extreme heat, improved communication of severe weather notices and available resources, and expanded shelter space and timings.

**Conclusions:** We use storytelling to highlight the self-identified needs of the unhoused community in the face of increasing extreme weather events. These findings build on prior work with the continued aim of driving education, policy, and health interventions to protect the unhoused population on local and larger scales.

11

Nadine Najah 1

1 The Warren Alpert Medical School of  
Brown University, Providence, RI

### ***The Missing Curriculum: A Website Review of Planetary Health and Healthcare Sustainability in Ob/Gyn Residency Programs***

**Objective:** To highlight the extent to which academic Ob/Gyn residency programs and their respective Ob/Gyn department include planetary health and healthcare sustainability education and/or research through a website review.

**Methods:** We conducted a web-based review of all university-based ACGME-accredited Obstetrics and Gynecology residency programs and their respective Ob/Gyn department (N = 123). Between October–December, 2025, we systematically searched each program's curriculum, education, and research pages for any mention of environmental/planetary health, climate change, sustainability, or operating room resource stewardship and recorded the type of exposure. We also searched each program's Ob/Gyn department for the same content. We also included whether the university has a center for planetary health education or research.

**Results:** Our findings reveal that 4% of program websites mention planetary health or healthcare sustainability. About 33% of programs are based at a university with a center for climate and health, and 6.5% of respective Ob/Gyn departments mention planetary health, all in the form of research.

**Conclusions:** Minimal Ob/Gyn residency programs and respective departments highlight planetary health and healthcare sustainability material, despite climate health risks posed to Ob/Gyn patient populations and importance of environmental stewardship.

12

Isha Thapar 1, Farah Hussain MD 1

1 Perelman School of Medicine, Philadelphia,  
PA

### ***Integration of Climate and Health Curricula into Medical School Pre-Clinical Coursework***

**Objective:** Physicians can play a vital role in the climate crisis by treating patients suffering from environmental diseases and advising on preventative measures to reduce exposures. However, environmental health education is severely lacking in medical schools, causing future practitioners to be ill-equipped to incorporate this critical knowledge into their clinical practice.

**Methods:** A survey of preclinical course directors at our institution identified minimal coverage of climate change and health material, with limited time and faculty expertise cited as key barriers. To address these challenges, our team developed evidence-based slides on climate and health tailored to existing lectures, including suggested integration points, speaker notes, and references. This approach enabled horizontal integration across organ systems while preserving the total number of lectures.

**Results:** Educational materials were disseminated to course directors in neurology, psychiatry, hematology, oncology, reproduction, and cardiology. All course directors were receptive, and integration of the materials into preclinical curricula is currently underway.

**Conclusions:** Through this initiative, we found that pre-creation of evidence-backed content effectively addressed faculty concerns regarding time and expertise. This approach offers a feasible method to integrate climate change and health into preclinical curricula and better prepare future physicians for this emerging public health crisis.

# POSTER SESSION

## VIRTUAL SESSION I: 3PM - 3:45PM

13

**Aghna Wasim** 1, Marijoh Rodriguez Humber 1, Cordelia Hassan Wadi 1, Olivia Benny 1, Safa Khan 1, Zelke Tutagiel 1, Tom Smith 1, Ananya Shearman.

1 School of Medicine, Keele University, Keele, United Kingdom

### ***The Status of Planetary Health Education at Keele University School of Medicine, 2025-2026***

**Objective:** We evaluated the standard of planetary health education at Keele University School of Medicine in the 2025-2026 academic year.

**Methods:** Information regarding the inclusion of planetary health in the medical curriculum and wider sustainability practices was collected from institutional websites and faculty members. The evaluation focused on five domains: curriculum, interdisciplinary research, community outreach and advocacy, support for student-led initiatives, campus sustainability. Each domain was graded based on the Planetary Health Report Card (PHRC). Section scores were summed to generate a cumulative total.

**Results:** Keele University achieved an A+ (96.3%) on their medical-school-specific PHRC, a notable increase from last year's cumulative score of 95.1%. Among the five domains, community outreach (100%) and support for student-led initiatives (100%) emerged as the highest performing areas of planetary health integration. These were closely followed by campus sustainability (97%) and interdisciplinary research (94%). Planetary health curriculum received the lowest score (93%) but showed substantial improvement (4.4%) from the preceding year. Scores for all other domains remain unchanged.

**Conclusion:** Keele University continues to excel in the integration of planetary health at their medical school. The curriculum could be further improved by introducing teaching on discussing the health effects of climate change with patients.

14

**Kunjul Khanna** 1, Karuna Katti MBBS MS 1.

1 Lancaster University, Lancaster, United Kingdom

### ***Clinical Benefits Versus Environmental Impact of Metformin: Evidence from Type 2 Diabetes Management and Zebrafish Models - A Systematic Review***

**Objective:** Metformin is a widely prescribed first-line treatment for Type 2 Diabetes Mellitus globally, including the UK. Excreted largely unchanged, it enters aquatic environments due to resistance to conventional water treatment techniques, exposing aquatic organisms. This systematic review investigates the impact of metformin exposure on zebrafish, whose genetic and physiological traits are similar to humans, making them an ideal model to assess the balance between therapeutic benefits and environmental impact.

**Methods:** A structured literature review was conducted using three electronic databases. Studies were selected based on predefined inclusion and exclusion criteria, focusing on the biological effects of metformin in zebrafish.

**Results:** Metformin exposure in zebrafish was associated with increased mortality, altered gene expression, and disruption of essential enzymatic pathways, leading to developmental abnormalities, morphological malformations, and impaired physiological function, indicating potential ecological consequences.

**Conclusions:** Overall, inadequate wastewater treatment allows persistent pharmaceuticals like metformin to accumulate in aquatic environments, harming aquatic organisms. Emerging methods, such as biodegradation using a specific bacterial genus or the Hybrid Vertical Anaerobic Biofilm-Reactor, show potential; however, concerns regarding feasibility, by-product toxicity, and large-scale implementation remain. Developing effective wastewater treatment strategies is critical to protect ecosystems whilst also maintaining therapeutic efficacy.

15

**Isabel Chris** 1, Ashley Roberts MD 1, Arthur Cross-Najafi MD 1, Patricia Cintora PhD 1, Darren Nin PhD 1, John Konen MD 1, Ami Shah MD 1.

1 Rush University Medical College, Chicago, IL

### ***Evaluating the Necessity and Potential Harm of Laboratory Testing in Colorectal Surgery Patients***

**Objective:** Healthcare pollution accounts for 23,000 disability adjusted life-years (DALYs) lost annually, emphasizing the direct link between environmental degradation and health. The objective of this study is to evaluate postoperative laboratory utilization and identify predictors of unnecessary testing in elective colorectal surgery (CRS) patients, specifically addressing how low-value diagnostic practices exacerbate healthcare's planetary and clinical burdens.

**Methods:** A retrospective review of 391 elective CRS patients was conducted at RUMC (RH/I, LH/S, LAR, IR, CT/R) tracked primary labs (CBC, BMP, CMP, Mg, Phos). "Unnecessary" tests were defined as those performed on patients without documented complications.

**Results:** Among 391 patients, 69.8% underwent testing without clinical indication, reflecting protocolized overutilization. This practice carries a heavy ecological cost; benchmarks for similar unnecessary tests demonstrate an annual burden of 28,576-42,012 kgCO<sub>2</sub>e, equivalent to driving a passenger car to 230,000km. Despite this high environmental footprint, routine postoperative labs across specialties prompt intervention in only 0.4-4% of cases.

**Conclusions:** Unnecessary laboratory testing in uncomplicated CRS patients is a primary driver of medical waste and environmental degradation. Transitioning from uniform protocols to evidence based, risk stratified guidelines is essential for making operating rooms greener, offering a clear pathway to reduce the healthcare industry's carbon footprint and operational costs without compromising safety.

# POSTER SESSION

## VIRTUAL SESSION I: 3PM - 3:45PM

16

**Nicholas Underwood 1**, Alexia Childress 1, Sriram Amirneni 1, Farah Contractor MD 1, Maya Parker 1, Selena Cheng 1, Aly Dwight MD 1, Brady Sack 1, Kristen Briney 1, Rohan Mainali 1, Thi Nguyen MD 1, Nina Jannatifar 1, Nadia Sadanandan 1, Vishal Reddy 1.

1 University of Virginia School of Medicine, Charlottesville, VA

### **University of Virginia 2024 PHRC**

**Objective:** We have written the Planetary Health Report Card (PHRC) for the University of Virginia (UVA) School of Medicine (SOM) to evaluate the UVA SOM in regards to planetary health education and initiatives.

**Methods:** We have evaluated the School of Medicine and the University of Virginia itself in areas of Planetary Health Curriculum, Interdisciplinary Research, Community Outreach and Advocacy, Support for Student-led Planetary Health Initiatives, and Campus Sustainability.

**Results:** UVA has consistently done its best in Interdisciplinary Research, receiving a grade of 82.4%, thanks to UVA's Environmental Institute supporting environmental research and sponsoring UVA SOM faculty. However, UVA needs to improve in its Community Outreach and Advocacy efforts, which have earned UVA a score of 57.14%. Our overall grade for 2024 is 67.97%.

**Conclusion:** Areas for improvement in Community Outreach and Advocacy include working alongside community partners to make the community more resilient to climate change through education and volunteer opportunities. Completing the PHRC provides UVA and its SOM with concrete parameters for constructive feedback and creates a record of improvement over time. Our recommendations about spending more time discussing the intersection between health and climate change led to a score improvement from 24% to 62.5% in Planetary Health Curriculum over 4 years.

# POSTER SESSION

## VIRTUAL SESSION II: 4PM - 4:45PM

01

Shubha Verma <sup>1</sup>, Rebecca Philipsborn,  
MD, MPA <sup>1</sup>

<sup>1</sup> Emory University School of Medicine,  
Atlanta, GA

### *Integrating Environmental Justice for the Ethical use of Artificial Intelligence in Medical Education*

**Objective:** In response to the rapid integration of artificial intelligence (AI) into medical education, we sought to develop curricular opportunities for integrating environmental justice and the ethical considerations of AI into preclinical and clinical training.

**Methods:** To develop curricular schema at the intersection of the ethical use in medical education and environmental justice, we searched the literature to date, including gray literature. Additionally, we sought collaboration with the AI in education team and reviewed feedback following their first pilot to direct the focus of our development.

**Results:** Student feedback and our literature search elevated important considerations for the ethical integration of AI in medical education from an environmental justice standpoint. Key themes from our search included applications of AI in medical education, the impact of AI infrastructure on communities, environmental sustainability and generative AI, and the natural resource consumption of generative AI.

**Conclusions:** The use of AI in medicine and medical education raises a paradox by promising improved health outcomes, increased efficiency, and decreased burnout while also threatening the natural resources on which human life and health depend. The acquisition and application of traditional physician skills, and the potential for deskilling within this paradox, are of fundamental importance to medical education.

02

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Angeles, CA  
<sup>3</sup> Dartmouth Cancer Center, Geisel School of  
Medicine, Lebanon, NH

### *Interprofessional Climate and Health Education: Addressing Knowledge Gaps in Healthcare Sustainability Through Collaborative Learning*

**Objective:** To assess the impact of a 6-week elective on participants' knowledge, engagement, and attitudes regarding the intersection of climate and health.

**Methods:** A brief pre- and post-course survey was administered to participants in a hybrid in-person/virtual 6-week elective on climate and health offered in fall 2025. Participants included Dartmouth students and faculty from multiple disciplines and training levels. Surveys assessed changes in participants' 1) climate and health knowledge, and 2) engagement and attitudes toward climate and health. Responses were recorded on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

**Results:** Of 36 participants, 20 and 14 completed the pre- and post-course surveys, respectively. Prior to the course, 16.4% of participants reported strong knowledge of climate and health topics. This increased to 41.8% following the course. Similarly, the proportion of participants who had strong knowledge and desire in climate and health engagement increased from 34% pre-course to 52.9% post-course.

**Conclusions:** This course effectively enhanced participants' climate-related health knowledge and confidence in engaging in health and climate initiatives. Moreover, the inter-professional nature of the course made space for cross-departmental communication, laying the groundwork towards future clinical and research collaborations.

03

Evelyn Marin MPH <sup>1</sup>, Noah Stewart <sup>1</sup>,  
Amanda Cooper, MD<sup>2</sup>

<sup>1</sup> Penn State College of Medicine, Hershey,  
PA  
<sup>2</sup> Penn State Hershey Medical Center,  
Hershey, PA

### *Penn State College of Medicine Climate Health Elective*

**Objective:** We developed a 4 week humanities elective centered around climate change and its effects on health for 4th year medical students and sought to learn more about students' attitudes and perspectives about climate change and health.

**Methods:** Twenty one students enrolled in the elective. The elective was a virtual elective with optional in-person activities that included lectures, discussions, and role-playing activities. The curriculum focused on climate change and health topics including advocacy, climate smart pharmacy, and creating a health action plan. As their final project, students presented an educational session for the preclinical medical curriculum that incorporated climate health topics. We adopted a previously published survey to learn students' perspectives and attitudes about climate change and climate health education. Independent T-tests and descriptive analyses were used to evaluate changes in responses.

**Results:** There were 18 and 16 students that completed the pre and post-survey respectively. Students reported feeling significantly better prepared to discuss with patients how climate change affects their health (mean difference=2.1; 95% [-0.6053 : 0.6053]; p<0.001).

**Conclusions:** The Climate Health Elective is an effective approach to educate medical students about climate change and its impacts on human health.

# POSTER SESSION

## VIRTUAL SESSION II: 4PM - 4:45PM

04

Karen Asher <sup>1</sup>, Erin Eroglu <sup>1</sup>, Parmida Jamshidi <sup>1</sup>, Tejas Reddy <sup>1</sup>, Heidi David <sup>1</sup>, Diana Danelia <sup>1</sup>, Suma Yellamraju <sup>1</sup>, Tyler Sacks <sup>1</sup>, Yu-hsuan Wu <sup>1</sup>

<sup>1</sup> Medical College of Georgia at Augusta University, Augusta, GA

### ***An evaluation of climate health and sustainability initiatives at the Medical College of Georgia using a Planetary Health Report Card framework, 2024-2025***

**Objective:** To evaluate the scope and quality of climate health curriculum, sustainability initiatives, and administrator support for related projects at the Medical College of Georgia (MCG) at Augusta University (AU) in the 2024-2025 academic year with the goal of identifying areas for longitudinal improvement.

**Methods:** We utilized the Planetary Health Report Card (PHRC) framework to evaluate MCG in five domains: curriculum, interdisciplinary research, community outreach and advocacy, support for student-led initiatives, and campus sustainability. Our findings were drawn from the 2024-2025 pre-clerkship syllabi, MCG- and AU-associated webpages, and MCG-affiliated student organizations. Each metric was independently reviewed and scored by at least 2 members of our team. Letter grades were assigned for each domain based on pre-defined ranges.

**Results:** MCG received the following for an overall grade of "D": Curriculum "D", Interdisciplinary Research "F", Community Outreach and Advocacy "D", Support for Student-Led Initiatives "C", Campus Sustainability "F+".

**Conclusions:** Our team identified improvement areas in every domain. We used this to provide specific recommendations to MCG faculty, including a planetary health curriculum designed to be integrated throughout the existing curricular schedule. We plan to continue utilizing the PHRC framework to monitor MCG's yearly progress so it may serve as a model for other health professional schools.

05

Nathaniel Bunnell <sup>1</sup>, Cameron Basquez-Pfeifer <sup>1</sup>, William Canty MS <sup>1</sup>, Logan Harper MD <sup>1, 2</sup>

<sup>1</sup> University of Colorado Anschutz School of Medicine, Aurora, CO  
<sup>2</sup> Climate Medicine Diplomat

### ***Education Seminars on the Health Risks of Extreme Heat in Under-resourced Colorado Communities***

**Objective:** A pilot series of community heat-health seminars were led by medical trainees to improve knowledge and resource access among underserved populations in Denver, Colorado.

**Methods:** Neighborhoods with elevated heat vulnerability were identified using the City of Denver's Heat Vulnerability Index. A community needs assessment survey was used to identify key knowledge gaps for heat resilience and guide development of seminar educational materials. Pre-surveys were designed to capture attendees' demographic data, experience of HRI, along with understanding of risks, symptoms, preventive measures, and awareness of online and community resources (e.g. heat risks forecasts, cooling centers, and energy assistance). Questions included binary, Likert scale, and short answer formats. Post-Surveys measured changes in understanding of HRI recognition, prevention, and confidence in accessing resources. Statistical analysis was performed in Stata using paired and unpaired data sets.

**Results:** A total of 25 participants attended the seminars (mean age 47.9 ± 14.3 years); most identified as female (76%) and preferred Spanish (72%). Educational attainment and income levels were low overall, reflecting a high-risk population. Attendance increased across the three summer sessions, and community-led follow-up programming emerged from this pilot study. Pre- and post-seminar surveys demonstrated no significant change in participants' confidence in preventing heat-related illness (p = 0.86), but non-significant trends toward improved confidence in recognizing heat illness (p = 0.10) and identifying relevant resources (p = 0.083).

**Conclusions:** This pilot suggests that medical trainee-led seminars are a feasible and community-accepted model for heat-health education. While limited by small sample size, this approach may enhance climate resilience in vulnerable communities while simultaneously meeting medical education objectives in community engagement and immersion.

06

Serena Gelfer, MPH <sup>1</sup>, Scott Dale, MD <sup>1</sup>

<sup>1</sup> Sidney Kimmel Medical College, Thomas Jefferson University, Philadelphia, PA

### ***Assessing the Integration of Planetary Health (PH) in U.S. Medical Schools: A National Comparison with Sidney Kimmel Medical College (SKMC) at Thomas Jefferson University***

**Objective:** The healthcare sector is a major greenhouse gas emitter, highlighting the need to integrate planetary health (PH) into medical education. The Planetary Health Report Card (PHRC) evaluates medical schools' PH curricula. This study compares PH curricular integration at SKMC with other U.S. medical schools.

**Methods:** This cross-sectional study used 2024-2025 PHRC data for 62 U.S. medical schools. Descriptive statistics compared SKMC's performance across 28 metrics nationally and regionally. Linear regression identified predictors of PH curricular performance across U.S. medical schools.

**Results:** SKMC underperformed on five metrics: elective PH content, global climate change impacts, local threats, curricular improvement, and faculty oversight, with over half of schools scoring higher. Medical schools, including SKMC, lacked coverage of key components of sustainable clinical practice, including climate impacts of anesthetic gases and over-prescribing. Longitudinal integration of PH content was a significant independent predictor of curricular score ( $\beta=5.59$ ,  $p<0.001$ ) after adjustment for elective content and faculty oversight, while faculty oversight showed a borderline positive association ( $p=0.056$ ).

**Conclusions:** Addressing PH curricular gaps could position SKMC as a leader in PH education. Results are limited by reliance on PHRC data. Strengthening PH curricula would prepare medical students to practice medicine in the context of the climate crisis.

# POSTER SESSION

## VIRTUAL SESSION II: 4PM - 4:45PM

07

**Cecile Schreidah 1, Kashif Ansari 2, Andrew Creamer 3, Kyle Martin DO, MA MPH 4, Lida Zheng MD 1,5**

1 Northwestern University Feinberg School of Medicine, Chicago, IL  
2 Vanderbilt University School of Medicine, Nashville, TN  
3 Brown University, Providence, RI  
4 Warren Alpert Medical School of Brown University, Providence, RI  
5 Northwestern Memorial Healthcare, Chicago, IL

### ***Dermatologic Manifestations of Heat Exposure in Migrant and Displaced Populations: A Scoping Review***

**Objective:** Climate change has intensified extreme heat; migrant and displaced populations are at heightened risk of heat-related illness due to forced migration and labor-related exposure. Although research on the effects of heat exposure is extensive, documentation of dermatologic manifestations is unclear. To address this, we conducted a PRISMA-ScR-guided scoping review.

**Methods:** A PubMed and Web of Science search using MeSH terms yielded 8,193 studies, of which 67 met inclusion criteria after duplicate removal, title/abstract screening, and dual full-text review. Data was extracted using a standardized binary framework across four domains: heat exposure types, heat injury types, key findings, and dermatologic observations.

**Results:** Of the six dermatological subcategories, clothing-related skin risk was most frequently reported (52.24% (35/67)), then sunburn risk (20.90%), heat rash (31.34%), and PPE-associated irritation (17.91%). Sunscreen use and UV exposure concerns were least examined (11.94%). In studies addressing UV exposure concerns, most (87.5% (7/8)) framed concerns within cultural beliefs, highlighting the need for culturally competent prevention strategies.

**Conclusions:** While heat exposure and systemic illness are widely reported, dermatologic aspects remain underexplored, emphasizing the need to integrate these perspectives in future research as climate change intensifies.

08

**Nia N. Savera, MS 1, Joyce S. Jeong 1, Ashley Roberts MD 2, Patricia Cintora PhD 2, Erin E. Sullivan PhD 3, Ami N. Shah MD 2**

1 Rush Medical College, Chicago, IL  
2 Rush University Medical Center, Chicago, IL  
3 Suffolk University, Boston, MA

### ***Understanding Surgeon Reactions to an Environmental Impact Label: Insights from a Qualitative Study on Sustainability Awareness in Healthcare***

**Objective:** Single-use disposable surgical devices (SUDSDs) contribute substantially to operating room waste, yet surgeons often lack accessible information about their environmental impact. Environmental Impact Labels (EILs), modeled after nutrition labels, may support more sustainable decision-making. This study explored academic surgeons' perceptions of three prototype EIL designs and how these labels influence understanding and awareness of sustainability metrics.

**Methods:** We conducted qualitative, semi-structured interviews with attending surgeons at a single academic medical center. Participants completed a brief written survey capturing first impressions of three EIL prototypes, followed by an in-person interview after explanation of the labels' purpose. Interviews were recorded, transcribed, and analyzed using inductive thematic analysis.

**Results:** Four major themes emerged. Surgeons' initial reactions centered on clarity, interpretability, and usability of the labels. Sustainability awareness varied widely, with many identifying significant information gaps regarding the environmental impact of SUDSDs. Perceptions of responsibility differed across individual, institutional, and industry levels. Device efficacy and cost strongly influenced perceived label usefulness and potential impact on device selection.

**Conclusions:** Surgeons expressed openness to sustainability information but emphasized the need for clearer metrics and institutional alignment. These findings can inform refinement of EILs and support integration of sustainability considerations into surgical decision-making.

09

**Roma A. Kankaria 1, Lily Campbell Lewis 1, Curtis Baysinger MD 2**

1 Vanderbilt University School of Medicine, Nashville, TN  
2 Vanderbilt University Medical Center, Nashville, TN

### ***Transforming Knowledge into Action: A Climate Health Model in Medical Education at Vanderbilt University School of Medicine***

**Objective:** The climate crisis remains an urgent health equity challenge globally. At VUSM, students have sustained momentum in improving planetary health education and expanding opportunities for climate health action.

**Methods:** Since 2022, we have integrated climate health content into all years of VUSM's curriculum through iterative engagement with course directors, with a goal of reinforcing competencies aligned with emerging national frameworks. To translate knowledge into action, we subsequently developed initiatives that increased engagement in medical sustainability and environmental justice. Most recently, we strengthened partnerships with groups across campus and in the Nashville community, expanded mentorship and research opportunities for students interested in climate justice, and launched sustainability projects like composting in medical school buildings and implementing sustainable practice guidelines for events. Collaboration with local organizations has also amplified community service, regenerative agriculture, and environmental stewardship opportunities.

**Results:** VUSM's PHRC grade has increased from a C- to a B (2022-2025), with metrics showing improvement in curriculum, research, community outreach, support for student-led initiatives, and sustainability.

**Conclusions:** We aim to share our evolving model for integrating climate health education with meaningful action, demonstrating how medical education can equip learners to not only understand climate threats but also develop long-lasting change in communities.

# POSTER SESSION

## VIRTUAL SESSION II: 4PM - 4:45PM

10

Riya Goel 1, Morgan Schillinger  
Tarpinning 2, Jumriani Ansar PhD 3,  
Aliyyah Ansariadi SKM 3, Zalsah Puteri  
Annisa Syahrani SKM 3, Najwati  
Anggraeni SKM 3, Kavita Dave Coombe  
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2 Stanford University School of  
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Research Group at Universitas  
Hasanuddin, Makassar, Indonesia.  
4 Emory University School of Medicine  
Health Services Research Center  
Atlanta, GA

### *Maternal and Child Health Challenges During and After Flooding: A Qualitative Study in Makassar, Indonesia*

**Objective:** Flooding is a recurrent and worsening public health threat in Indonesia, disproportionately affecting women and children in low-lying urban areas. Understanding how mothers adapt to recurrent flooding is critical for developing affordable and context-relevant interventions to improve maternal and child outcomes.

**Methods:** We conducted in-depth interviews with 20 women in the Tallo District of Makassar. Interviews were transcribed and translated from Makassarese into English. They were then coded and analyzed thematically using MAXQDA.

**Results:** Flooding occurs annually, with severity differing between years. Mothers bore primary responsibility for lifting furniture, protecting children, and cleaning contaminated homes. Recurrent floods disrupted food preparation and reduced meal variety. Floodwater contaminated government-owned piped water and borehole well water, forcing reliance on expensive bottled water. Toilets overflowed and bathing was often skipped to conserve clean water. Prenatal and routine health visits were frequently postponed until floodwaters receded; however, many mothers reported wading through deep water to attend scheduled appointments.

**Conclusions:** Educating households about water preparation and implementing timely food staple distribution through existing community networks can reduce illness and hunger during flooding. Supporting neighborhood-based drainage maintenance and subsidizing incremental home elevation with locally available materials can address the burdens placed on mothers during flooding.

11

Sneha Sundar 1, Prit Patel 2

1 Michigan State College of Osteopathic  
Medicine, East Lansing, MI  
2 Wayne State School of Medicine, Detroit,  
MI

### *The Hidden Cost of New Technology on Marginalized Communities: A Spatial Analysis of U.S. Data Centers*

**Objective:** While artificial intelligence (AI) can be quite useful, it is important to examine the environmental and health consequences that manifest from the emissions produced by the infrastructure, like data centers, required to support the energy and computing demands. In this study, we analyzed how environmental exposures, industrial emissions, and demographic indicators surrounding U.S. data centers relate to population health outcomes.

**Methods:** We conducted a cross-sectional spatial analysis using 1242 U.S. data centers using national population health and environmental datasets from the CDC and the EPA. One-way ANOVA with Tukey post hoc tested distance-based differences in environmental and anthropogenic exposures, while Poisson regression models were used to estimate prevalence ratios between exposures and chronic health outcomes.

**Results:** Communities near data centers were more densely populated, more racially diverse, and had a higher proportion of children, with greater potential exposures to hazardous waste sites, powerplant emissions, and contaminants in drinking water (ANOVA,  $p < 0.05$ ).

**Conclusions:** Stronger near-facility associations for asthma, COPD, and cancer suggest that data centers may intensify existing exposure-disease burdens in surrounding communities. For medical students, awareness of these impacts on vulnerable communities can help guide students to be more cognizant of AI usage.

12

Amanda Duong 1, Rhea Kodkani 1,  
Samantha Efobi 1

1 Drexel University College of Medicine,  
Philadelphia, PA

### *Pollution-Sensitive Asthma Exacerbations and Subsequent Dermatologic Morbidity in Atopic Dermatitis*

**Objective:** Evaluate the association between atopic dermatitis and pollution, using emergency department visits for asthma exacerbation as a proxy measure.

**Methods:** We conducted a retrospective cohort study using the TriNetX US Collaborative Network. Adults ( $\geq 18$  years) with atopic dermatitis (ICD-10 L20) presenting to the ED were included. The exposure cohort was indexed to a first ED visit for asthma (I45) as a proxy for air pollution-sensitive events. Controls were indexed to a first ED visit for ankle or foot sprain (S93). Cohorts were propensity score-matched on age, sex, and race/ethnicity. The primary outcome was a 30-day composite of dermatologic flare-related conditions: cellulitis, cutaneous abscess, pruritus, and contact dermatitis.

**Results:** After matching ( $n=20,720$  per cohort), the composite dermatologic outcome occurred more frequently following asthma ED visits compared with sprain visits (5.42% vs 4.43%; RR 1.23, 95% CI 1.13–1.33;  $p < 0.0001$ ). Cutaneous abscesses were significantly increased (RR 1.57, 95% CI 1.15–2.14), while other inflammatory conditions showed nonsignificant trends.

**Conclusions:** Pollution-sensitive asthma exacerbations were associated with increased short-term dermatologic morbidity among patients with atopic dermatitis, highlighting a climate-associated impact on skin health consistent with pollution-related skin barrier disruption and systemic inflammation.

# POSTER SESSION

## VIRTUAL SESSION II: 4PM - 4:45PM

14

Emma Shelby 1, Caroline Walsh MD 1, Cameron Quick 2, Kate Hanneman MD MPH 3, Robert K. Ryu MD FSIR 1, Reed A. Omary MD MS 4

1 University of Colorado School of Medicine, Aurora CO  
2 University of Missouri Kansas City School of Medicine, Kansas City, MO  
3 University of Toronto, Department of Medical Imaging, Toronto, ON, Canada  
4 Vanderbilt University, Nashville, TN

### *Residency in the Era of Climate Change: A Multi-Institutional Survey of Medical Student Perceptions and Match Preferences*

**Objective:** To assess medical students' climate change perceptions, evaluate its influence on residency and career decisions, and examine the role of sustainability in program selection.

**Methods:** A survey was distributed to students at four North American medical schools from October 2024 to January 2025. It collected demographics, assessed climate attitudes using the Six Americas Super Short Survey, and evaluated the influence of environmental values on residency and career decisions. Respondents were classified as Alarmed, Concerned, Cautious, Disengaged, Doubtful, or Dismissive. Associations between climate attitudes, training year, and intended specialty were analyzed using Kruskal-Wallis tests.

**Results:** Of 2,478 students invited, 105 (4%) completed the survey. Most recognized climate change as a major health threat (93%). Two-thirds (66%) valued residency program sustainability efforts, and 41% reported that environmental considerations influenced their rank list. The majority were Alarmed (62%), Concerned (19%), or Cautious (12%). Climate attitudes did not vary by specialty, but training year was associated with Six Americas classification ( $p < 0.05$ ), with MS2s most frequently Alarmed.

**Conclusions:** Medical students overwhelmingly view climate change as a pressing health concern and expect residency programs to demonstrate sustainability commitments. Nearly half consider environmental values when ranking programs, suggesting that embedding climate-resilient education and sustainable practices into residency may enhance recruitment and align with future physician priorities.

15

Anna Mulhern 1

1 Harvard Medical School, Boston MA

### *From Policy to Physiology: Multinational Gold Mining and Women's Health in El Salvador*

**Objective:** This project examined gold mining in El Salvador with a focus on the anticipated pathophysiological impacts of proposed multinational mining projects on women's health and on advocacy strategies that integrate biomedical risk communication with women's rights based organizing.

**Methods:** I worked with El Salvador's leading anti-mining advocacy organization to conduct this cross-sectional study. Three community-based focus groups of an average of 10 women per group were conducted over 2 months. Focus groups were conducted in communities near at-risk mining locations. The percentage of focus group attendees expressing concerns about different aspects of mining were recorded. Results were discussed through semi-structured interviews with advocacy leaders in the organization who focused on anti-mining and women's rights.

**Results:** Proposed multinational gold mining in El Salvador, situated within a political history shaped by U.S. government-backed military violence and economic intervention, undermines decades of community-led environmental and public health protections. President Bukele's 2024 reversal of the 2017 national mining ban places communities at heightened risk of exposure to mining related toxins, including cyanide, arsenic, mercury, lead, and cadmium, with downstream reproductive, endocrine, renal, and neurodevelopmental effects. Women face disproportionate harm due to gendered exposure pathways and structural marginalization. In response, anti-mining organizations are centering women in both the content and structure of their advocacy.

**Conclusions:** Mining-related health harms in El Salvador are biologically mediated yet politically produced. Women-centered, pathophysiology-informed advocacy strengthens environmental health protection and advances women's health equity.