

Welcome to the Town Hall on

Climate Change Curricula in Pediatric Residency Training

PRESENTED BY THE AMERICAN ACADEMY OF PEDIATRICS (AAP) COMMITTEE ON
ENVIRONMENTAL HEALTH AND CLIMATE CHANGE (COEHCC) & SECTION ON PEDIATRIC
TRAINEES (SOPT)

**Thank you for joining us! We will begin shortly.
In the meantime, please feel free to introduce yourself in the chat with name, pronouns, and where
you're joining us from!**

American Academy
of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™

Welcome to
the Climate
Change &
Pediatric
Residency
Training Town
Hall!

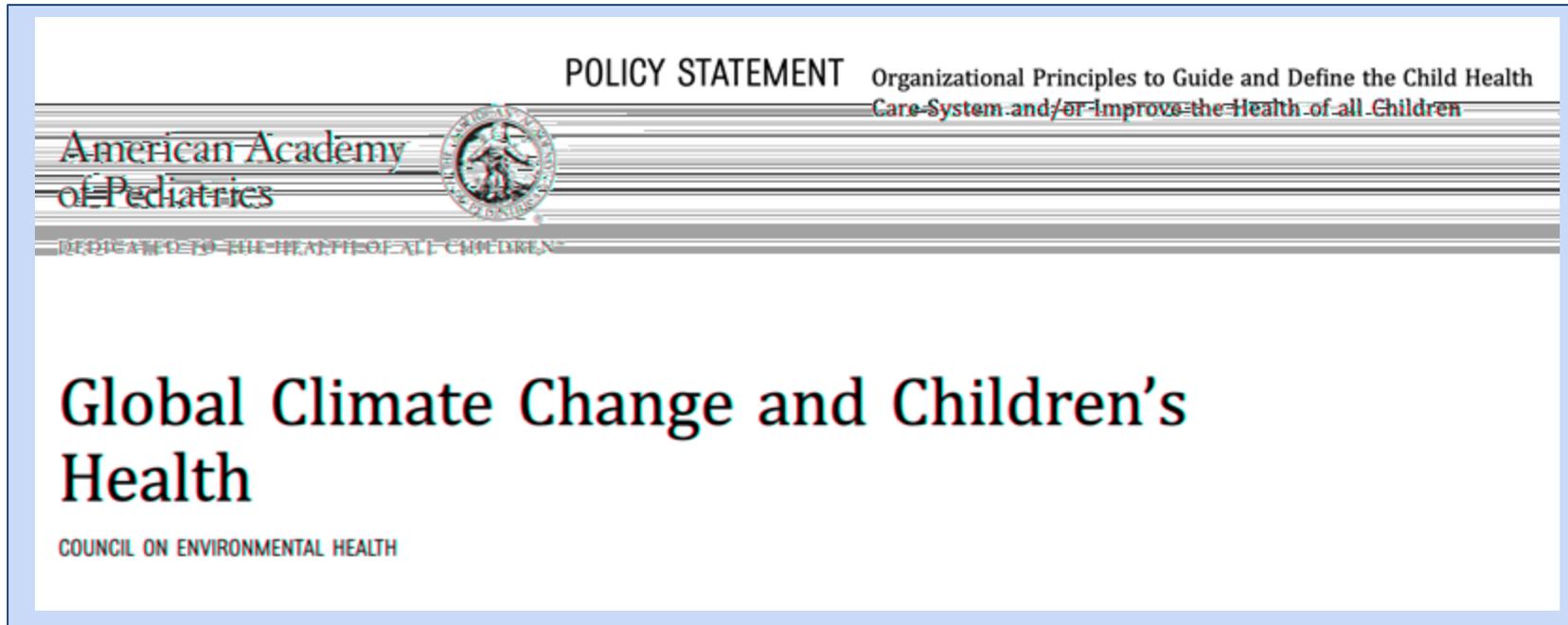
Town Hall Introduction, Dr. Alexandra Perkins

Incorporating Climate Change into Residency Programs, Drs. Chase Moon & Alexandra Perkins, with Alex Northrop

Breakout Rooms with Discussion Questions

Report Back & Conclusions, Dr. Alexandra Perkins

Climate Change & Pediatric Residency Program Curricula



“Promote medical education opportunities regarding the effects of climate change on the environment & child health. Programs during medical school, and **residency, as well as continuing medical education, can inform pediatricians on current & anticipated effects [of climate change]”.**

SCHOLARLY PERSPECTIVES

Climate Change and the Practice of Medicine: Essentials for Resident Education

First Curricular Framework with Climate & Health Learning Objectives for Resident Education

- **Linked to ACGME Core Competencies**
- **Suggested Learning Formats**
- **Assessment Strategies**
- **Specific Curricular Content Ideas**



A pediatrician's guide to climate change-informed primary care

Rebecca Pass Philipsborn, MD, MPA,^a Julia Cowenhoven, MD,^b Aparna Bole, MD,^c
Sophie J Balk, MD,^d and Aaron Bernstein, MD, MPH^{e,*}

Practice Framework on Climate Education

- Practical guidance for primary-care visits
- Triage & Screening, History Taking, Health Promotion, Management Considerations & Anticipatory Guidance

What are barriers to creating & implementing climate change curricula in pediatric residency programs?

Barriers to Creating & Implementing Trainee Climate Change Curricula

- (1) Trainee attitudes & knowledge**
- (2) Large, complex, nuanced topic - where to start?**
 - (a) Global vs local: differences in geography, populations, and expected health effects**
- (3) Disconnect: “climate change” vs. realities of daily practice**
- (4) Institutional resource constraints**
 - (a) Obtaining time for resident education focused on ABP content**
 - (b) Lack of faculty expertise or knowledge**
- (5) Controversy (political, not scientific)**

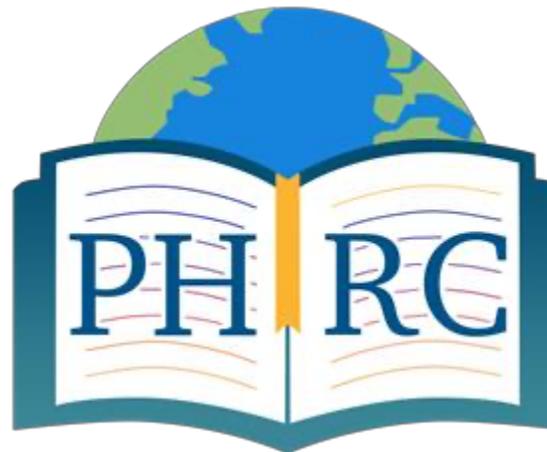
What do medical students think about climate change?

Medical Students Are Already Engaged in and Advocating For Climate Education at a UME Level: Planetary Health Report Card

Participating schools undergo yearly assessments of UME planetary health curricula and support

2019

student-led initiative founded to advocate for improved planetary health education in UME



102

Health professional schools on 5 continents participated in 2023

Medical Students Are Already Engaged in and Advocating For Climate Education at a UME Level: Medical Students for a Sustainable Future

- Founded in **2019**
- A health and science organization with a network of **105** medical schools in the US
- Produced the 2022 Guide to Climate and Health Curriculum Reform in Medical Schools

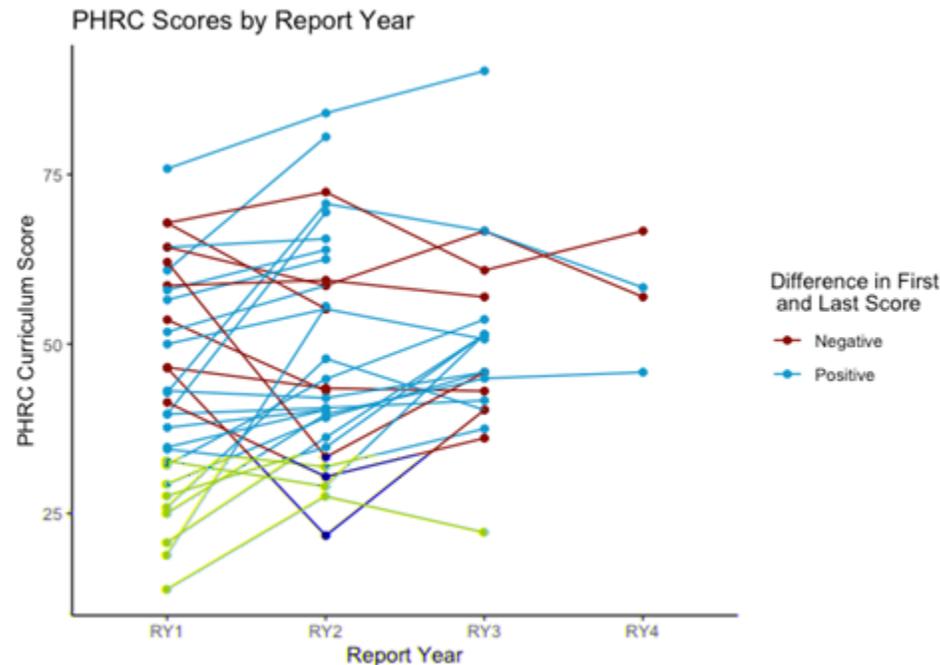


Medical Students Are Already Engaged in and Advocating For Climate Education at a UME Level

Undergraduate medical programs are beginning to respond these advocacy efforts

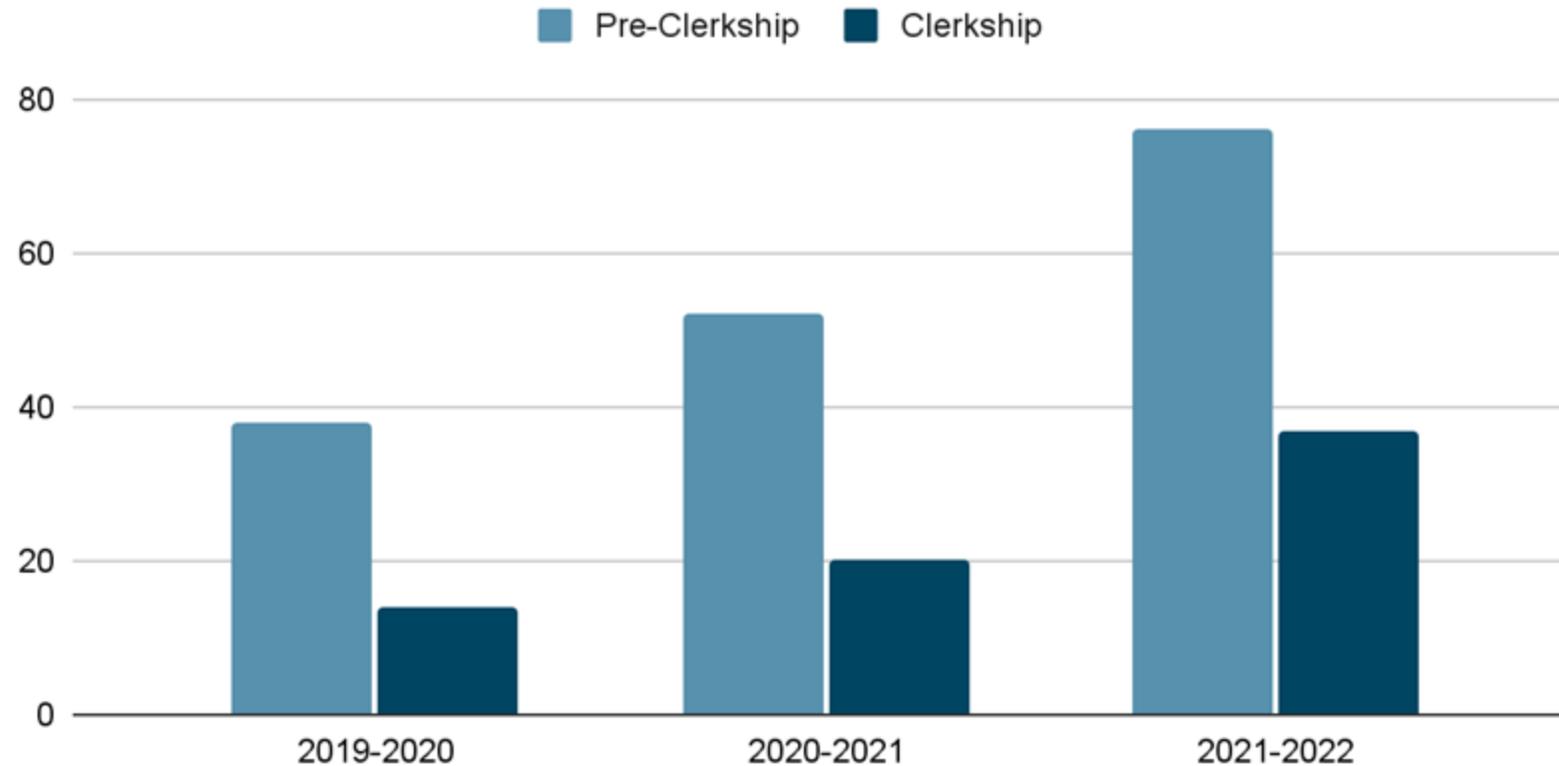


Producing trainees eager to incorporate climate health in their graduate medical education and future careers



Medical Students Are Already Engaged in and Advocating For Climate Education at a UME Level

Number of Medical Schools Incorporating Climate Change in Required and Elective Courses



What do residents think about climate change?

Understanding Pediatric Trainee Knowledge and Attitudes on Incorporating a Climate Change Curriculum into Medical Training

APPD Longitudinal Educational Assessment Research Network (LEARN) mixed-methods study of residency programs (July 2021 - June 2022)

**All APPD LEARN member training programs invited
18 total programs joined study**

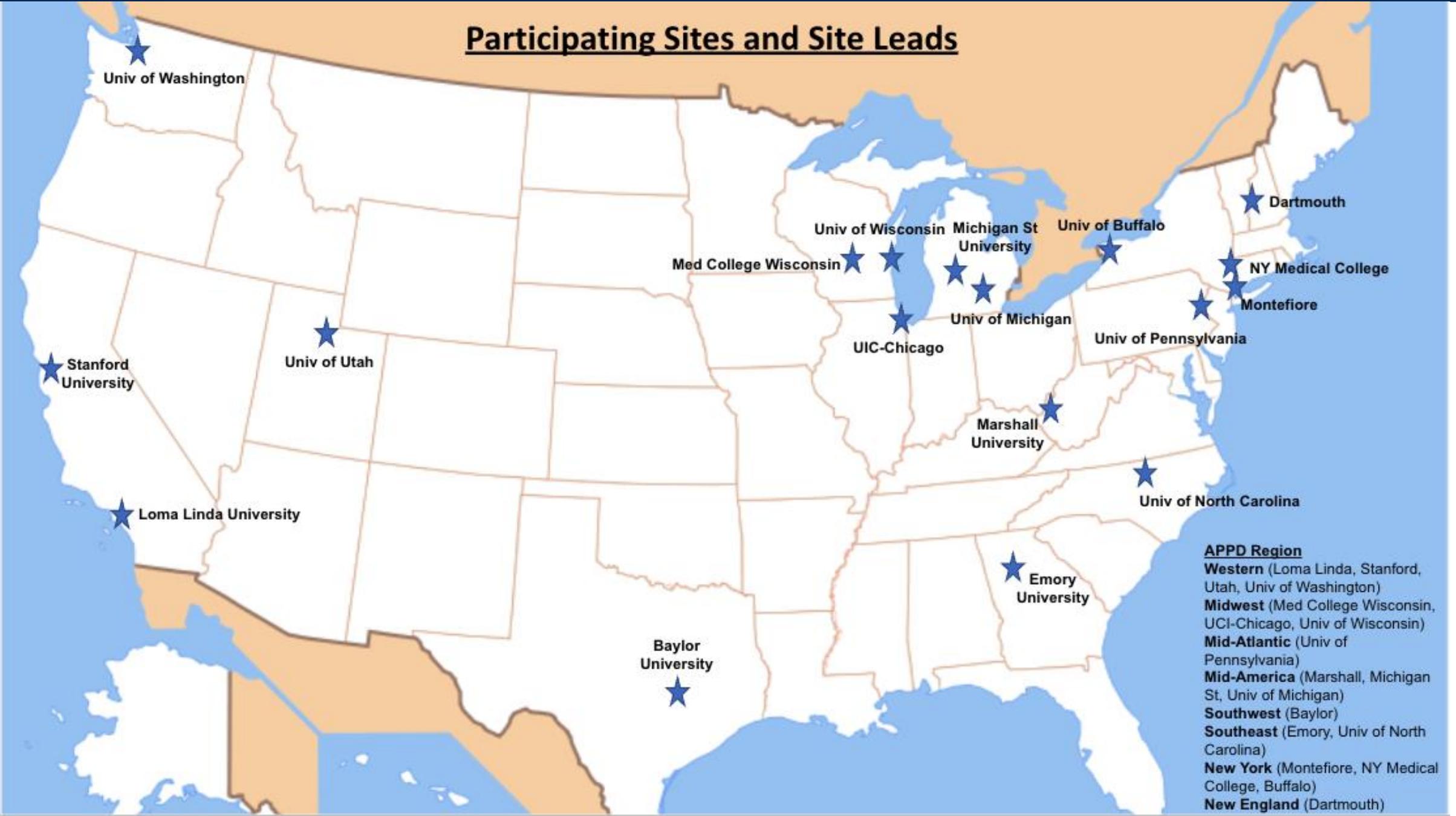


Understanding Pediatric Trainee Knowledge and Attitudes on Incorporating a Climate Change Curriculum into Medical Training

32 question anonymous cross-sectional survey of pediatric residents with 4 domains:

- Climate change-related knowledge**
- Attitudes towards global warming & climate change**
- Interest in incorporating climate change education into training programs**
- Demographic characteristics**

Participating Sites and Site Leads



APPD Region

Western (Loma Linda, Stanford, Utah, Univ of Washington)

Midwest (Med College Wisconsin, UCI-Chicago, Univ of Wisconsin)

Mid-Atlantic (Univ of Pennsylvania)

Mid-America (Marshall, Michigan St, Univ of Michigan)

Southwest (Baylor)

Southeast (Emory, Univ of North Carolina)

New York (Montefiore, NY Medical College, Buffalo)

New England (Dartmouth)

Understanding Pediatric Trainee Knowledge and Attitudes on Incorporating a Climate Change Curriculum into Medical Training

- **633 resident respondents**
- **Average response rate 53%**
 - 2 programs 100% participation, 10 with >50%
- **Resident characteristics**
 - 73% 25 - 30 years of age
 - 67% first or second-year residents
 - 68% female

Understanding Pediatric Trainee Knowledge and Attitudes on Incorporating a Climate Change Curriculum into Medical Training

- **32%** indicate that their **residency program had educational activities** focused on climate change-related topics
- **21%** of residents felt **moderately or very informed** about **global warming/climate change** and its **effects on the health of patients** and the **practice of medicine**
- **20%** felt **comfortable talking with patients or families** about climate change
- **71%** of residents thought **climate change is relevant to direct patient care**
- **90%** of residents believe it is important for **pediatricians to advocate for policies** that reduce the harmful impacts of climate change
- **76% of residents agreed or strongly agreed that a climate change curriculum should be incorporated into their pediatrics training program**

Figure 2a: Resident Preferences for Types of Training and Content in a Climate Change Curriculum

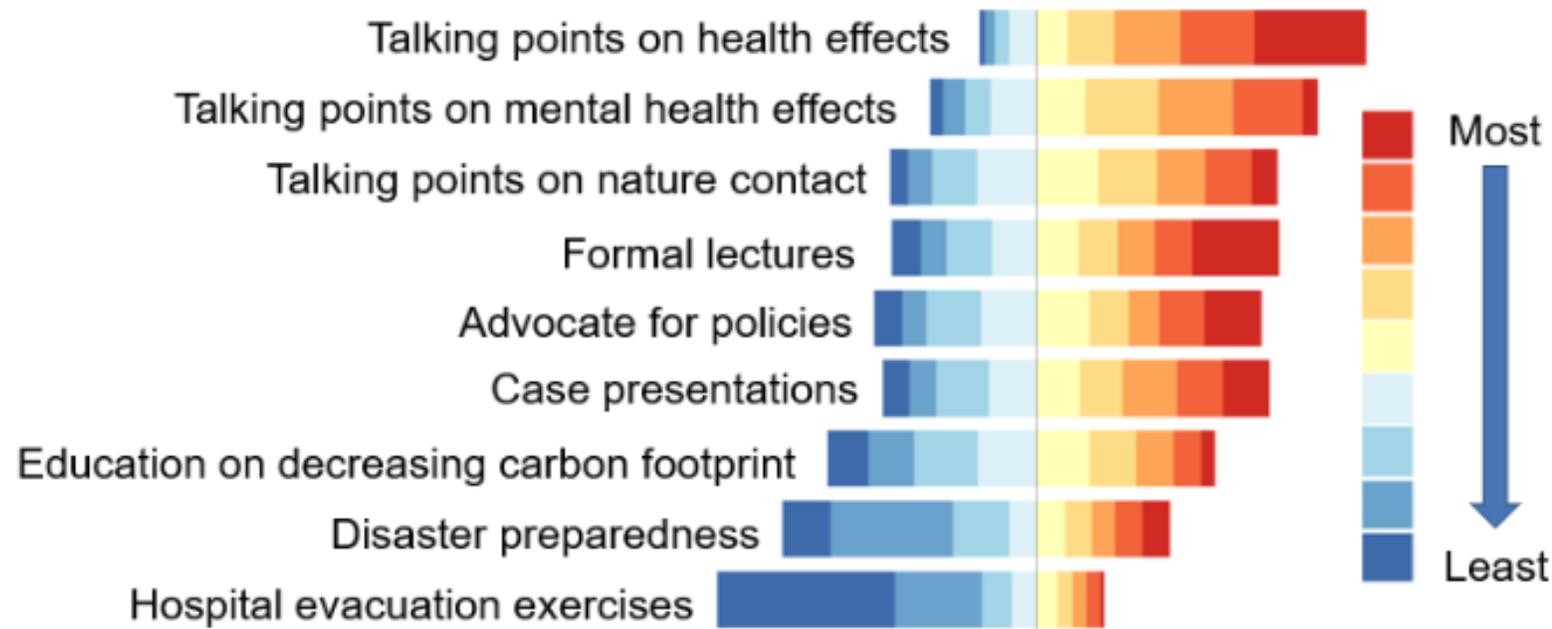
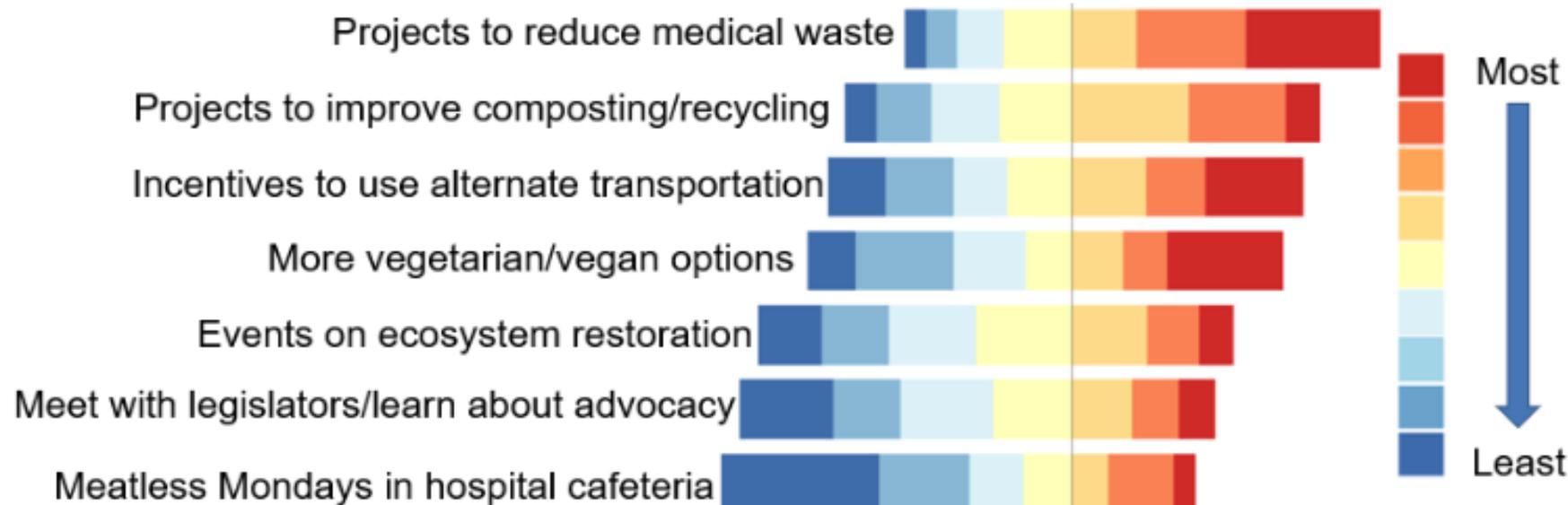


Figure 2b: Resident Preferences for Specific Interventions to Include in a Climate Change Curriculum



Pediatric residents want to learn about:

- (1) the health effects of climate change
- (2) how to speak to patients/families on the topic
- (3) how to make a difference (personal & professional)

Implementing a Resident Climate Change Curriculum at Montefiore

- **90 minute session**
 - Lecture-based
 - Small group/case-based
- **Pediatric, Family Medicine, and Internal Medicine residents**
- **4 sessions completed between Feb - Nov '23**



Climate-Informed Medicine: Engaging with Patients & Communities

Charles (Chase) Moon, MD

Residents:



Complete a pre- and post-lecture survey to receive a \$20 Amazon gift card!!

Non-Residents:

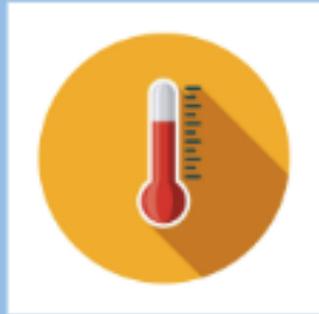


Building A Climate Informed Medical Practice

Part I



Introduction

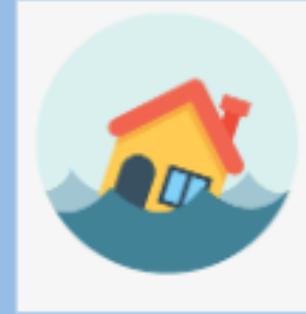


Extreme Heat



Respiratory Health

Part II



Extreme Weather



Mental Health



Advocacy

| Extreme Heat Curriculum | | |
|---|--|--|
| Learning Objectives | Anticipatory Guidance | Resources |
| <p>Overview of negative effects of extreme heat</p> <p>Discuss spectrum of heat-related illness</p> <p>Develop heat-management plans</p> <p>Identify high risk patients & medications for use & storage</p> | <p>Stay indoors, hydrated, and cool</p> <p>Cooling Centers</p> <p>Use fans when the HI < 95F</p> <p>No caffeine, sugar, or alcohol drinks</p> <p>Avoid stove/oven for cooking</p> <p>Avoid exercising between 10 - 5 pm (sports, agriculture, outdoor work)</p> | <p>Bronx Pools, Green Space, Water Fountains, Spray Showers, FDNY Hydrant Cap Program</p> <p>NYC Cooling Center Website</p> <p>Heat Action Plans</p> <p>Communication Resources (Ready Wrigley Prepares for Extreme Heat)</p> <p>NYS Home Energy Assistance Program</p> |

| Respiratory Health Curriculum | | |
|---|---|---|
| Learning Objectives | Anticipatory Guidance | Resources |
| <p>Discuss links between air pollution, climate change, respiratory health & allergic disease</p> <p>Develop management plans based on AQI indices for high-risk patients</p> | <p>Interpreting Air Quality Index</p> <p>Indoor Air Quality & Air Purifiers</p> <p>Recommended activities for poor air quality days</p> <p>Clean rooms</p> <p>Proper Masking</p> | <p>AirNow.Gov</p> <p>NYS DEC AQI Forecast</p> <p>NYC Community Air Survey</p> <p>EPA Air Quality Flag Program</p> <p>Communication Resource (Why is Coco Red?)</p> <p>Community Organizing - Capping the Cross Bronx Expressway</p> |

| Extreme Weather Curriculum | | |
|---|--|---|
| Learning Objectives | Anticipatory Guidance | Resources |
| <p>Describe links b/w climate change & extreme weather</p> <p>Discuss injury risks for specific events & family guidance</p> <p>Develop management plans using disaster preparedness principles</p> <p>Discuss hospital system planning</p> | <p>How to interpret Flood Zones</p> <p>How to Prepare for Extreme Weather (Emergency Kits)</p> <p>How to Survive During Extreme Weather (Evacuation Alerts & Routes)</p> <p>How to Be Safe After Extreme Weather</p> <p>Helping Children Cope after Extreme Weather</p> | <p>Bronx Floodplains 2015 vs 2080 & 2100</p> <p>Bronx Flash Flooding Map</p> <p>Notify NYC (Emergency Alerts)</p> <p>FloodNet.NYC</p> <p>WE ACT Climate Ready Uptown Plan</p> <p>Ready Wrigley: Coping After a Disaster</p> |

| Mental Health Curriculum | | |
|--|--|---|
| Learning Objectives | Anticipatory Guidance | Resources |
| <p>Describe links b/w acute mental health disorders & natural disasters</p> <p>Describe emerging mental health conditions (eco-anxiety & solastalgia)</p> <p>Develop management strategies for climate-related mental health conditions</p> | <p>Mental Health Guidance during Extreme Heat Events</p> <p>General Mental Health Resilience Strategies (Green Space, Active Transport, Safe & High Quality Housing & Employment, Nature Connections)</p> <p>Coping Strategies for a Changing Climate</p> | <p>Climate Psychiatry Alliance</p> <p>Climate Psychology Alliance</p> <p>Climate Mental Health Network</p> <p>Coco's Fire: Changing Climate Anxiety into Climate Action</p> |

Climate Change Advocacy Education (Albany, NY)



Health Professionals & Climate Change Advocacy



The Importance of Voting: Patients & Communities

Voting is a health, climate, and equity solution.

We have a unique connection to our patients, many of whom are most harmed by fossil fuel pollution and the climate crisis, yet are not registered or consistent voters.

The more patients and families become voters and civic minded, the healthier communities become!

Get resources at <https://vot-er.org/>

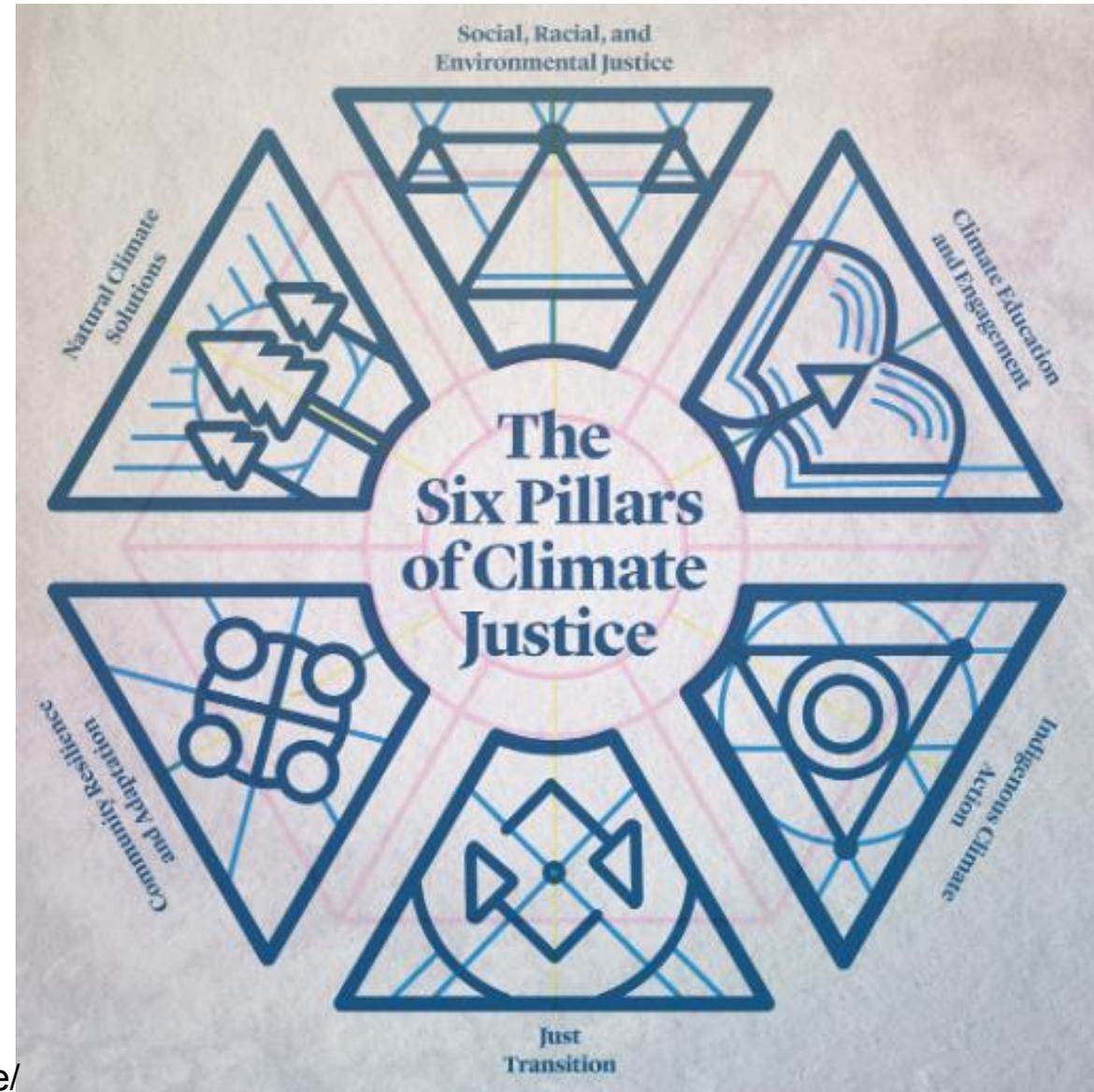


Takeaways for Implementing Your Own Climate Change Curriculum in Residency Training Programs

Climate Education must be grounded in Climate Justice

The health effects of climate change have a larger impact on **low-income communities & communities of color** due to **environmental racism** legacy

Education on solutions must be grounded in this concept to **reduce historic health inequities & injustice** in these communities



While climate change is a global & complex phenomenon, the health response depends on local issues & resources

- Focusing on the climate dangers in your geographic area with local guidance & resources makes teaching it more **manageable, relatable, and applicable** to practice
- To ensure equity, focus on the needs of vulnerable populations & engage in advocacy

Climate change topics can be covered in 90 minutes (or less!)

- 90 minute sessions (though packed with information) appear to be improve knowledge and confidence of climate-informed medical practice
- 30-45 min cases on specific topics may make it easier to fit into busy training programs with packed educational programming

Buy-In from Educational Leadership is Essential

- Chief Residents, Program Directors, Vice-Chairs of Education, Dept Chairs
- The more detail you provide, the more likely you are to succeed

Sustainability: Works Differently in Each Program or Institution

- CHAM/Monte: Academic Half Day Model -> Health Equity Rounds -> Intern Orientation & Social Medicine Immersion Month
- Consider incorporating into outpatient gen peds curriculums, as simulation scenarios (extreme heat, drownings), or connecting with advocacy curriculum

Institutional Structures

- **Climate Roles:**
 - **Program Director with 0.1 FTE dedicated to climate work**
 - **Chief Resident responsible for climate lectures**
- **Climate Curriculum with at least 4 lectures per year devoted to climate medicine**
- **Working with existing sustainability teams**
- **Liaison across different departments**

Breakout Rooms & Discussion

Breakout Rooms & Discussion Questions

Join Breakout Room Documents Here:



- 15 - 20 minutes breakout rooms
- Google document (QR code) to take notes on the two topics
- Introduce yourselves & choose a notetaker
- We will comeback and try to summarize

Topic 1:



- **If you have already implemented a learning session/curriculum, what have you found that's worked? (i.e. polling from residents on topics, identifying long term faculty, etc).**
- **If you haven't implemented any curriculum, what would you like to do in your program?**

Topic 2:



- **What are barriers you may encounter or already have encountered to implementing climate change curricula in your institution?**
- **What are the next steps for you to create this curriculum at your institution?**



Breakout Rooms Report Back & Final Questions