Planetary Health Curriculum Integration:

5 Step process to teach climate medicine at your Med School

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University of Colorado
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Background

- **83.9%** of students believe Planetary Health and Climate Change effects should be a **core component** of medical school curriculum[1]
- **6.3%** of students feel "very prepared" to address these effects in a clinical setting [1]
- UCSF and Emory excel by providing an integrated Planetary Health 4-year thread[2]

The vast majority of med students feel untrained and unprepared to manage the adverse health effects of climate change[1]

Prework: Benchmark Your Current Success

PLANETARY HEALTH REPORT CARD

SCORES	2022	2023
OVERALL	C+	B
CURRICULUM	C+	B-

- PHRC is a global, student-led initiative
- 52 international and 44 domestic medical schools scored on: curriculum, research, community outreach, campus sustainability and institutional support.

- What are you currently doing?
  - Climate Health Electives?
  - Waste Reduction on Campus?
  - Teaching on planetary health?
  - Workshops?
  - Student activism?

Prework: Identify Institutional Support

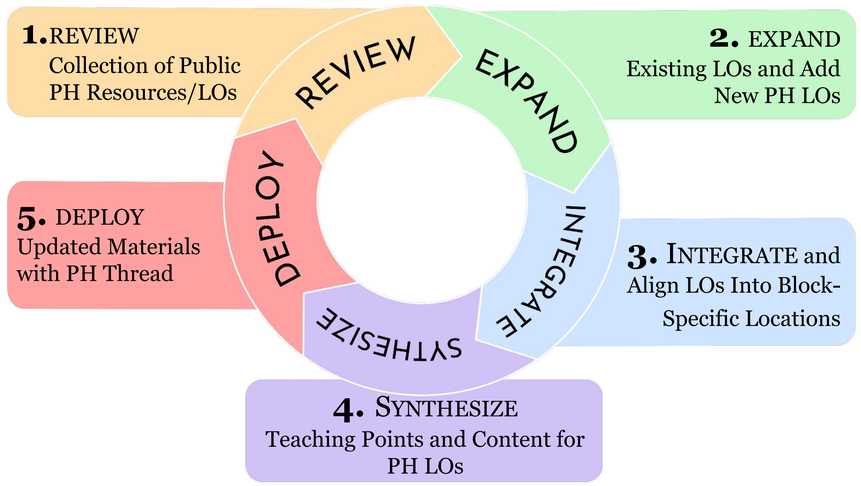
Who makes the changes?

Course Directors — **Curricular Committees** — **Deans**

Who can help?

Faculty | Facilities Management | Student Groups | Sustainability Officers | Online Resources

Iterative Process:

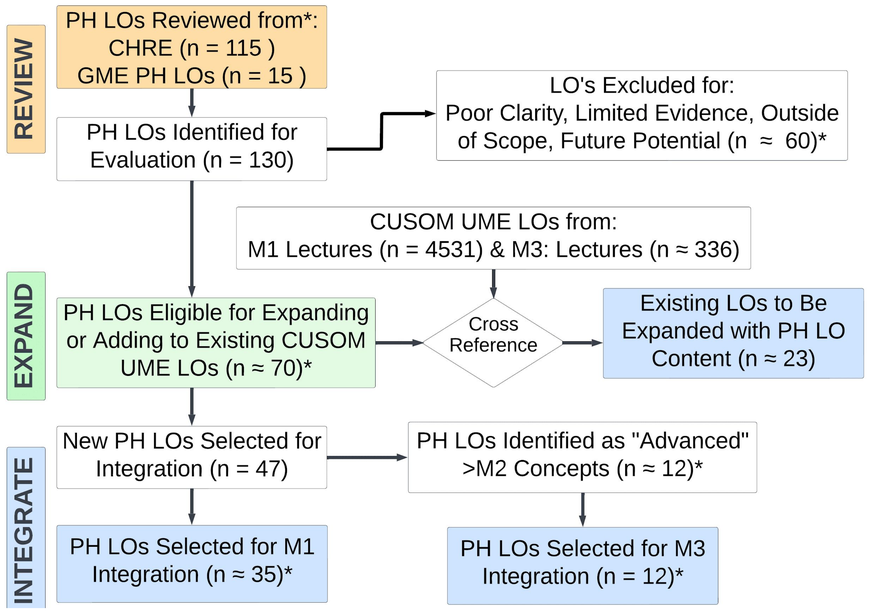


STEP 1: REVIEW Plug & Play Resources

- Climate Resources for Health Education (CRHE): https://climatehealthed.org
  - Free, Public Educational Resources on Climate Change and Health
  - Learning objectives, Slide Decks, Case-Based/PBLs in 18+ Specialties and Organ Systems
  - Peer Reviewed

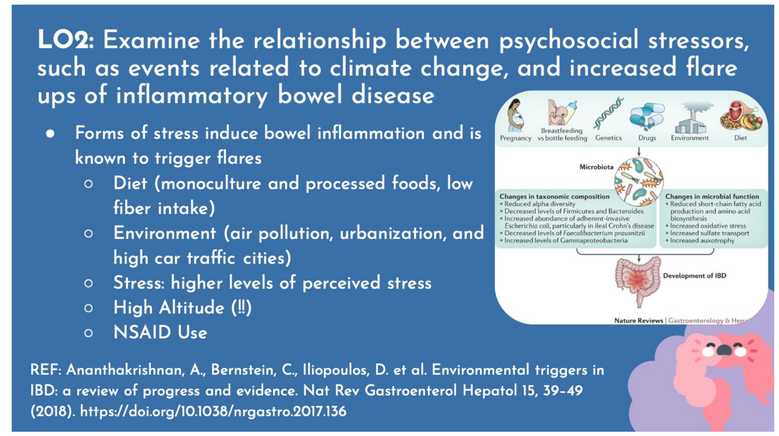
CLIMATE RESOURCES FOR HEALTH EDUCATION

STEPS 2 & 3: EXPAND Existing Learning Objectives and INTEGRATE New Ones



STEP 4: Synthesize New Content

- Example Slide for IBD lecture



STEP 5: Deploy!

- Update Assessment Questions
- Faculty Development on Emerging Data
- CQI

Progress & Future Work

- Expand M3 and M4 curriculum
- Continued discussion of integration

Why It Matters

CU Med Students Trained in Planetary Health Will:

- **Fulfill school's mission** to address environmental determinants of health
- **Address a present and a future** that demands planetary health knowledge
- **Be leaders** and advocates in addressing this aspect of community health
- **Save Lives**, Write Op-Eds, Get Grants, Find Cures
- Prevent the next disaster (Flint Water, Love Island, Droughts)

Think This Would Never Work at Your Institution? TALK TO US!

1. Hampshire, Karly, et al. "Perspectives on climate change in medical school curricula—A survey of US medical students." *The Journal of Climate Change and Health* 4 (2021): 100033.
2. The Planetary Health Report Card. (2023) International Summary Report 2022/23. Available from: phreportcard.org.

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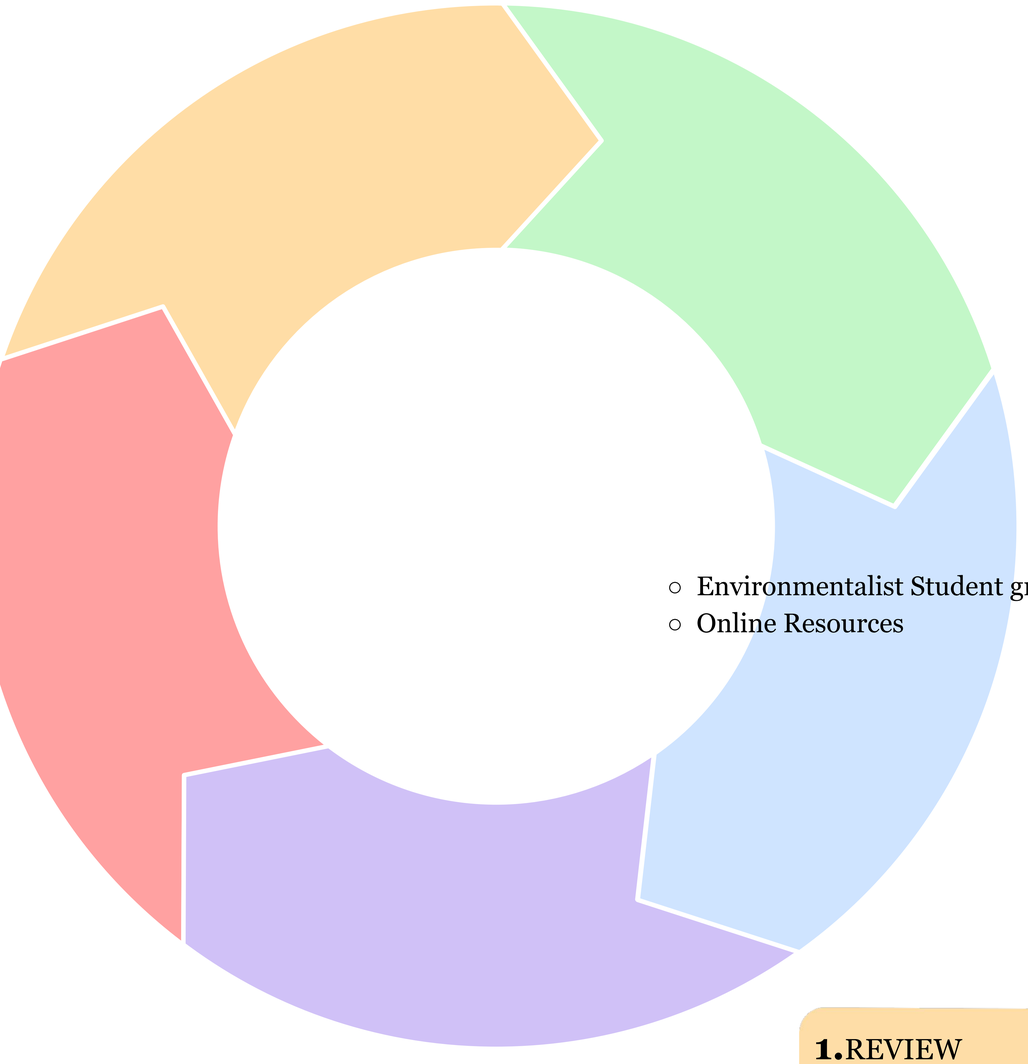
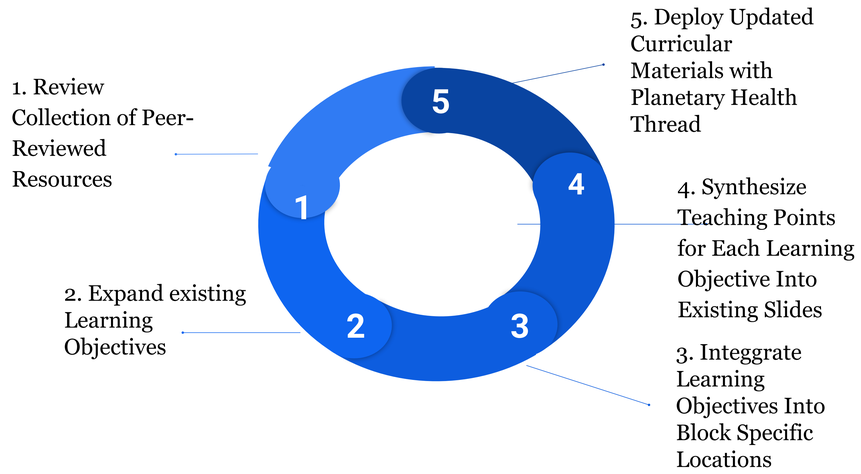
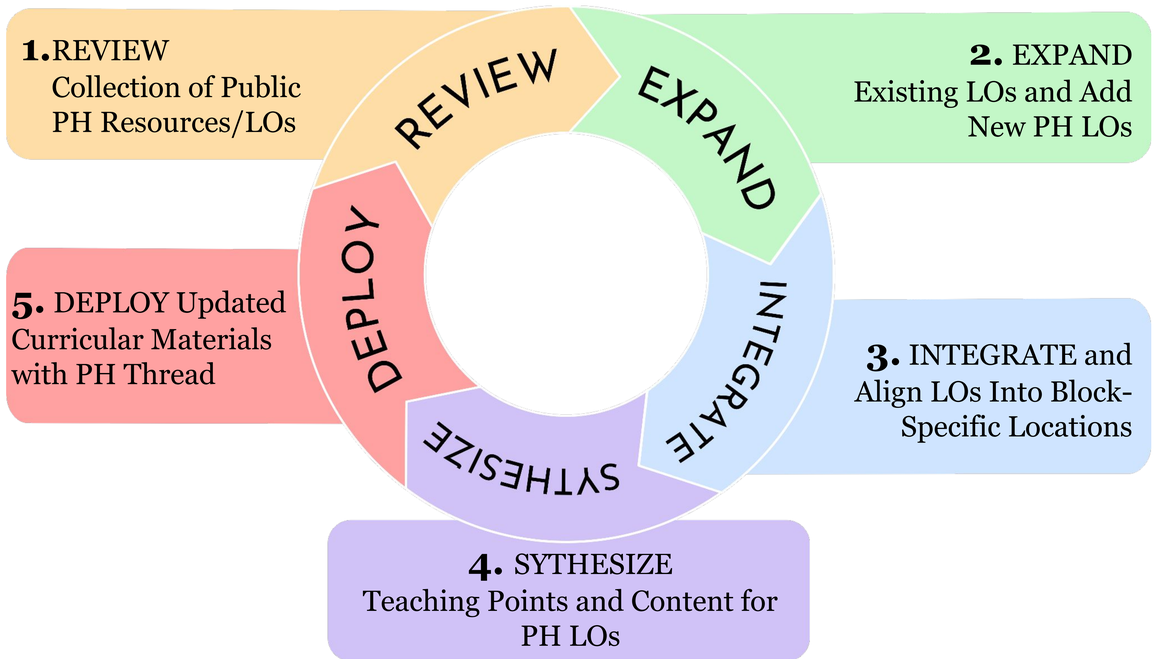
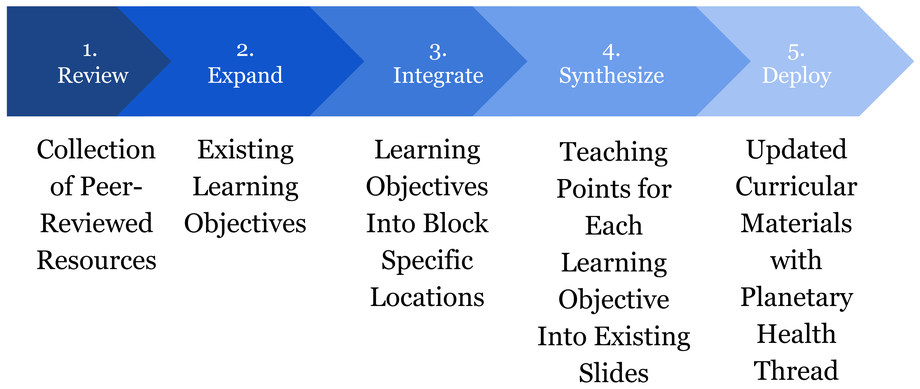

Environmentalist Student groups
Online Resources


1. Review Collection of Peer-Reviewed Resources
2. Expand existing Learning Objectives
3. Integgrate Learning Objectives Into Block Specific Locations
4. Synthesize Teaching Points for Each Learning Objective Into Existing Slides
5. Deploy Updated Curricular Materials with Planetary Health Thread
1
2
3
4
5


1. REVIEW Collection of Public PH Resources/LOs
2. EXPAND Existing LOs and Add New PH LOs
3. INTEGRATE and Align LOs Into Block-Specific Locations
4. SYTHESIZE Teaching Points and Content for PH LOs
5. DEPLOY Updated Curricular Materials with PH Thread
REVIEW
EXPAND
INTEGRATE
SYTHESIZE
DEPLOY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Collection of Peer-Reviewed Resources
Existing Learning Objectives
Learning Objectives Into Block Specific Locations
Teaching Points for Each Learning Objective Into Existing Slides
Updated Curricular Materials with Planetary Health Thread

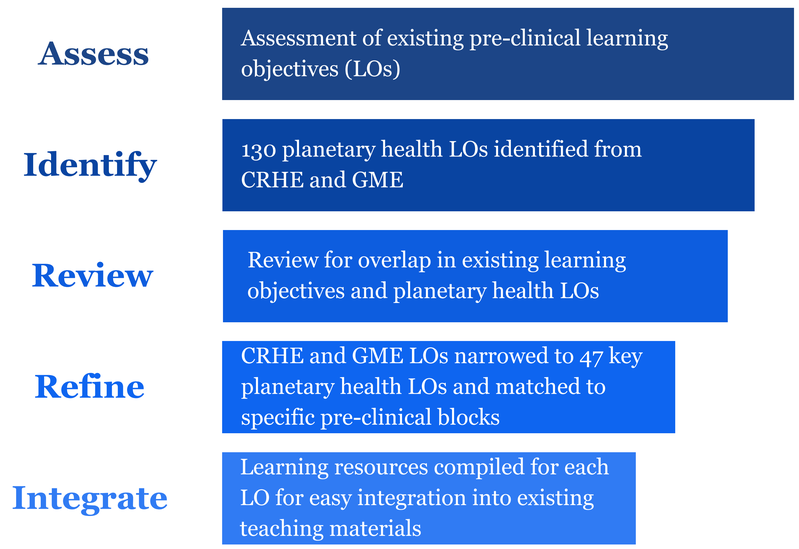

Assess
Assessment of existing pre-clinical learning objectives (LOs)
Identify
130 planetary health LOs identified from CRHE and GME
Review
Review for overlap in existing learning objectives and planetary health LOs
Refine
CRHE and GME LOs narrowed to 47 key planetary health LOs and matched to specific pre-clinical blocks
Integrate
Learning resources compiled for each LO for easy integration into existing teaching materials

FIGURE BUILDING

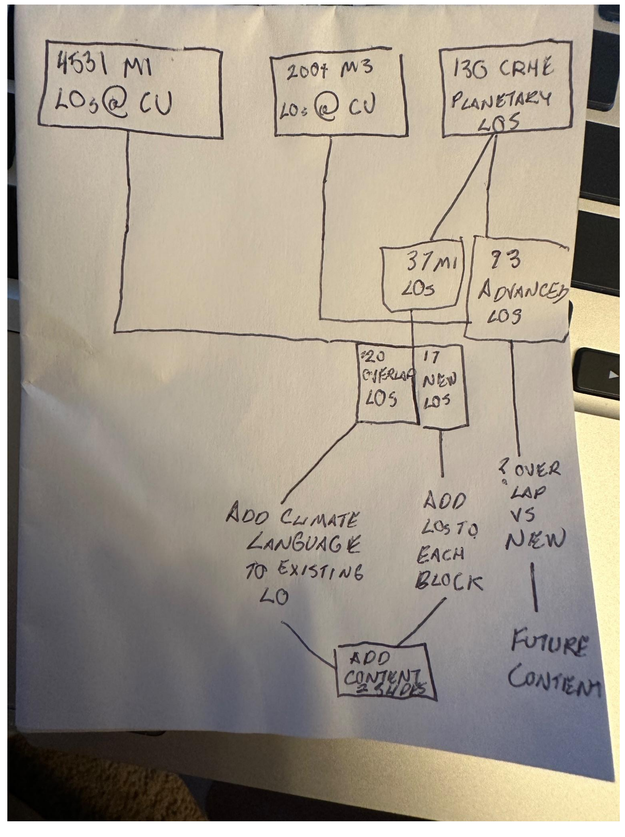
Abstract: Planetary Health Curriculum Integration: A 5 Step process to teach climate medicine at your Med School

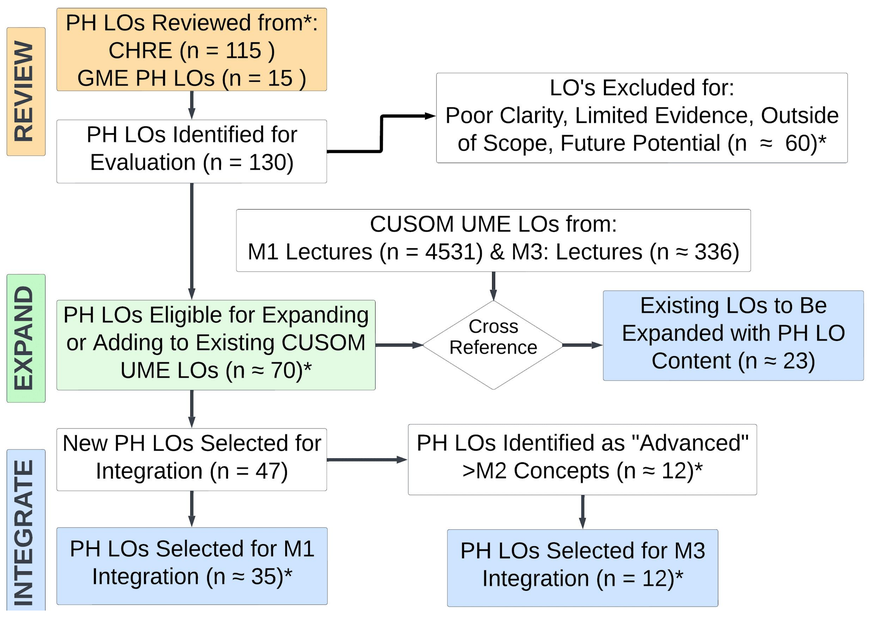
Objectives: Addressing the escalating threat of climate change to global health, this study aims to present a comprehensive approach for seamlessly integrating planetary health (PH) concepts into medical education curriculum in a turnkey approach that could be deployed at any medical school. Recognizing that medical professionals feel woefully unprepared to tackle climate-related health challenges, this research seeks to outline a practical, low effort, and effective strategy for UME curriculum development by relying on publicly available educational resources and minorly expanding existing Learning objectives (LOs) to include discussion of PH impacts.

Design: The study proposes a 5 step methodology for integrating planetary health into medical education, while meeting UME and GME Learning objectives by seamlessly weaving PH into all four years of medical training. Starting with existing public resources, expanding non-PH LOs into PH LOs, integrating new LOs within curriculum blocks, and creating the content material for each objective, this framework showcases the potential for comprehensive integration with minimal faculty effort, fostering physicians who grasp the intricate interplay between climate and health.

Results: 130 PH LOs were reviewed from publicly available resources. Of them 70 were selected as eligible for integration. Those 70 were cross referenced with the roughly 5000 UME LOs at our institution to identify 35 new LOs to be added to the preclinical curriculum and 12 advanced LOs selected for post-clinical didactics with an additional 23 existing LOs easily expanded to include PH with minor changes.

Conclusions: This framework highlights the ease of use and potential of integrating planetary health concepts into medical education, underscoring its interdisciplinary importance and empowering healthcare professionals to address complex health challenges in a rapidly changing world. By following the proposed stepwise approach, institutions can equip medical students with the knowledge and skills needed to champion public health needs, mitigate health disparities, advance planetary health access and research, and promote equity.




REVIEW
PH LOs Reviewed from*:
CHRE (n = 115)
GME PH LOs (n = 15)
PH LOs Identified for Evaluation (n = 130)
LO's Excluded for:
Poor Clarity, Limited Evidence, Outside of Scope, Future Potential (n ≈ 60)*
CUSOM UME LOs from:
M1 Lectures (n = 4531) & M3: Lectures (n ≈ 336)
EXPAND
PH LOs Eligible for Expanding or Adding to Existing CUSOM UME LOs (n ≈ 70)*
Cross Reference
Existing LOs to Be Expanded with PH LO Content (n ≈ 23)
INTEGRATE
New PH LOs Selected for Integration (n = 47)
PH LOs Identified as "Advanced" >M2 Concepts (n ≈ 12)*
PH LOs Selected for M1 Integration (n ≈ 35)*
PH LOs Selected for M3 Integration (n = 12)*

1. REVIEW
Collection of Public PH Resources/LOs
2. EXPAND
Existing LOs and Add New PH LOs
3. INTEGRATE and Align LOs Into Block-Specific Locations
4. SYNTHESIZE
Teaching Points and Content for PH LOs
5. DEPLOY
Updated Materials with PH Thread
REVIEW
EXPAND
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