

# *Training Opportunities for the Health Sector Workforce*

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Cecilia Sorensen, MD

Global Consortium on Climate and Health  
Education

Mailman School of Public Health, Columbia  
University

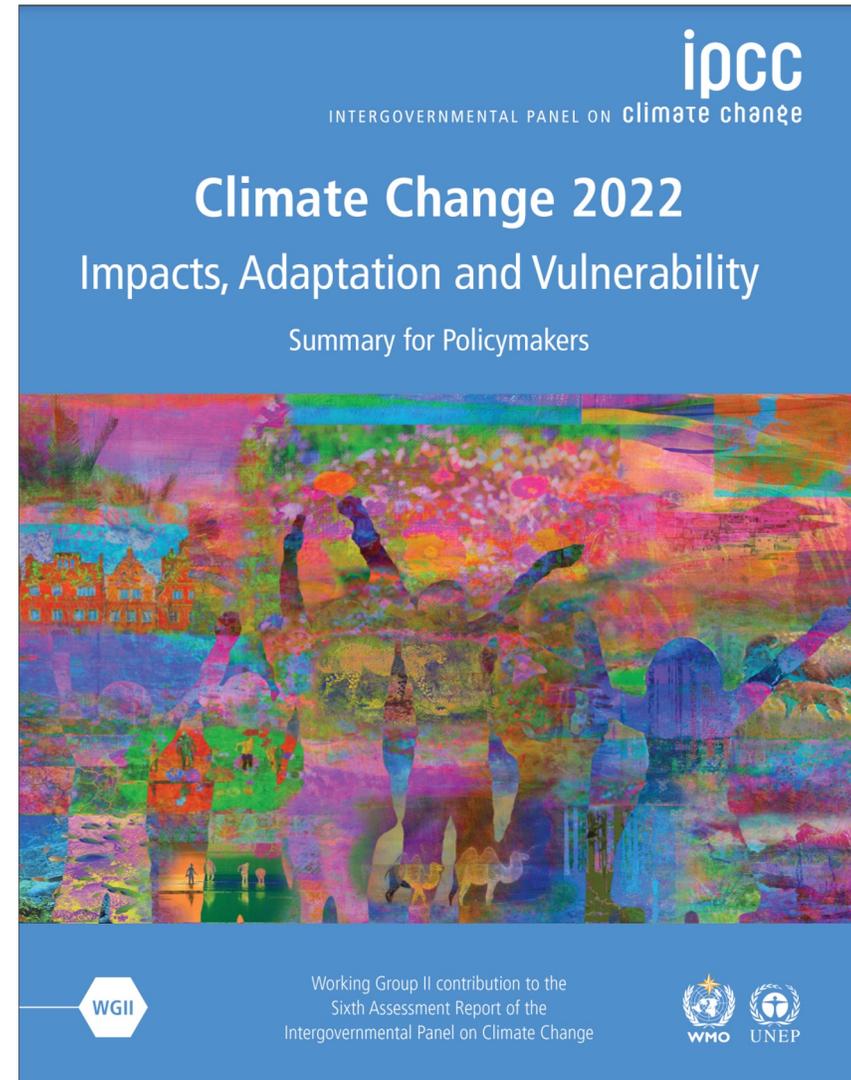


# Preparing Health Systems Can Protect Health from Climate Change

- **The severity of climate-related health risks is highly dependent on how well health systems can protect people.**

*With timely, proactive and effective adaptation many risks for human health and wellbeing could be reduced and some potentially avoided (very high confidence)*

Cissé, et al., 2022

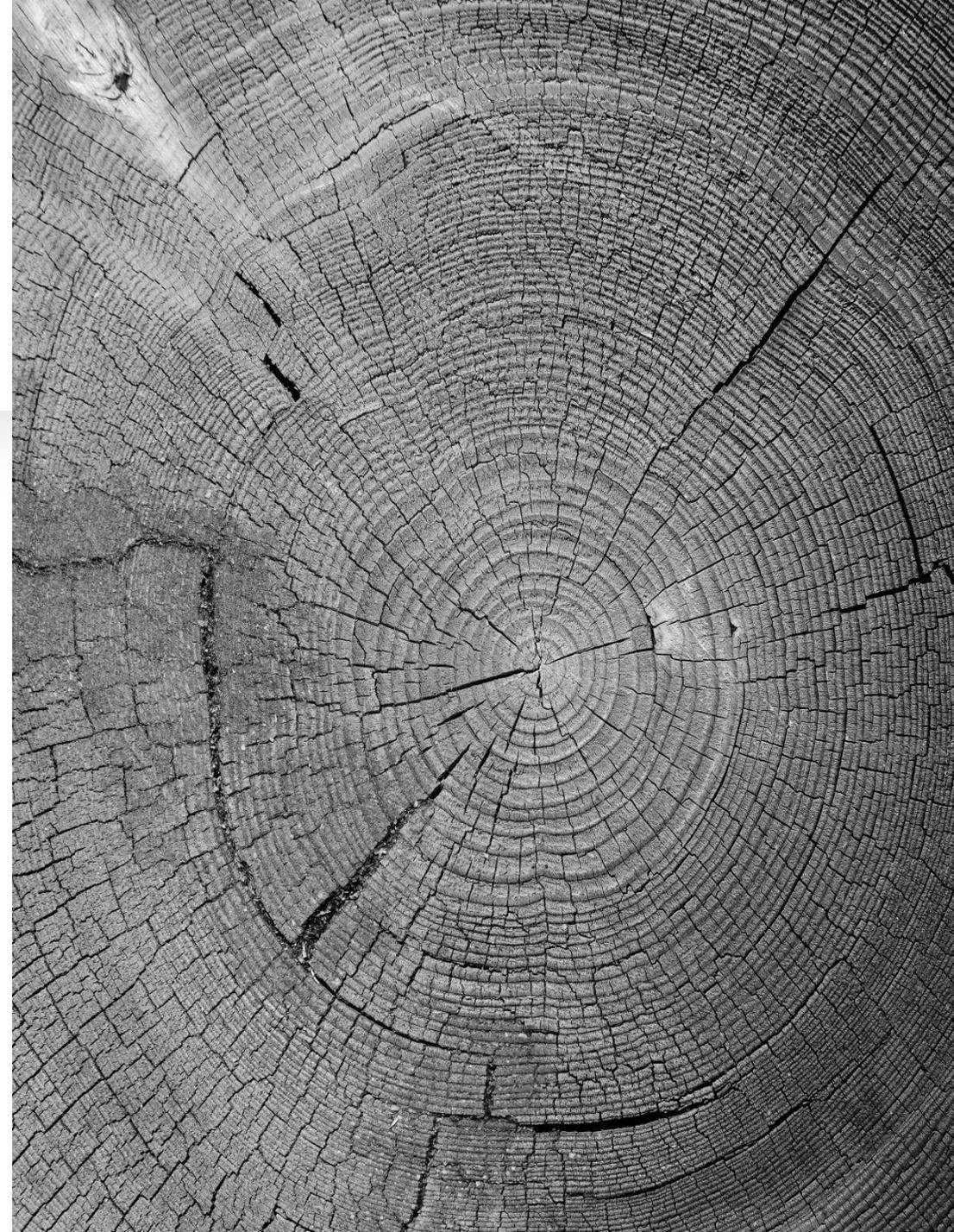


- According to data from the [WHO Climate and Health Country Survey](#) in 2021, 54% of countries flagged the **insufficient human resources** capacity as a **main barrier** to the implementation of national health and climate plans, followed by 46% of **insufficient access to tools, methods, and technologies**.

- In the United States, NACCHO conducted a survey in 2022 among Local Health Departments (LHD). The top two areas in need of training were **all-hazards planning (32%)** and **disaster mental health/resilience (28%)**, both of which are closely related to climate change.
- Additionally, it was found that **65%** of Local Health Departments (LHDs) reported **no activities related to climate change adaptation**, with **only 8%** investing in some form of **training** in this area.

What is known about existing climate and health education in U.S. public health schools?

- 2019 - Hendrix et al. - CEPH-accredited graduate programs for courses related to climate and health.
  - Of 90 schools, only **50% offered a course on climate change – all were elective.**
- 2019 – Becker et al - CEPH-accredited MPH schools and programs during 2018-19
  - **No school** was found to offer a climate change track for the MPH or **required a course** in climate change.



# Envisioning planetary health in every medical curriculum: An international medical student organization's perspective

Omnia El Omrani  , Alaa Dafallah , Blanca Paniello Castillo , Bianca Quintella Ribeiro Corrêa Amaro ,  
Sanjana Taneja , Marouane Amzil , ...show all

Published online: 06 Aug 2020

- Worldwide (2817 medical schools in 112 countries)
- 15% of medical schools have incorporated climate change and health into the curriculum
- 12% reporting student-led climate-related programs.
- 40% of graduates believed their EH education was inadequate

May 28, 2020

# Assessment of Climate-Health Curricula at International Health Professions Schools

Brittany Shea, MA<sup>1</sup>; Kim Knowlton, DrPH<sup>1,2</sup>; Jeffrey Shaman, PhD<sup>1</sup>

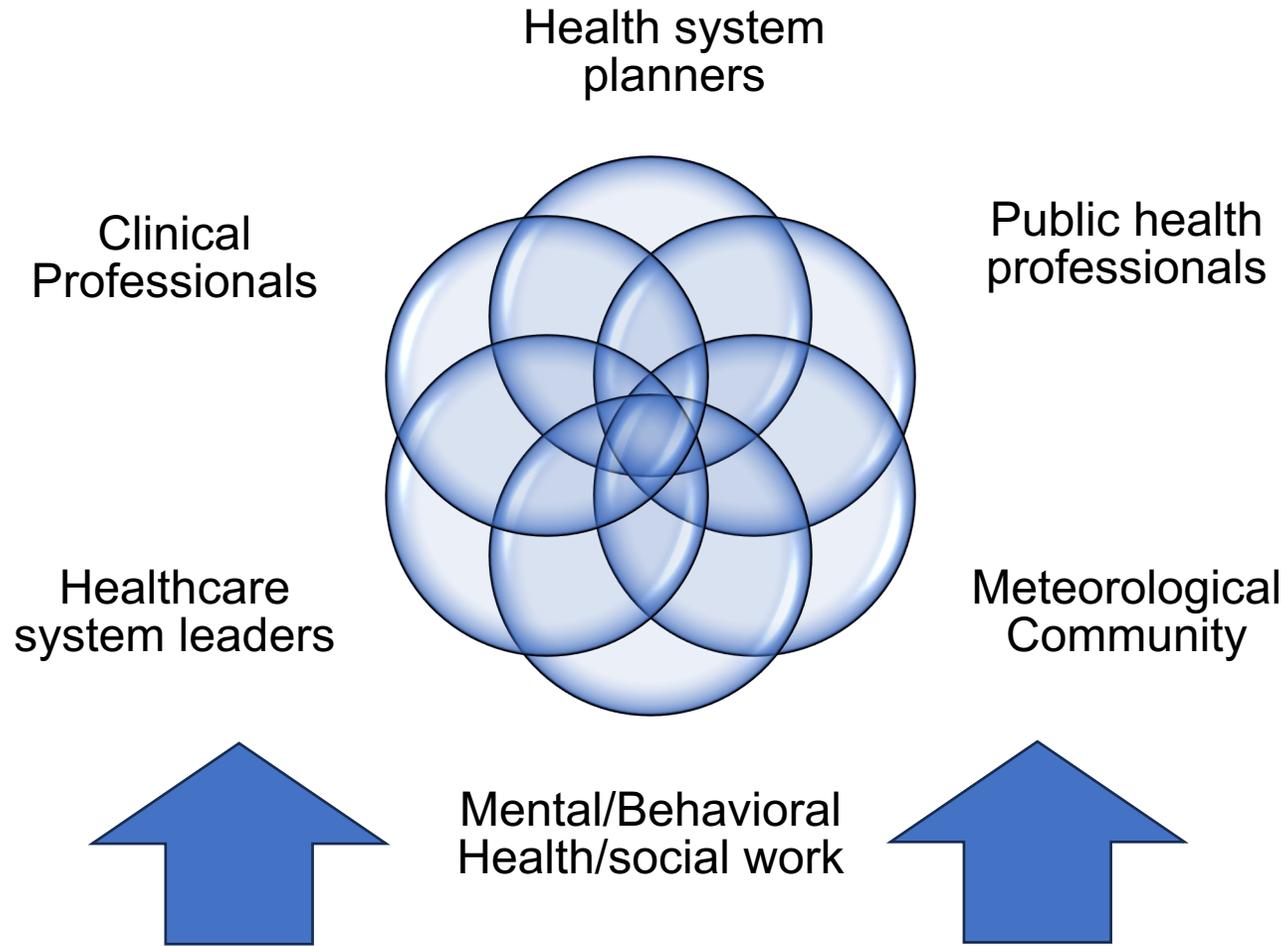
» [Author Affiliations](#) | [Article Information](#)

*JAMA Netw Open.* 2020;3(5):e206609. doi:10.1001/jamanetworkopen.2020.6609

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- Lack of available staff time (41%)
- Funding/time to support its development (34%)
- Competing institutional priorities/politics (31%)
- No available space in the core curriculum (29%)
- Lack of teaching materials and staff expertise (24% )

# Where is training and capacity building needed?



Strong Policy and Institutional Support

Increasing  
Population  
Impact

Increasing  
Individual  
Effort  
Needed

#### Tertiary Prevention

- Respond to health problems and hazards during climate-related events and implement evidence-based health-protective guidance
- With multi-sectoral coordination, ensure continued healthcare system operation and care of vulnerable patients during climate-related events
- Ascertain climate attribution of emergent health events and mobilize community partnerships to identify and solve health problems

#### Secondary Prevention

- Develop surveillance and early warning systems specific to climate-related health impacts educate at risk populations
- Improve interdisciplinary coordination and strengthen pathways to rapidly translate emerging scientific knowledge into meaningful policy action and clinical/public health practice
- Establish mechanisms to reduce health disparities and improve response to climate-related emergencies

#### Primary Prevention:

- Build evidence-base to understand climate-health interactions (individual and population) and technical capacity for managing, analyzing and sharing climate and health data
- Perform vulnerability assessments of climate and health risks to population health and healthcare systems and establish community-based practices to prevent health harms
- Decarbonize the health sector and articulate need for society-wide rapid decarbonization to policy makers, stakeholders and the public, with emphasis on health co-benefits of action

# Training for Primary Prevention

## **Public Health Professionals**

- Must build evidence-base to understand interactions between climate change and **population health**
- **Requires: Technical capacity for analyzing managing and sharing climate and meteorological data**

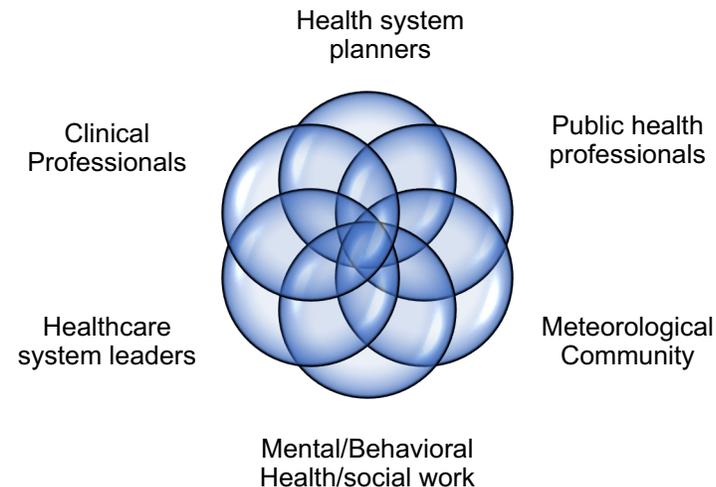
## **Clinical Health Professionals**

- Must build evidence-base to understand interactions between climate change **clinical practice**
- **Requires: Close coordination with public health and an understanding of the science**

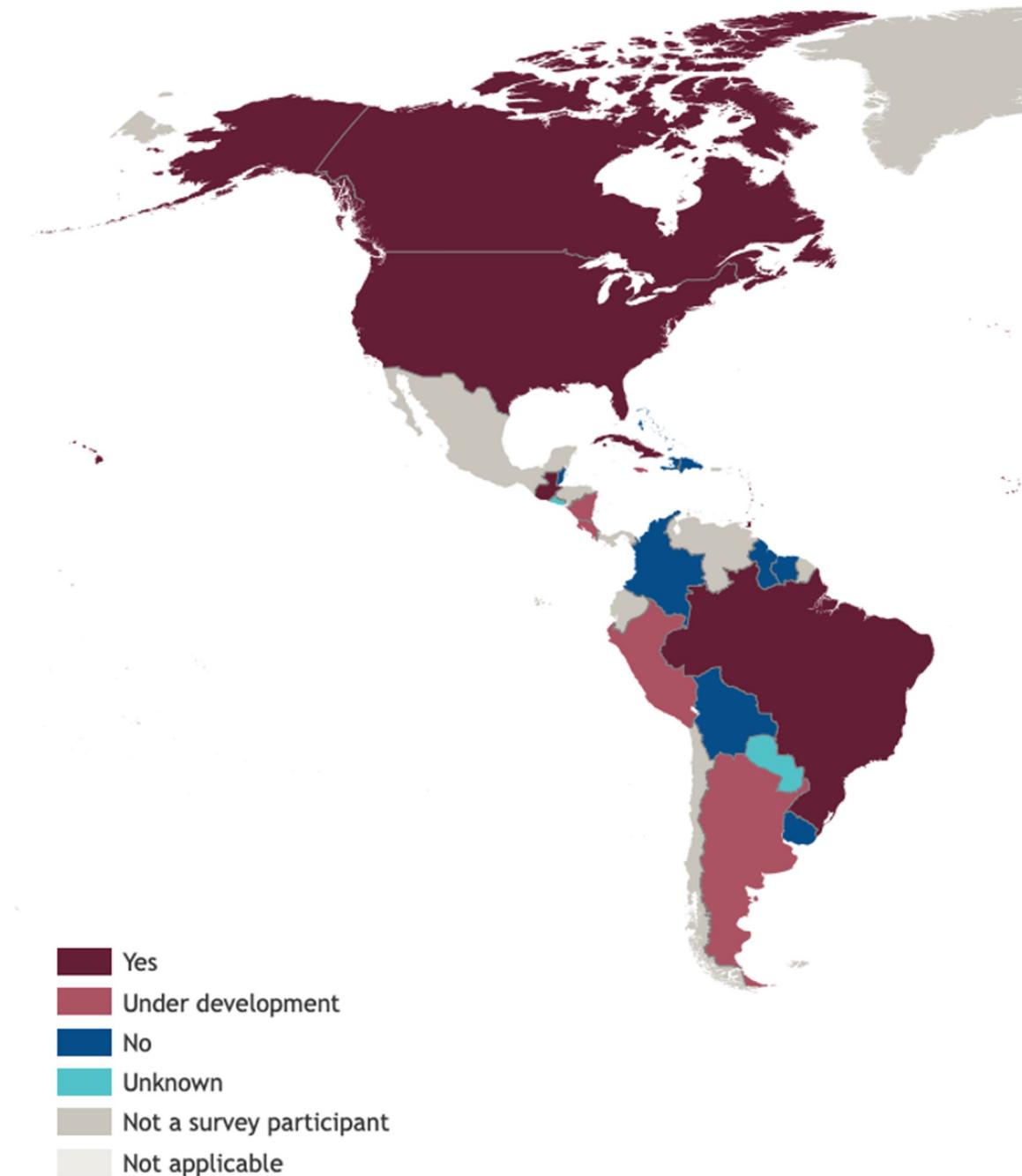
# Training for Primary Prevention

## Entire Health Sector

- Perform vulnerability assessments of climate and health risks to population health and healthcare systems and establish community-based practices of prevent health harms
- **Requires: Technical capacity to perform V&A, community engagement and buy-in, excellent communication skills**



# Map of countries that have conducted a climate and health V&A assessment





# Training for Secondary Prevention

## Public Health Professionals

- Must build and test surveillance systems for climate sensitive diseases and exposures (e.g. Extreme heat, VBD)
- **Requires: Technical capacity for collecting, analyzing, managing health data and integrating with climate models**

## Clinical Health Professionals

- Must create, update and adapt health guidance and treatment plans for patients
- **Requires: Evidence-based research to understand viable clinical approaches to prevent and manage individual health concerns**

# Training for Secondary Prevention

## Public Health Professionals

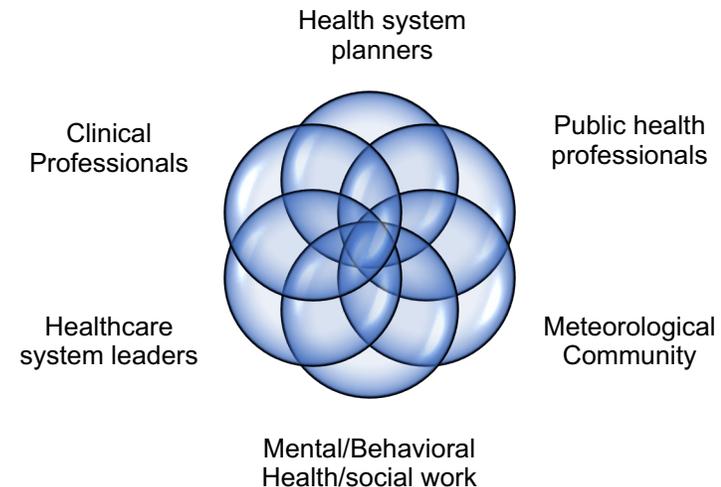
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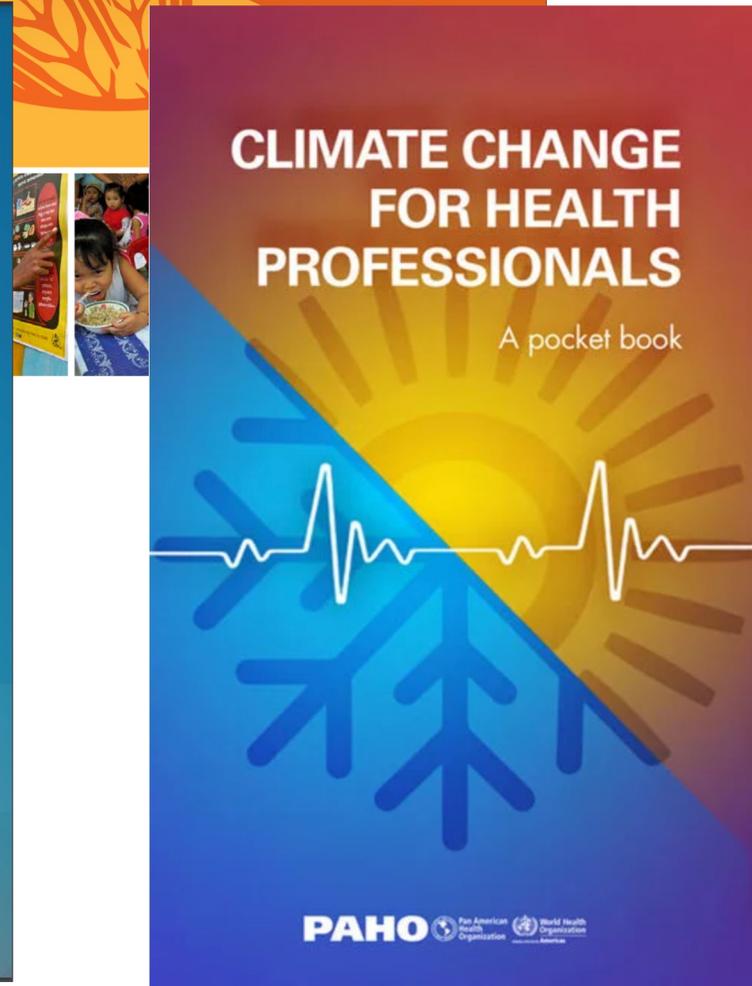
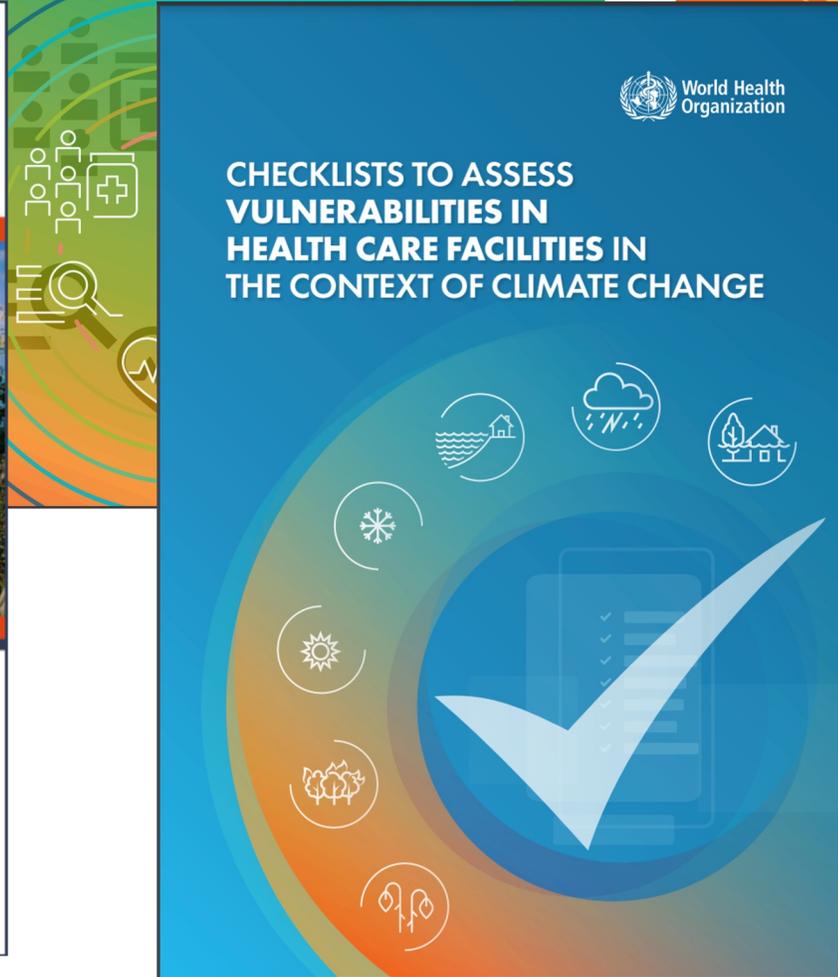
## Clinical Health Professionals

- Must create, update and adapt health guidance and treatment plans for patients
- **Requires: Evidence-based research to understand viable clinical approaches to prevent and manage individual health concerns**

# Training for Secondary Prevention

- **Entire Health Sector**
  - Develop evidence-based strategies to reduce health inequities and disparities arising from climate-related exposures





# Training for Tertiary Prevention

## **Public Health Professionals**

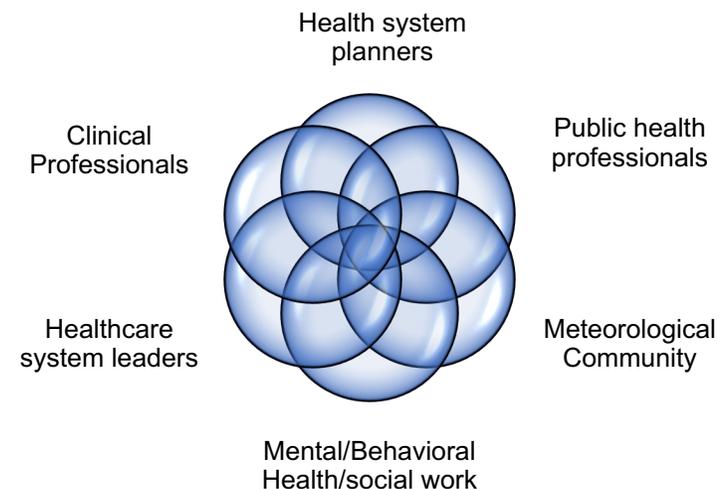
- Must mobilize partnerships to identify and solve health problems
- Investigate health problems and hazards
- **Requires: Robust technical capacity for collecting, analyzing, managing health data in real time**

## **Clinical Health Professionals**

- Must participate in disaster management
- Protect and care for vulnerable and affected individuals
- **Requires: Training in disaster protocols, improving resilience of healthcare systems**

# Training for Tertiary Prevention

- Entire Health Sector:
  - **Establish and use best practices to coordinate interdisciplinary responses to compound disasters**



## Our Mission:

- Ensure that 100% of health professionals globally have the knowledge and skills to recognize, respond to and prevent climate-related health impacts
- Organize, empower and amplify the voice of health professionals to convey how climate change is harming our health and how climate solutions will improve it.



## GCCHE Member Institutions

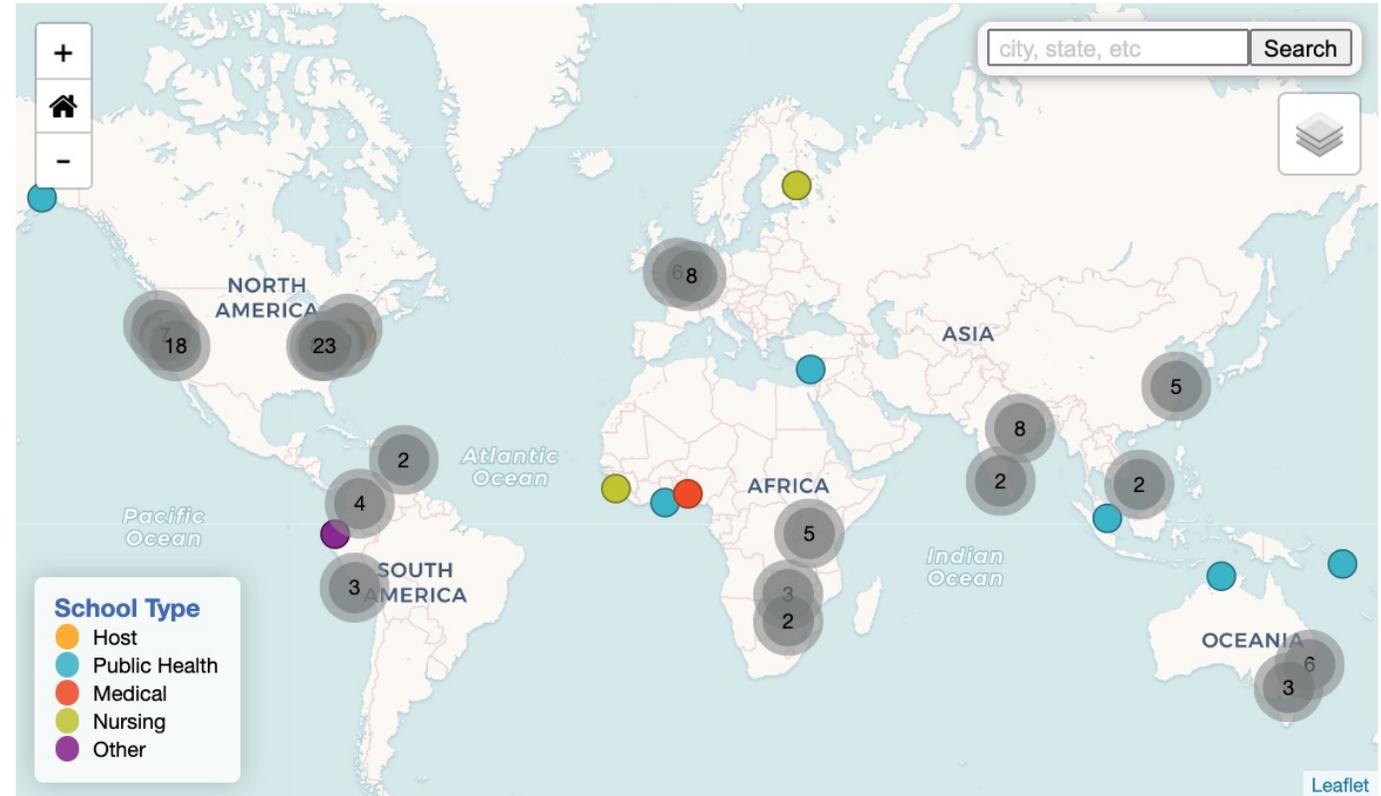
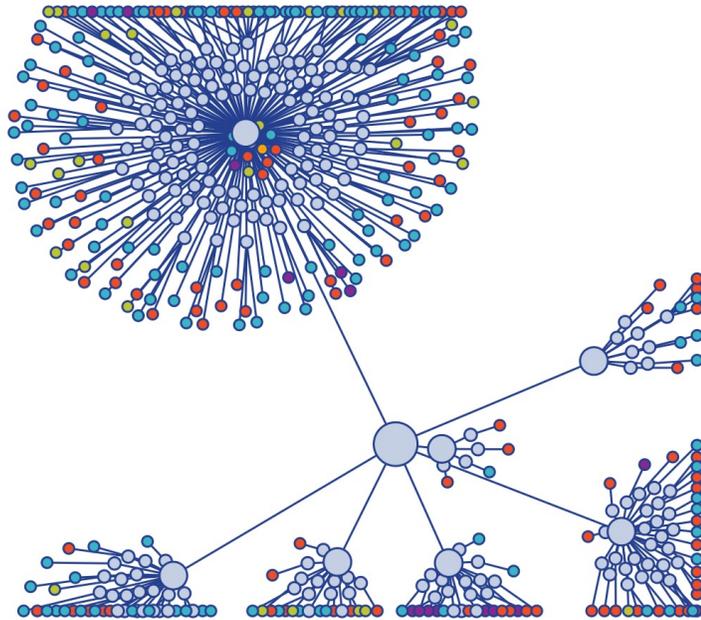
Meet our **294** members!

### Location type

-  City
-  Continent
-  World

### School type

-  Host
-  Public Health
-  Medical
-  Nursing
-  Other





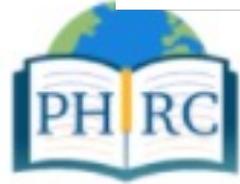
**IMANA**  
ISLAMIC MEDICAL ASSOCIATION  
OF NORTH AMERICA



Climate and Health Program  
SCHOOL OF MEDICINE  
UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS



MSC  
Medical Schools Council



**TEPHINET**  
Training Programs in Epidemiology and  
Public Health Interventions Network



Western States PEHSU  
Pediatric Environmental Health Specialty Unit



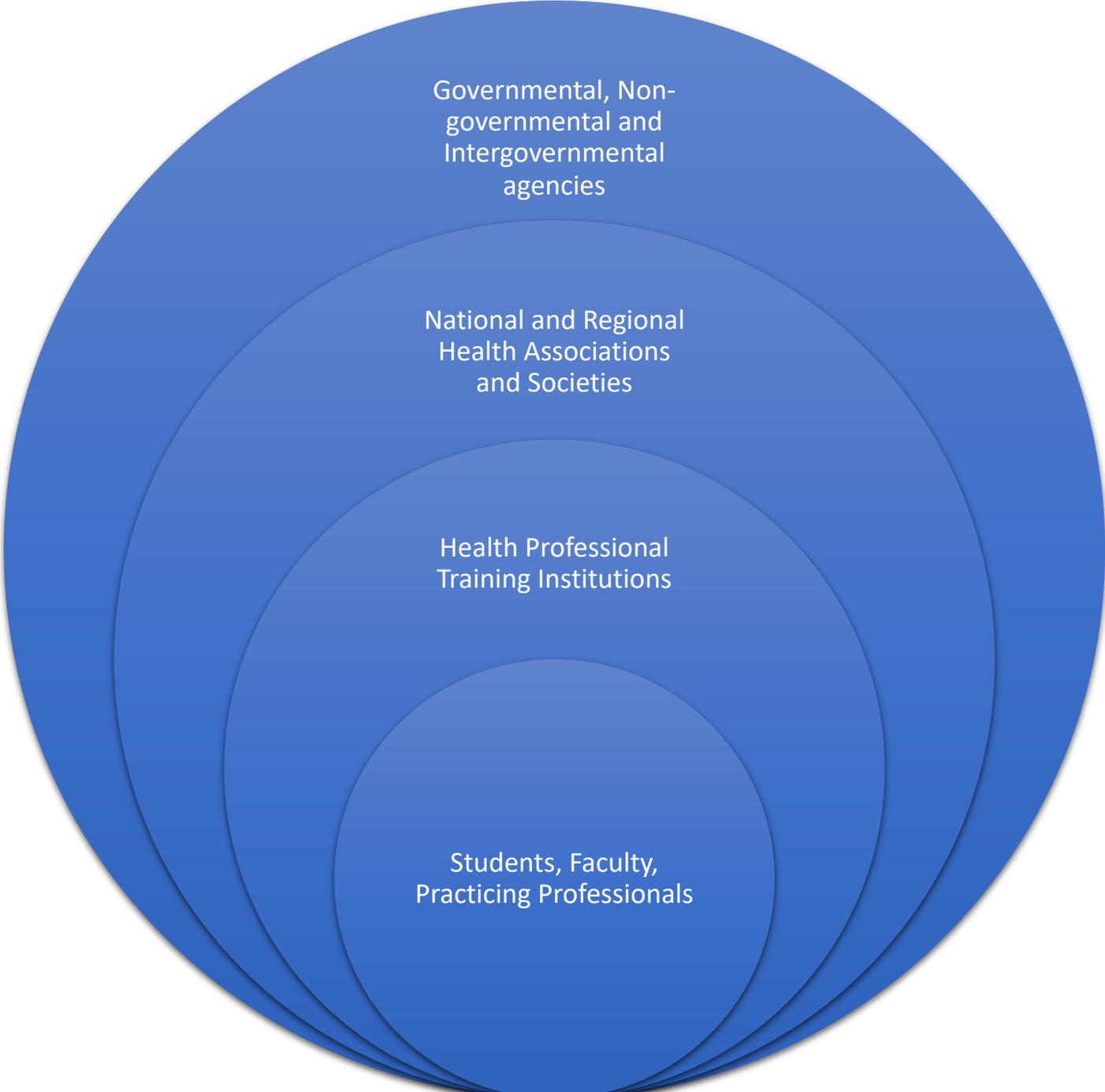
Santé Canada  
Health Canada



Secretaría de Salud  
Subred Integrada de Servicios de Salud  
Centro Oriente E.S.E.



The Association of Schools of Public Health  
in the European Region



Governmental, Non-governmental and Intergovernmental agencies

National and Regional Health Associations and Societies

Health Professional Training Institutions

Students, Faculty, Practicing Professionals

# Multi-Pronged Approach



Support institutions and faculty who train students



Support existing health professionals through continued education opportunities



Provide technical support and partnership to health profession societies and associations



Promote transdisciplinary CH research



Partner with governmental and intergovernmental organizations to provide technical support and consultation



Support Students and Student-lead initiatives



# Climate and health competencies

- (1) Climate and health knowledge and analytic skills
- (2) Climate change and public health practice
- (3) Climate change and clinical practice
- (4) Policy aspects of climate change and health
- (5) Climate and health communication



*Global Consortium on Climate and Health Education:  
Climate & Health Key Competencies for Health Professions Students*

# CARIBBEAN CLIMATE HEALTH RESPONDERS



The Caribbean Climate and Health Responders online certificate course committed to providing health professionals with the knowledge and tools to effectively respond to the health crisis in their local communities through

**TARGET AUDIENCE:** Health Professionals, Health Professionals, Disaster and Emergency Leaders and Students

## DATE/TIME:

### Main Sessions

- April 6th - June 8th, 2022
- Weekly 90-minute didactic sessions on Wednesdays
- 6:00 p.m. AST, 5:00 p.m. EST

MAIN SESSION  
REGISTRATION

### Skills

- April 24th
- 6:00 p.m.

SKI  
R

## MAIN SESSION TOPICS:

1. Climate Change for the Health Professionals
2. Extreme Weather Hazards: Hurricanes
3. Water- and Food Related Illness (Flooding & Contamination)
4. Temperature Related Illness and Mortality
5. Degraded Air quality (Bush Fires & Urban Air Pollution)
6. Vector-borne and Zoonotic Disease
7. Mental Health
8. Climate Change and Health Equity
9. Healthcare Sector Mitigation
10. Health System Resilience in a Changing Climate

CME/CPD credits requested

Please direct any questions to [hec2141@columbia.edu](mailto:hec2141@columbia.edu)

# Climate and Health Responder Course for Health Professionals at Columbia University

Presented by the Global Consortium on Climate and Health Education, Health Canada and the National Oceanic and Atmospheric Association (NOAA)

February 8 – April 5, 2022

Tuesdays 10:00 - 11:00 AM MT

9:00am - 10:00am PT / 12:00 - 1:00pm ET / 4:00 - 5:00pm UTC

Session recordings will be available for asynchronous view after the live presentations for those unable to attend.

[Register HERE](#)

The Climate and Health Responder Course for Health Professionals is a free, virtual 8-week course giving health care professionals the tools to effectively respond to the climate and health crisis in their communities and institutions.

This certificate-based online program is designed to equip health professionals with the knowledge needed for transformative action. Participants may receive up to 16 no-cost continuing education hours. To receive a certificate of participation, participants must attend 75% of the Tuesday didactic sessions and pass a short online quiz at the end of the course.

Additional sessions to learn climate communication skills and essential tools for practice will be held Wednesdays February 16 through April 13, 2022, as part of our ongoing series

## Target Audience:

- Health Professionals
- Health Professional Students
- Health Educators
- Climate Leaders



## Course Objectives:

- Develop a solid foundation of the current evidence on climate and health across eight main impact areas
- Become equipped to lead climate and health education and programmatic development at your own institution or within your own community
- Improve communication and advocacy skills
- Gain a new professional network to help you lead the way in addressing the adverse impacts of climate change and health

## Accreditation:

In support of improving patient care, Project ECHO<sup>®</sup> is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), the American Nurses Credentialing Center (ANCC), the Association of Social Work Boards (ASWB) Approved Continuing Education (ACE), and the American Psychological Association (APA) Office of Continuing Education in Psychology (CEP) to provide continuing education for the healthcare team.



Program Email: [ClimateECHO@salud.unm.edu](mailto:ClimateECHO@salud.unm.edu)

Website: <https://hsc.unm.edu/echo/partner-portal/programs/climate-change/>

# ESPUESTA AL CLIMÁTICO PARA ALUD, EN DAMÉRICA

ORCIO GLOBAL DE EDUCACIÓN EN CLIMA Y  
PANAMERICANA DE SALUD Y EL INSTITUTO  
A INVESTIGACIÓN EN CAMBIO GLOBAL

io climático para la salud en América Latina" es un  
uito y en línea, con una duración de 5 semanas.  
compartir conocimiento científico en clima y salud  
démicas y de investigación en salud de cara a  
y la formulación de políticas públicas.

Mayo 19, 2022  
na: sesiones  
nutos los martes y

DMX (Mexico) /  
Uruguay)

- **CREADO PARA:** Académicos, investigadores en salud, investigadores en ambiente, profesionales de la salud, líderes en el ámbito de la salud, líderes en el ámbito del ambiente, estudiantes y financiadores

## o y salud

rriesgo climáticos

la calidad del aire e incendios forestales

peratura y cambio climático

io/La Niña/ciclones extra tropicales

uidad de los alimentos y el agua

ansmitidas por vectores y zoonóticas

latos y vigilancia

igación climática (Co-beneficios)

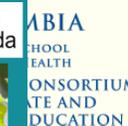
os regionales en cambio climático

er favor dirija sus preguntas a [hec2141@columbia.edu](mailto:hec2141@columbia.edu)

[www.publichealth.columbia.edu/GCCE](http://www.publichealth.columbia.edu/GCCE)

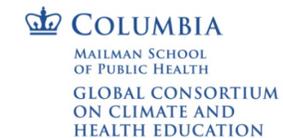
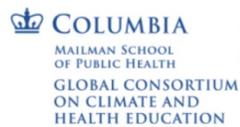


INSCRIPCIONES



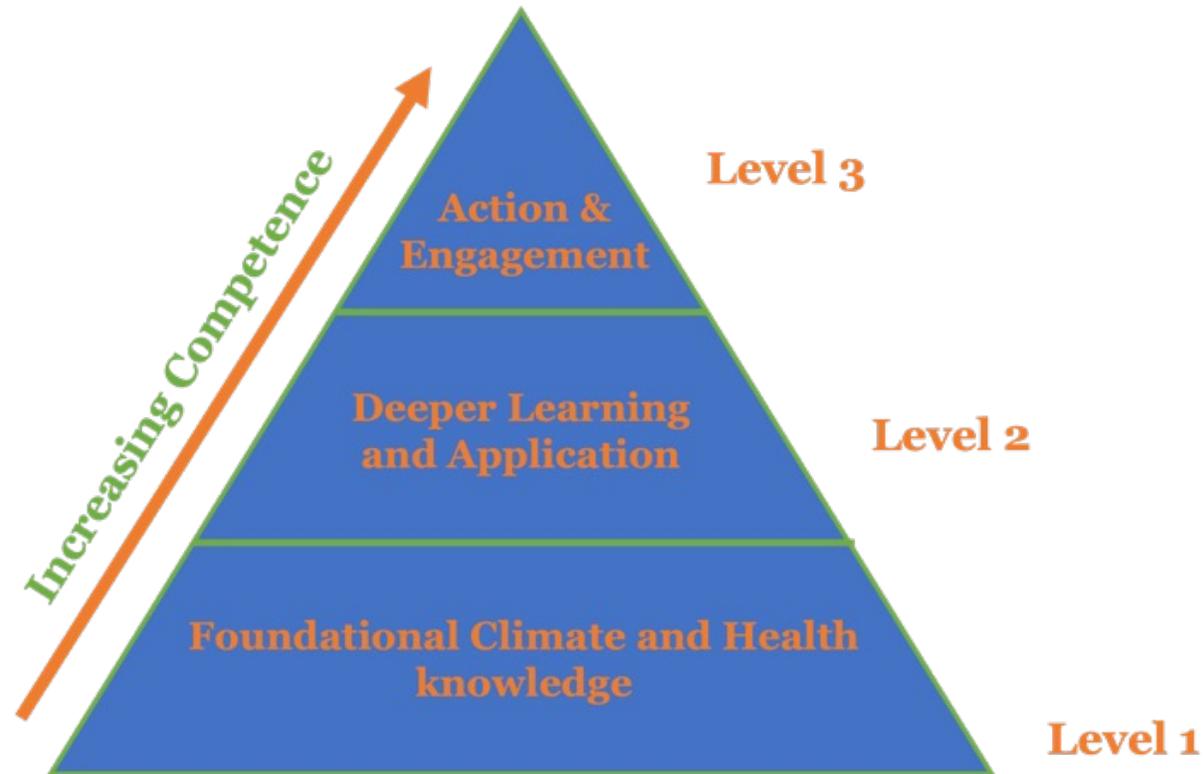


# 5,000 Health Professionals



Santé Canada Health Canada

# Course Objectives: Depend on Audience



# Climate and health capacity building for health professionals in the Caribbean: A pilot course

Cecilia Sorensen<sup>1,2,3\*</sup>, Nicola Hamacher<sup>4</sup>, Haley Campbell<sup>1</sup>, Paula Henry<sup>5</sup>, Keriann Peart<sup>5</sup>, Loren De Freitas<sup>5</sup> and James Hospedales<sup>5</sup>



Q1: How often do you talk to your patients/community members/colleagues about climate change and health?	(n) %	(n) %	(n) %
Frequently	(31) 23.5%	(4) 3.0%	(+12) +9.1%
Sometimes	(68) 51.5%	(65) 49.2%	(-3) -2.3%
Rarely	(23) 17.4%	(22) 16.7%	(-1) -0.8%

and health knowledge and skills in your work.	(n) %	(n) %	(n) %
Frequently	(26) 19.7%	(18) 13.7%	(+8) +6.1%
Sometimes	(52) 39.4%	(33) 25.0%	(+19) +14.4%
Rarely	(40) 30.0%	(23) 17.4%	(-17) -12.9%
Never	(14) 10.6%	(3) 2.3%	(-11) -8.3%
No response	N/A	(1) 0.8%	N/A

climate and health initiative (e.g. hospital green team, adaptation project, education) in your community/institution/practice?	(n) %	(n) %	(n) %
Very confident	(31) 23.5%	(4) 3.0%	(+17) +12.9%
Somewhat confident	(60) 45.5%	(6) 4.5%	(+8) +6.1%
Not very confident	(31) 23.5%	(12) 9.1%	(-19) -14.4%
Definitely not confident	(10) 7.6%	(3) 2.3%	(-7) -5.3%
No response	N/A	(1) 0.8%	N/A

# Level 2 Course



## PAN AMERICAN HEALTH SYSTEM RESILIENCE COURSE

**REGISTER**

Tuesdays & Thursdays  
April 4 - May 2, 2023

10:00-11:30 AM EST  
12:00-1:30 PM UYT

Live Spanish - English  
Interpretation Available

Certificate-Based  
Program

Session Video  
Recordings Available

### Session Topics:

- April 4 | Healthcare systems in a changing climate
- April 6 | Assessing risks to human health & health systems from climate change
- April 11 | Health facilities: Assessing risks & opportunities for adaptation & resilience
- April 13 | The health adaptation process: key actors, activities & partnerships
- April 18 | Health equity: Identifying uniquely vulnerable populations for adaptation & mitigation
- April 20 | Estimating the costs of the health and health system impacts of climate change
- April 25 | Opportunities and guidance for lowering the carbon footprint of health systems
- April 27 | Measuring, monitoring & evaluating the resiliency & sustainability of health systems
- May 2 | Effectively communicating climate change risks to stakeholders and the public

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ON CLIMATE AND  
HEALTH EDUCATION

 OPS  
Organización  
Panamericana  
de la Salud

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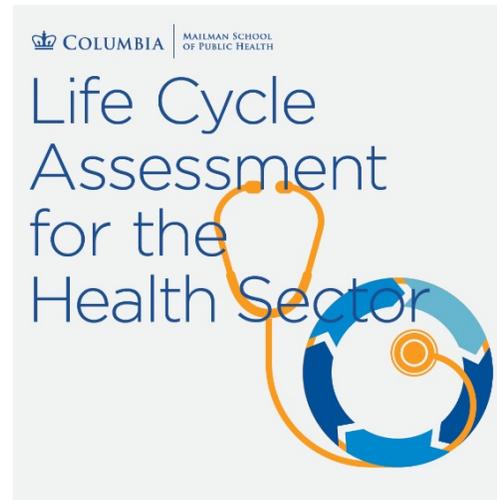
Santé  
Canada Health  
Canada

<https://bit.ly/PanAmResilience>

Contact - [mendezanw@paho.org](mailto:mendezanw@paho.org) & [hec2141@cumc.columbia.edu](mailto:hec2141@cumc.columbia.edu)

Level 3  
course

## Life Cycle Assessment Boot Camp: LCA for the Health Sector



with their team.

**The February/March virtual LCA Boot Camp is at capacity, but the next virtual LCA Boot Camp will be held on August 24-25 & October 5-6, 2023. Sign up below to hear about registration opening.**

The Life Cycle Assessment Boot Camp is a four-day intensive, hands-on course where an individual and/or team will learn the concepts of life cycle assessment (LCA) and analytic methods required to complete their own LCA



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Healthcare Executives  
*for leaders who care®*

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# Leadership for Cost-Saving, Climate-Smart and Quality Healthcare

August 7-8, 2023

8 a.m.–3 p.m. | 12 ACHE Face-to-Face Education credits

Climate change is among the most urgent health threats of the 21st century. It is already driving health harms in the U.S. by exacerbating communicable and noncommunicable diseases and affecting healthcare operations. Healthcare in the U.S. is a significant contributor to greenhouse gas emissions. At the same time, decarbonization strategies can reduce and stabilize healthcare costs as well as improve resilience to extreme weather and power outages that have grown more common. Transformative solutions to deliver high-quality care without damaging the environment or the health of communities are under rapid development and result in significant economic and social impact.



**LET'S DO IT** *Together*

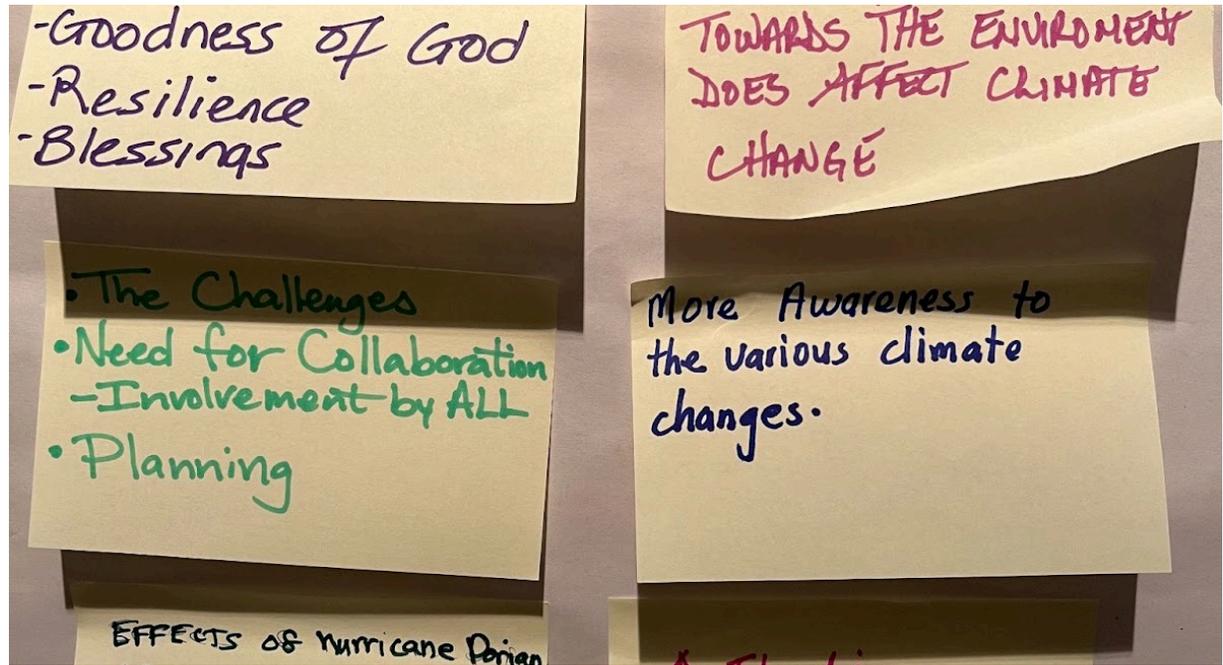
**Climate and Health Ambassadors in the Bahamas**

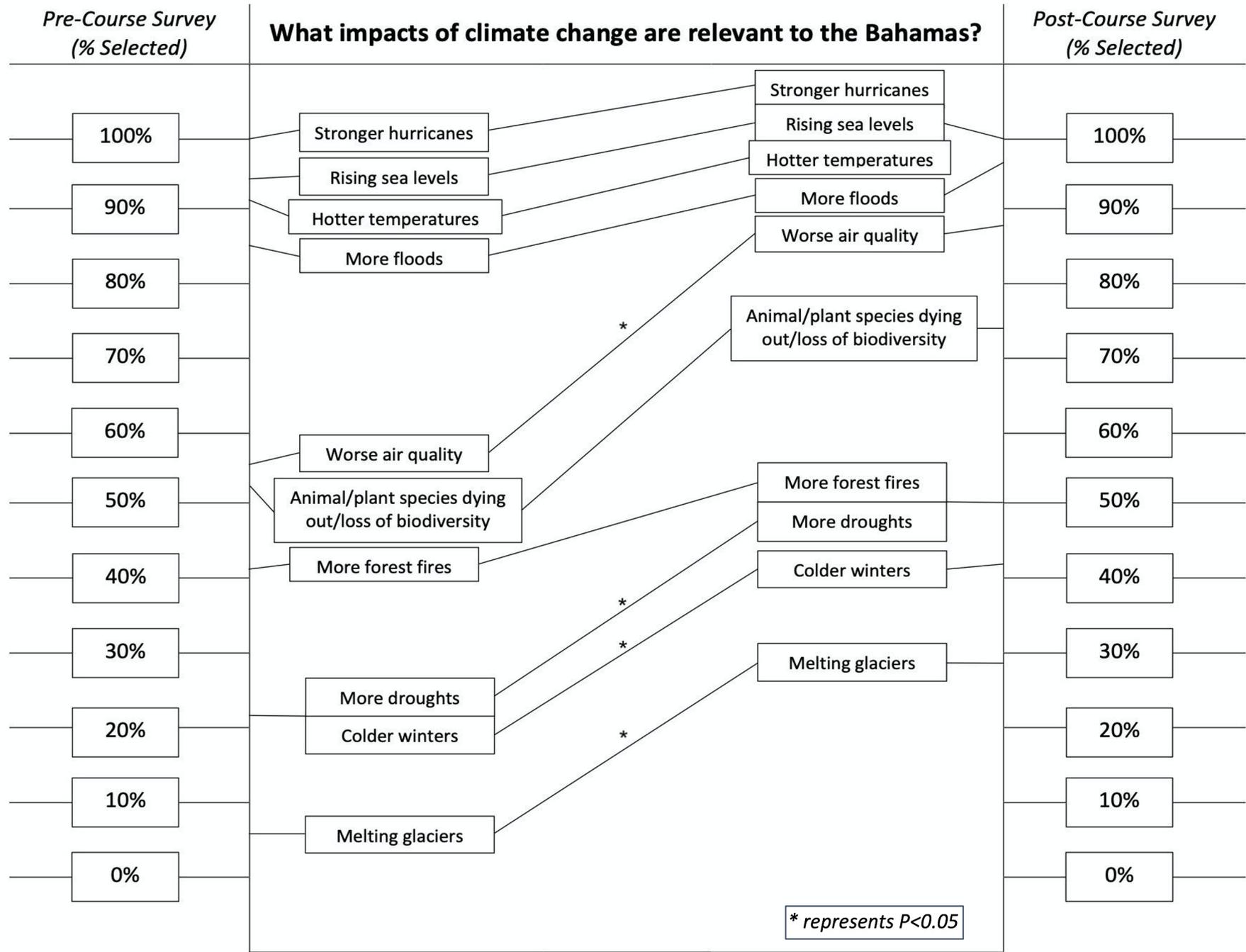
**DEVELOPING A CLIMATE RESILIENT HEALTH SYSTEM**

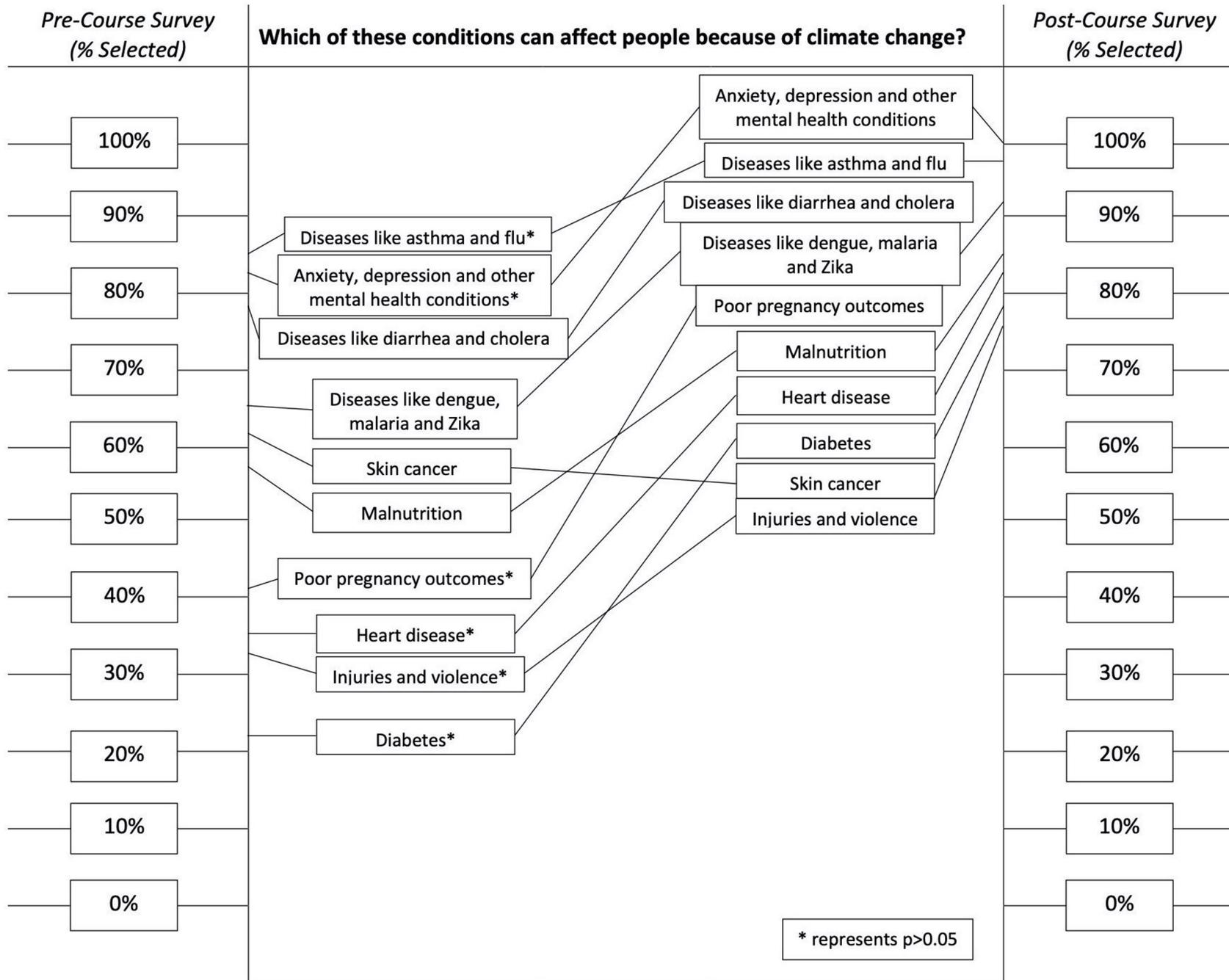
*Community stakeholders and healthcare professionals can do something together about the climate and health crisis!*

**Training Days: December 13 & 14, 2022**

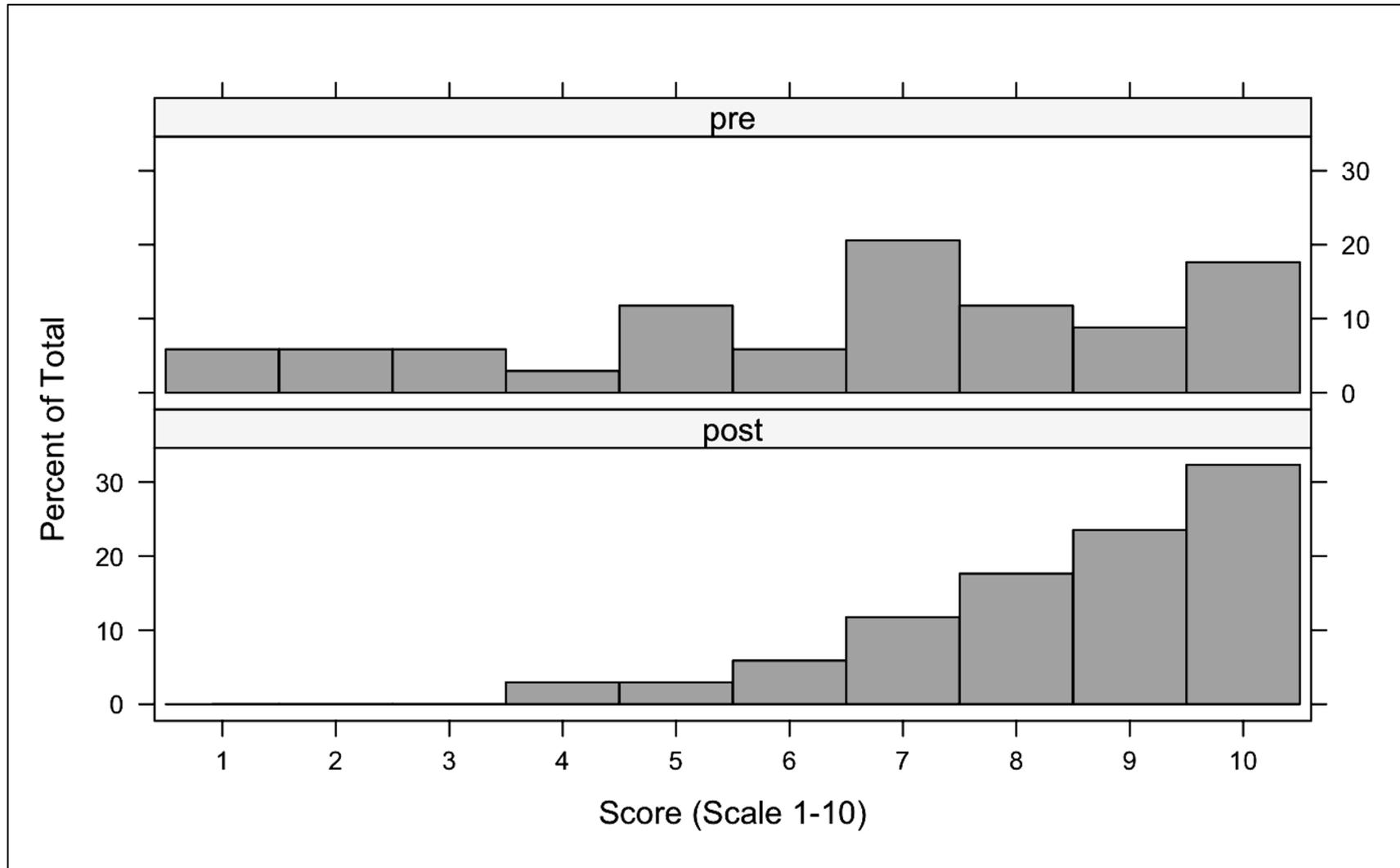
**Locations: New Providence | Grand Bahama | Abaco - Marsh Harbour**







On a scale of 1-10, how ready do you feel to work on addressing the health impacts of climate change? (N=32) ( $p < 0.001$ ).



# CURSO ANDINO DE CLIMA Y SALUD

**FECHAS DEL CURSO :**  
**AGOSTO 30 – SEPTIEMBRE 29, 2023**  
MIÉRCOLES: 9:00-10:30 COLOMBIA  
VIERNES: 15:00-16:30 COLOMBIA

**OPS**



**COLUMBIA** | MERRIMAN SCHOOL  
OF PUBLIC HEALTH  
GLOBAL CONSORTIUM ON  
CLIMATE AND HEALTH EDUCATION



**ORGANISMO ANDINO DE SALUD  
CONVENIO HIPOLITO UNANUE**

# El Niño in the Americas: Protecting Health and Promoting Resilience

*El Niño en las Américas:  
Proteger la salud y promover la resiliencia*

6-session course with certificate  
*curso de 6 sesiones con certificado*

10-26 Oct. 2023

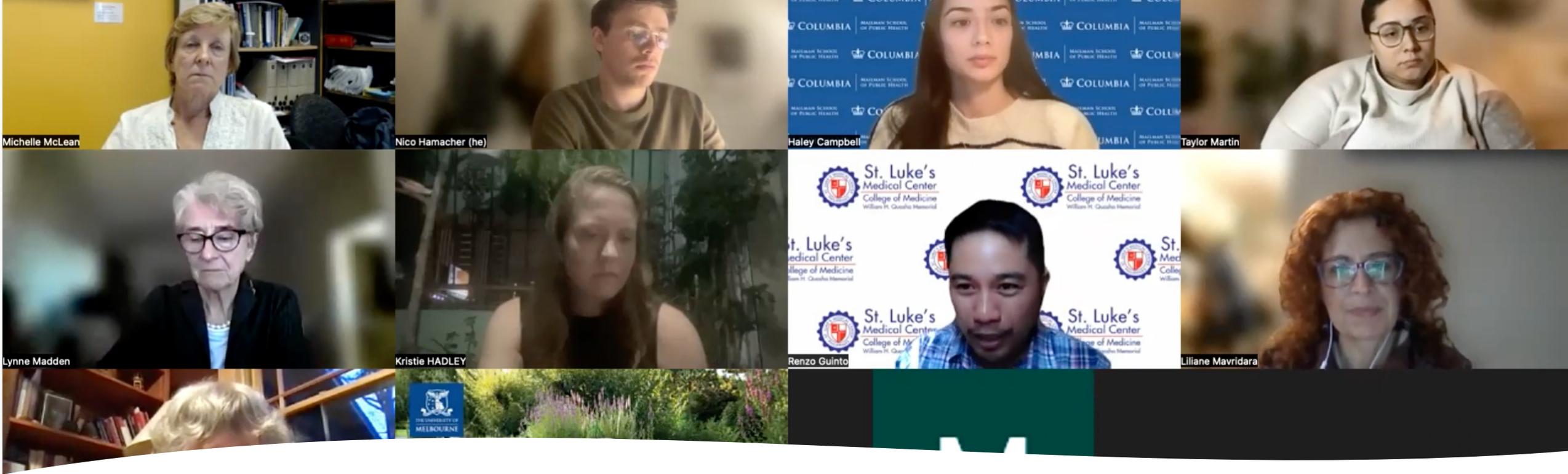
Register for free | *Inscríbese sin costo*



**UNDRR** Oficina de Naciones Unidas para la  
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GLOBAL CONSORTIUM  
ON CLIMATE AND  
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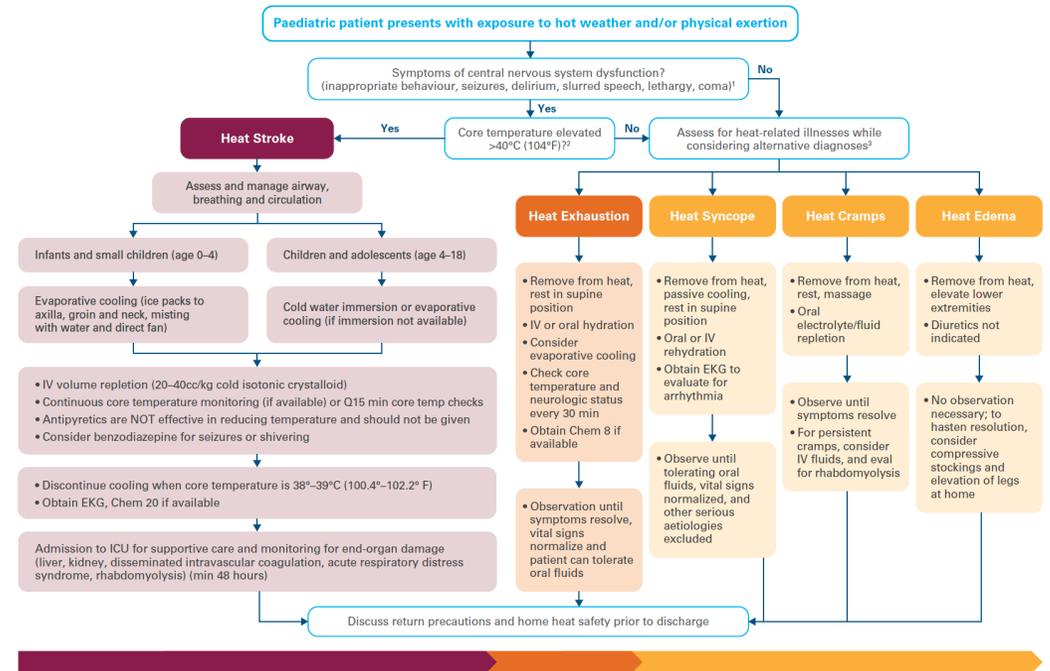


# Learning Collaborative

- Networking
- Collaboration
- Sharing



Figure 6 Case management of heat-related illnesses in paediatric populations





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## Under Development:

- Climate and Health Vulnerability and Adaptation Workshop (Coming Soon!)
- “Promoting health and health system resilience in a changing climate” – Interamerican Development Bank
- “Climate and Health Responder Course” – European Region, ASPHER
- Development of Indicators – Lancet Countdown on Climate and Health
- And more!



 COLUMBIA | MAILMAN SCHOOL OF PUBLIC HEALTH

GLOBAL CONSORTIUM ON CLIMATE AND HEALTH EDUCATION

**Mission**

Advancing global health security and educating professionals on the effects of climate change. →

Resources available: [Publichealth.Columbia.edu/GCCHE](https://publichealth.columbia.edu/GCCHE)



[CJS2282@cumc.columbia.edu](mailto:CJS2282@cumc.columbia.edu)