

## Health Equity Curriculum Toolkit

### **Climate Change**

IGNITE presentation and module by  
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Appropriate Audience: all learners

Related modules:

- Intersectionality — The Interconnectedness of Class, Gender, Race and other Types of Vulnerability
- Immigrant Populations in a Nation of Changing Policy
- International Efforts to Reduce Health Disparities

Learning Objectives

After participating in this learning module, participants will be able to:

1. Describe the broad effects of climate change on health from disease specific and environmental change perspectives.
2. Describe the disproportionate impacts of climate change on the health of vulnerable communities and the implications for health equity.
3. Identify examples of climate action at the level of the patient-provider relationship, hospital or regional health care setting and national/policy level that have the potential to advance health equity for historically disadvantaged communities.
4. Recognize the role that health care providers have to advocate for climate justice and advance health equity through climate action.

Background

“A rapidly changing climate has dire implications for every aspect of human life, exposing vulnerable populations to extremes of weather, altering patterns of infectious disease, and compromising food security, safe drinking water and clean air.”- Lancet Countdown Report (1)

As of 2020, the crisis of climate change is becoming increasingly evident in multiple ways, including severe weather events and wildfires, increasing rates of vector borne diseases, respiratory illness related to air pollution, and heat related illness. Because the negative

impacts of climate change disproportionately affect people and communities already affected by poverty, discrimination, chronic disease, and other social determinants of health, action to combat climate change is fundamentally linked with health equity.

The changes needed to mitigate the effects of climate change are enormous, and often seem to be beyond the scope of individuals or local communities. Yet, there are opportunities for all of us to advocate for the health of people and our Earth. Health care providers are some of the most trusted resources for information about climate change (2) and have considerable leverage to promote the needed micro, meso and macro level changes. Local public health departments are well situated to improve awareness, prepare for and respond to health effects of climate change, and promote collaboration between different institutions to build resiliency.

Climate action, defined as advocacy work to reduce the impact of climate change, has the power to yield the greatest benefit for marginalized communities. Ultimately, climate action has the potential to make life on Earth more sustainable. If we apply an equity lens to a comprehensive and positive response to climate change, we can transform the economic systems and societal attitudes that have simultaneously sustained dehumanizing treatment of human beings and sanctioned degrading treatment of Earth.

#### Ignite Video

Please follow the link below to view the full talk given by KJ Hansmann, MD, MPH (~9 min):  
<https://www.youtube.com/watch?v=ZXlyxyfN-jE&feature=youtu.be>

#### Accompanying Slides

<https://www.fammed.wisc.edu/files/webfm-uploads/documents/diversity/climate-change-health-equity.pdf>.

#### **We also encourage you to supplement this module:**

- WATCH
  - Thunberg G. The Disarming Case to Act Right Now on Climate Change. TEDxStockholm. Stockholm, Sweden. Presented November 2018.  
[https://www.ted.com/talks/greta\\_thunberg\\_the\\_disarming\\_case\\_to\\_act\\_right\\_now\\_on\\_climate\\_change?language=en](https://www.ted.com/talks/greta_thunberg_the_disarming_case_to_act_right_now_on_climate_change?language=en) Accessed January 21, 2020.
    - Greta Thunberg, a high school student in Sweden, walked out of school in 2018 as a protest to raise awareness of climate change. Representing the youth voice for climate action, Greta calls on us to “wake up and change.” (11 min)
- EXPLORE
  - Salas R, Solomon C. The Climate Crisis - Health and Care Delivery. *New England Journal of Medicine*. 2019 Aug;

383(e13).<https://www.nejm.org/doi/full/10.1056/NEJMp1906035>. Accessed January 21, 2020.

- This interactive perspective lets you explore specific topics of interest in health and how they are impacted by climate change. Take some time exploring the health care and public health implications of climate change.
- Read
  - Pelling M, Garschagen M. Put Equity First in Climate Adaptation. *Nature*. 2019 May; 569:327-32. doi: 10.1038/d41586-019-01497-9. <https://www.nature.com/articles/d41586-019-01497-9>. Accessed January 21, 2020.
    - “Poor people face a double burden of inequality — from uneven development and climate change.” Climate change is having its greatest impact on already vulnerable populations. In this 2019 commentary in *Nature*, the authors call for nations to put equity front and center in their plans to take action on climate change.
  - Wellbery CE. Climate Change Health Impacts: A Role for the Family Physician. *American Family Physician*. 2019 Nov; 100(10):602-603 <https://www.aafp.org/afp/2019/1115/p602.html>. Accessed January 21, 2020.
    - “What... can family physicians do to address the health impacts of climate change? Our role is multiple: We must act as citizens, clinicians, advocates, and healers.” This editorial describes multiple opportunities for clinicians to engage in climate action.
- UPDATE
  - Consider doing a quick literature search. The issues of climate change, health care and health equity are actively developing as humans grapple with the reality of the changes already affecting our life on this planet. We invite you to augment the resources in this module with even more recent and/or locally relevant reports about climate change and the actions that humans are taking in response.

### Possible Questions for Group Discussion

*After watching the talks and reading the material above, consider splitting your learners into smaller groups and facilitate discussion on the following questions.*

1. After exploring the New England Journal of Medicine's interactive tool, The Climate Crisis - Health and Care Delivery, what are three examples of how climate change could be expected to impact health inequities?
2. What is a risk multiplier and how does it influence health inequities in the face of climate change?

3. What are the current and future impacts of climate change in your community (however you define that)? What are some examples of global health impacts of climate change described by Pelling and Garschagen?

4. How do you think climate change is already worsening health disparities within your community? How could climate change exacerbate health disparities in the future?

5. What are three examples of how health care providers, including family physicians can make positive impacts in the face of climate change according to Wellberry?

### Applying an Equity Lens in Professional Practice

As you reflect on the material in this module, consider how you will apply it in your professional practice by asking questions based upon the Equity and Empowerment Lens' 5Ps:

**Purpose:** Reflect on your purpose for alleviating the health equity impacts of climate change. Then, as a small group propose a specific intervention that could be done at your clinic or institutional level to address climate change or identify an advocacy opportunity to partner with local organizations to address climate justice.

**People:** Who would be positively or negatively affected by your proposal? Consider the impact on your patients/community where you practice as well as on your health care organization.

**Place:** How does your intervention account for the safety and well-being of the community and health care setting where you practice?

**Process:** Does your intervention provide agency, inclusion and empowerment to communities disproportionately affected by climate change?

**Power:** Who are the stakeholders that need to be involved in your proposed intervention? What kind of power do they hold?

### For more in depth discussion read and refer to:

- Costello A, Abbas M, Allen A, Ball S, Bell S, Bellamy R, *et al.* Managing the Health Effects of Climate Change. *Lancet*. 2009 May; 373(9676): 1693-1733. Doi: 10.1016/S0140-6736(09)60935-1.

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(09\)60935-1/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)60935-1/fulltext).

Accessed January 18, 2020.

- This 2009 report from the Lancet and University College London Institute for Global Health Commission provides a comprehensive and detailed overview of the health impacts of climate change. The section "Climate change effects on health will exacerbate inequities between rich and poor" gives a succinct

summary. See also Lancet’s regularly updated “Lancet Countdown” report listed in references below.

- Barrett B, Charles J, Temte J. Climate Change, Human Health and Epidemiological Transition. *Preventive Medicine*. 2015 Jan; 70: 69-75.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4342988/>. Accessed January 21, 2020.
  - This article succinctly summarizes the science supporting our understanding of climate change and how it impacts human health.
- Jones R. Climate Change and Indigenous Health Promotion. *Global Health Promotion*. 2019 Apr; 26(s3): 73-81.  
<https://journals.sagepub.com/doi/10.1177/1757975919829713#>. Accessed January 21, 2020.
  - This article focuses on existing and potential negative impacts of climate change and climate action on the health of Indigenous peoples. The author calls for a paradigm shift and asserts that health promotion in the context of climate action must be informed by “the broader context of colonial oppression, marginalization and dispossession” of Indigenous peoples.
- Haines A, Ebi K. The Imperative for Climate Action to Protect Health. *New England Journal of Medicine* 2019 Jan; 380:263-273.  
[https://www.nejm.org/doi/full/10.1056/NEJMra1807873?query=recirc\\_curatedRelated\\_article](https://www.nejm.org/doi/full/10.1056/NEJMra1807873?query=recirc_curatedRelated_article). Accessed January 21, 2020.
  - This review article summarizes the impact of climate change on human health and health systems as of January 2019. It references recent national and international reports about climate change and health, offers a link to a related NEJM interactive graphic tool, and gives general recommendations for climate action by health care providers.
- Center for Climate Change and Health (2016). A Physician’s Guide to Climate Change, Health and Equity. Retrieved from  
<http://climatehealthconnect.org/resources/physicians-guide-climate-change-health-equity/>. Accessed January 21, 2020.
  - This website offers links to a compendium of information about climate change and suggestions for climate action. It includes a section called “Climate Change as a Health Equity Opportunity: Co-Benefits of Climate Action”, as well as some colorful patient education posters.

### Resources for further exploration

These resources are organized by topic area. The listings of macro, meso, or micro follow the socio-ecological framework laid out in the guidebook.

### **Macro: In Health Care Transformation**

- Rudolph L, Harrison C, Buckley L, North S (2018). Climate Change, Health, and Equity: A Guide for Local Health Departments. Oakland, CA and Washington D.C., Public Health Institute and American Public Health Association. <https://www.apha.org/topics-and-issues/climate-change/guide>. Accessed January 21, 2020.
  - This online resource of the American Public Health Association is intended to educate local health departments about the health equity impacts of climate change. Read more about public health interventions to combat climate change in the “Public Health Programs and Climate Change” section, paying particular attention to sections headed “What Local Health Departments Can Do.”
- Walpole S, Rasanathan D, Campbell-Lendrum D. Natural and Unnatural Synergies: Climate change policy and health equity. *Bulletin of the World Health Organization* 2009 Oct; 87(10): 799–801. doi: 10.2471/BLT.09.067116. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2755320/>. Accessed January 21, 2020.
  - Climate action has potential negative consequences for health equity, and vice versa. This article describes “unnatural” synergies where efforts to address climate action or to promote health equity can negatively impact the other domain. The authors then describe strategies to increase the likelihood that health equity and climate goals can be aligned in the design of related political and technological changes.

### **Meso: In Quality Improvement**

- Blumenthal D, Seervai S. (2018, April 18) To Be High Performing, the U.S. Health System Will Need to Adapt to Climate Change. Retrieved from. <https://www.commonwealthfund.org/blog/2018/be-high-performing-us-health-system-will-need-adapt-climate-change>. Accessed January 21, 2020.
  - A succinct summary of the need for health care systems (a large producer of greenhouse gases) to reduce carbon emissions and to become more resilient. Offers examples of what some health systems have already done to accomplish these goals.
- Patiño A, Marsh R, Nilles E, Baugh C, Rouhani S, Kayden S. Facing the Shortage of IV Fluids — A Hospital-Based Oral Rehydration Strategy. *New England Journal of Medicine* 2018 Apr; 378:1475-1477. doi: 10.1056/NEJMp1801772. <https://www.nejm.org/doi/full/10.1056/NEJMp1801772>. Accessed January 21, 2020.
  - In response to an IV fluid shortage precipitated by Hurricane Maria, the Brigham and Women’s Hospital Department of Emergency Medicine developed an oral rehydration protocol for ED patients presenting with mild dehydration. This article offers an example of a creative response to a system-level supply shortage of what many consider a standard of care treatment.
- Francis D, Cohen G, Bhatt J, Brask C, Devnani M, Surgenor G. How Health Care Can Help Heal Communities and the Planet. *BMJ*. 2019 June; 365:l2398. doi:10.1136/bmj.l2398. <https://www.bmj.com/content/365/bmj.l2398>. Accessed January 21, 2020.
  - Health care contributes significantly to adverse environmental outcomes, ironically contributing to worsening health outcomes while working to improve

health. This article cites examples of where the health care sector has worked toward a new triple aim: “healthy people, living in equitable and resilient communities, on a sustainable planet.”

- Canadian Association of Physicians for the Environment (CAPE) (April 2019). Climate Change Toolkit for Health Professionals: Module 6: Fact Sheet: Taking Action on Climate Change at Health Facilities. <https://cape.ca/wp-content/uploads/2019/04/Module-6-Factsheet-FINAL.pdf>. Accessed March 8, 2020.
  - This fact sheet offers examples of initiatives, projects, policies and programs to help health care facilities become more sustainable and resilient in adapting to climate change. Funded by Canada’s Climate Action Fund, the entire Toolkit includes eight stand-alone but complementary modules and seven factsheets. The link to the whole toolkit is at the end of this fact sheet.

### **Micro: In Clinical Encounters- Shared Decision Making**

- Ziegler C, Morelli V, Fawibe O. Climate Change and Underserved Communities. *Primary Care*. 2017 Mar; 44(1):171-184. <https://www.sciencedirect.com/science/article/abs/pii/S0095454316300744?via%3Dihub>. Accessed January 21, 2020. *\*This link may require institutional access to Elsevier.*
  - Starting from the section titled “Adaptation Strategies” this article describes a model that Primary Care Physicians can use with patients to discuss climate change, its health impacts and strategies to counteract them.
- My Green Doctor Waiting Room Brochures. Retrieved from <https://www.mygreendoctor.org/resources/waiting-room-brochures/>. Accessed January 21, 2020.
  - This webpage offers a library of patient education handouts related to climate change, including staying safe in extreme heat, eating less red meat, active transport and avoiding mosquitoes. My Green Doctor intends to keep adding resources to the list. Because the website does not specifically commit to addressing health disparities, consider likelihood to improve or worsen health disparities before sharing them with patients.

### Words and Concepts Used in this Module that are Defined in the Guidebook -

- Climate
- Climate Action
- Climate Adaptation Strategies
- Climate Change
- Climate Justice
- Climate Mitigation
- Colonization
- Dispossession
- Health Disparities

- Health Equity
- Race
- Racism
- Risk Multiplier
- Vulnerable Populations
- Weather

## References

1. The Lancet Countdown on Health and Climate Change. 2009 May.  
[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(09\)60935-1/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)60935-1/fulltext).  
Accessed January 30, 2020
2. Maibach E, Kreslake J, Roser-Renouf C, Rosenthal S, Feinberg G, Leiserowitz A. Do Americans Understand That Global Warming Is Harmful to Human Health? Evidence From a National Survey. *Ann Glob Health*. 2015 May-June; 81(3):396-409. doi: 10.1016/j.aogh.2015.08.010.

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