VHEC 2022 SCCA at UVA Updates

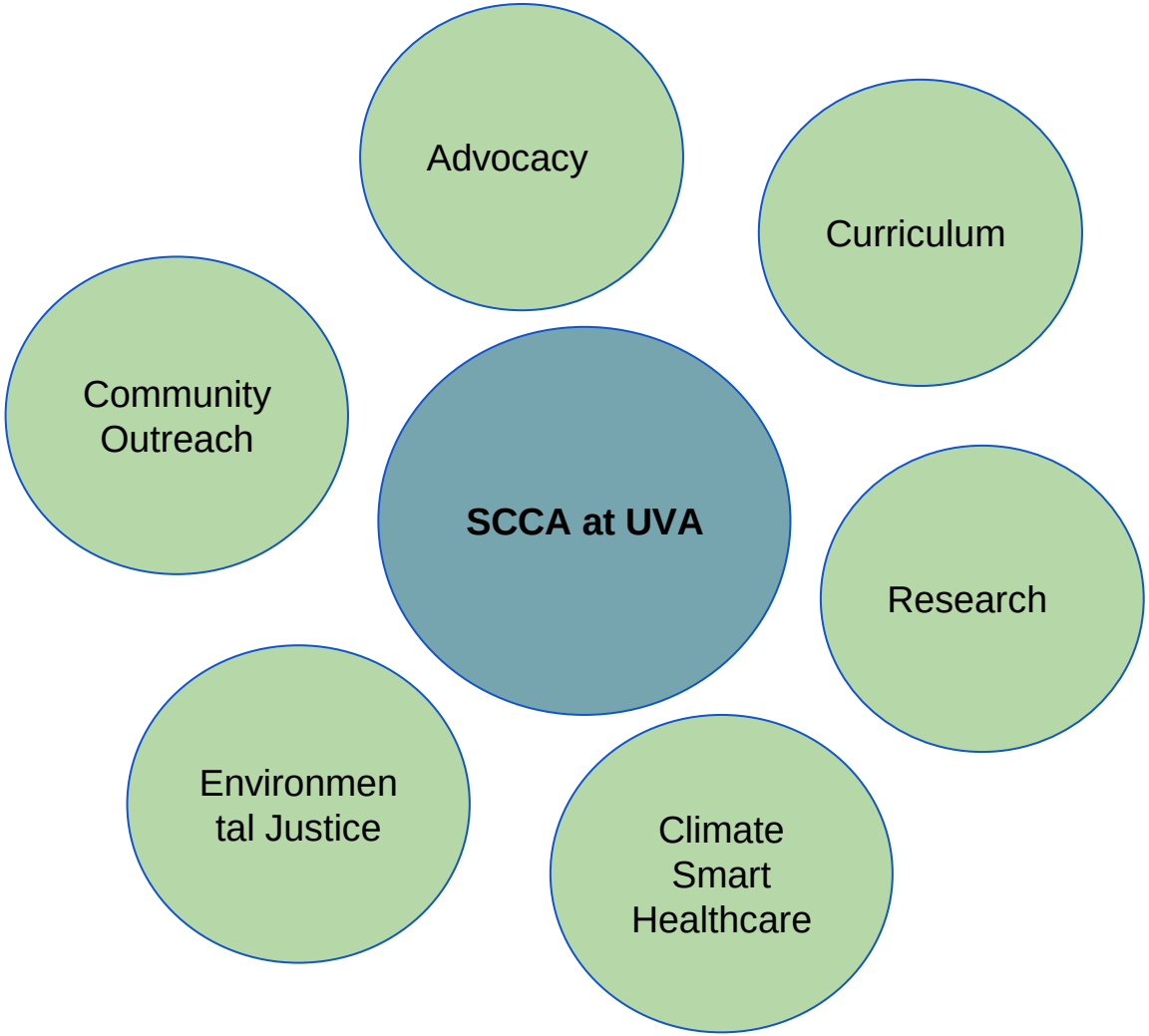
Lena Bichell, MS4

Who are we?

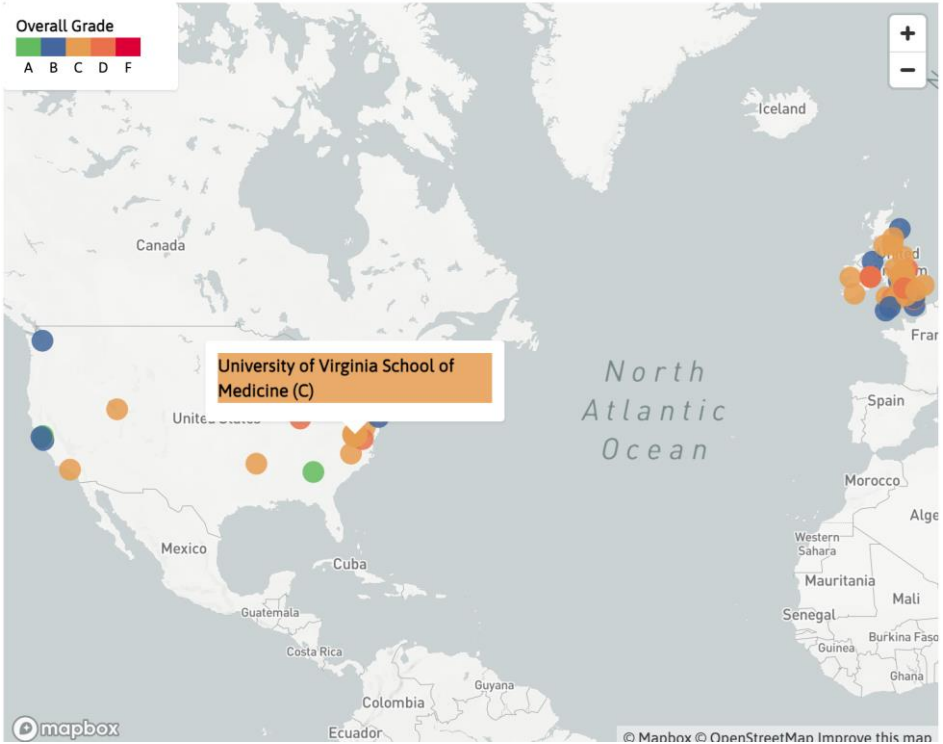
SCCA at UVA was founded in the Fall of 2020 when then-second-year medical student Lena Bichell worked on a climate-health summer project. Through this project, we recognized the dearth of climate representation in our curriculum and overall medical experiences and decided to do something about it. Concurrently, the recently founded, national network of MS4SF was recruiting new schools to join their network. Officially an MS4SF-affiliate, we have now recruited a listserv of over fifty medical, nursing, and other health students from across the University.

Our Mission Statement

SCCA at UVA is a group of health professional students who recognize the impact of the changing climate on human health and the inequitable distribution of the resulting health burden. As clinicians-in-training, we aim to **learn, educate, advocate, and practice medicine with planetary health in mind**. In doing so, we will better care for our future patients, communities, and selves.


Advocacy
Curriculum
Community Outreach
SCCA at UVA
Research
Environmental Justice
Climate Smart Healthcare

2021 UVA Planetary Health Report Card Results



PHRC

Planetary Health Report Card:

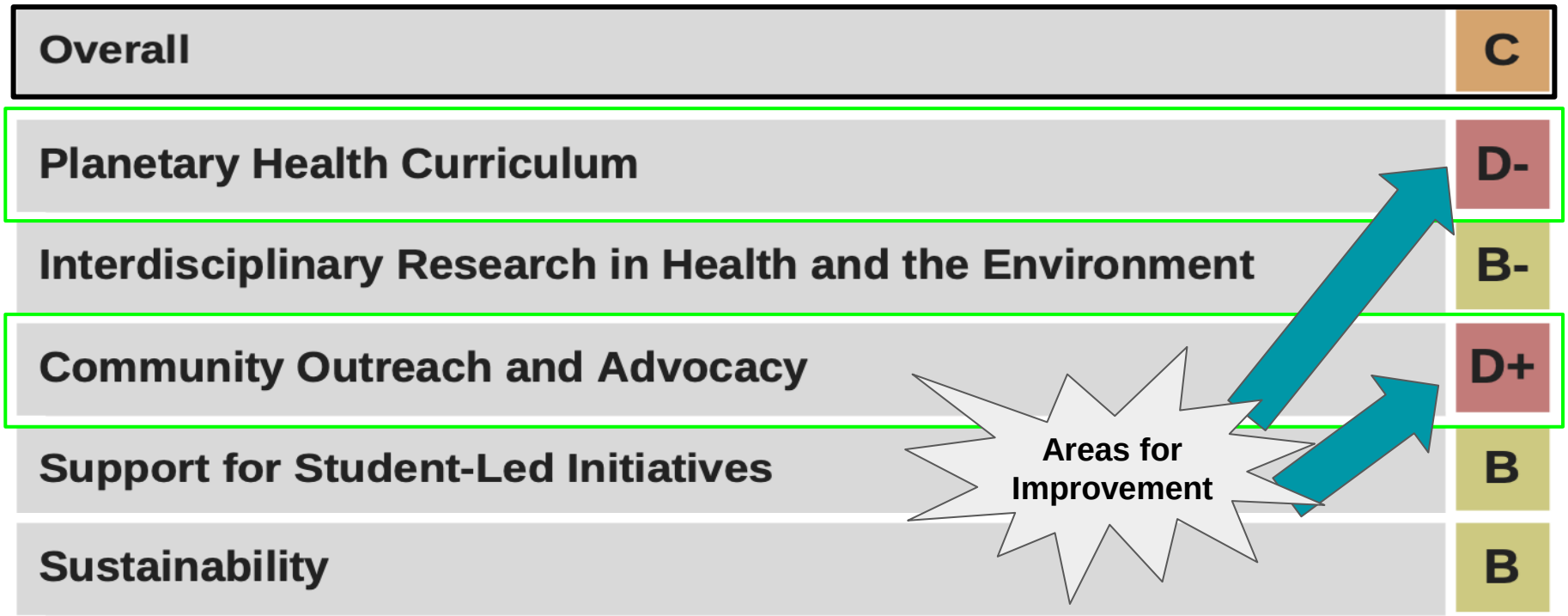
University of Virginia

School of Medicine

UNIVERSITY of VIRGINIA

SCHOOL OF MEDICINE

2021 UVA Report Card Results By Section



2021-2022 Education Updates

- Virtual meeting between SON students, SOM students, and original creators of PHRC
- Continued pledges from pre-clinical system leaders to include PH in systems
- 2021-2022 PHRC
- Required lecture for M3 class during B2C course
- 4th-year Elective - HUGE success
- Started developing Climate health LO's → now contributing to CRHE
- 2021 AAP Climate Change and Pediatric Health Equity Town Hall Hub
- 2021 PHRC - Kylie Fultineer and Venkat Kothandaraman won presentation award!

4th Year Elective

Identify Needs → Research & Collaborate → Engage → Plan & Present → Implement & Evaluate

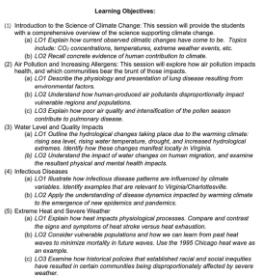
Student Interest

Faculty Sponsors

Institutional Support

Week 1

Monday *1. Introduction to the Science of Climate Change*	Tuesday *2. Air Pollution and Increasing Allergens*	Wednesday *3. Water Quality and Sea Level impacts*	Thursday *4. Infectious Diseases*	Friday *5. Extreme Heat and Severe Weather*
8:00 - 12:00: Preparatory readings and videos (1) 1:00 - 1:45: Small group discussions 2:00 - 3:00: Q&A on Climate Change with Environmental Sciences Professor (potentially Scott Donohue D. Donohue Helen J. Kingston Professor in Environmental Change) 3:15 - 4:00: Large group discussion	8:00 - 12:00: Preparatory readings and videos (2) 1:00 - 1:45: Small group discussions 2:00 - 3:00: Lecture or Q&A with Kyle Enfield, MD Potentially Neelu Tummala 3:15 - 4:00: Large group discussion	8:00 - 12:00: Preparatory readings and videos (3) 1:00 - 1:45: Small group discussions 2:00 - 3:00: Lecture or Q&A with Karen McGeehany (Director, ERI) or Virginia Institute of Marine Science with Kimberly Reese, PhD. - Chair of aquatic sciences 3:15 - 4:00: Large group discussion	8:00 - 12:00: Preparatory readings and videos (5) 1:00 - 1:45: Small group discussions 2:00 - 3:00: Lecture or Q&A with Rebecca Dillingham, MD 3:15 - 4:00: Large group discussions	8:00 - 12:00: Preparatory readings and videos (6) 12:00 - 1:00: Lecture or Q&A with Jeremy Hoffman, PhD (PhD, Chief Scientist, Science Museum of Virginia) 1:30 - 3:00: Mapping heat zones around Charlottesville 3:00 - 4:00: Large group discussion and comparison of Charlottesville temperatures



Learning Objectives:

(1) Introduction to the Science of Climate Change: This session will provide the students with a comprehensive overview of the science supporting climate change.
- (a) *LO1 Explain how current observed climatic changes have come to be. Topics include: CO_2 concentrations, temperatures, extreme weather events, etc.*
- (b) *LO2 Recall concrete evidence of human contribution to climate.*

(2) Air Pollution and Increasing Allergens: This session will explore how air pollution impacts health, and which communities bear the brunt of those impacts.
- (a) *LO1 Describe the physiology and presentation of lung disease resulting from environmental factors.*
- (b) *LO2 Understand how human-produced air pollutants disproportionally impact vulnerable regions and populations.*
- (c) *LO3 Explain how poor air quality and intensification of the pollen season contribute to pulmonary disease.*

(3) Water Level and Quality Impacts
- (a) *LO1 Outline the hydrological changes taking place due to the warming climate: rising sea level, rising water temperature, drought, and increased hydrological extremes. Identify how these changes manifest locally in Virginia.*
- (b) *LO2 Understand the impact of water changes on human migration, and examine the resultant physical and mental health impacts.*

(4) Infectious Diseases
- (a) *LO1 Illustrate how infectious disease patterns are influenced by climate variables. Identify examples that are relevant to Virginia/Charlottesville.*
- (b) *LO2 Apply the understanding of disease dynamics impacted by warming climate to the emergence of new epidemics and pandemics.*

(5) Extreme Heat and Severe Weather
- (a) *LO1 Explain how heat impacts physiological processes. Compare and contrast the signs and symptoms of heat stroke versus heat exhaustion.*
- (b) *LO2 Consider vulnerable populations and how we can learn from past heat waves to minimize mortality in future waves. Use the 1995 Chicago heat wave as an example.*
- (c) *LO3 Examine how historical policies that established racial and social inequities have resulted in certain communities being disproportionately affected by severe weather.*

Climate Health Learning Objectives (LO's)

Input

Dean of Curriculum

Curriculum Committee

Faculty Sponsors

System Leaders

Individual Lecturers

Students

Output

Learning objectives

Location in curriculum

Presentation slides

Presentation talking points

References and resources

Test questions

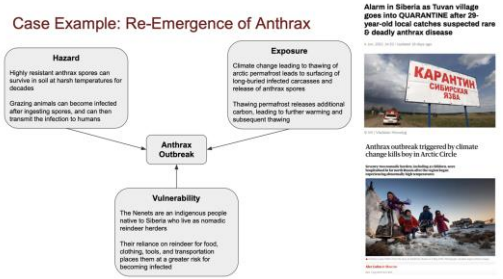
LO: Understand how zoonotic infectious disease risks are impacted by the changing climate and evaluate how marginalized populations can be disproportionately affected by these hazards. Specifically consider ebola virus, zoonotic malaria, rickettsiosis, lyme borreliosis, leptospirosis, and anthrax.

CLIMATE CHANGE AND COMMUNICABLE DISEASES

Ecosystem perspectives are needed to manage zoonotic risks in a changing climate

Better understanding of how environmental changes affect pathogens, hosts, and disease vectors can help prevent and respond to zoonoses, write **Rory Gibb and colleagues**

Rory Gibb,[1] Lydia H V Franklinos,[1,2] David W Redding,[1,3] Kate E Jones[1,3]



What’s coming?

- Earth Day reveal of 2021-2022 PHRC results
- KidVention community-facing event
- Continued hounding of curriculum leaders
- M4 elective offered again for class of 2023!

Acknowledgements

- UVA Student Clinicians for Climate Action
- Advisors
  - Homan H. Wai, MD, Inova Medical Group
  - Samantha Ahdoot, MD, Inova Health System
  - Kyle B. Enfield, MD, MS, University of Virginia
  - Rebecca Dillingham, MD, MPH, University of Virginia
  - Marcia Childress, PhD, UVA Center for Biomedical Ethics and Humanities
- UVA SOM Curriculum Committee
  - Megan Bray, MD, University of Virginia

References

1. Anderson, L.W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing, Abridged Edition. Boston, MA: Allyn and Bacon.
2. Gibb R., Franklinos L.H.V., Redding D.W., Jones K.E. (2020). Ecosystem perspectives are needed to manage zoonotic risks in a changing climate. *BMJ*, 371:m3389. doi:10.1136/bmj.m3389
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Thank you for your time!