

JULY 2020

PLANETARY HEALTH REPORT CARD



2019-2020 PILOT
U.S. & CANADIAN MEDICAL SCHOOLS

Prepared by:
Medical students and faculty from 12
U.S. & Canadian Medical Schools

With Support from:
Human Health & Climate Change Club at UCSF
Medical Students for a Sustainable Future
Planetary Health Alliance

phreportcard.org

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ABOUT THE INITIATIVE

The Planetary Health Alliance defines planetary health as “a field focused on characterizing the human health impacts of human-caused disruptions of Earth’s natural systems.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanization, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change “the greatest threat to global health in the 21st century,” many medical school’s institutional priorities do not reflect the urgency of this danger to human health.

As future health professionals, we must be prepared to address the impacts of human-caused environmental changes on our patients’ health. This preparation is in the hands of the institutions providing our medical training. It is imperative that we hold our institutions accountable for educating medical students about the health impacts of climate change and other anthropogenic environmental changes, generating research to better understand health impacts and solutions, supporting related student initiatives, embracing sustainable practices as much as possible, and engaging with surrounding communities that are most affected by environmental threats. Because it is well established that climate change and environmental threats disproportionately affect low-income communities and communities of color, these issues are inherently ones of equity and justice.

With the purpose of increasing planetary health awareness and accountability among medical schools, we have created a standardized and reproducible Planetary Health Report Card- a set of metrics that medical students nationally can use to grade and compare their home institutions. While this initiative is rooted in planetary health, there are also some metrics related to environmental health or sustainability. This medical-student-driven initiative aims to compare medical schools on the basis of discrete metrics in four main category areas: 1) planetary health curriculum, 2) interdisciplinary research in health and environment, 3) university support for student planetary health initiatives, and 4) community outreach centered on environmental health impacts.

GOALS

- Operate as a “needs assessment” tool to identify institutions’ planetary health strengths and opportunities for growth.
- Assemble synthesized institution-specific information on planetary health resources useful for faculty and students.
- Facilitate cross-institutional dialogue and sharing of planetary health resources.
- Track progress in implementing planetary health curriculum and resources.
- Advance the global planetary health movement in pursuit of a healthier and more equitable world.

SECTIONS OF THE REPORT CARD



Planetary Health Curriculum

This section evaluates the integration of relevant planetary health topics into the medical school curriculum.



Interdisciplinary Research in Health and Environment

This section evaluates the quality and quantity of interdisciplinary planetary health research at the medical school and broader institution.



Community Outreach and Advocacy

This section evaluates medical school engagement in community outreach and advocacy efforts associated with planetary health.



Support for Student-Led Planetary Health Initiatives

This section evaluates institutional support for student-led planetary health initiatives, such as funding, fellowships, programming, and student groups.

METRICS



PLANETARY HEALTH CURRICULUM

Today's medical students will be on the frontlines of tackling the health effects of climate change. Therefore, it is critical that medical students are trained to understand the health effects of climate change, as well as planetary health more broadly. Topics like the changing geography of vector-borne diseases, the health consequences of air pollution, environmental health inequities, and disaster response principles must be part of every medical school's core curriculum.

- 1.1** Did your medical school offer elective courses to engage students in planetary health in the last year?
- 1.2** Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?
- 1.3** Does your medical school curriculum address the environmental co-benefits of a plant-based diet in its nutrition lectures?
- 1.4** Does your medical school curriculum address the potential mental health effects of environmental degradation and climate change?
- 1.5** Does your medical school curriculum address the effects of industry-related environmental exposures (e.g., air pollution, pesticides) on pregnancy?
- 1.6** Does your medical school curriculum address endocrine disrupting chemicals and their effects?
- 1.7** Does your medical school curriculum address the relationships between individual patient food security, ecosystem health, and climate change?
- 1.8** Does your medical school curriculum address the effect of air pollution on respiratory and cardiovascular health?
- 1.9** Does your medical school curriculum address the relationship between heat-related illnesses and climate change?

For more detailed information on metric scoring, please visit our website at phreportcard.org.

METRICS

- 1.10** Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins and climate change on vulnerable populations such as those with low SES, women, minorities, Indigenous communities, and older adults?
- 1.11** Does your medical school curriculum identify ways to advocate for and implement sustainable best practices in health care? (for example, avoiding unnecessary operating room waste)
- 1.12** Does your medical school curriculum address important environmental threats that are relevant to the university's surrounding community? (for example, wildfires in California)
- 1.13** Does your institution have graduate or non-medical undergraduate level courses on planetary health open to medical student enrollment free of charge?
- 1.14** In training for patient encounters, does your medical school's curriculum introduce strategies to have conversations with patients about the health effects of climate change?
- 1.15** In training for patient encounters, does your institution's curriculum introduce strategies for taking an environmental history or exposure history?
- 1.16** Does your medical school have an ongoing program that offers incentives for faculty/departments to develop new planetary health courses and/or incorporate planetary health into existing courses?

For more detailed information on metric scoring, please visit our website at phreportcard.org.

METRICS



INTERDISCIPLINARY RESEARCH IN HEALTH AND ENVIRONMENT

Interactions between health and the environment are complex and multifactorial. While climate change has been extensively studied from an environmental science perspective, planetary health is an emerging field. As leading health institutions with talented researchers and research resources, medical schools should fund research studying the health effects of climate change and anthropogenic environmental toxins. This obligation is particularly strong because the public and policymakers are more attentive to climate change when its implications for human health are emphasized.

- 2.1 Does your institution have a planetary health website, or a website centralizing various campus resources related to health and the environment?
- 2.2 Has your institution hosted a conference related to planetary health in the past 3 years?
- 2.3 Are there researchers engaged in planetary health research at your institution?
- 2.4 Is there a dedicated department or institute for multidisciplinary environmental and planetary health research?
- 2.5 Is there active recruitment of researchers who focus on planetary health issues?
- 2.6 Is there quantitatively and qualitatively meaningful research that has been authored or co-authored by researchers from your institution on planetary health issues?
- 2.7 Has your institution joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?

For more detailed information on metric scoring, please visit our website at phreportcard.org.

METRICS



COMMUNITY OUTREACH AND ADVOCACY

Researching and teaching planetary health is necessary but not sufficient. It is critical that institutions also directly engage with communities most affected by environmental health harms. Although climate change is a problem largely created by those with power and resources, its impacts fall disproportionately on under-resourced populations and communities of color. Institutions should partner with local communities affected by climate change and pollution to share information about environmental health threats, advocate together for change, and provide opportunities for students to be a part of this work.

- 3.1 How often does your institution offer community-facing courses or events regarding planetary health and the environment?
- 3.2 Does your institution interface with community organizations to promote planetary and environmental health?
- 3.3 Does your institution have regular coverage of issues related to planetary health in its primary campus magazine?
- 3.4 Does the institution offer continuing medical education courses that address planetary health?
- 3.5 Does your institution provide opportunities for medical student engagement in developing community resilience to anthropogenic environmental impacts?
- 3.6 Does institutional marketing (posters, billboards, etc) address climate change or the relationship between health and the environment?
- 3.7 Does your medical center have accessible educational materials for patients about environmental health exposures?
- 3.8 Does your institution's endowment investment portfolio include fossil-fuel companies?

For more detailed information on metric scoring, please visit our website at phreportcard.org.

METRICS



SUPPORT FOR STUDENT-LED PLANETARY HEALTH INITIATIVES

Planetary health is a young field and, as young people facing a future deeply shaped by climate change, students are often some of the first at an institution to engage with it. Institutions should provide support for students to engage in sustainability quality improvement (QI) initiatives, discover mentors in their area of interest, and receive funding for planetary health projects.

- 4.1 Does your medical school offer a year-long fellowship for medical students to enact an initiative related to planetary health?
- 4.2 Does your medical school have a website where medical students can learn about applying for funding for planetary health initiatives?
- 4.3 Does your institution have a website where medical students can find the contact information of mentors for planetary health initiatives?
- 4.4 Does your medical school have funded, registered student groups dedicated towards fostering a culture of planetary health engagement and scholarship on campus, supported by faculty advisors?
- 4.5 In the past year, has the institution had one or more co-curricular planetary health programs or initiatives in the following categories?
 - Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
 - Conferences, speaker series, symposia or similar events related to planetary health that have students as the intended audience.
 - Cultural arts events, installations or performances related to planetary health that have students as the intended audience.
 - Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.

For more detailed information on metric scoring, please visit our website at phreportcard.org.



2019-2020 Pilot
U.S. & Canadian Medical Schools

Planetary Health Report Card

Overall
Curriculum
Research
Community Outreach & Advocacy
Support for Student-led Initiatives

	<i>Overall</i>	<i>Curriculum</i>	<i>Research</i>	<i>Community Outreach & Advocacy</i>	<i>Support for Student-led Initiatives</i>
UC Berkeley/UCSF Joint Medical Program	B	B-	A	B+	B-
Perelman SOM at the Univ. of Pennsylvania	B	B	B	B+	A-
University of California, San Francisco	B	B	B	B	B+
George Washington Univ. School of Medicine	B	C	A	B-	A-
Alpert Medical School at Brown University	B-	B+	A-	D+	B-
John A. Burns SOM at the Univ. of Hawaii	B-	D	A	B	B
Harvard Medical School	B-	C	A+	D+	B-
Georgetown University School of Medicine	C+	C	C	C	A-
Tufts University School of Medicine	C	C	A-	F	A-
University of Arkansas for Medical Sciences	C	C-	B-	C	C
University of Minnesota Medical School	C	D-	B-	D-	A-
McGill University Faculty of Medicine	C-	D	B-	D	C

80-100% = A, 60-79% = B, 40-59% = C, 20-39% = D, 0-19% = F
Scores within top or bottom 5% awarded + or -, respectively

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2019-2020 Pilot

U.S. & Canadian Medical Schools

UC Berkeley/UCSF Joint Medical Program

Overall

B

- While the Joint Medical Program's Problem-Based Learning curriculum touches on many planetary health topics, it should modify its curriculum to more comprehensively cover these topics and provide students with more advice about how to dive into these areas.
- Joint Medical Program students should be provided more guidance about the many opportunities available at UC Berkeley to engage in existing planetary health research, community work, and advocacy as well as start their own initiatives.

Planetary Health Curriculum

B-

- Many elective courses offered at UC Berkeley address planetary health from a variety of perspectives; the Joint Medical Program should compile a list of these courses to be shared with medical students.
- Some existing Problem-Based Learning cases include planetary health topics, and there are opportunities to integrate topics that are not currently covered in other cases more evenly throughout the 2.5 preclinical years.

Interdisciplinary Research in Health and the Environment

A

- Many researchers at UC Berkeley are leaders in conducting interdisciplinary research in the field of planetary health.
- UC Berkeley should promote more collaboration among research faculty in different departments and at other universities.

Community Outreach and Advocacy

B+

- The UC Berkeley School of Public Health is engaged in community outreach and advocacy related to planetary health, but the school should provide more opportunities for student involvement and community education.

Support for Student-led Initiatives

B-

- UC Berkeley, and the School of Public Health in particular, can improve publicity of existing fellowships and funding related to planetary health that are available for medical students.

Expanded score explanations can be found at phreportcard.org.



Perelman School of Medicine at UPenn

Overall

B

- Penn's recent launch of the Environmental Innovations Initiative (EII) demonstrates increased dedication to planetary health (PH), while long-term environmental health work continues at the Center of Excellence in Environmental Toxicology (CEET).
- Creating an institute for PH and a centralized resources database would support all student and faculty PH efforts at Perelman and show a commitment to recruiting faculty in the field with expertise to strengthen the PH curriculum.

Planetary Health Curriculum

B

- PH connections exist throughout medical education, and tuition covers up to three courses at Penn's other schools. The administration also elected to increase the PH content for the 2020-2021 curriculum.
- PH connections in the curriculum should be made more explicit, with more dedicated time. The medical school should identify PH (including climate change) as a priority theme and include that material in learning objectives and test questions, in addition to filling in content gaps.

Interdisciplinary Research in Health and the Environment

B

- Penn lacks an institute for multidisciplinary PH research that emphasizes the impacts of anthropogenic environmental changes on health. The medical school may draw from existing centers such as the Department of Occupational and Environmental Medicine, CEET, the Center for Public Health Initiatives, and the "One Health" program at the veterinary school.
- This year the university introduced the EII, which will target faculty recruitment in line with climate change, environmental justice, and sustainability. The medical school should commit to involvement in the EII and recruitment of PH researchers.

Community Outreach & Advocacy in Environment and Health

B+

- Penn runs several community-focused environmental justice programs that welcome medical student involvement. The student Healthcare Sustainability Group works to expand those opportunities and strengthen connections across the university.
- There is poor awareness of environmental advocacy programming amongst the students and faculty. Perelman should develop a website housing all PH community programs, courses, research, funding opportunities, and events. This information should be regularly publicized via a sustainability newsletter and highlighted in the primary campus magazine.

University Support for Student-led Planetary Health Initiatives

A-

- Overall, the administration is supportive of student-led PH initiatives, offering their time, funding, and enthusiasm for student work.
- The administration could further support student-led initiatives by facilitating connections between research mentors and students, creating grant opportunities, and developing a student fellowship program designated for PH.



2019-2020 Pilot

U.S. & Canadian Medical Schools

University of California San Francisco SOM

Overall

B

- **Strengths:** UCSF has strong elective offerings and a small but growing community of passionate faculty researchers and students involved in planetary health studies. The school is supportive, both ideologically and financially, through fellowships, publications, divestment and marketing campaigns, and various internal and public-facing events.
- **Areas for Growth:** UCSF SOM needs to integrate planetary health topics into its core curriculum. The school should develop a funded interdisciplinary institute which can support students and faculty active in planetary health and environmental justice.

Planetary Health Curriculum

B

- The bulk of the planetary health curriculum at UCSF comes from four electives. Many important planetary health topics, particularly those not housed in the occupational and environmental health field, are otherwise not addressed.
- The main medical school curriculum does not identify ways to advocate for and implement sustainable best practices in health care. No education is offered to medical students around area-specific environmental threats nor on how to talk to patients about climate change.

Interdisciplinary Research in Health and the Environment

B

- There is currently no dedicated department or institute for multidisciplinary environmental or planetary health research, although one is in development. Strong programs exist in reproductive health and the environment and occupational health, as do a small collective of passionate individual researchers studying planetary health topics.

Community Outreach and Advocacy

B

- The University of California announced in May 2020 that it has divested from all fossil fuels.
- Departments at UCSF have produced patient-facing materials around the health implications of toxins, food, and pesticides, and an ad campaign was developed around the impacts of climate change on health.
- UCSF does not require or provide opportunities for student engagement in community resilience projects around environmental issues.

Support for Student-led Planetary Health Initiatives

B+

- The University of California offers two year-long funded fellowships called the Carbon Neutrality Initiative and the Global Food Initiative. These grants and a university-funded student group are all discoverable on the UCSF Office of Sustainability's website, however there is no physical or virtual hub for planetary health research or associated faculty mentors at UCSF.
- The university supported three student-led educational events over the previous year.



George Washington University SOM

Overall

B

- The George Washington University has made considerable efforts to improve its sustainability footprint in recent years, especially as the (largely undergraduate) student led movement for divestment has gained traction among university officials.
- Cross-institute research in planetary health is receiving increased support with the newly formed Climate and Health Research Network, which should help surpass administrative barriers to multidisciplinary research within the university.
- The GW SMHS already has a strong focus on clinical public health, so we believe further integration of planetary health into the medical curriculum will be supported.

Planetary Health Curriculum

C

- Most planetary health topics are covered in a session explicitly dedicated to Climate Change and Health in the PPS3 course. We suggest identifying relevant points in the organ block curricula where these topics can be weaved in to existing didactic materials.
- GW SMHS holds special “summits” as part of the core curriculum dedicated to in-depth problem solving for selected topics in public health, some of which are selected for further consideration by public health officials or advance in entrepreneurship competitions. A Climate Health Summit could provide a rich educational experience in illustrating the connections between the environment and human health while using student-led innovations to make progress towards improving planetary health.

Interdisciplinary Research in Health and the Environment

A

- GW SMHS could promote the activities of the Climate and Health Research Network (CHRN) to medical students, and support its efforts to foster increased cross-institutional collaboration in planetary health research.
- The GW Sustainability office could promote researchers involved in planetary health research by updating its publicly available database of sustainability researchers to include their research topics and/or links to their personal faculty webpages.

Community Outreach and Advocacy

B-

- The Climate Health Interest Group at GW SMHS should consider organizing community and advocacy events relating to planetary health.
- Patient education materials specific to environmental exposures should be available in all GW medical facilities in order to promote patient awareness and safety.

Support for Student-led Initiatives

A-

- Opportunities for student-led research in planetary health could be further supported by the university by offering scholarships dedicated to advancing research in fields relating to planetary health.
- The GW SMHS could also consider reintroducing the Environmental Health scholarly concentration as a way of supporting student interest and initiatives relating to planetary health.



Alpert Medical School at Brown University

Overall

B-

- **Strengths:** The curriculum at AMS includes a number of topics about planetary health and its intersection with human health, and the administration is responsive and motivated in seeking to fill the curricular gaps that exist. Additionally, Brown has a strong commitment to interdisciplinary research seeking to understand the intersection between environmental systems and human health.
- **Areas for Growth:** AMS must improve its commitment to the community by creating opportunities for and partnerships with community organizations focused on planetary health, like Sunrise RI. There should also be explicit funding for medical student research on planetary health and a planetary health fellowship opportunity.

Planetary Health Curriculum

B+

- The AMS curriculum is strong in the breadth of planetary health topics covered, including the health impacts of a changing climate on infectious diseases, respiratory health, mental health and food insecurity.
- There are gaps in training as related to preparation for discussing climate change in patient encounters and there should be an increased focus on the environmental social determinants of health particularly as we focus on improving curriculum about structural racism.

Interdisciplinary Research in Health and the Environment

A-

- The Institute at Brown for Environment and Society (IBES) conducts interdisciplinary research that promotes understanding of the interactions between natural, human and social systems, including a body of research about Brown Superfund sites, which are contaminated sites in Rhode Island, and their impact on human health.
- There should be advertised opportunities for medical students to be involved in environmental research and research more focused on sustainability and planetary health topics. This goal could potentially be achieved through the BioMed department, an interdisciplinary collaboration between the Biology Department and the medical school that already conducts research related to environment, epigenetics and health.

Community Outreach and Advocacy

D+

- To our knowledge, AMS does not offer any community events, does not partner with any community organizations related to planetary health, and does not offer medical students strategies for creating community resilience in the face of climate change.
- Brown University has divested from 90% of its fossil fuel investments. There are ongoing efforts calling for Brown to permanently and completely divest from fossil fuels.

Support for Student-led Initiatives

B-

- There is a funded AMS Eco student interest group, outdoor groups and trips, and opportunities to be involved in promoting green spaces and agriculture in the community.
- Medical students do not have access to a planetary health fellowship opportunity, nor opportunities for funding for planetary health research work.



2019-2020 Pilot
U.S. & Canadian Medical Schools

John A. Burns SOM at the University of Hawaii

Overall

B-

- The John A. Burns School of Medicine (JABSOM) does an exceptional job teaching students about Native Hawaiian and contemporary Hawaiian culture which extends into concepts concerning environmental awareness and community outreach.
- While pre-clerkship students are invited to explore topics from many angles, our program can improve by providing more guidance in the areas of planetary health during problem-based learning sessions.

Planetary Health Curriculum

D

- Adopting aspects of planetary health curriculum is the area in which JABSOM can improve the most.
- Much of JABSOM's planetary health education comes from an elective course. There is a lot of room for the incorporation of planetary health initiatives within the core curriculum and other electives courses.

Interdisciplinary Research in Health and the Environment

A

- The University of Hawaii excels in interdisciplinary research, including many researchers at JABSOM as they collaborate with faculty at the main campus as well as conduct research of their own.
- JABSOM may find it beneficial to make connections between researchers and students more streamlined by incorporating projects from labs (at the main campus or at JABSOM) into various community health elective curriculums.

Community Outreach and Advocacy

B

- The University of Hawaii and JABSOM excel in community outreach having hosted many events that promote sustainability or environmental awareness.
- In particular, JABSOM could improve its environmental advocacy by incorporating aspects of anthropogenic environmental impacts on vulnerable populations within our community in student-led programs like the Homeless Outreach Medical Education (H.O.M.E.) Project.

Support for Student-led Initiatives

B

- JABSOM is extremely supportive of student-led initiatives of any nature and an environmental health interest group is in the process of being created.
- There are many physicians who practice in Hawaii with unique perspectives and valuable ideas regarding sustainability in the medical field and students may find it valuable to be connected with them or to receive lectures from them.



Harvard Medical School

Overall

B-

- HMS has outstanding faculty, dedicated institutions, and students passionate about planetary health and sustainable healthcare. Opportunities for improvement include increasing parity of environmental health-related education across medical curricula, supporting continuing education and visibility of environmental health, and centralizing information to make existing resources accessible to students.

Planetary Health Curriculum

C

- Planetary health in Pathways was covered briefly in three lectures. In HST, only a single lecture was dedicated to climate change and infectious diseases.
- Moving a lecture on planetary health earlier could ensure this information reaches students in both curricula, while more robust coverage is developed.
- Development of an accessible elective course in this area would allow interested students to delve into this subject more fully.

Interdisciplinary Research in Health and the Environment

A+

- Multiple research centers at the Harvard T.H. Chan School of Public Health and HMS focus on the health impacts of climate change and pollution.
- Harvard was a founding member of the Planetary Health Alliance and frequently hosts expert symposia on health and environment.
- A website hosting a comprehensive accounting of research opportunities related to health and the environment could improve access to these resources.

Community Outreach and Advocacy

D+

- There is a marked lack of visibility of environment and health initiatives on campus, given the strength of Harvard research in health and the environment. Longwood Medical Area planetary health scholars coordinate many public education programs, but HMS has no CME courses offered in planetary health. While Harvard faculty and students have called for divestment from fossil fuels, the Harvard Corporation has not yet acted on this opportunity to show moral leadership.

Support for Student-led Initiatives

B-

- HMS hosts robust student organizations devoted to educating their peers about topics in planetary health, advocating for curricular reform, organizing symposia of environmental health experts, and coordinating new sustainability initiatives with faculty and staff. The Countway Library Garden and FEAT outdoor trips for incoming first-years enable student engagement with the natural world during their time at HMS. HMS provides no dedicated planetary health funding sources, fellowships, or centralized website for finding faculty research mentors, which require greater institutional investment.



2019-2020 Pilot
U.S. & Canadian Medical Schools

Georgetown University SOM

Overall

C+

- The medical school provides a good introduction to climate change within its curriculum. Additionally, the university's Georgetown Environment Initiative (GEI) and Office of Sustainability are highly engaged in sustainability efforts.
- The medical school should expand its research on planetary health and financially support these opportunities. The institution's location in the nation's capital also places it in a unique position to encourage student advocacy for sustainable action.

Planetary Health Curriculum

C

- GUSOM covers multiple topics in its core curriculum and uses innovative models to teach valuable clinical skills like climate change communication. Furthermore, the administration is actively working with students to deeply integrate climate change content.
- The medical school can expand its elective coursework on planetary health and work to teach additional clinical application such as environmental history taking strategies.

Interdisciplinary Research in Health and the Environment

C

- The university has hosted a diverse series of conferences in the last few years.
- The medical school should partner with MedStar as well as other Georgetown programs to build upon the momentum of the "People, Patients, Planet" hospital initiative and grow research opportunities on planetary health.

Community Outreach and Advocacy

C

- The university shares a detailed description of how it will divest in fossil fuels over the coming years, illustrating positive leadership and continued direction for the future.
- Compared to the university (including the undergraduate campus and the law school), the medical school has fewer relationships with community partners regarding planetary health. However, given its commitment to service-learning and advocacy, GUSOM has strong potential to work with the D.C. community on environmentalism and health justice.

Support for Student-led Initiatives

A-

- The university's support of planetary health includes guided seminars, conferences, discussions, and speaker series by faculty and outside experts; there are also several student-run organizations and outdoors clubs that focus on sustainability and planetary health on campus.
- GUSOM has yet to formalize aspects of the curriculum related to planetary health. There is not any explicit practicum/fellowship for medical students nor is there a website that displays ways to find funding for any planetary health initiatives.



2019-2020 Pilot

U.S. & Canadian Medical Schools

Tufts University School of Medicine

Overall

C

- **Strengths:** The Tufts Institute of the Environment is an interdisciplinary hub that funds researchers, hosts an annual Energy conference, and offers an Environmental Research fellowship available to medical students.
- **Areas for Growth:** Tufts University School of Medicine should expand and solidify coverage of planetary health topics in its core curriculum. Also, as a medical school situated in the most polluted neighborhood in Boston, the institution should improve community engagement in the area of planetary health, for example by offering more community-facing resources and messaging surrounding planetary health.

Planetary Health Curriculum

C

- The curriculum covers some important planetary health topics, such as the health effects of air pollution, the increased spread of infectious diseases, and local environmental issues--but many other topics are not addressed.
- Notably, climate-change-related material that was newly incorporated into the curriculum this year is set to become part of a graded course next year, which will increase planetary health content in the curriculum.

Interdisciplinary Research in Health and the Environment

A-

- The Tufts Institute of the Environment acts as an interdisciplinary hub for faculty conducting meaningful environmental research. Tufts also hosts an annual Energy Conference that is accessible to all students.
- Tufts has not divested from fossil fuels, but is revisiting investment in response to student activism.

Community Outreach and Advocacy

F

- To our knowledge, Tufts University School of Medicine does not offer any community-facing courses or events focused on planetary health, nor does it have planetary health related coverage in campus magazines, marketing, or CME courses.

Support for Student-led Initiatives

A-

- Through the Tufts Institute of the Environment, medical students have access to a fellowship opportunity, funding, and a list of potential faculty mentors for research and projects. Other available resources include a recently-established Medical Students for a Sustainable Future student group, some planetary health speaker events, and an outdoor group.



2019-2020 Pilot

U.S. & Canadian Medical Schools

Univ. of Arkansas for Medical Sciences

Overall

C

- Entities including Sustainable UAMS, Get Healthy UAMS, and the Environmental and Occupational Health (EOH) department in the College of Public Health have helped spearhead efforts to address planetary health (PH) issues.
- Though understanding how the environment shapes human health is integral to the curriculum and EOH research efforts, UAMS lacks specific opportunities to learn more about PH topics.
- Creation of a website dedicated solely to PH research, initiatives, and educational resources would help centralize advocacy efforts at UAMS and serve as an initial step towards enhancing its support for PH issues.

Planetary Health Curriculum

C-

- PH issues are addressed in several preclinical courses at UAMS.
- Discussions on how climate change directly impacts human health, with emphasis on how PH issues threaten our immediate environment and patient population in Arkansas, should be integrated into the core curriculum and/or elective coursework.

Interdisciplinary Research in Health and the Environment

B-

- PH research is conducted by individual faculty members and through the EOH department, however it is lacking in overall quantity.
- UAMS should strongly consider recruiting researchers who investigate PH topics as well as furthering collaborations with other institutions.
- Existing opportunities for faculty and students to engage in PH research could also be better highlighted through the creation of a PH-specific website.

Community Outreach and Advocacy

C

- Interfacing with organizations, such as Science Café Little Rock, has promoted education for the community on PH and environmental health (EH) issues.
- UAMS should increase coverage of PH issues in its monthly journal and provide easily accessible educational resources for patients on EH exposures.

Support for Student-led Initiatives

C

- Medical students can engage in PH initiatives through participation in the Climate and Health Interest Group, wilderness/outdoors clubs, and community gardens.
- UAMS does not offer fellowship opportunities to medical students, nor does it have a PH-specific website where students can find information about funding for PH initiatives or research mentors.



2019-2020 Pilot

U.S. & Canadian Medical Schools

Univ. of Minnesota Medical School

Overall

C

- As a whole, there is a strong and growing commitment to environmentalism at UMN, especially in research and development. However, this trend has only recently been reflected within the medical school. The curriculum is greatly lacking in planetary health content and there are no community-oriented environmental health initiatives.
- The medical student council's 2019 environmental call to action, the formation of an environmental health curriculum task force, and historical commitments from the medical school administration are several signs that significant progress will be made over the coming years.

Planetary Health Curriculum

D-

- Most planetary health content currently included in the curriculum is found in elective coursework, not in required courses or seminars.
- Planetary health content should be incorporated into existing lectures, lectures dedicated to planetary health should be added, and elective offerings should be developed that exclusively focus on planetary health, rather than peripherally.

Interdisciplinary Research in Health and the Environment

B-

- The Institute on the Environment (IonE) is a national leader in multidisciplinary environmental research.
- Future grants should promote collaboration between the medical school and IonE.

Community Outreach and Advocacy

D-

- Formal opportunities for medical student engagement in community-oriented environmental health initiatives should be developed.
- Future research should focus on the surrounding communities to identify environmental harms and build resilience to environmental impacts.

Support for Student-led Initiatives

A-

- Key examples of institutional support include faculty mentors (Climate Champions), funding for the multidisciplinary group Health Students for a Healthy Climate, and newly announced Climate Change Grants.
- Further support is needed for developing and carrying out curricular initiatives.



2019-2020 Pilot

U.S. & Canadian Medical Schools

McGill University Faculty of Medicine

Overall

C-

- **Strengths:** McGill University offers some resources for engagement with environmental health, planetary health, and sustainability, including the Sustainability Projects fund, Sustainability Research Symposium, and the Environmental Health and Epidemiology Research Group.
- **Areas for Growth:** McGill's undergraduate medical curriculum has almost no mention of the health impacts of climate change, with currently only one lecture offered during the 4-year degree focused on climate change and health. There are also few community partnerships or patient-facing resources.

Planetary Health Curriculum

D

- The medical curriculum does not cover most planetary health topics, including changing patterns of infectious disease, heat-related illness, or environmental exposures in pregnancy.
- There is brief mention of air pollution and the mental health impacts of climate change on Indigenous youth in the core curriculum. There is also a Public Health and Preventative Medicine elective that allows for planetary health content if a student shows interest in the topic. A student-led, optional Interprofessional Global Health Course is offered yearly.

Interdisciplinary Research in Health and the Environment

B-

- McGill has a sustainability website and a research group dedicated to environmental health and epidemiology. Several McGill-affiliated medical professionals created a toolkit series on climate change for health professionals.
- However, while McGill has robust research on environmental health, there is little ongoing research on climate change and health, nor an institute to facilitate that research.

Community Outreach and Advocacy

D

- There is little community-facing education or resources at McGill that address planetary health. This includes a lack of patient educational materials on environmental health exposures, a lack of opportunities for student engagement in developing community resilience to environmental impacts, and no partnerships with community organizations in that area.
- Notably, in December 2019, the Board of Governors decided against divestment from fossil fuels.

Support for Student-led Initiatives

C

- McGill offers funding for student initiatives through the Sustainability Projects fund, hosts a Sustainability Research Symposium, and offers opportunities for urban agriculture initiatives.
- However, there are currently no registered student groups dedicated to fostering a culture of planetary health engagement and scholarship.

RECOMMENDATIONS

Based on the information compiled in these school-specific planetary health report cards, we present the following 12 recommendations:

1. Utilize Existing Resources

Appreciate the work that has already been done in advancing planetary health across the world and draw upon resources from other institutions and organizations when developing learning objectives or generating new resources. *(Hopefully, examples highlighted throughout these recommendations will help. For more resources, please see our [website](#).)*

2. Learning Objectives

Formalize curricular content on planetary health and environmental health by working with students to develop testable learning objectives.

3. Curricular Thread

Recognizing that the medical school curriculum is already packed with information, planetary health is relevant to every organ system, and spaced repetition is more effective for learning, incentivize faculty members to integrate planetary health and environmental health content in existing lectures, small groups, and projects whenever possible.

Examples

At least four of the UC Berkeley-UCSF Joint Medical Program problem based learning cases integrate planetary health themes, including the effect of climate change on infectious disease, mental health, and heat-related illness, and the health effects of air pollution.

4. Clinical Content

[Research](#) shows that community members rely on their primary care physician for information on climate change. However, most medical students feel unprepared to answer patient questions on climate change. Therefore, medical schools should include clinical curriculum on taking an environmental history and communicating information on planetary health to patients.

Examples

At Georgetown University SOM, there is an “Environmental Health and Climate Change Workshop” where climate change communication specialists present strategies for talking about climate change with patients, followed immediately by a role-play exercise. At UMN, there is a required clinical lecture on discussing climate change and environmental issues with patients.

RECOMMENDATIONS

5. Electives

In addition to the core curricular content on planetary health and environmental health required for all students, provide opportunities for deeper exploration for interested students, such as electives and optional reading.

Examples

UCSF School of Medicine offers three student-organized electives related to planetary health: 1. Earth Health, 2. Women's Health, Environment, and Health Professional Activism, and 3. Rethinking Farm-Food-Health-Climate Connections. A course on climate change is also one of the options for a required two-week deep-dive "[Inquiry Immersion](#)" for medical and pharmacy students. Brown has a student-organized elective called Climate Change and Health. Harvard has an elective course called [Human Health and Environmental Change](#).

6. Equity Focus

Ensure that planetary health and environmental health curricular content and auxiliary opportunities highlight the disproportionate impact of all health effects on vulnerable populations, such as communities of color, low-income communities, Indigenous populations, and older adults.

Examples

George Washington University offers an [Eco-Equity Challenge](#) Program, where students are given funding and mentorship to develop a project with a community partner that centers environmental and social justice issues. Brown's lecture on Climate Change and Health has a section entitled Climate Change and Social Injustice.

7. Support Students

Create funded opportunities for students to engage with planetary health, environmental health, and sustainability, such as sustainability grants, research fellowships, student groups, and community-based projects. Support student advocacy efforts and take action in response to student input.

Examples

UMN SOM recently announced \$100,000 of funding for student [Climate Change Grants](#). Many schools also have grants for student sustainability projects, such as the UC system's Carbon Neutrality Initiative Student Fellowship Program, Penn's [Green Fund Grant](#), and McGill's [Sustainability Projects Fund](#). Tufts offers students a year-long funded [Environmental Research Fellowship](#).

RECOMMENDATIONS

8. Mentorship

Facilitate accessible mentorship of students with an interest in planetary health.

Examples

The Perelman School of Medicine Center of Excellence in Environmental Toxicity's website offers an [extensive list of faculty members](#) (and their contact information) whose research relates to environmental impacts on health outcomes. The George Washington University Office of Sustainability has a very [large faculty directory](#) that spans all schools.

9. Multidisciplinary Center

While many institutions have established departments of environmental health that study environmental toxins, institutions should also create multidisciplinary centers that focus on climate change or planetary health more broadly.

Examples

Harvard created the [Center for Climate, Health, and the Global Environment](#) (C-CHANGE). Tufts has an interdisciplinary [Institute of the Environment](#). University of Hawaii has the [Institute for Sustainability and Resilience](#).

10. Community Engagement

Partner with community organizations, develop community-facing courses on planetary health, and include planetary health in patient educational materials and marketing.

Examples

At UCSF, two faculty members developed a public-facing [online lecture series](#) on Climate Change and Health and C-CHANGE at Harvard hosts nearly [monthly seminars and workshops](#) open to the broader community. The [Program in Environmental Civic Engagement](#) at Brown has several projects related to catalyzing climate resilience engagement and also partnered with RI Public Radio to produce an environmental community-facing podcast called *Possibly*.

RECOMMENDATIONS

11. Research

Encourage interdisciplinary research on planetary health and environmental health topics by facilitating research networks, awarding funding, hosting conferences, and recruiting researchers actively exploring these subjects.

Examples

UC Berkeley has the [Environmental Change Research Network](#), a hub for interdisciplinary research to address climate change. Penn recently announced the creation of the [Environmental Innovations Initiative](#), which will recruit faculty members and facilitate interdisciplinary research in climate change, sustainability, and environmental equity. George Washington also recently announced the creation of a Cross-Disciplinary Research Fund called the Climate and Health Research Network. UMN has [The Institute on the Environment](#), a multidisciplinary research center.

12. Sustainability

Divest from fossil fuels, create an environmentally sustainable learning and working environment, and teach students about the environmental impact of the healthcare system and best practices for reducing waste.

Examples

Beginning next year, all medical students in the Perelman School of Medicine will receive a training module on proper PPE usage, including a discussion on the negative impacts of disposable medical waste. Brown's Climate Change and Health elective offers a tour of RI's landfill and recycling center for firsthand understanding of waste management. University of Hawaii voted to divest from fossil fuels for all campuses in 2015 and is one of the few schools recognized as a fully divested educational institution.

LIMITATIONS & FUTURE DIRECTIONS

This year's Planetary Health Report Card was a pilot to assess the feasibility and efficacy of this initiative. We received an outpouring of positive feedback and are heartened by the institutional changes made as an indirect or direct result of this year's effort. Therefore, we plan to make this an annual undertaking, with medical schools creating school-specific report cards each year in order to track progress over time. Despite our extensive efforts to hone this initiative's metrics, process, and impact, we recognize that there are some limitations. Please read below for a description of limitations and how we plan to address them in future iterations of this report card.

METRICS

While we consulted with many students and faculty experts to generate this year's metrics, we recognize that they are not perfect. For example, students struggled with the distinction between resources and curriculum related to planetary health vs. environmental health vs. sustainability and there was sometimes uncertainty regarding whether a certain resource should meet a requirement. In addition, while we include some metrics on the disproportionate impacts of environmental issues on low-income communities and communities of color, we can increase the number of metrics related to those important themes. Our goals for refining our metrics for next year are to:

- More explicitly define and distinguish metrics related to planetary health vs. environmental health vs. sustainability.
- Be more specific as to what constitutes meeting the metric requirements (for instance, by providing a description and examples for each metric).
- Include more metrics related to inequity and environmental justice and add a curriculum metric related to the impact of climate change on Indigenous populations.

POINT VALUES

Individual points in this report card are not equal in impact. Some metrics, if met, would make a huge difference (for example, divestment from fossil fuels), while other metrics are more nuanced. Yet, metrics are awarded approximately the same amount of points in the current version of this report card. In addition, it is relatively easy to achieve full points on a metric, and the report card does not give additional points to schools that go above and beyond in a certain topic area. Our goals for increasing precision of future report card scores are to:

- Assign metrics different weights according to impact.
 - Increase the number of point tiers within report card metrics (for example, in curriculum metrics, including different tiers for having a topic covered in a full lecture vs. lecture slide vs. reading only).
 - Provide a designated space in the report card for students to write about resources that are not addressed anywhere else in the qualitative metric explanations.
-

SUSTAINABILITY

For the most part, this iteration of the report card does not include sustainability. We recognize that the healthcare industry is a [massive emitter of greenhouse gases](#) and educational institutions contribute substantially to environmental degradation. This year, we chose not to include sustainability because we felt that other resources, such as the [STARS report](#), [Practice Greenhealth](#), and [My Green Doctor](#), had already developed rigorous metrics for evaluating campus and health system sustainability. However, given the importance of sustainability, as we build capacity and connect with sustainability experts, we are planning on adding a section of sustainability-oriented metrics.

EXPANDED REACH

This initiative has grown substantially since its inception. In order to effectively expand this effort while ensuring sustainable leadership, we are forming alliances with similarly-minded organizations and envisioning future collaborations to increase our impact. While this year's report card includes 12 schools, we are in communication with many more schools around the world regarding participation for next year. We look forward to seeing how this initiative grows and evolves!

AUTHORS & LEADERSHIP

FOUNDER & DIRECTOR

Karly Hampshire

*University of California San Francisco
School of Medicine, MS3*

CO-FOUNDERS

Nuzhat Islam

*University of California San Francisco
School of Medicine, MS3*

Bennett Kissel

*University of California San Francisco
School of Medicine, MS4*

Colin Baylen

*University of California San Francisco
School of Medicine, MS3*

CONTRIBUTING AUTHOR

Sarah Schear, MS

*University of California San Francisco
School of Medicine, MS4*

EDITORS & GRAPHIC DESIGN

Natasha Sood, MPH

*Pennsylvania State
College of Medicine, MS3*

Nuzhat Islam

*University of California San Francisco
School of Medicine, MS3*

MEDICAL SCHOOL REPORT CARD LEADS

University of California San Francisco SOM

*Karly Hampshire
Nuzhat Islam
Bennett Kissel
Colin Baylen
Sarah Schear*

UC Berkeley- UCSF Joint Medical Program

*Raj Fadadu
Sarah Schear
Xiaoxuan (Christina) Chen
Tommaso Bulfone*

Stanford Medical School

*Jonathan Lu
Josh Carter
Anna Lachenauer
Ashley Jowell*

**The Stanford team encountered administrative delays and was not able to be included on this report. However, you can view their report card on our website in a few weeks.*

Harvard Medical School

*David Mazumder
Julia Page
Julia Malits
Adam Meier*

George Washington School of Medicine

*Samuel Duffy
Rose Milando
Savita Potarazu
Ali Sjaarda
Haleen Marwah*

Alpert Medical School at Brown Univ.

*Megan Duckworth
Swechya Banskota
Winston McCormick
Neha Reddy
Sarah Kaelin*

McGill University Faculty of Medicine

*Gianjeet Triya Ramburn
Jia Li Liu
Shiyang Shen
Kelan Wu*

University of Hawaii School of Medicine

*Aiko Murakami
Trevor McCracken*

Perelman SOM at the Univ. of Pennsylvania

*Jeromy Gotschall
Genevieve Silva
Taylor Streaty
Yi Zhou
Michael Wang
Catherine Yang
Sara Briker*

Tufts University School of Medicine

*Sharon Kelmar
Cara Lembo
Allie Neeson
Ali Omsberg
Jacob Rha
Jacqueline Shen
Emma Williams*

University of Minnesota Medical School

*Jack Inglis
Maria Bryan
Daniel Ly
Karly Boll
Aaron Rosenbloom
Anna Rahrck*

University of Arkansas for Medical Sciences

*Kristin Larsen
Zainab Atiq
Olivia Tzeng
Kaley Ferguson
Dakory Lee
Bailey Singleton
Jace Bradshaw*

Georgetown University School of Medicine

*Zaynab Almothafer
Gavin Clark
Brendan Crow
Aditi Gadre
Chloe Jammes
Siena Romano
Noah Steinberg*

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Katherine Gundling, MD

Arianne Teherani, PhD

Sheri Weiser, MD, MPH, MA

Tom Newman, MD, MPH

Bob Gould, MD

Annemarie Charlesworth, MA

Patrice Sutton, MPH

Teddie Potter, PhD, RN, FAAN

Erika Veidis, MBA

Nick Iverson, MD

CONTACT

Email: phreportcard@gmail.com

Website: phreportcard.org.

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UCSF HUMAN HEALTH & CLIMATE CHANGE



For more information please visit sustainability.ucsf.edu



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**The Planetary Health Alliance offered guidance regarding the criteria for this initiative. As an independent organization, the PHA is not a sponsor of how this report card is used nor the results outlined by the report.*