



Planetary Health Report Card:

University of Rochester School of Medicine & Dentistry



UNIVERSITY of
ROCHESTER
MEDICAL CENTER

2020-2021 Contributing Team:

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Summary of Findings

Curriculum	C-
<ul style="list-style-type: none"> Planetary Health (PH) is primarily covered in a small number of new electives and briefly in a few core courses. A new elective was designed specifically to comprehensively cover PH for physicians in training. Improvements in PH education are primarily driven by three dedicated faculty members and are not systematically integrated into the core curriculum, which is not sustainable. The medical school should commit to integrating PH longitudinally into the core curriculum through official learning objectives. Students should formally learn how to integrate PH into direct patient care. 	
Interdisciplinary Research	D+
<ul style="list-style-type: none"> There are individuals whose research is focused on healthcare sustainability or PH, but there is no overarching department they are housed under to direct overall research goals, funding, or directions. Though there is a process for community members to advise climate research, the medical school should create a process that allows them to directly vote on research to improve engagement. 	
Community Outreach and Advocacy	D+
<ul style="list-style-type: none"> URSMD faculty are involved in community outreach and advocacy, however, this involvement is primarily limited to 2-3 clinicians who are connected to several broader medical centers and community groups in Rochester to promote PH engagement and education. Besides these 2-3 incredible faculty members, medical school administration, faculty, and staff are largely uninvolved in community outreach efforts related to PH. Without these faculty our rating would be lower. Medical students at URSMD, unless connected to the above 2-3 clinicians, have few opportunities to engage in community outreach and advocacy initiatives related to PH. 	
Support for Student-Led Initiatives	B-
<ul style="list-style-type: none"> URSMD funds and supports a student interest group focused on PH. However, there are no students representing sustainability interests on an institutional decision-making council. PH research projects are able to be funded through broader research support initiatives. However, there are not any funding opportunities that specifically promote PH research. Various events, projects, and programs organized by students, faculty, and community members have covered a range of PH topics. No medical-school specific webpage exists to display PH activities or mentors. 	
Sustainability	C-
<ul style="list-style-type: none"> URSMD has made some progress towards more sustainable practices. However, many of these changes have been implemented sporadically, and more universal application of sustainable practices is needed. Both the University of Rochester and URSMD have robust programs available to individual students and faculty such as carpooling, biking, and recycling. Several of the Medical Center dining locations incorporate sustainability criteria into their food and beverage selections as well. URSMD lacks an Office of Sustainability and has not made a formal commitment to carbon neutrality. 	

Statement of Purpose

Planetary health is human health.

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 climate change and environmental threats disproportionately affect vulnerable populations (for example, communities of color, older adults sensitive to health threats, and individuals in low-resource settings), 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 Planetary Health Report Card that medical students internationally can use to grade and compare their home institutions on an annual basis. This medical-student-driven initiative aims to compare medical schools on the basis of discrete metrics in five 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 5) medical school campus sustainability.

Planetary Health Curriculum

Section Overview: This section evaluates the integration of relevant planetary health topics into the medical school 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.

Curriculum: General

1. Did your medical school offer elective courses to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>Score explanation: URSMD will offer one elective entitled “Planetary Health for the Practicing Physician” (EDD619). This hybrid online and in-person course will highlight a broad range of the health implications of climate change that we are currently seeing and will continue to see in the future as clinicians. In addition, we will discuss the healthcare industry's contribution to climate change and highlight opportunities to enhance communication abilities to better serve as physician advocates with respect to climate change and human health. This course will consist of traditional lectures via zoom, flipped classrooms, journal clubs and field trips to local sustainability organizations. The course is new this year.</i></p>	

Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme temperature health risks and climate change, as well as the socioeconomic/racial disparities in extreme heat exposure?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: As part of the Women’s and Children’s Health Basic Science Block in 3rd year, the session “Complementary Viewpoints: Climate Change and Health” includes a discussion of the relationship between extreme temperature risks and climate change as well as the associated inequity of these exposures. This is a part of the core curriculum for all medical students.</i></p>	

3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: As part of the Women’s and Children’s Health Basic Science Block in 3rd year, the session “Complementary Viewpoints: Climate Change and Health” includes a discussion of the impacts of extreme weather events on individual health, but does not go into depth on its effect on healthcare systems. This is a part of the core curriculum for all medical students.</i></p>	

4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: In the 1st year course, "Host Defense", there is a brief discussion of the impact of the warming climate on water borne infections, vector-borne disease, and the spreading of zoonotic and emerging disease. This course is a part of the core curriculum for all medical students.

5. Does your medical school curriculum address the cardiorespiratory health effects of climate change, including air pollution?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: In the elective, Planetary Health for the Practicing Physician (EDD619), the effects of climate change and air pollution are addressed in the lecture entitled "Air pollution, climate change, and human health."

Introduction to Clinical Medicine, a core curriculum course, has historically had an integration conference on air pollution, but it is no longer included.

6. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: In the elective, Planetary Health for the Practicing Physician (EDD619), mental health and neuropsychological effects of environmental degradation and climate change are discussed in the lecture "Mental Health and Climate Change."

7. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: Briefly mentioned in Foundations of Biopsychosocial Change, Meliora in Medicine, and Primary Care Clerkship courses when discussing social determinants of health and non-pharmacologic treatment of chronic disease. Environmental determinants are mentioned without any detail.

As part of the Women's and Children's Health Basic Science Block in 3rd year, the session "Complementary Viewpoints: Climate Change and Health" includes a discussion of the relationships between health, food and water security, ecosystem health, and climate change. This is a part of the core curriculum for all medical students.

8. Does your medical school curriculum address the outsized impact of climate change on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, and older adults?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: In the new elective, Planetary Health for the Practicing Physician (EDD619), the disproportionate impact of climate change on marginalized populations is discussed in the lectures "Vulnerable Populations," "Environmental Justice-Climate and Race," and "Climate Change Refugees."

9. Does your medical school curriculum address the unequal health impacts of climate change globally?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: In the elective, Planetary Health for the Practicing Physician (EDD619), the unequal health impacts of climate change globally is discussed in the lectures “Vulnerable Populations”, “Environmental Justice-Climate and Race”, and “Climate Change Refugees.” The topic is also covered in a journal club for the Pandemic Response elective.

Curriculum: Environmental Health & the Effects of Anthropogenic Toxins on Human Health

10. Does your medical school curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: In the first year course, Molecules to Cells, Dr. Fong discusses how teratogens can be related to errors in metabolism particularly in the context of migrant workers.

11. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: During the 3rd year Pediatric Clerkship, there is a case-based presentation on lead toxicity in urban areas of Rochester and the importance of screening for lead exposure.

Additionally, in the elective, Planetary Health for the Practicing Physician (EDD619), anthropogenic environmental threats are explored through the discussion of the Rochester Climate Action plan and Resilience Plan.

12. Does your medical school curriculum address the unique climate and environmental health challenges that have impacted and are impacting Indigenous communities?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: There is no discussion of the unique climate and environmental health challenges that have impacted and are impacting Indigenous communities.

13. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, and older adults?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: During the 3rd year Pediatric Clerkship, medical students are taught about how lead exposure in infancy and early childhood causes disproportionate negative effects on children due to their increased risk for exposure and increased susceptibility to lead dust. The 3rd year pediatric clerkship curriculum also discusses the reality that low-income renters (refugees, immigrants and migrant families) have disproportionately higher exposure rates to lead than their higher SES counterparts.

Additionally this topic is covered in the elective, Planetary Health for the Practicing Physician (EDD619).

Curriculum: Sustainability

14. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: A plant-based diet is discussed in multiple lectures throughout 1st and 2nd year (in Molecules to Cells, Foundations for Biopsychosocial Practice, and the second year Primary Care Clerkship), however the focus is solely on the health benefits and does not address the environmental benefits.

15. Does your medical school curriculum highlight the waste generated by the healthcare system and identify ways to advocate for and implement sustainable best practices in health care?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: This is a major focus of the elective, Planetary Health for the Practicing Physician (EDD619). There are multiple lectures on the topic including “Health Care Industry and Climate Change” and “Sustainable Initiatives in Health Care”, as well as an advocacy training and overview of institutional climate policies.

Curriculum: Clinical Applications

16. 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?

2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change

Score explanation: Strategies for discussing the health effects of climate change are not introduced.

17. In training for patient encounters, does your medical school’s curriculum introduce strategies for taking an environmental history or exposure history?

2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.

Score explanation: The curriculum does not include strategies for taking an environmental history. Students are encouraged to take a biopsychosocial approach, which includes environmental and occupational causes of presenting disease, but students are not taught specific strategies. Students are encouraged to ask about lead exposure risks and time outside in pediatrics but specific strategies are not taught or provided.

Curriculum: Administrative Support for Planetary Health

18. Is your medical school currently in the process of improving Education for Sustainable Healthcare (ESH)/planetary health education?	
4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.
<p><i>Score explanation: Three faculty members at the medical school are currently making improvements to ESH and planetary health education by introducing new electives that address these topics. They are also adding more lectures on planetary health into the core curriculum.</i></p> <p><i>URMC is not currently part of the Global Consortium on Climate and Health Education, but that could be an upcoming goal to help promote teaching on climate change for health professional trainees.</i></p>	

19. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?	
6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s).
0	There is minimal/no education for sustainable healthcare.
<p><i>Score explanation: Unfortunately at this time there is minimal education on sustainable healthcare in the core curriculum, and all efforts are led by three individuals who have a strong personal interest in these topics rather than a concerted effort at the level of the medical school to include this in the core curriculum.</i></p>	

20. Bonus: Does your medical school have a program that offers incentives for faculty/departments to develop new planetary health/ESH courses and/or incorporate planetary health/ESH into existing courses?

1	Yes, the medical school has an incentive program.
0	No, the medical school does not have an incentive program.
<i>Score explanation: There is currently no incentive program in place.</i>	

Section Total (23 out of 58)	C-
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Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
4	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health and healthcare sustainability.
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation: While there are several researchers addressing planetary health or healthcare sustainability, we were unable to find any who do primary research with both focuses.</i></p> <p><i>Examples of faculty doing primary research:</i> <i>Valerie Lou, MD, MPH is an attending physician and Assistant Professor in the Department of Emergency Medicine. Her research focuses on biohazard waste and reclaiming hospital supplies.</i></p> <p><i>C. Andrew Aligne, MD, MPH is an Associate Professor in the Department of Pediatrics and the Center for Community Health and Prevention. He conducts research on healthcare sustainability.</i></p> <p><i>Sandra Jee, MD, MPH and Kate Weber, MD are also investigators with MSST to determine the PH need in the URSMD curriculum.</i></p> <p><i>Daniel Croft MD, MPH conducts research on air pollution to improve the health of populations.</i></p>	

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?

3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	There is an Occupational and Environmental Health department, but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.

Score explanation: URSMD has a [Department of Occupational and Environmental Medicine](#). However, the primary focus of this department includes physical examinations and medical surveillance in lieu of research. URSMD also has a [Department of Environmental Medicine](#), whose mission is to “[improve] health through multidisciplinary studies of environmental factors that are known or suspected to contribute to a range of diseases and disorders.” This department’s research, however, largely studies the various biological mechanisms and sequelae of environmental toxin exposure. Anchored in this department is the [Environmental Sciences Health Center](#), which aims to “improve public health through the discovery of the ways by which environmental exposures, singly or in combination, contribute to health risk across the lifespan, and to translate discoveries into strategies to mitigate risks and improve human health.” The research conducted in this center is more translational than the general Department of Environmental Medicine, but still focuses on exposure research. Overall most of the research coming out of these various departments prioritizes environmental medicine instead of planetary health more broadly.

The Emergency Medicine Department at Strong Memorial Hospital has organized a multidisciplinary [Green Team](#) involved in various QI research and protocol implementation projects such as ED waste and biohazard reduction, and LEED certification research and advocacy for hospital buildings at URSMD.

Based on conversations with various faculty members at URSMD, there are no plans in the next 3 years to roll out a designated planetary health research center.

3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your medical school?

3	Yes, there is a process in which community members impacted by climate and environmental injustice have decision-making power in the climate + environmental research agenda.
2	Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda.
1	No, but there are current efforts to establish a process for community members to advise or make decisions on the research agenda.

0	There is no process, and no efforts to create such a process.
<p><i>Score explanation: The Community Advisory Council was established in 2006 and represents the community to guide the University of Rochester Medical Center's missions of Education, Research, and Patient Care. One main function of the CAC is to "contribute to the assessment and identification of community-health related priorities." The CAC has produced a list of "priority research topics" that includes addressing the environmental health literacy of parents, understanding the economic and environmental impacts of abandoned property, and investigating the upward trend of asthma rates in Rochester. The CAC serves in an advisory capacity to URMC, but does not hold decision making power to dictate the medical school's research agenda. The CAC website can be found here.</i></p> <p><i>Additionally, Dr. Valerie Lou is involved with both the Climate Solutions Accelerator (a 501(c)(3) nonprofit affiliated with URSMD that is dedicated to inspiring and facilitating a large-scale climate mobilization in the Genesee-Finger Lakes Region), and a faculty working group at URSMD to strengthen the decision-making abilities of people at URSMD and the surrounding Rochester community who are disproportionately impacted by climate change and environmental injustice.</i></p>	

4. Does your institution have a planetary health website, or a website centralizing various campus resources related to health and the environment?	
3	There is an easy-to-use, adequately comprehensive website that centralizes various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that attempts to centralize various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
1	The institution has an Office of Sustainability website that includes some resources related to health and the environment.
0	There is no website.
<p><i>Score explanation: There is no such website.</i></p>	

5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the institution has hosted more than one conference or symposium on topics related to planetary health in the past year, including at least one on climate change.
3	Yes, the institution has hosted one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.

1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>Score explanation: As mentioned above, the FLCEHC hosts virtual monthly Project ECHO sessions hosted by physicians and environmental health researchers that discuss topics such as asthma triggers and the environment, pesticide exposure among farm workers and their families, preventing tick-borne diseases, local effects of climate change for the practicing clinician, food justice and children's environmental health, and acute environmental toxic exposures in children. These sessions, however, are not traditional "conferences" in the sense that one presentation is held per month and presenters are all affiliated with FLCEHC. URSMD has not formally hosted a traditional or virtual conference, with calls for research submissions, various presentations, etc., on topics related to planetary health in the past three years.</i></p>	

6. Has your institution or medical school joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?	
2	Yes, the medical school has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education.
1	Yes, the institution has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education, but the medical school specifically has not.
0	No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.
<p><i>Score explanation: As of November 2020, the University of Rochester Clinical & Translational Science Institute has joined the Planetary Health Alliance. The UR CTSI is a branch of the broader Medical Center that "provides funding, education, resources, and services to help research teams collaborate and produce results faster." The CTSI strives "to advance science and medicine and improve the health of communities and populations."</i></p> <p><i>The URSMD is not specifically a part of the PHA or GCCHE, but the Medical Student Sustainability Team anticipates joining the PHA within the next year.</i></p>	

Section Total (7 out of 19)	D+
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Community Outreach and Advocacy

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

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation: The broader University of Rochester Medical Center partners with several community organizations to promote PH and EH, and individual clinical faculty have been involved in these efforts. For example, Dr. Valerie Lou has partnered with the Climate Solutions Accelerator, Finger Lakes Children's Environmental Health Center, and the city of Rochester's Office of Energy and Sustainability to promote PH and EH within the broader Rochester community. Additionally, Dr. Sandra Jee has worked with the FLCEHC and the Champion Academy, a mentoring and empowerment initiative for tennagers in poverty, to promote PH education, programming, and awareness. Medical students are sometimes even involved in these programs. For example, medical students have volunteered with Dr. Jee during Champion Academy sessions. The Center for Community Health and Prevention at the University of Rochester will also bring in community partners like Food Link and organizations that promote sustainability to the community fairs for students to get involved. The involvement would be self-directed. A student-led medical student interest group partners with InterVol, a local organization dedicated to sustainability and reducing medical waste, however it is not particularly active and very little of the organization's educational mission is carried within the medical school. In sum, the medical school staff, administration, and student groups are largely uninvolved in any of the partnerships with local organizations.</i></p>	

2. Does your medical school offer community-facing courses or events regarding planetary health?

3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The medical school has not offered such community-facing courses or events.

Score explanation: Similar to the above explanation, URMCM offers several community-facing courses and events regarding PH, but the medical school specifically is not involved in planning these events. For example, Dr. Sandra Jee offers PH education for teenagers in the Champion Academy program as mentioned above. Additionally, Dr. Valerie Lou works with URMCM's [Community Engagement Core](#) and teaches principles of PH to [Horizons](#) students, a summer program hosted at the Warner School of Education on UR's River Campus that "dedicated to improving the academic and wellness trajectory of students from marginalized families by instilling in them the joy of learning, the skills for success, and the inspiration to realize their dreams." Lastly, Jeffrey Wyatt, DVM, MPH is an attending veterinarian and faculty in the Department of Comparative Medicine at URMCM who provides yearly PH education to community members as a conservation ambassador at the Seneca Park Zoo. However, medical school administration, staff, faculty, and students are generally not involved in the planning of these courses, and generally are unaware of these opportunities.

3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?

2	Yes, all students regularly receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are sometimes included in communication updates.
0	Students do not regularly receive communications about planetary health or sustainable healthcare.

Score explanation: Students at URSMD do not regularly receive communication from medical school and/or general hospital administration regarding planetary health or sustainable healthcare.

4. Does the medical school offer continuing medical education (CME) courses that address planetary health and/or sustainable healthcare?

2	Yes, multiple in-person or online CME courses relating to planetary health and/or sustainable healthcare are offered, including at least one with a primary focus of planetary health.
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1	Yes, one in-person or online CME course related to planetary health and/or sustainable healthcare is offered.
0	There are no CME courses on planetary health or sustainable healthcare topics.
<p><i>Score explanation: The FLCEHC's Project ECHO offers monthly virtual lectures on a variety of EH- and PH-related topics that are each eligible for one hour of CME credit. Past ECHO session topics include "Asthma Triggers and the Environment," "Preventing Tick-Borne Diseases," and "The Local Effects of Climate Change on the Practicing Physician."</i></p> <p><i>The Department of Medicine Grand Rounds hosted a lecture on March 2, 2021 on the Effect of Air Pollution on Susceptibility to Respiratory Viral Infections by Dr. Daniel Croft, Division of Pulmonary and Critical Care Medicine, that talked about the health effects of air pollution and environmental health.</i></p>	

5. Do hospitals affiliated with your medical school have accessible educational materials for patients about environmental health exposures?	
2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centers have accessible educational materials for patients.
<p><i>Score explanation: The Finger Lakes Children's Environmental Health Center is affiliated with Golisano Children's Hospital and is composed of a conglomerate of physicians and environmental health researchers to provide clinical services, education, and outreach for environmentally-related conditions in the Greater Finger Lakes area. The organization gives professional presentations to healthcare providers, local health department staff, educational institutions, and community groups. This website is user-friendly and has amalgamated a number of local and state resources related to environmental health, many of which are directed for patients.</i></p> <p><i>Patients, providers, or parents can call or email the Finger Lakes Children's Environmental Health Center and the FLCEHC staff will assess the exposure(s) of concern and address any questions. Experts in child health, pregnancy, breastfeeding and medical toxicology will provide guidance</i></p>	

6. Do hospitals affiliated with your medical school have accessible educational materials for patients about climate change and health impacts?	
2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.
<p><i>Score explanation: As mentioned above, the Finger Lakes Children's Environmental Health Center has a webpage with a number of local and state resources related to environmental health, many of which</i></p>	

are directed for patients. None of the resources specifically address climate change and health impacts. Rochester Regional Hospital emphasizes sustainability but does not have any available educational materials for patients. The University of Rochester Medical Center does not have any educational materials for patients on climate change and health impacts.

Section Total (5 out of 14)	D+
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Support for Student-Led Planetary Health Initiatives

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

1. Does your institution offer support for medical students interested in enacting a sustainability initiative?	
2	Yes, the institution offers grants available to medical students for students to enact sustainability initiatives.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available.
0	No, the institution does not offer opportunities or support for sustainability initiatives.
<p><i>Score explanation: Medical students have the opportunity to engage and enact sustainability initiatives through the Medical Students for Sustainability Team (MSST) student group. This group is well-supported through relationships with faculty mentors and collaboration with the ED Green Team (a physician-run environmental advocacy group), and undergraduate sustainability groups. Faculty mentors are easily accessible to individual students as well. Planetary health research projects may be eligible for funding through broader research support initiatives, but there is no funding specifically reserved for sustainability initiatives.</i></p>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
3	The institution offers an explicit paid fellowship for medical students to do research related to planetary health and/or sustainable healthcare.
2	The institution offers paid research opportunities for students and planetary health/sustainable healthcare projects would be considered eligible.
1	There are unfunded research opportunities for students to perform research related to planetary health/sustainable healthcare.
0	There are no opportunities for students to receive funding for planetary health/sustainable healthcare research.
<p><i>Score explanation: The Office of Medical Student Inclusion and Enrichment Programs (OMSIEP) provides research funding for both summer projects in a variety of fields. No funds are specifically</i></p>	

designated for planetary health research, but such projects could be eligible for funding from at least two sources: 1) Basic Science, Clinical, Translational Research. 2) CCH E. Cowles Andrus Summer Fellowship for Community Health Improvement.

3. Does the medical school have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.

2	The medical school has a webpage with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a medical school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
0	There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.

Score explanation: There are no specific webpages for the medical school regarding planetary health or sustainability activities. However, the Golisano Finger Lakes Children's Environmental Health Center website (<https://www.urmc.rochester.edu/environmental-health-sciences.aspx>) provides information on resources that are available to patients who are concerned about environmental health hazards and their providers. It also provides information on educational opportunities for patients, providers, and other community members. It doesn't provide information on planetary health activities for students or guidance on finding mentors. However, staff members listed on this website sometimes act as mentors for medical students. The Medical Students for Sustainability Team will be working with their faculty advisor to create a website for this purpose.

4. Does your medical school have funded, registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?

2	Yes, there is a funded student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support and/or funding.
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.

Score explanation: The Medical Students for Sustainability Team (MSST) is supported by the Student Senate as a student interest group with funding and faculty support.

5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional decision-making council to advocate for sustainability best practices?

1	Yes, there is a student representative that serves on a medical school or institutional decision-making council.
0	No, there is no such student representative.

Score explanation: Currently there are no student representatives who serve on a medical school or institutional decision-making council to advocate for sustainability best practices. Collaboration exists among medical students, undergraduate faculty/students, and physician-led advocacy groups, but these groups do not hold any decision-making power within the university.

6. In the past year, has the institution had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)

1	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.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.

Score explanation: There have been talks hosted by student interest groups that include community organizations, such as Foodlink, that introduce students to volunteering opportunities in community gardens. Further, the MSST group hosted a lunch talk that focused on planetary health topics called “Promoting Environmental Health and Justice Through Local Collaborators” where students could learn from Dr. Korfmacher who is nationally-renowned for her research and advocacy on childhood lead poisoning. The MSST has hosted several talks over the years related to planetary health and environmental health topics.

There was a lunch talk hosted in October called “Addressing Environmental Health Disparities for Underserved Urban Children: Opportunities for Action” where students could learn from Dr. Sandra Jee and Dr. Abby McHugh about their work collaborating for environment, health and justice in Rochester. The Wilderness Medicine Interest Group has organized outdoor camping and hiking trips

that adhere to Leave No Trace principles. The Emergency Department also has a Wilderness Medicine track.

Additionally, Dr. Lou has presented on the concept of Planetary Health at Grand Rounds (2 years ago Shapiro Grand Rounds Speaker on Climate and Health), Global Health Conference (3 years ago in ED Residency), and Family Residency. 2 years ago we had an Shapiro Grand Rounds Speaker that spoke on Climate and Health.

The ED Green Team does regular trash pick up around the river and contributed to the Rochester Climate Resilience plan.

Section Total (9 out of 15)

B-

Campus Sustainability

Section Overview: This section evaluates the support and engagement in sustainability initiatives by the medical school and/or institution. The healthcare industry is a major contributor to greenhouse gas emissions as well as pollution that harms local, regional, and global ecosystems. While healthcare is, by nature, a resource-intensive endeavor, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinizing every aspect of how our systems operate, from where we source our energy, to how we build our infrastructure, to what companies we invest in. Our medical schools, clinics, and hospitals must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimizing environmental impact.

1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff, but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation: The University of Rochester previously had an institution-wide sustainability committee that was disbanded in May 2019. A new committee has not yet been established.</i></p> <p><i>There is no Office of Sustainability at the University. However, the University does have one salaried staff member with the title of Sustainability Coordinator who is housed within the Support Operations department of University Facilities and Services. There is no specific staff member in charge of medical school or hospital sustainability.</i></p>	

2. Does your medical school and/or institution have a stated goal of carbon neutrality by 2050?	
4	The medical school is already carbon neutral.
3	Yes, there is a stated carbon neutrality goal and the medical school has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal, but the medical school has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.

Score explanation: Neither the University of Rochester or the Medical Center have any written goals for reducing CO2 emissions. Approximately 2-3 years ago, there was a verbal commitment made by the Executive VP for Facilities to both the Sustainability Council and the undergraduate Student Association for a reduction of 1% per year.

3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital) utilize renewable energy?

3	Yes medical school buildings are 100% powered by renewable energy
2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.

Score explanation: The University of Rochester has a small on-site solar installation and is required to purchase a small number of Renewable Energy Certificates from New York State, but these sources meet less than 20% of the school's energy needs. The local grid for the medical school buildings is partially powered by renewables. The cogen plant runs on natural gas and so any renewable energy is <20%. Facilities staff estimate that about 15% of the energy used in teaching and laboratory buildings comes from non-carbon emitting sources.

4. Are sustainable building practices utilized for new and old buildings on the medical school campus, with design and construction of new buildings and remodeling of old buildings conforming to a published rating system or sustainable building code/guideline?

3	Yes, sustainable building practices are utilized for new buildings on the medical school campus and the majority of old buildings have been retrofitted to be more sustainable.
2	Sustainable building practices are utilized for new buildings on the medical school campus, but most old buildings have not been retrofitted.
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.

Score explanation: The Saunders Research Building (completed in 2011) received LEED Gold certification, and efforts were made to use local materials in its construction. However, we don't believe that other buildings have been held to the same standards.

5. Has the medical school implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?

2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.

Score explanation: The majority of medical students live within walking distance of the medical school and Strong Memorial Hospital, so they only need to drive to certain clinical experiences. The university also has a robust [carpooling program](#) for all faculty, staff, and students that is well utilized by medical students who live further away. [Biking](#) is also encouraged through covered bike parking in the hospital parking garage and accessible showers for bike commuters. Employees who don't have parking passes can get free occasional parking passes for emergencies.

6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?

2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	The medical school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the medical school.

Score explanation: The University of Rochester has a [recycling program](#) that includes the Medical Center (medical school, research buildings, and Strong Memorial Hospital). Mixed paper/cardboard, plastic, glass, and cans are all accepted. Recyclable items such as ink jet cartridges and batteries are accepted through special drop-off locations as well. The university does not have a composting program that is available to students and faculty.

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections?

3	Yes, the medical school has adequate sustainability requirements for food and beverages and is engaged in efforts to increase food and beverage sustainability.
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2	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.
<p><i>Score explanation: University of Rochester Dining Services actively works to improve food and beverage sustainability, but they mainly oversee undergraduate dining locations that are not well utilized by medical students. We were unable to find sustainability requirements that apply specifically to Medical Center dining locations.</i></p> <p><i>Cafe 601 at Strong Memorial Hospital is highly utilized by medical students. The Cafe purchases locally as much as possible, including from three major vendors that are local businesses. All dairy products in the Cafe are from New York State and all take-out containers are compostable and recyclable. Finger Lakes Coffee Roasters at the Medical Center also exclusively sources organic coffees from farms that have strict waste management protocols. We were not able to find any information on sustainability practices at the Metro Deli, another Medical Center dining location that medical students often use.</i></p>	

8. Does the medical school or associated institution apply sustainability criteria when making decisions about supply procurement?	
3	Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is engaged in efforts to increase sustainability of procurement.
1	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is not engaged in efforts to increase sustainability of procurement.
0	There are no sustainability guidelines for supply procurement.
<p><i>Score explanation: The University of Rochester sustainability procurement guidelines can be found here. Because this policy is not actively enforced, we consider it to be optional. Our medical school environmental services department is engaged in sustainability efforts and strives to purchase environmentally sustainable cleaning products whenever possible, including the recent purchase of sustainable bin liners.</i></p>	

9. Are there sustainability requirements or guidelines for events hosted at the medical school?	
2	Every event hosted at the medical school must abide by sustainability criteria.

1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required.
0	There are no sustainability guidelines for medical school events.
<i>Score explanation: Our medical school does not have sustainability guidelines for events.</i>	

10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
2	Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the medical school to make lab spaces more sustainable.
<i>Score explanation: We were unable to find any evidence of medical-school wide guidelines or efforts to make research spaces more sustainable.</i>	

11. Does your institution's endowment portfolio investments include fossil-fuel companies?	
4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	No, the institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil-fuel companies.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
<i>Score explanation: The Investment Committee of the University's Board approved the EIAC's (Ethical Investment Advisory Committee) recommendation that the university not invest in tar sands or coal. The EIAC proposal to block direct investments in thermal coal and oil extraction from tar sands was adopted on May 15, 2019 (report and actions of the Investment Committee). The University of Rochester has joined the <u>Climate Action</u> 100+ team that calls for clear commitments to cut emissions, improve governance and strengthen climate-related financial disclosures. Current work includes a proposal to block all future investments in fossil fuel companies with plans to present to the Board in May. The decision in 2019 did not require any divestment, since UR did not have any direct investments in coal or tar sands, but the new proposal would gradually reduce the UR investments in fossil fuel</i>	

production, refining, transportation and storage to zero. Most of these investments are in long-term investment pools (up to ten years), so they will end as the partnerships reach maturity.

Section Total (12 out of 29)

C-

Grading

Section Overview

This section focuses on the grading of the report card. The institution received a grade for each of the individual sections as well as an overall institutional grade. Section point totals were tallied, divided by the total points available for the section, and converted to a percentage. The overall institutional grade is an average of the section grades. Letter grades for each section and the institution overall were then assigned according to the table below.

Letter Grade	Percentage
A	80% - 100%
B	60% - 79%
C	40% - 59%
D	20% - 39%
F	0% - 19%

Planetary Health Grades for the University of Rochester School of Medicine and Dentistry

The following table presents the individual section grades and overall institutional grade for the University of Rochester School of Medicine and Dentistry on this medical-school-specific Planetary Health Report Card.

Section	Raw Score	Grade
Planetary Health Curriculum (3rd)	23 / 58 = 40%	C-
Interdisciplinary Research (3rd/2nd)	7 / 19 = 37%	D+
Community Outreach and Advocacy (3rd/2nd)	5 / 14 = 36%	D+
Support for Student-led Planetary Health Initiatives (1st)	9 / 15 = 60%	B-
Campus Sustainability (1st)	12 / 29 = 41%	C-
Institutional Grade	42%	C-