`

Planetary Health Report Card (Medicine):

University of Rochester School of Medicine & Dentistry

2022-2023 Contributing Team:

- Students: Michaela Malin, Rohila Kusampudi, Michael Shen, Jason Nagourney
- Faculty Mentors: Dr. Valerie Lou & Dr. Sandra Jee
- *Primary Contact: Jason Nagourney jason_nagourney@urmc.rochester.edu

Summary of Findings

Overall	C

Curriculum	B

- University of Rochester includes planetary health in the curriculum, but it lacks integration longitudinally.
- **Recommendations:** There is a lack of teaching about introducing conversations about planetary health into conversations with patients. This could be introduced in clinical skills, or early years ICM/FBP teaching. Also, integration of planetary health should be included in more aspects of pre-clinicals

Interdisciplinary Research	D+

- 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.
- While there are seminars on subjects related to planetary health, there should be further effort on creating formal research conferences that allow for project submissions and student presentations.

Community Outreach and Advocacy	C -

- 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 centres 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.
- 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	C -

- 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 organised 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.

Campus Sustainability	D+

- 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 some 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.
- **Recommendations**: There is significant work to do to improve sustainability at URSMD. Goals and plans

should include collaboration with the undergraduate campus to create a broad-reaching sustainability movement and have maximal impact. Most staffing and programming relating to sustainability is recommended to help the student body increase their awareness about the importance of improving sustainable practices at the school. With a larger population in support of these changes, the school has a strong chance at improving sustainability on an institutional level.

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance describes planetary health as "a solutions-oriented, transdisciplinary field and social movement focused on analysing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth." This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanisation, 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 colour, 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 nationally and internationally 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 centred on environmental health impacts 5) medical school campus sustainability.

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as "the health of human civilization and the state of the natural systems on which it depends." For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional 'environmental health' examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of medical school education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term "planetary health" to satisfy the metric.

- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimises use of healthcare services.

- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:

    1. Describe how the environment and human health interact at different levels.

    2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.

    3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.

- **Medical School vs. Institution:** When "medical school" is specified in the report card, this only refers to curriculum and resources offered by the School of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments). In contrast, when "institution" is specified in the report card, we are referring to the university more

broadly. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is specifically targeted for medical students, can meet this metric.

- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions providers are taught to ask during medical encounters that elicit patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mould after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution.

- **Elective:** The word "elective" refers to an optional course or lecture series that a medical student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.

- **Clerkship:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations or placements.

Other considerations:

- If there are more than one "tracks" at your medical school with two different curricula (for example, Harvard Medical School has a Pathways and HST curriculum track), you can choose to fill out a report card for each track, or fill out just one report card and average the scores received by each track in cases where the scores are different (see the 2021 Harvard or Oxford report cards as examples).

Added to our resources last year, the Planetary Health Report Card Literature Review by Metric collates the evidence behind each of the metrics in the Planetary Health Report Card. It serves as a collection of references for further learning and a resource for those advocating for increased planetary health engagement at their institutions.

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 and other environmental changes. Therefore, it is critical that medical students are trained to understand the health effects of these changes, as well as planetary health issues and principles 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 (student selected modules) 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.

Score explanation: URSMD will offer two electives pertaining to Education for Sustainable Healthcare or Planetary Health. The first is entitled "Planetary Health for the Practising 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, they 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 consists of traditional lectures via zoom, flipped classrooms, journal clubs and field trips to local sustainability organisations. The course is in its third year.

The second course is entitled "Occupational and Environmental Medicine" (EHS601). The goals of this class are to Discuss the different types of services offered by occupational and environmental medicine programs (preventive, medical, and rehabilitative). Discuss the role of toxicology, industrial hygiene, and ergonomics as it relates to occupational and environmental medicine. Demonstrate an understanding of the New York State Workers' Compensation system, including successful completion of a C4 report to the Workers' Compensation Board.

Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme heat, health risks, 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: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. This is a part of the core curriculum for all medical students.

As a part of the Disease Processes and Therapeutics Course in the Rheumatology Block in 2nd year, there is a lecture titled "Common Allergies" which includes a few slides on the impact of climate change and allergies.

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.

3. Does your <u>medical school</u> 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.

Score explanation: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. This is a part of the core curriculum for all medical students.

As a part of the Disease Processes and Therapeutics Course in the Rheumatology Block in 2nd year, there is a lecture titled "Common Allergies" which includes a few slides on the impact of climate change and allergies.

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.

4. Does your <u>medical school</u> 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: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. This is a part of the core curriculum for all medical students.

As a part of , "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.

As a part of the Disease Processes and Therapeutics Course in the Rheumatology Block in 2nd year, there is a lecture titled "Common Allergies" which includes a few slides on the impact of climate change and allergies.

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.

5. Does your <u>medical school</u> curriculum address the respiratory health effects of climate change and 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: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. This is a part of the core curriculum for all medical students.

As a part of the Disease Processes and Therapeutics Course in the Rheumatology Block in 2nd year, there is a lecture titled "Common Allergies" which includes a few slides on the impact of climate change and allergies.

In the elective, Planetary Health for the Practising Physician (EDD619), the effects of climate change and air pollution are addressed in the lecture entitled "Air pollution, climate change, and

human health."

6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat?	
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: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. This is a part of the core curriculum for all medical students.

As a part of the Disease Processes and Therapeutics Course in the Rheumatology Block in 2nd year, there is a lecture titled "Common Allergies" which includes a few slides on the impact of climate change and allergies.

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.

7. Does your <u>medical school</u> 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: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. The ideas of mental health and neuropsychological effects are briefly explored, specifically in how extreme weather events can affect mental health and how the inclusion of green spaces can positively impact mental health, neuropsychological health issues, neurological development including in both adults and children. This is a part of the core curriculum for all medical students.

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

In the elective (PRM601) Community Health Improvement Course (CHIC) 2: Population Health and Finance, mental health is discussed sporadically throughout lectures and through some hands-on activities.

In the elective EHS601 Occupational and Environmental Medicine there are lectures on hearing conservation programs and audiogram interpretations, principles of industrial hygiene and toxicology, preventive medicine, agricultural medicine, ergonomics, and occupational biopsychosocial assessments. The idea of mental health is often discussed throughout.

8. Does your <u>medical school</u> 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: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. The ideas of access to healthy food and water security are explored in depth, with a focus on the history of red-lining in Rochester and how this impacts extraordinarily on communities of colour.

Score explanation: Insert explanation here.

9. Does your <u>medical school</u> curriculum address the outsized impact of climate change on marginalized populations such as those with low SES, women, communities of colour, Indigenous communities, 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: As a part of Medical Evidence and Inquiry in 1st year there are two lectures

which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. The ideas of access to healthy food and water security are explored in depth, with a focus on the history of red-lining in Rochester and how this impacts extraordinarily on communities of colour. It also includes the specific impact it has on low income communities, elderly communities and children.
Score explanation: Insert explanation here.

10. Does your <u>medical school</u> curriculum address the unequal regional 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: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. It also focuses on how our healthcare system will be stressed as more climate refugees come to Rochester. *The lecture on "Global Health" Refugee Health and Advocacy in Rochester, NY in which climate refugees are focused on in depth.* *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.*	

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

11. Does your <u>medical school</u> 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:

As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. It also focuses on how our healthcare system will be stressed as more climate refugees come to Rochester. It briefly mentions reproductive health and environmental toxins.

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.

12. Does your <u>medical school</u> 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.

As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. In this lecture it went into depth about how Rochester is vulnerable including flooding, temperatures, energy grid, agriculture, influx of climate refugees and the straining of services.

13. To what extent does your <u>medical school</u> emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?	
3	Indigenous knowledge and value systems are **integrated throughout** the medical school's planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in **elective** coursework.

0	This topic was not covered.

Score explanation: This is not discussed

14. Does your <u>medical school</u> curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous 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: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. The ideas of access to healthy food and water security are explored in depth, with a focus on the history of red-lining in Rochester and how this impacts extraordinarily on communities of colour. It also includes the specific impact it has on low income communities, elderly communities and children.

Curriculum: Sustainability

15. Does your <u>medical school</u> 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 almost entirely on the health benefits and only mentions environmental benefits extremely briefly.

In the elective MED689 Lifestyle Medicine, plant based diets are discussed in depth and their benefits to the environment are mentioned.

16. Does your <u>medical school</u> curriculum address the carbon footprint of 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.
Score explanation: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. The impact of healthcare systems on greenhouse gas emissions are discussed in depth and how to mitigate these issues.	

17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	
2	The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of **pharmaceuticals** and over-prescribing as a cause of climate health harm. Alternatively teaching on **deprescribing** where possible and its environmental and health co-benefits would fulfil this metric.
1	The health **and** environmental **co-benefits** of **non-pharmaceutical management** of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of **inhalers** on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
	Score explanation: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. The

	impact of medical waste was discussed.

Curriculum: Clinical Applications

18. In training for patient encounters, does your <u>medical school's</u> 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.	

19. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the **core** curriculum includes strategies for taking an environmental history course.
1	Only **elective** coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history course.
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 paediatrics but specific strategies are not taught or provided.	

Curriculum: Administrative Support for Planetary Health

20. Is your <u>medical school</u> currently in the process of implementing or 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.

Score explanation: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. This lecture and the idea overall is always being improved and modified. It is currently in our exams for MEI and is constantly reviewed by our students and faculty in order to improve upon it.

21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> 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.

Score explanation: As a part of Medical Evidence and Inquiry in 1st year there are two lectures which introduce the topics of the impacts of extreme heat, health risks, and climate change titled: "Planetary Health & Climate Justice" &"Global Health." The topics are explored in depth and include the science of climate change, how it is accelerating, how it is affecting healthcare systems, and how it will specifically affect Rochester and patients in this area. This is our main introduction to this topic.

The ideas of planetary health and sustainable healthcare are otherwise unintegrated into the curriculum.

22. Does your <u>medical school</u> employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?	
1	Yes, the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	**No**, the **medical school** does **not** have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.

Score explanation: Yes, we currently have two staff members Dr. Valerie Lou MD MPH who gave our lecture on Planetary Health and Climate Justice and is the ED Green Team Director and Dr. Sandra Jee MD MPH who is the Director of Finger Lakes Children's Environmental Health Center. Both of which supervise this club and are responsible for helping integrate planetary health into our curriculum

Section Total (x out of 72)	50

Back to Summary Page here

Are there additional curriculum resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

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 emphasised.*

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
3	Yes, there are faculty members at the **medical school** who have a **primary r**esearch focus in planetary health **or** healthcare sustainability.
2	Yes, there are individual faculty members at the medical school 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.

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.

Examples of faculty doing primary research:
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.

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.

Sandra Jee, MD, MPH and Kate Weber, MD are also investigators with MSST to determine the PH need in the URSMD curriculum.

Daniel Croft MD, MPH conducts research on air pollution to improve the health of populations.

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 centre 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 prioritises environmental medicine instead of planetary health more broadly.

The University of Rochester Clinical and Translational Science Institute, which is associated with URMC, joined the PHA in 2020 which may increase involvement in the Clinicians for Planetary health Initiative.

The Emergency Medicine Department at Strong Memorial Hospital has organised 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 centre.

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 <u>medical school</u>?	
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.

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.

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 mobilisation 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.

4. Does your institution have a planetary health website that centralises ongoing and past research related to health and the environment?	
3	There is an **easy-to-use, adequately comprehensive** website that **centralises** 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 centralise** 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.
Score explanation: There is no such website.	

5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the **medical school** has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the **institution** has hosted at least 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.
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 practising 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.

6. Is your <u>medical school</u> a member of a national or international planetary health or ESH organization?	
1	Yes, the medical school is a member of a national or international planetary health or ESH organization
0	No, the medical school is **not** a member of such an organization
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." *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.*	

Section Total (6 out of 17)	**D+**

Back to summary page here

Are there additional research resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

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 colour. 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.
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.	

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 **institution/medical school** have not offered such community-facing courses or events.

Score explanation: Similar to the above explanation, URMC 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 URMC'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 realise their dreams." Lastly, Jeffrey Wyatt, DVM, MPH is an attending veterinarian and faculty in the Department of Comparative Medicine at URMC 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 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. However, current sustainable healthcare topics are frequently discussed at our Advisory Dean lunch meetings, though the extent of discussion and topics for discussion are at the discretion of the Advisory Dean.

4. Does the institution or main affiliated hospital trust engage in professional education activities targeting individuals post graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?	
2	Yes, the institution or main affiliated hospital trust offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the institution or main affiliated hospital trust offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are **no** such accessible courses for post-graduate providers

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."

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.

5. Does your medical school or its primary affiliated hospital 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 centres have accessible educational materials for patients.

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.
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

6. Does your medical school or its primary affiliated hospital 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.

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 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+**

Back to summary page here

Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

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 medical school or your institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the medical school or institution *either* offers grants for students to enact sustainability initiatives/QI projects *or* sustainability QI projects are part of the core curriculum.
1	The **medical school** or **institution** encourages sustainability QI projects (to fulfil clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, **but** there is no student funding available and there is no requirement to participate.
0	No, **neither** the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.

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.

Additionally first year medical students have the opportunity to conduct a funded research project between the first and second years of medical school. This project can include QI or sustainability initiatives. The project is funded through the Office for Medical Education and requires a minimum of 8 weeks of full-time research, a poster presentation, and continuous mentorship with a faculty member.

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these **require student initiative** to seek these out and carry them out in their spare time.
0	There are **no opportunities** for students to engage in planetary health/sustainable healthcare research.

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 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 web page 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 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 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.**
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 <u>medical school</u> or <u>institutional</u> decision-making council to advocate for curriculum reform and/or sustainability best practices?	
1	Yes, there is a student representative that serves on a medical school or institutional decision-making council/committee.
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 <u>institution</u> 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)

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 (10 out of 15)	**B**

Back to summary page here

Are there additional student-led initiative resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

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 endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising 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 minimising 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
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. *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.*	

2. How ambitious is your institution/medical school plan to reduce its own carbon footprint?	
5	The institution/medical school has a **written and approved plan** to achieve carbon neutrality by **2030**
3	The institution/medical school has a **written and approved plan** to achieve carbon neutrality by **2040**
1	The institution/medical school has a stated goal of carbon neutrality by **2040** but has **not created a plan** to reach that goal or the **plan is inadequate**
0	The institution/medical school does not meet any of the requirements listed above
	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 <u>medical school</u> 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: 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 <u>medical school</u> campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or 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, other buildings have not been held to the same standards.	

5. Has the <u>medical school</u> 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: A large majority of medical students live within walking distance of the medical school and Strong Memorial Hospital, so they are only required to drive to certain clinical experiences. The university 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 (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
3	Yes, the medical school has a**dequate s**ustainability requirements for food and beverages, including meat-free days or no red-meat, and **is engaged** in efforts to increase food and beverage sustainability.
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.
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.

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.

8. Does the medical school or 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.
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.	

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.
Score explanation: Our medical school does not have sustainability guidelines for events.	

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.
Score explanation: We were unable to find any evidence of medical-school wide guidelines or efforts to make research spaces more sustainable.	

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	The institution is **entirely divested** from fossil fuels.
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest, but currently still has fossil fuel investments.
1	The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organised advocacy** for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that.
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 Climate Action 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 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 32)	**D+**

Back to summary page here

Are there additional sustainability resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

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 a weighted average of the section grades, with curriculum receiving a higher weight owing to

its larger number of metrics. 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%

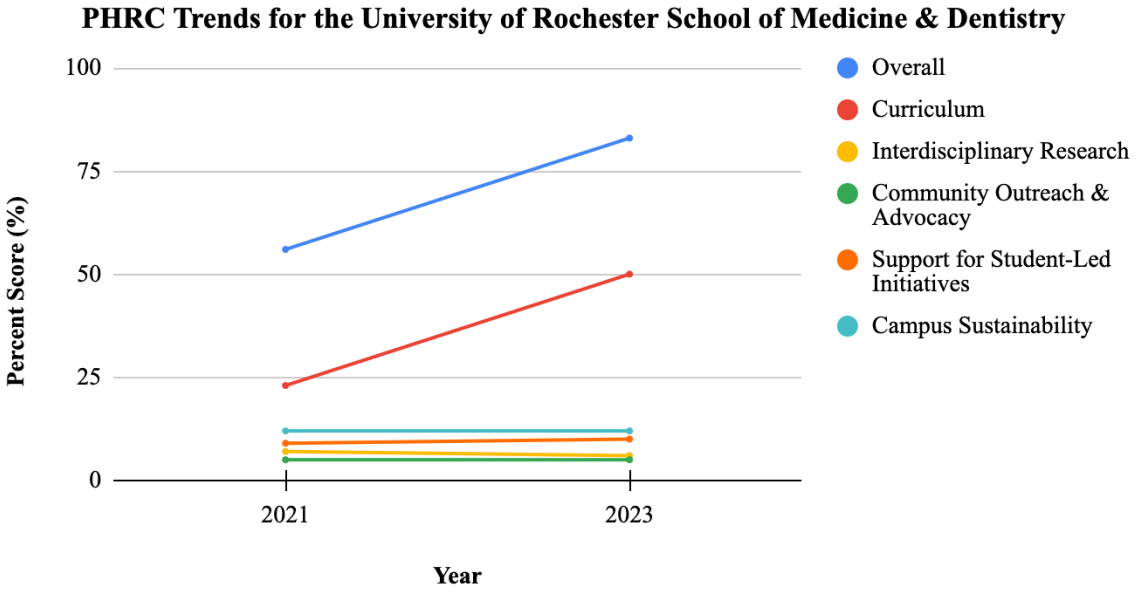
**Within each grade bracket, a score in the top 5% (_5 to_9%), receives a "+", and a score in the bottom 5% (_0-_4%) receives a "--". For example, a percentage score of 78% would be a B+.*

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 %	Letter Grade
Planetary Health Curriculum (30%)	(50/72) x 100 = A%	B
Interdisciplinary Research (17.5%)	(6/17) x 100 = 35.3%	D+
Community Outreach and Advocacy (17.5%)	(5/14) x 100 = C%	D+
Support for Student-led Planetary Health Initiatives (17.5%)	(10/15) x 100= D%	B
Campus Sustainability (17.5%)	(12/32) x 100 = 37.5%	D+
Institutional Grade	**(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = F%**	**C**

Report Card Trends

Section Overview
This graph demonstrates trends in overall and section grades for the years in which University of Rochester has participated in the Planetary Health Report Card initiative.



(For those teams that have participated in the PHRC initiative for more than one year, we have created this Google spreadsheet which can be used to generate a graphical representation of the school's trends of section-based and overall scores. You can either plug the numbers into the table and then just copy and paste your graph into your report, or you can create a copy of the Google spreadsheet so you can have a version long term to update and edit. **Here is the link to the spreadsheet to create your graph if you would like to include one.)**