



Planetary Health Report Card:

University of Minnesota Medical School



MEDICAL SCHOOL

UNIVERSITY OF MINNESOTA

Driven to Discover®

2020-2021 Contributing Team:

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Summary of Findings

Curriculum	C-
<ul style="list-style-type: none"> Planetary health (PH) connections exist mainly in one lecture, with a few scattered references throughout other lectures. While the main climate change lecture covered a variety of planetary health topics, it only exists as a PowerPoint for students to review and did not include a live or recorded lecture component. While PH connections in curriculum exist, they should be more frequent and more in-depth than they are currently and should appear in test questions to demonstrate their importance. Topics that are not in the curriculum at all (such as the predominant impact of climate change on marginalized communities), should be prioritized, as they are essential to understanding PH. In addition, students should receive training on how to have discussions with patients surrounding the topic of PH, including how it impacts the patient and how they can advocate for change. 	
Interdisciplinary Research	C-
<ul style="list-style-type: none"> IonE encourages sustainability research at the U of M and continues to work on including PH in their work. The medical school should align itself more closely with this work and explicitly encourage students and faculty to engage in PH research. In addition, while there are multiple webpages that provide some PH resources, there should be a webpage that centralizes all current resources related to PH (e.g. research opportunities, upcoming events, etc.). Communities that are disproportionately impacted by climate change should be given a voice in the process of forming a research agenda within the medical school. 	
Community Outreach and Advocacy	F
<ul style="list-style-type: none"> While IonE partners with community organizations to promote environmental health, the medical school itself should engage in community outreach regarding PH, offering events and partnering with organizations. Students should be involved in this process. Educational materials for patients regarding PH are in development - as these are completed, awareness should be spread so both physicians and students know they are available and when to use them. 	
Support for Student-Led Initiatives	B
<ul style="list-style-type: none"> Health Students for a Healthy Climate, an interdisciplinary group that aims to advance sustainability initiatives, is supported by the administration. There have also been multiple PH programs and initiatives taking place within the institution in the past year. While there were sustainability grants offered last year, these grants or similar grants should be offered annually to encourage research in PH. In addition, students should be able to access information about PH activities and potential mentors via a webpage or other accessible resource. 	
Sustainability	C+
<ul style="list-style-type: none"> The U of M has an Office of Sustainability that engages in various sustainability projects on campus, including within the medical school buildings. However, the medical school is not closely associated with this office and does not have input on many sustainability guidelines. The medical school should connect with the Office of Sustainability and integrate itself more deeply into sustainability initiatives, becoming an active member in making campus more sustainable. 	

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:</i> The medical school offers one elective course relating human health and the environment: INMD 7523 Occupational & Environmental Medicine. This is a 4 credit course offered to MS3's and MS4's that focuses on training students to identify and manage diseases related to occupational and environmental exposures. While this course does discuss environmental health, it does not primarily focus on sustainable healthcare or planetary health.</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.

Score explanation: The relationship between extreme temperature health risks and climate change was briefly covered in a PowerPoint presentation in an online module for Essentials of Clinical Medicine 3A (INMD 6805). In addition, climate change-related heatstroke and agricultural worker health were discussed in a case in FCT2.

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.

Score explanation: The impacts of extreme weather events on health was briefly covered in a PowerPoint presentation in an online module for Essentials of Clinical Medicine 3A (INMD 6805).

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: The impact of climate change on infectious diseases was briefly covered in a PowerPoint presentation in an online module for Essentials of Clinical Medicine 3A (INMD 6805). In addition, the relation between climate change and disease emergence was briefly mentioned in an Intro to Bacteriology lecture in MS1's microbiology course.

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.
<p><i>Score explanation:</i> The impact of climate change and air pollution on cardiorespiratory health was briefly covered in a PowerPoint presentation in an online module for Essentials of Clinical Medicine 3A (INMD 6805).</p> <p>In addition, the effect of pollution on atopy was briefly mentioned in the Hypersensitivity and Autoimmunity lecture in Microbiology.</p> <p>Finally, in the Intro to Respiratory Physiology lecture in the Physiology course, the effect of pollution and environmental inequities on lung function was discussed.</p>	

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.
<p><i>Score explanation:</i> The mental health effects of climate change were briefly covered in a PowerPoint presentation in an online module for Essentials of Clinical Medicine 3A (INMD 6805).</p>	

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.
<p><i>Score explanation:</i> The relationship between food security, ecosystem health, and climate change is not a topic covered in either preclinical nutrition coursework or clinical electives.</p>	

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.
<i>Score explanation:</i> The disproportionate impact of climate change on vulnerable populations is not a topic covered in preclinical coursework or clinical electives.	

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.
<i>Score explanation:</i> The unequal health impacts of climate change globally were briefly covered in a PowerPoint presentation in an online module for Essentials of Clinical Medicine 3A (INMD 6805). A slide on forced migration discussed how people in certain areas have had to relocate, putting stress on the healthcare systems where resettlement occurs. In addition, the 1Health Better Together orientation discussed climate change-related displacement and immigrant health.	

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.
<i>Score explanation:</i> INMD 7523 Occupational & Environmental Medicine is an elective course that covers the effect of environmental exposures on pregnancy.	

11. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?	
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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:</i> Environmental threats to the University of Minnesota’s surrounding community were briefly covered in a PowerPoint presentation in an online module for Essentials of Clinical Medicine 3A (INMD 6805). The effect of air pollution on Minnesotans, as well as the increasing prevalence of Lyme disease in Minnesota, were both briefly discussed.</p>	

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.
<p><i>Score explanation:</i> The climate and environmental health challenges that impact Indigenous communities is not a topic covered in either preclinical nutrition coursework or clinical electives.</p>	

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.
<p><i>Score explanation:</i> The disproportionate impact of environmental toxins on vulnerable populations is not a topic covered in preclinical coursework or clinical electives.</p>	

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.
<p><i>Score explanation:</i> The impact of meat production on global environmental change was briefly discussed in Science of Medical Practice (INMD 6802) in year 1.</p>	

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.
<p><i>Score explanation:</i> The healthcare system's contributions to climate change and ways to combat it were briefly covered in a PowerPoint presentation in an online module for Essentials of Clinical Medicine 3A (INMD 6805).</p>	

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: In the past, MS1s received a lecture as part of ECM where Dr. Andrew Jameton discussed the ethical imperative to discuss climate change and environmental issues with patients in a clinical setting. This did not occur this past year.

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: Taking an environmental history is a focus of the elective INMD 7523 Occupational & Environmental Medicine.

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.

Score explanation: The medical school is not currently in the process of improving planetary health education. There is a group of medical students pushing for an elective introduction to environmental health, but the medical school itself is not a part of this.

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:</i> Most of the planetary health/ESH topics are presented in one PowerPoint presentation in an online module for Essentials of Clinical Medicine 3A (INMD 6805). Climate change is mentioned a few times in other lectures, but only briefly, and it should be more well-integrated into the entire medical school curriculum.</p>	

<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?</p>	
1*	Yes, the medical school has an incentive program.
0	No, the medical school does not have an incentive program.
<p><i>Score explanation:</i> The medical school does not currently offer incentives to faculty/departments to develop new planetary health courses or incorporate planetary health into existing courses.</p>	

Section Total (x out of 58)	23
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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 a 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:</i> Dr. Rafael Andrade, a professor in the Department of Surgery, conducts research regarding waste in operating rooms. Dr. Shailey Prasad, a professor in the Department of Family Medicine and Community Health, has also conducted research regarding planetary health.</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: The Institute on the Environment (IonE) at the University of Minnesota is a multidisciplinary research center aimed at advancing sustainability initiatives within Minnesota. Several of the funded initiatives, such as *Health and Environment in Africa* and *Food System Design for Health*, focus explicitly on enhancing human health through environmentalism. In addition, there is an ongoing effort to thread health discussions and considerations into all of the work done at IonE.

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.

Score explanation: There is no process.

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.

Score explanation: There is no centralized campus resource related to health and the environment, but there are some webpages that address the relationship between health and environment.

There is an [Earth Day 2020 webpage](#) with some resources and information for students. There is also a [UMN Medical Student Environmental Health Guide](#), but this was put together by students and not the institution.

The Center for Global Health and Social Responsibility has a web page titled “[Climate Change and Health](#)”. This webpage references a set of slides developed by UMN Climate Champions that cover various topics relating climate change and environmental exposures to health. The slides are meant to be incorporated into existing health curricula lectures where relevant. While a very valuable resource, this page does not amount to a planetary health website or constitute a compilation of “various campus resources related to health and the environment”.

There is also a webpage for the [UMN sustainability campaign](#), which includes ways that students can get involved, but it does not address the connection between health and the environment.

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.

Score explanation: Code Blue For Patient Earth is a biannual, day-long conference that is primarily organized and funded by Health Professionals for a Healthy Climate, a community professional organization. The UMN has only hosted the conference once, so they are not sufficiently involved to be defined as a host, but they have sponsored the event.

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.

Score explanation: The School of Nursing has joined the Planetary Health Alliance. The School of Nursing, School of Public Health, and Center for Global Health and Social Responsibility have joined the Global Consortium on Climate and Health Education. The Medical School has not joined either.

Section Total (x out of 19)

8

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.
<i>Score explanation:</i> IonE partners with community organizations to promote environmental health in Minnesota through the <i>Resilient Communities Project</i> , but the Medical School is not a direct part of this project.	

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.
<i>Score explanation:</i> The University of Minnesota does not offer community courses or events regarding planetary health. The institution did host a Wellbeing Series for Planetary Health this past year, but it was just geared towards students/faculty.	

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: Dean Tolar has very occasionally included updates about planetary health in his email updates that are sent out to medical students.

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.
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.

Score explanation: The medical school does not offer CME courses that address planetary health.

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.

Score explanation: The medical center does not have accessible educational materials relating to environmental health. However, Dr. Surapaneni is leading the development of educational, animated videos to be made available to patients wishing for further information on various environmental hazards such as air pollution or heat-related illness. One video is completed, but it will take a couple years before the project is completed and the resources are fully accessible.

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.

Score explanation: Same answer as above.

Section Total (x out of 14)	2
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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 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.

Score explanation: IonE offers [grants](#) to support projects addressing environmental and sustainability issues. While these grants are not geared specifically towards medical students, they are available for students across the whole U of M system.

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.

Score explanation: There are opportunities for students to perform research, but none are specifically geared towards planetary health or sustainable healthcare. Students would have to create the research opportunity for themselves - none are readily available - but they could feasibly get funding approved for a planetary health or sustainable healthcare project.

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: The Center for Global Health and Social Responsibility has a page on their website titled "[Climate Change and Health](#)". This page lists the contact information for "Climate Champions", who are faculty within various health professional schools active in planetary health. However, there is no webpage specifically within the medical school website.

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: Health Students for a Healthy Climate (HSHC) is an interdisciplinary student group aimed at advancing sustainability initiatives within the health professional schools. This involves both spreading awareness about the intersection between the environment and human health as well as the importance of reducing the environmental impact of healthcare institutions. The group receives annual seed money through the Center for Health Interprofessional Programs (CHIP), and is supported by a faculty mentor, Dr. Laalitha Surapenini.

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.
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0	No, there is no such student representative.
<i>Score explanation:</i> There is no medical student liaison representing sustainability interests.	

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:

Garden: Cornercopia is a student-run organic farm that gives students the opportunity to get hands-on experience in sustainable agriculture. Anyone, including students and community members, can volunteer at the farm, and there are also courses and research opportunities available. There is also an Interprofessional Student Garden Project, where students can help plant and sustain a garden on campus.

Conferences, speaker series, symposia, or similar events: Code Blue is a conference centered around climate change and healthcare, and students are encouraged to attend, although students are not the intended audience. The Earl E. Bakken Center for Spirituality and Healing hosted a Wellbeing Series for Planetary Health in Fall 2020. There are also several student-facing events centering around planetary health each year, either hosted by HSHC, the School of Nursing, or the Center for Global Health and Social Responsibility.

Learning directly from members of a local environmental justice community: The Wellbeing Series for Planetary Health included hosting an online community gathering that featured local climate-focused organizations.

Cultural arts events, installations or performances: The Wellbeing Series for Planetary Health also included a talk and live music by the lead singer for Cloud Cult.

Wilderness or outdoor programs: The Outdoors Club is a student organization that provides opportunities for all UMN students to engage in outdoor activities while following Leave No Trace principles and engaging members in discussions of environmental ethics.

Section Total (x out of 15)	11
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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
<i>Score explanation:</i> There is an Office of Sustainability at the U of M, but no specific staff member in charge of medical school and/or hospital sustainability.	

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.
<i>Score explanation:</i> The University of Minnesota Office of Sustainability states a goal of becoming carbon neutral by 2050, but the medical school is not specifically involved in this goal or its implementation.	

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: According to the Office of Sustainability, the University electricity is about 41% renewable.

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: Answer provided by the Office of Sustainability.

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.
<p><i>Score explanation:</i> The Medical School is located right next to the light rail, which many students take advantage of. Students can purchase a U-Pass, which is a discounted card that allows students to take the light rail and buses for an entire semester. In addition, the U of M campus is not amenable to cars, as there is almost no free parking on campus. However, there are less amenable transportation options for third and fourth-year medical students once they start clinical rotations and are not on-campus anymore.</p>	

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.
<p><i>Score explanation:</i> The medical school has both an organics and a conventional recycling program in its buildings.</p>	

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.
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:</i> According to the Dean’s office, the Medical School does not have any input on campus food and beverage selections or their sustainability. This is done at the campus level. On the campus level, according to the Office of Sustainability, University food service, M Dining, is provided through Aramark. M Dining locations in med school buildings include the Caribou Cafe in Moos Tower and Freshii in PWB. The University has established food systems as one of their sustainability priorities and they actively work with Aramark to establish sustainability requirements, goals, and initiatives.</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.

Score explanation: According to the Dean's office, the Medical School does not have any input on supply procurement or its sustainability criteria. This is done at the campus level. On a campus level, according to the Office of Sustainability, the University applies sustainability criteria to some procurement activities depending on the type of product/service being procured (e.g. yes to construction materials, office supplies; no to specialized research materials).

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: According to the Dean's office, there are no sustainability guidelines for events hosted at the Medical School. Any food, supplies and/or events are all planned at a department level by many different individuals.

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: Yes, the University has initiatives that the medical school can access. The Office of Sustainability is presently working with the Medical School department of Biochemistry, Molecular Biology, and Biophysics on lab sustainability initiatives. The University's recycling department also works directly with labs on improving recycling and organics collection.

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.

Score explanation: Info provided by the Office of Sustainability.

Section Total (x out of 29)	16
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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%

Planetary Health Grades for the University of Minnesota Medical School

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

Section	Raw Score	Grade
Planetary Health Curriculum (30%)	23 / 58 = 40%	C-
Interdisciplinary Research (17.5%)	8 / 19 = 42%	C-
Community Outreach and Advocacy (17.5%)	2 / 14 = 14%	F
Support for Student-led Planetary Health Initiatives (17.5%)	11 / 15 = 73%	B
Campus Sustainability (17.5%)	16 / 29 = 55%	C+
Institutional Grade	44%	C-