Planetary Health Report Card (Healthcare Management): University of Minnesota

2024-2025 Contributing Team:

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Land acknowledgment: The School of Public Health at the University of Minnesota Twin Cities is built within the traditional homelands of the Dakota people. Minnesota comes from the Dakota name for this region, Mni Sóta Maḳoce, which loosely translates to the land where the waters reflect the skies.

Summary of Findings

Overall Grade	B

Curriculum	C

- The elective "*Climate Change and Healthcare Organizations"* has a strong coverage of many pertinent planetary health concepts and experiences, with an opportunity to address plat-forward diets more. Outside of the elective, there is an opportunity to weave planetary health curriculum longitudinally and in other courses
- **Recommendations:** We recommend taking action to provide the "Climate Change and Healthcare Organizations" as a required course for the MHA curriculum and creating a plan to educate students on planetary health longitudinally through the program.

Interdisciplinary Research	A

- The School of Public Health houses the Division of Environmental Health Sciences, where Dr. Kim engages in direct planetary health research and intervention for climate resilient infrastructure, which is complimented by two researchers in the School of Medicine.
- **Recommendations**: There appear to be only two faculty members within the School of Medicine and many in the School of Public Health doing research at the intersection of climate, sustainability, and health. We recommend increased efforts to incorporate Master of Healthcare Administration students into interdisciplinary collaboration.

Community Outreach and Advocacy	B

- The UMN incorporates sustainability and planetary health with community engagement in several ways. For example, the UMN Extension Regional Sustainable Development Partnerships (RSDP) supports numerous state-wide projects focused on building climate resilient communities. Furthermore, the Institute on the Environment (IonE) and School of Nursing's Center for Planetary Health and Environmental Justice pursue research-based climate solutions and justice in partnership with community members.
- Recommendations: Increase community-facing programs and update educational materials regarding the health impacts of climate change with community perspectives at the center of these resources. Incorporate the Master of Healthcare Administration program into the programs above, thereby facilitating opportunities for student involvement.

Support for Student-Led Initiatives	A

- Student-led planetary health initiatives continue to gain momentum. The University of Minnesota as a whole has opportunities for grants and funding for student-led initiatives, along with a centralized Office of Sustainability webpage to locate projects and research. There are opportunities to get involved in student representation, speaker and panel events, and extracurriculars such as gardening, volunteering, and outdoors programs. Many of these opportunities are school-wide, rather than being specific to or advertised by the Master of Healthcare Administration program. Of note, student groups focused on planetary health, especially with faculty support, are an area of opportunity.
- Recommendations: We recommend strengthening support and availability for student-led planetary health initiatives, especially in regards to funding and faculty support of student groups. While the University as a whole provides some support and opportunity for planetary health initiatives, we encourage the Master of Healthcare Administration program to place a greater focus on collaborating with and advertising these

planetary health initiatives, whether through centralized webpages, mentorship opportunities, funding, or general promotion.

Campus Sustainability	**C+**

- The University of Minnesota has committed to improving sustainability practices and has made strides towards a carbon neutral campus which will be tackled more aggressively in the coming 10 years, outlined in the 10 year plan, with an end goal of carbon neutrality by 2050. The majority of campus buildings have been retrofitted with LED lights to cut consumption and incentivization programs have been rolled out in lab spaces to promote energy efficiency and conservation.
- Recommendations: We suggest that the Office of Sustainability update their website with more current information on renewable energy usage. Incorporate the 2023 Climate Action Plan more in the Master of Healthcare Administration program.

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 health professional schools, we have created a Planetary Health Report Card that students internationally can use to grade and compare their institutions on an annual basis. This student-driven initiative aims to compare health professional 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.

Healthcare management:

Healthcare management professionals work hard to ensure their organizations keep people healthy. But people need more than just good healthcare. They also need healthy environments. Healthcare managers are critically important collaborators in safeguarding planetary health. Through the choices they make, their organizations can lead by example in transitioning to more sustainable practices and advocating for environmental health in the communities they serve.

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as "the health of human civilisation 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.

- **Healthcare Managment School/Department vs. Institution:** When "Medical school" is specified in the report card, this only refers to curriculum and resources offered by the School/Department of healthcare management 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, including all of its campuses. Any resource reasonably accessible by healthcare management 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 students 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 life course, 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. Please be as specific as possible when providing evidence for this metric.

- **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.

- **Core Curriculum:** This refers to taught material that is develiered to the entire cohort of students in one year.

- **Clerkship / Outreach:** 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, outreach or placements. This is a relatively short (approximately 4-8 weeks) period of study and patient-centred clinical experience that takes place as part of the undergraduate programme.

- **Clinical rotation:** This is a term used to refer to placements that students go on (e.g., ophthalmology, surgery, cardiology).

- **Physiotherapy vs Physical Therapy:** For the purposes of this report card these terms are considered interchangeable. However, physiotherapy will be used primarily.

- **Community organisations:** For most institutions, there are existing groups that are not directly affiliated with the university and exist as a product of what the community the institution exists in cares about or needs. These specific community organisations relevant to this report include those that are focused around some aspect of climate and health preservation. These community organisations can include but are not limited to local mutual aid initiatives, underserved-resource distribution groups, clean-up and nature conservation groups, community gardeners, and other environmental-related organisations. If your institution does not have access to local volunteerships with community groups, please report any community organisations your institution or school has collaborated with.

- **Climate justice:** The idea that certain population groups and geographical locations which are disproportionately more impacted by climate change are already economically and socially disadvantaged. This double vulnerability sits alongside pre-existing social justice concerns and should therefore shift policy and practice to mitigate the inequitable effects of the climate crisis.

- **Extractivisim:** The removal of natural resources typically in large quantities. Within anthropology this term is often used in the context of colonialism to refer to the historic seizing of natural resources, a practice which has developed business models tied to ecological degradation and loss of biodiversity.

- **Global South:** Nations that often have less economic and industrial development and are typically in the southern hemisphere. These nations have been found to be disproportionately impacted by the climate crisis.

- **Low socioeconomic status (SES):** An individual or geographical area that across a variety of socioeconomic factors (e.g., income, education, race/ethnicity) is considered vulnerable. This vulnerability has been correlated to more adverse health outcomes often as a consequence of encountering more barriers in accessing and receiving healthcare.

- **Low and Middle-Income Countries (LMIC):** Countries that have lower degrees of economic affluence.

- **Anthropogenic:** Created through human activity

- **Marginalized communities:** Groups excluded from mainstream economic, educational, social, and/or cultural experiences due to race, gender identity, sexual orientation, age, physical ability, language, and/or immigration status (Sevelius et al., 2020).

Other considerations:

- If there are more than one "tracks" at your institution 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). Where possible please indicate the proportion of students that are on each track.

Completed in 2022 a Literature Review by Metric is available for the 2022 medicine report card metrics. We are in the process of updating this review and making it more applicable to all the disciplines. However, the review serves as a rough 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 health professional 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.*

Healthcare administration is a highly interdisciplinary industry with core areas such as operations, strategy, finances, supply chain, and infrastructure. Its execution within a health system has immediate and long-term effects on quality of care and patient outcomes. As the next generation of healthcare leaders, healthcare administration students will ultimately be significant sources of influence for sustainability and climate change initiatives within their health systems. Therefore, a curriculum that is well-versed in planetary health and sustainability is essential for preparing students for the unique challenges of managing hospitals facing the impact of climate change and creating health systems with minimal planetary harm.

Curriculum: Planetary Health

1.1 Does your Master's curriculum address the impact of planetary health and climate change on health system operations, finances, service lines, emergency preparedness*, or any other element of a health system? *Public health emergency preparedness (PHEP) is the capability of the public health and health care systems, communities, and individuals to prevent, protect against, quickly respond to, and recover from health emergencies, particularly those whose scale, timing, or unpredictability threatens to overwhelm routine capabilities. Reference: Nelson C, Lurie N, Wasserman J, Zakowski S. Conceptualizing and defining public health emergency preparedness. Am J Public Health. 2007 Apr;97 Suppl 1(Suppl 1):S9-11. doi: 10.2105/AJPH.2007.114496. Epub 2007 Apr 5. PMID: 17413078; PMCID: PMC1854988.	
This topic was **fully addressed** by the **core** curriculum. (2 points)	
This topic was **partially adressed** by the **core** curriculum. (1 points)	
This topic was **not** covered. (0 points)	
Score Assigned:	1
Score explanation: The curriculum thoroughly addresses the impact on health system operations, finances, service lines, and emergency preparedness. In an elective course titled "Climate Change and Healthcare Organizations", students complete the Geneva Sustainability Centre Carbon Emissions Learning Lab simulation that requires students to reduce a hospital's carbon footprint by 50% within 7 years. The team of students have to prioritize operational, financial, service line changes, and emergency preparedness to ensure they meet the target goal within 7 years.	

1.2 Did your Master's curriculum offer elective courses (student-selected modules) to engage

students in Education for Sustainable Healthcare or Planetary Health in the past year?	
Several elective courses were offered to master's students on ESH or planetary health. (2 points)	
Some elective courses were offered to master's students on ESH or planetary health. (1 point)	
No elective courses were offered to students (0 points)	
Score Assigned:	1
Score explanation: Insert explanation here.	

1.3 Does your Master's curriculum address the impacts of extreme weather events or changing weather patterns on healthcare systems, such as but not limited to severe thunderstorms, storm surges, drought, or excessive heat?	
The Master's curriculum addresses **at least two** of the above in the **core** curriculum. (2 points)	
The Master's curriculum addresses **at least one or a relative alternative** of the above in the **core** curriculum. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: The impacts of extreme weather events on healthcare systems are covered throughout the Climate Change and Healthcare Organizations course. Most notably, a leader from HealthPartners, a health system based in the Twin Cities, and Cottage Health, a health system based in Santa Barbara, spoke to the class and explained the investments their organizations have made to address the current and future impacts of droughts, severe thunderstorms, storm surges, and excessive heat on their healthcare systems and patients	

1.4 Does your Master's curriculum address the relationships between community health, food and water security, ecosystem health*, and climate change? *: the state or condition of an ecosystem in which its dynamic attributes are expressed within the normal ranges of activity relative to its ecological state of development" (van Andel and Aronson, 2006)	
This topic was explored **in depth** by the **core** curriculum. (2 points)	
This topic was **briefly** covered in the **core** curriculum. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	1
Score explanation: The relationships between community health, food and water security, and climate change is briefly covered in the "Impact on Vulnerable Populations" lecture of the Climate Change and Healthcare Organizations course. Additionally, the Ecohealth Quest explores	

ecosystem health and its connection to community health through evidence-based discussions, guided explorations in nature, and interactions with community naturalists..

1.5 Does your Master's curriculum address the outsized impact of climate change on marginalized populations such as those with low socio-economic status, women (including reproductive health), communities of color, indigenous communities, children, homeless populations, and older adults?	
This topic was explored **in depth** by the **core** curriculum. (2 points)	
This topic was **briefly** covered in the **core** curriculum. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: Climate changes impact on marginalized populations listed above was thoroughly discussed during the "Changes in Disease Burden" and "Impact on Vulnerable Populations" in the Climate Change and Healthcare Organizations course. Additionally, these topics were discussed during the Introduction to Population Health: A Health System Perspective.	

1.6 Does your Master's curriculum address the unequal regional health impacts of climate change globally?	
Yes, the **core** curriculum covers the unequal regional health impacts of climate change. (1 point)	
No, this topic was **not** covered. (0 points)	
Score Assigned:	1
Score explanation: The unequal regional health impacts of climate change globally are explored during the "Human Health Impacts of Climate Change" and "Climate Change Fundamentals" lectures in the Climate Change and Healthcare Organizations course. These lectures also cover climate-related migration and how certain areas of the world will be more severely affected by climate change than others.	

1.7 Does your Master's curriculum address the environmental and health co-benefits of a plant-forward (plant-based) diet, especially one that is locally sourced?
Yes, the **core** curriculum covers the environmental and health co-benefits of a plant-based diet AND includes the benefits of locally sourced food. (2 points)
Yes, the **core** curriculum covers the environmental and health co-benefits of a plant-based diet but does NOT include the benefits of locally sourced food. . (1 point)

No, this topic was **not** covered. (0 points)	
Score Assigned:	0
Score explanation: Although the environmental and health co-benefits of a plant-forward diet, including the positive impact of locally sourced foods, are mentioned, we did not feel that the information shared was in-depth enough to justify awarding us a point.	

1.8 Does your Master's curriculum address the carbon footprint of healthcare systems via Scopes 1 ("Direct emissions from sources owned or controlled by the organization"), 2 (Indirect emissions purchased energy), or 3 (All other indirect emissions including those within the supply chain) per the Greenhouse Gas Protocol?	
Two or more emission scopes were covered in the **core** curriculum. (2 points)	
Only one emission scope was covered in the **core** curriculum. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: The carbon footprint of healthcare systems through Scope 1, 2, and 3 is thoroughly covered in the Climate Change and Healthcare Organizations course. During the simulation, students can consistently track the impact of their initiatives on each scope. Additionally, as part of their final project deliverable, students are required to create an action plan for an organization and identify which scopes would be affected by the proposed actions.	

1.9 Does your Master's curriculum introduce strategies to have conversations with physicians or other healthcare providers about the health effects of climate change?	
Yes, the **core** curriculum covers strategies to have conversations regarding the health effects of climate change. (1 point)	
No, this topic was **not** covered. (0 points)	
Score Assigned:	1
Score explanation: During the "Organizational Strategies and Actions" lecture in Climate Change and Healthcare Organizations, strategies for having conversations with physicians and other healthcare providers about the health effects of climate change are discussed. Additionally, the guest speakers who spoke throughout the semester shared how they've created a sustainability culture among providers, other employees, and the community.	

1.10 Does your Master's curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?

Yes, the **core** curriculum covers important human-caused environmental threats relevant to the institution's surrounding community. (1 point)	
No, this topic was **not** covered. (0 points)	
Score Assigned:	1
Score explanation: During the "Changes in Disease Burden" and "Impact on Vulnerable Populations" lectures in the Climate Change and Healthcare Organizations course, human-caused environmental threats relevant to the university's surrounding community are emphasized. Students reviewed and discussed the current and anticipated environmental threats within the Twin Cities and, more broadly, across Minnesota.	

1.11 Does your Master's curriculum emphasize the importance of Indigenous knowledge and value systems as essential components of planetary health systems?	
Yes, the **core** curriculum emphasizes the importance of Indigenous knowledge and value systems. (1 point)	
No, this topic was **not** covered. (0 points)	
Score Assigned:	1
Score explanation: Indigenous knowledge and value systems, as essential components of planetary health systems, were discussed in Climate Change and Healthcare Organizations during the "Impact on Vulnerable Populations" lecture and through a reading in the Fifth National Climate Assessment, Chapter 16: Tribes and Indigenous Peoples.	

1.12 Does your Master's curriculum cover these components of sustainable management practice in the core curriculum? (1 point each)	**Score**
HR: Leveraging environmental sustainability to attract and retain talent (e.g. through employer branding and employee resource groups). (1 point)	0
Facilities: Incorporating environmental sustainability considerations into facilities master planning? (1 point) *Examples of facilities master planning: Equipment, access, information technology, systems and processes, sustainability initiatives, and staff*	0
Governance: Incorporating environmental sustainability and climate resilience considerations into enterprise risk management? (1 point)	0
Finance: Financing mechanisms for supporting environmental sustainability practices (e.g. green bonds, green revolving funds). (1 point)	0
Leadership & Policy: Organizational advocacy in regional, national, and global healthcare policies (e.g. ATACH/WHO). (1 point)	0

Law: Legal and regulatory frameworks involving measuring and reporting of environmental footprints (e.g. SBTi, TCFD)? (1 point)	0
IT: The environmental footprint associated with information systems / AI? (1 point)	0
Quality: Expectations of emerging accreditation standards associated with measuring, reporting, and reducing emissions. (1 point)	0
Community Health: Integrating climate considerations into community reliance planning. (1 point)	0
Score explanation: While these components of sustainable management practices are discussed in multiple lectures and required readings during the Climate Change and Healthcare Organizations course, they are not covered in the core curriculum.	

Curriculum: Administrative Support for Planetary Health

1.13 Is your Master's curriculum currently in the process of implementing or improving Education or Sustainable Healthcare (ESH)/planetary health education?	
Yes, the curriculum team are in the process of actively including ESH / Planetary Health (2 points)	
No, but this is something that is being considered. (1 point)	
There are no current plans or considerations of including ESH / Planetary Health. (0 points)	
Score Assigned:	2
Score explanation: Associate Program Director, Justine Mishek, and Executive MHA Director, Ryan Armburster, are in the process of determining the most appropriate way to make Sustainable Healthcare (ESH) / Planetary Health a required component of the MHA curriculum. Furthermore, Justine and Ryan are planning how to expand and enhance the current elective, "Climate Change and Healthcare Organizations".	

1.14 How well are the aforementioned planetary health/Education or Sustainable Healthcare topics integrated longitudinally into the core curriculum?	
Planetary Health / ESH are very well integrated longitudinally into the curriculum (2 points)	
Planetary Health / ESH are well integrated but there is room for improvement. (1 point)	
Planetary Health / ESH are poorly integrated into the longitudinal curriculum. (0 points)	
Score Assigned:	0

Score explanation: Planetary Health / Education and Sustainable Healthcare topics are not integrated longitudinally into the core curriculum, as they are currently housed in the "Climate Change and Healthcare Organizations" elective only. Program leadership is aware of this opportunity and is engaged in conversations regarding the topic.

1.15 Does your Master's curriculum assign a faculty member to oversee the incorporation of planetary health and sustainable healthcare as a theme throughout the program?	
Yes, there is an assigned faculty to develop ESH / Planetary Health education. (1 point)	
There is **no** assigned member of staff. (0 points)	
Score Assigned:	1
Score explanation: Executive MHA Director, Ryan Armburster, is responsible for teaching the "Climate Change and Healthcare Organizations" elective and is actively engaged in conversations with Associate Program Director, Justine Mishek, on best practices to emphasize the theme of sustainable healthcare in the program. These conversations include expanding the elective to become a required course and improving current coursework.	

Section Total (16 out of 32)	**50%**

Interdisciplinary Research

Section Overview: ***This section evaluates the quality and quantity of interdisciplinary planetary health research at the 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, institutions 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.*

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your institution?	
Yes, there are faculty members at the **institution** who have a **primary** research focus in planetary health **or** sustainable healthcare/vetcare. (3 points)	
Yes, there are individual faculty members at the **institution** who are conducting research **related** to planetary health or healthcare sustainability, but it is not their primary research focus. (2 points)	
There are sustainability researchers at the **institution**, but not specifically associated with healthcare/vetcare. (1 point)	
No, there are **no** planetary health and/or sustainability researchers at the **institution** at this time. (0 points)	
Score Assigned:	3

Score explanation:
Threehealthcare-focused researchers who have a primary research focus in planetary health or healthcare sustainability. Below are brief explanations of Dr Christine Wendt's, Dr Vishnu Laalitha Surapaneni's, and Dr Hyun Kim work.

Dr. Christine Wendt – "Dr. Wendt's interest in air pollution and chronic lung disease dates to her participation as a delegate for the University of Minnesota and Chinese Academy of Science to address the health effects of air pollution in China. This resulted in two publications on the effects of air pollution exposure on lung disease and biomarkers of lung disease. Following this she became a Site PI for the VA Cooperative Study #595 Service and Health Among Deployed Veterans (SHADE). SHADE is an epidemiology study to determine the effects of deployment-related air pollution exposure, including burn pits, on lung function and symptoms."

Dr. Vishnu Laalitha Surapaneni – "Dr. Surapaneni's areas of interest are impacts of climate change on health equity, sustainable healthcare delivery, and the role of physician advocacy in developing science-based policy. She is a member of the Lancet Countdown on health and climate change United States Brief workgroup through the University's Center for Global Health and Social Responsibility and an associate at the Institute on the Environment."

Dr Hyun Kim - "Dr. Kim's main research goal is to guard and to improve human health from climate change impacts and climate-induced disasters, by providing epidemiologic evidence, applying policy interventions, and implementing climate resilient infrastructure for both soft and hard. He conducts research in areas affected by climate-induced disasters and engage in field work in collaboration with the World Health Organization (WHO) and its member state governments.

Some highlights of his past and ongoing projects include conducting climate change vulnerability and adaptation assessments (Fiji, Tuvalu, Kiribati), developing WHO's global guidance on Technologies for Climate Resilient and Environmentally Sustainable Healthcare Facilities, developing multi-million Green Climate Fund (the largest UN climate funding mechanism) proposals (Vietnam, the Philippines, Mongolia, Lao People's Democratic Republic) and advising and implementing national health infrastructure, including the implementation of the Early Warning and Response Systems for climate change sensitive diseases, climate resilient Water, Sanitation and Hygiene (WASH) systems, renewable energy options, and climate informed health information systems in healthcare facilities and health systems.

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?	
There is **at least one** dedicated department or institute for interdisciplinary planetary health research. (3 points)	
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. (2 points)	
There is an **Occupational and Environmental Health department**, but no interdisciplinary department or institute for planetary health research. (1 points)	
There is **no** dedicated department or institute. (0 points)	
Score Assigned:	3

Score explanation:

The Institute on the Environment (IonE) at the University of Minnesota is a multidisciplinary research center aimed at supporting collaborative research and initiatives related to sustainability and planetary health. A recent, notable project the IonE has been involved in includes:

Institute on the Environment-based FoodS³ model is revolutionizing agricultural supply chain sustainability: "FoodS³ models the distribution of crop outputs from their counties of production to their final destinations of consumption. The model enables organizations to trace the carbon footprint of their food supply chains, providing insights to help them make data-driven decisions towards greater sustainability…The FoodS³ team is eager to continue working with partners to increase transparency of the agricultural supply chain. They aim to help partners set more accurate carbon goals and provide insights that drive tangible changes in sustainability practices."

2.3. 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 institution?	
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. (3 points)	
Yes, there is a process in which community members impacted by climate and environmental injustice **advise** the climate + environmental research agenda. (2 points)	
No, but there are **current efforts** to establish a process for community members to advise or make decisions on the research agenda. (1 points)	
There is **no** process, and **no** efforts to create such a process. (0 points)	
Score Assigned:	2
Score explanation: The Community-University Health Care Center (CUHCC) is Minnesota's first community center, located in South Minneapolis, that serves people of all ages and income levels. Through their partnership with SoLaHmo, a Community-Based Participatory Action Research (CBPAR) program, they conduct research that is relevant, respectful, and responsive to the interest of the communities served. For example, they conducted a study (MN Family Environmental Exposure Tracking) to identify mercury, cadmium, and lead contamination and sources for contamination in pregnant Somali, Latina, Hmong/Asian, and White women. Their results led to the development and delivery of educational messages for this population during pregnancy. SoLaHmo is made up of Somali, Latin American, Hmong, Karen, Vietnamese, Nepali, Oromo, Ethiopian, Native American, Black/African American and LGBTQ/Two Spirit community members. In addition, The Institute on the Environment and Urban Research and Outreach Engagement Center, are also doing work in this area at an institutional level.	

2.4. Does your institution have a planetary health website that centralises ongoing and past research related to health and the environment?	
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. (3 points)	
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. (2 points)	
The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment. (1 point)	
There is **no** website. (0 points)	
Score Assigned:	3

Score explanation: The University of Minnesota has a website for the Office of Sustainability. This site compiles research, programs, and ways to get involved in Planetary Health action at the University. It also houses the University's Climate Action Plan.

2.5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
Yes, the **institution** has hosted at least one conference or symposium on topics related to planetary health in the past year. (4 points)	
Yes, the **institution** has hosted at least one conference or symposium on topics related to sustainable healthcare/vetcare in the past year. (3 points)	
Yes, the **institution** has hosted a conference on topics related to planetary health / sustianable healthcare/vetcare in the past three years. (2 points)	
The **institution** has not hosted any conferences directly, but they have provided financial support for a local planetary health event. (1 point)	
No, the **institution** has not hosted a conference on topics related to planetary health in the past three years. (0 points)	
Score Assigned:	4

Score explanation: The Institute on the Environment partnered with the UMN Students For Climate Justice to host the annual Sustainability Symposium on April 12th, 2024. The theme centered on Equity in Urban Design and connected students across multiple U of MN campuses to explore this topic… All topics were multidisciplinary and examined sectors through a lens of justice. Students went above and beyond to provide comprehensive analysis and solutions for some of the most pressing challenges, including waste management, supply chains, clean energy, and green spaces." There is another Sustainability symposium planned for April 11th, 2025.

2.6. Is your institution a member of a national or international planetary health or ESH/ESV organisation?	
Yes, the institution is a member of a national or international planetary health **or** ESH organisation. (1 points)	
No, the institution is **not** a member of such an organisation. (0 points)	
Score Assigned:	1

Score explanation: The University of Minnesota School of Public Health is a member of the Global Consortium on Climate and Health education.

Section Total (16 out of 17)	**94.12%**

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Community Outreach and Advocacy

Section Overview: ***This section evaluates medical school engagement in community outreach and advocacy efforts associated with planetary health.*** *Researching and teaching planetary health is necessary but not sufficient. It is critical that institutions also directly engage with communities most affected by environmental health harms. Although climate change is a problem largely created by those with power and resources, its impacts fall disproportionately on under-resourced populations and communities of 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.*

3.1. Does your institution partner with community organisations to promote planetary and health?	
Yes, the **institution** meaningfully partners with **multiple** community organisations to promote planetary and environmental health. (3 points)	
Yes, the **institution** meaningfully partners with **one** community organisation to promote planetary and environmental health. (2 points)	
The **institution** does not partner with community organisations, but has participating in community focused events relating to planetary health. (1 point)	
No, there is **no** such meaningful community partnership. (0 points)	
Score Assigned:	3

Score explanation: The University of Minnesota Office of Sustainability is partnered with US Green Building Counsel Minnesota (USGBC Minnesota), which is composed of a diverse group of stakeholders committed to making healthy, resilient, sustainable buildings and communities. According to the Office of Sustainability, they are primarily focused on upgrading LEED certification in buildings to ensure climate resilience. In the 2024 fiscal year, the University of Minnesota Extension Regional Sustainable Development Partnerships (RSDP) supported 119 place-based sustainability projects across Minnesota and engaged 224 community partners. The projects were focused on agriculture & food systems, clean energy, natural resources, and resilient communities as highlighted in detail in their 2024 report. Furthermore, The U of M's Institute on the Environment (IonE) funds projects and partners with community organizations through Mini Grant DEIJ grant programs, and the School of Nursing's Center for Planetary Health and Environmental Justice offers advocacy opportunities for staff, students, and patients. These initiatives constitute meaningful partnerships with community organizations, and the Office of Sustainability continues to work on developing community partnerships.

3.2. Does your institution offer community-facing courses or events regarding planetary health?	
The **institution** offers community-facing courses or events at least once every year. (3 points)	
The **institution** offers courses or events open to the community at least once per year, but they are not primarily created for a community audience. (2 points)	
The **institution** has promoted community-facing courses or events, but was not involved in planning those courses or events. (1 point)	
The **institution/medical school** have not offered such community-facing courses or events. (0 points)	
Score Assigned:	2

Score explanation: The University of Minnesota Office of Sustainability offers two main events that are developed primarily for students, but open to the community. Every month, there are Sustainability Coffee Chats that are designed to engage the University community in discussion around sustainability and climate action to increase awareness and encourage collaboration across campus departments and groups. In addition, the Office of Sustainability hosts Climate Literacy Teach-Ins with the goal of engaging participants in hands-on activities and discussions with topic experts from across the U to deepen their understanding of climate change and learn what meaningful action looks like. They achieve this goal by hosting sessions, workshops, films, and tours. All events are advertised as free and open to all students, staff, and faculty, however it is unclear as to whether community members are welcome as well. Despite these events not having clear community-facing events, there are a number of projects that directly inquire for community member's inputs. For example, the University of Minnesota encourages the public to share feedback regarding their Stormwater Pollution Prevention Program (SWPPP) via a public comment form.

In addition, the University of Minnesota offers a small selection of community-facing courses regarding planetary health such as SUST 4096 where students take part in an internship which can be completed at a variety of organizations, including a nonprofit. Several Global Health Courses are also offered to undergraduate students which provide a study abroad experience that allow students to understand the intersection of culture, health, and the environment through a combination of in class and community learning.

3.3. Does your institution have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?
Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare. (2 points)
Yes, planetary health and/or sustainable healthcare topics are regularly included in communication updates to **some courses**. (1 point)

Students **do not** receive communications about planetary health or sustainable healthcare. (0 points)	
Score Assigned:	1

Score explanation: Medical students occasionally receive system-wide communications regarding planetary health and sustainability within the healthcare system. The Center for Global Health and Social Responsibility (CGHSR), Office of Sustainability, and other student-led organizations provide updates via newsletter emails regarding sustainability and ways for students to become involved. However, the University of Minnesota mandates that students must sign up willingly to receive newsletter emails, so all communications regarding planetary health and/or sustainable healthcare are limited to individuals who sign up to receive these notifications.

3.4. 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?

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. (2 points)	
Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate provider. (1 point)	
There are **no** such accessible courses for post-graduate providers. (0 points)	
Score Assigned:	1

Score explanation: In February 2025, MHealth Fairview hosted a system-wide grand rounds talk titled "Environmental Injustice: The Clinical and Ethical Implications of Our Unhealthy Environments" which discussed the connection between clinical decisions, health, and environmental injustice. Within the medical school, the Climate Health Action Program which has a goal of providing education to medical students, residents, and providers on geographically specific climate-health impacts.

3.5. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?

Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)
Some affiliated hospitals have accessible educational materials for patients. (1 point)
No affiliated medical centres have accessible educational materials for patients. (0 points)

Score Assigned:	2

Score explanation: The medical school publishes short articles focused on education around environmental health. For example, this article discusses the impact of climate change on mental health. In addition, all affiliated hospitals provide some information about individual risks and/or diseases. In November 2022, Fairview published an online article about the environmental exposures associated with lung cancer. Hennepin Healthcare's website includes a history of their community and discusses the environmental harms of racist housing policies in Minneapolis. The VA's website includes information on environmental exposures, and briefly mentions the impact of environmental exposures and pollution on COPD, asthma, pulmonary fibrosis, sinusitis, and conjunctivitis. The VA also provides information on the PACT Act, which expands VA healthcare coverage for veterans with toxic exposures including air pollutants and occupational hazards. Allina health's website includes information on air quality alerts.

3.6. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?
Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)
Some affiliated hospitals have accessible educational materials for patients. (1 point)
No affiliated hospitals have accessible educational materials for patients. (0 points)

Score Assigned:	1

Score explanation: A study published in December of 2023 by a research team at the University of Minnesota Medical School showed that animated short videos are effective for disseminating environmental health information; however, these videos are not yet publicly available. The Veterans Affairs' website, Energy, Environment, and Fleet Program, provides information on climate change, with sections describing actions the VA is taking as well as general information regarding energy and water use, vehicle ratings, and environmental justice which touches on the differential health impacts of climate change. The VA's article from 2017, Adapting to Climate Change in Minnesota additionally details several health impacts of climate change, such as drought and wildfires impact on air quality and respiratory health. In 2022, an Allina physician participated in a news story on WCCO about the impact of climate change on allergies. No other affiliated health system provides information on the impact of climate change on health.

Section Total (10 out of 14)	**71.42%**

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Support for Student-Led Planetary Health Initiatives

Section Overview: ***This section evaluates institutional support for student-led planetary health initiatives, such as funding, fellowships, programming, and student groups.*** *Planetary health is a young field and, as young people facing a future deeply shaped by climate change, students are often some of the first at an institution to engage with it. Institutions should provide support for students to engage in sustainability quality improvement (QI) initiatives, discover mentors in their area of interest, and receive funding for planetary health projects.*

4.1. Does your institution offer support for students interested in enacting a sustainability initiative/QI project?	
Yes, the **institution** *either* offers grants for students to enact sustainability initiatives/QI projects *or* sustainability QI projects are part of the core curriculum. (2 points)	
The **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. (1 point)	
No, **neither** the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects. (0 points)	
Score Assigned:	2

In the broader UMN community, the Sustainable Development Goal Initiative Student Group Activity Grant is available for all students to apply for, offering up to $500 to fund activities and events for student organizations or campus life programs, centered on the Sustainable Development Goals (17 Goals and The 2030 Agenda for Sustainable Development). The Center for Global Health and Social Responsibility offers Global Engagement Grants, ranging from $1,500 to $15,000, to support pilot efforts in advancing sustainable and equitable health globally. These grants are available to UMN faculty, staff, and graduate students.

Of note, the Institute of Environment (IonE) has historically offered Mini Grants, up to $3,000, to support projects addressing environmental and sustainability issues for students across the whole UMN system. The program was paused in Fall 2024 to focus on enhancing organizational capacity, and it will reopen in April 2025 for the Spring 2025 mini grant cycle.

4.2. Does your institution offer opportunities for students to do research related to planetary health and/or sustainable healthcare/vetcare?
The **institution** has a **specific** research program or fellowship for students interested in doing planetary health/sustainable healthcare/vetcare research. (2 points)

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. (1 point)	
There are **no opportunities** for students to engage in planetary health/sustainable healthcare research. (0 points)	
Score Assigned:	2

Score explanation: In the broader UMN community, the Institute on the Environment (IonE) participates in the graduate school Interdisciplinary Doctoral Fellows program. The Interdisciplinary Doctoral Fellowship provides an opportunity for mid-career Ph.D. students involved in interdisciplinary research to study at an interdisciplinary research center or institute during their fellowship year. Specifically within IonE, the fellows receive $2,000 in funding to conduct research focused on addressing global challenges related to the environment.

There are other opportunities for students to perform research related to planetary health, but these require student initiative. For example, The University of Minnesota Global Programs and Strategy Alliance (GPS Alliance) provides awards, as a part of its Sustainable Development Goal Initiative research grant competition. However, this opportunity is designed for faculty, staff, and researchers. Thus, students would need to seek out a principal investigator and project to join.

In 2021, Advancing Climate Solutions. Now. emerged as a new initiative, in honor of University of Minnesota leader Tom Swain, to engage students to become part of the solution to climate change through policy-focused student internships and research initiatives. Their website states that student grants are currently on pause, though groups can directly email proposals to the Center for Science, Technology, and Environmental Policy.

As previously noted, the Institute of Environment (IonE) has historically offered Mini Grants, up to $3,000, to support projects addressing environmental and sustainability issues for students across the whole UMN system. The program was paused in Fall 2024 to focus on enhancing organizational capacity, and it will reopen in April 2025 for the Spring 2025 mini grant cycle.

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

The institution has a webpage with specific information related to planetary health or sustainable healthcare/vetcare that includes up-to-date information on relevant initiatives and contact information of potential mentors. (2 points)

There is an institution webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information. (1 point)

There is **no institution** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors. (0 points)

Score Assigned:	2

Score explanation: The broader UMN institution contains a website for its Office of Sustainability, newly established in 2022. The website contains webpages detailing UMN's Climate Action Plan, a Sustainability Dashboard with data on the school's waste and emissions progress, various sustainability projects, recent publications, and contact information for the Sustainability Committee and Office of Sustainability team members. Additionally, there is a link to a research unit search hub, that allows you to filter by the various Sustainable Development Goals to find research organizations within the school.

There are a variety of other department and center-specific webpages relating to planetary health. The website for the Center for Global Health and Social Responsibility features a page named "Climate Change and Health," which provides contact details for "Climate Champions"—faculty members from different health professional schools engaged in planetary health efforts, including a representative from the medical school.

Additionally, the Office of Academic Clinical Affairs webpage titled "Planetary Health and Sustainability" contains relevant links pertaining to both planetary and human health. The University of Minnesota Sustainable Development Goals Initiative website provides general education, information on groundbreaking research and recent publications, and engagement with communities to address societal needs, with a strategic focus on advancing the Sustainable Development Goals (SDGs) through its long-term commitment outlined in MPact 2025.

There is no landing webpage specifically within the medical school website that is dedicated to planetary health. The medical school website contains a handful of webpages discussing climate change and its effect on health, such as the article "Talking climate change and mental health with U of M." However, the most recent of these webpages were published in 2023 and early 2024, and thus lack up-to-date information on current initiatives and mentors. They are also somewhat difficult to locate on the medical school website.

4.4. Does your institution have registered student groups dedicated towards fostering a

culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?	
Yes, there is a student organisation **with faculty support** at my medical school dedicated to planetary health or sustainability in healthcare. (2 points)	
Yes, there is a student organisation at my medical school dedicated to planetary health or sustainability in healthcare but it **lacks faculty support.** (1 point)	
No, there is **not** a student organisation at my institution dedicated to planetary health or sustainability in healthcare. (0 points)	
Score Assigned:	1

Score explanation: Students for Climate Justice at UMN founded in 2019 is a student organization of the broader UMN institution that educates and mobilizes students to engage in environmental justice across the Twin Cities while advocating for systemic changes on campus to create a more just system. Of note, it is unclear if the organisation has faculty support.

4.5. Is there a student liaison representing sustainability interests who serves on a department or institutional decision-making council to advocate for curriculum reform and/or sustainability best practices?	
Yes, there is a student representative that serves on a department or institutional decision-making council/committee. (1 points)	
No, there is no such student representative. (0 points)	
Score Assigned:	1

Score explanation: Launched in 2021, the Twin Cities Sustainability Committee is tasked with implementing UMN's goal to "build a fully sustainable future," involving operations, teaching, research, and outreach. Per their webpage, the committee member list includes two undergraduate students, three graduate students, and three PhD candidates, working alongside faculty, professors, and various staff members.

There is a designated Climate Champion faculty member in many of the health science professions programs who students are encouraged to contact. However, there is not a designated student representative. There are four Medical School Education Committee Representatives serving on the Medical School Student Council; however, their role is focused on the medical school curriculum as a whole, rather than specific to sustainability interests.

Previously, there have been opportunities for medical students to provide feedback on the development of the new SERVE curriculum through the Public Health Learning Objectives Feedback Group. This included assessing the learning goals for the public health thread of the new curriculum, which includes the impact of climate change on human health. However, this

opportunity was temporary and this role no longer exists. Currently, there are student Thread Leads for the various SERVE curriculum threads, including the Public Health thread, who provide student feedback to the Thread Directors. This is not an official decision-making council.

4.6. 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)	**Score**
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.	0
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 organise hiking, backpacking, kayaking, or other outings for students)	1

Garden: There is an Interprofessional Student Garden Project, where health professional students can help plant and sustain a garden on campus, located adjacent to the medical school and associated hospital. The collective of students are responsible for planting, maintaining, and sustaining the garden. There are weekly Plants and Chats available for students to be as involved as they want to be with the garden.

Panels, speaker series, or similar events: The Office of Sustainability hosts a Sustainability Coffee Chats series, featuring a wide variety of guest speakers discussing sustainability efforts and climate change and its effects, which are free, over Zoom, and open to the public. On November 14th, 2024, the UMN hosted a Climate Literacy Teach-In event, bringing in a variety of content experts, with lectures, workshops, and facility tours. The event was open to all students, staff, and faculty of UMN.

Local environmental justice community: During the Climate Literacy Teach-In event on November 14th, 2024, the UMN hosted a local climate justice activist during a Climate Justice Education Workshop, with an emphasis on education and methods. The event was open to all students, staff, and faculty of UMN. It is not evident that the event discussed how health professionals can partner with their community to address these exposures and impacts.

Cultural arts events, installations, or performances: Community Arts @ Health Sciences program unveiled the 2024 Fall Art Exhibition in the Health Sciences Education Center on the Twin Cities campus, created by health science faculty, staff, and students. The art has a wide variety of topics, but one particular photography piece highlights the idea of conservation and the threat to our planet's wildlife diversity. The medical school continues to maintain the Center for the Art of Medicine Artistic Antidote Archive, an archive that pools art-related resources from the web that may be useful for students in their futures in medicine. One resource that is listed is the "Resilience in the Age of Climate Change: Google Arts and Culture" which is a virtual installation of visionary artists and architects exploring the meaning and impacts of global warming. However, this webpage is not well known or well advertised to students.
Local volunteer opportunities: The Phillips Neighborhood Clinic (a free health care clinic operated by volunteer health professions students from the UMN) shared an opportunity with its current volunteers to assist with a street and neighborhood cleanup event on October 19th, 2024.

Wilderness or outdoors programs: CHIP and BeWell co-hosted a Fall Interprofessional Hike in September 2024, where health science students had the opportunity to hike and connect with other students. The opportunity was extended to students at the Twin Cities, Duluth, and Rochester campuses, at a local hiking location for each campus. Additionally, BeWell has an interprofessional running group series, which is put on each Tuesday morning, with the goal of building an interprofessional community.

The Office of Academic Clinical Affairs hosted several Ecohealth Quest Retreats for health science students, with a weekend trip to Itasca State Park in October 2024 and a weekend trip to Wolf Ridge Environmental Learning Center in November 2024. The trips involved ecohealth case studies and guided nature experiences. There are upcoming trips planned for March and April 2025.

The medical school has a Wilderness Medicine Interest Group, hosting various events including a social bouldering night at a local bouldering gym, a guest speaker discussing wilderness medicine and patient rescue, an evening camping trip at Afton State Park, a wilderness medicine skills night highlighting hypothermia treatment and emergency evacuation, and an introduction to alpine ski
patrol and outdoor emergency care at a local ski area.

Section Total (13 out of 15)	**86.67%**

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Campus Sustainability

Section Overview: ***This section evaluates the support and engagement in sustainability initiatives by the 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.*

5.1. Does your institution have an Office of Sustainability?	
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. (3 points)	
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 hospital sustainability. (2 points)	
There are **no salaried sustainability staff,** but there is a sustainability task force or committee. (1 point)	
There are **no** staff members **or** task force responsible for overseeing campus sustainability. (0 points)	
Score Assigned:	2

Score explanation: There is an Office of Sustainability at UMN with multiple staff members, but no specific staff member is in charge of medical school sustainability. UMN's major hospital affiliation, M Health Fairview, does outline their sustainability efforts focused in 7 areas (energy efficiency, environmental preferable purchasing, sustainable facility design, healthy food systems, waste reduction/recycling, water conservation, and employee engagement), but this does not include medical school campus facilities or operations, nor is there a specific staff member in charge of hospital sustainability. The University of Minnesota also hired the first systemwide chief sustainability officer in May of 2022 to help lead sustainability efforts across all five campuses as part of the MPact effort. Additionally, the University of Minnesota has a multidisciplinary team of Climate Champions, which includes staff from the medical school, which aims to "connect students with faculty and community members working in health care, sustainability, and climate change."

5.2. How ambitious is your institution's plan to reduce its own carbon footprint?
The institution has a **written and approved plan** to achieve carbon neutrality by **2030** (5 points)
The institution has a **written and approved plan** to achieve carbon neutrality by **2040** (3 points)

The institution has a stated goal of carbon neutrality by **2040** but has **not created a plan** to reach that goal or the **plan is inadequate** (1 point)	
The institution/medical school does **not** meet any of the requirements listed above (0 points)	
Score Assigned:	0

Score explanation: The University of Minnesota Office of Sustainability states a goal of becoming carbon neutral by 2050 and has specific programs in line with its efforts, such as the Green Labs Program, achieving reducing GHG emission 50% by 2021 (one year ahead of schedule) and hiring a systemwide chief sustainability officer to drive sustainability efforts. Carbon usage across the University is tracked on the Carbon Dashboard. In 2024, the University of Minnesota ranked 5th in the US for overall sustainability impact in the Times Higher (THE) Impact Rankings. THE applies the 17 Sustainable Development Goals (SDGs) adopted by the United Nations which aims for a better/more sustainable world by 2030.

The Twin Cities Campus updated their 2011 Climate Action Plan as part of MPact 2025 this previous year. This new Climate Action Plan outlines the university's plan for carbon mitigation, climate adaptation, and implementation support. Within this plan, it is stated the University's goal is to reduce carbon emissions by 60% over the next decade (compared to 2019) and again reiterated the goal of becoming carbon neutral by 2050. The plan identifies the current sustainability practices within the community and sets measurable improvements for 2033 while also outlining clear pathways for implementation. The plan also assesses the risk of impending climate changes and ways in which Minnesota has tools of resilience to manage these changes. The plan utilizes an interdisciplinary committee of students, faculty, and staff.

The University has a 10 year plan that outlines actions that need to take place before 2033, such as eliminating emissions from purchased electricity. They aim to eliminate carbon emissions from campus energy plants and other university owned/controlled energy sources by 2045 and to be carbon neutral in commuting and air travel by 2050 (which account for 24% of total campus emissions). The Institution plans to achieve elimination of emissions more aggressively in the coming 10 years rather than linearly until 2050.

Additionally, the Department of Medicine within the University of Minnesota Medical School has a Climate Health Action Program which clearly states a vision of achieving a carbon-neutral healthcare system by 2040 accompanied by a list of broad goals. However, it is not clear if there is a solidified plan to reach the goal of 2040 for the university's healthcare system.

Of note, the University's major hospital affiliation is with M Health Fairview. With the recommendations from James Hereford and Medical School Dean Jakub Tolar, M Health Fairview established 2021 Work Plans in order to advance efforts of healthy equity, anti-racism, and inclusion. Within this HOPE Commissions document, the Effect Environmental Justice and Health Equity area noted a commitment to " implement provisions for sustainable environments by identifying 4 sustainable purchasing initiatives" and "environmental sustainability strategies will be aligned with national benchmarks".

5.3. Do buildings/infrastructure used by the institution for teaching (not including the hospital) utilize renewable energy?	
Yes institution buildings are **100%** powered by renewable energy. (3 points)	
Institution buildings source **>80%** of energy needs from off-site and/or on-site renewable energy. (2 points)	
Institution buildings source **>20%** of energy needs from off-site and/or on-site renewable energy. (1 point)	
Institution buildings source **<20%** of energy needs from off-site and/or on-site renewable energy. (0 points)	
Score Assigned:	0

Score explanation: According to the Office of Sustainability, the University's campus electricity is 28% renewable. The EPA has ranked the University of Minnesota as #27 in the nation in regards to annual green power usage (16% GP usage).The UMN self-reported STARS report (January 2023) indicates 4.99% of the University's total energy usage comes from clean and renewable sources. In addition, >50% energy consumption is supplied by purchased gas and steam as reported on the university's energy dashboard. This dashboard is easy to access and demonstrates the university's transparency related to energy consumption.

5.4. Are sustainable building practices utilised for new and old buildings on the institution's campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?	
Yes, sustainable building practices are utilised for new buildings on the institution's campus and the **majority** of old buildings **have been retrofitted** to be more sustainable. (3 points)	
Sustainable building practices are utilised for new buildings on the institution's campus, but most old buildings have **not been retrofitted.** (2 points)	
Sustainable building practices are **inadequately or incompletely** implemented for new buildings. (1 point)	
Sustainability is **not considered** in the construction of new buildings. (0 points)	
Score Assigned:	3

Score explanation: New construction and major renovations follow interior design standards that incorporate the University's Sustainability Requirements and follow Minnesota's B3 guidelines. Compliance with B3 requires meeting sustainability goals for site, water, energy, indoor environment, materials, and waste. The University tracks the energy consumption of most buildings on campus on a public dashboard and the integration of sustainable practices are

tracked on the facilities management strategic progress card. In the University of Minnesota Twin Cities Campus Master Plan, they have Development and Re-Development as a goal under their sustainability framework. They note that "The Campus Plan envisions significant reinvestment in existing buildings in the campus cores. However, when campus needs cannot be accommodated through renovation, critical decisions about growth must consider resilience and mitigation, land use impacts, and the capacities of supporting utilities and infrastructure (energy, water, waste, vegetation, etc.)." The UMN highlights many of the updates they have made, including the addition of solar gardens, green roofs, LEED buildings, stormwater retention, and energy plant renovations on the Sustainability Walking Tour.
Nearly 70% of campus buildings have been retrofitted with LED lights in place of the existing fluorescent lights. The university has made a concerted effort to retrofit all buildings that have an established pattern of bird-glass collision through their "Stop the Thud" project.

5.5. Has the institution implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
Yes, the institution 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-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default. (2 points)	
The institution has implemented **some** strategies to provide environmentally-friendly transportation options, but the options are **unsatisfactorily** accessible or advertised. (1 point)	
The institution has **not** implemented strategies to encourage and provide environmentally-friendly transportation options. (0 points)	
Score Assigned:	2

Score explanation: The institution is located right next to the electrically powered light rail, which many students take advantage of. All students who pay the Transportation and Safety fee, which is included in the cost of tuition, have unlimited access to the regional transit system in the Twin Cities area through the Universal Transit Pass. The university provides a free shuttle bus service between its three portions of campus (Mpls West Bank, Mpls East Bank, and St. Paul). University Services has a webpage dedicated to transit, with information and links readily available regarding public transportation, bike routes with travel times, and walk routes with pedestrian safety/security resources. There is also a shuttle system between campus hospitals and medical centers that is free for use by students and faculty. The carpool service, Gopher Chauffeur, is available to students that operates daily during the school year between 9pm to 1am to provide safe transport. The UMN Twin Cities is recognized nationally for bicycle transportation. In addition, the UMN campus is not amenable to cars, as there is almost no free parking on campus. Campus-wide transit utilization, awards, and annual data can be found in this report.

5.6. Does your institution have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?	
Yes, the institution has **both** compost **and** recycling programs accessible to students and faculty. (2 points)	
The institution has **either** recycling **or** compost programs accessible to students and faculty, but not both. (1 point)	
There is **no** compost or recycling program at the medical school. (0 points)	
Score Assigned:	2

Score explanation: The institution has both an organics and a conventional recycling program in its buildings. In many of the common areas of buildings, including the main lobbies, main hallways, elevators, and vending machine coves, there are 3-in-1 waste bins with associated images above each section to help guide students/faculty/visitors as to which bin is most appropriate. The UMN also offers a ReUse Program to collect surplus office supplies and equipment that can be resold or redistributed. This service is accessible to medical students and staff. The University tracks its waste recovery by material on a dashboard. This information includes buildings utilized by the medical school. Facilities at the University also offer assistance in hosting "Zero Waste Events" through planning, signage, or extra bins that are supplied for most outdoor events (areas where compost and recycling bins are not commonly found).

5.7. Does the institution apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
Yes, the institution 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. (3 points)	
There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution **is engaged** in efforts to increase food and beverage sustainability. (2 points)	
There are sustainability guidelines for food and beverages, but they are **insufficient or optional.** The institution is **not** engaged in efforts to increase food and beverage sustainability. (1 point)	
There are **no** sustainability guidelines for food and beverages. (0 points)	
Score Assigned:	2

Score explanation: On the campus level, university food services, M Food Co, is provided through Chartwells. The University has established food systems as one of their sustainability priorities and they work with Chartwells to establish sustainability requirements, goals, and initiatives. These include following the Monterey Bay Aquarium Seafood Watch program guidelines, the Waste Not

program to measure the amount of food waste being generated, and Chartwells' HowGood Partnership which introduces climate labeling in dining halls. Chartwells has a plant-forward dining initiative, but it does not appear to be in effect within the medical school. However, they do have a commitment to vegan and vegetarian food options as well as the Feel Good Foods campaign to highlight nutrient rich foods available at the dining halls. A monthly farmers market is hosted on campus on Wednesdays where students and community members can purchase fresh produce. M Food Co. is committed to continuously searching for new ways to reduce their carbon footprint and increase sustainability. Nutritious U Food Pantry is a program that provides fresh food for students who are struggling with having enough food to eat. Any student can visit this pantry up to twice a month.

5.8. Does the institution apply sustainability criteria when making decisions about supply procurement?	
Yes, the institution has **adequate** sustainability requirements for supply procurement **and** is **engaged** in efforts to increase sustainability of procurement. (3 points)	
There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The institution is **engaged** in efforts to increase sustainability of procurement. (2 points)	
There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The institution is **not engaged** in efforts to increase sustainability of procurement. (1 point)	
There are **no** sustainability guidelines for supply procurement. (0 points)	
Score Assigned:	2

Score explanation: 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). In the Board of Regents Purchasing Policy, they state "purchasing activities shall be conducted in a manner that promotes integrity, stewardship, diversity, and sustainability," but offers no additional guidelines. The University's Office of Sustainability, in conjunction with its educational campaign "It All Adds Up," assists with the implementation of environmental, social, and economic goals with respect to supplier diversity and sustainability, though the medical school itself does not appear to be involved in such efforts. STARS has graded the university 1.75/3 on sustainable procurement, noting there are published guidelines on sustainable procurement. Sustainability guidelines are applied when purchasing furniture and furnishings, IT equipment, and food service providers. However, sustainability measures are not taken into account when acquiring chemically intensive products and services, consumable office products, garments and linens, professional service providers, and transportation and fuels.

5.9. Are there sustainability requirements or guidelines for events hosted at the institution?

Every event hosted at the institution **must** abide by sustainability criteria. (2 points)
The institution **strongly recommends or incentivizes** sustainability measures, but they are **not required.** (1 point)
There are **no** sustainability guidelines for institution events. (0 points)

Score Assigned:	1

*Score explanation:*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. However, there is an updated Student Council policy in regards to funding events. These guidelines were provided by the Medical School Finance Office and aim to avoid over-ordering food as well as reduce paper plates/napkins/cutlery requests from vendors. The University Zero Waste Services provides a list of Zero Waste Event Caterers as well as Zero Waste Purchasing Options. The office of sustainability provides sustainable event resources and consideration to make during each step of the event planning process.

5.10. Does your institution have programs and initiatives to assist with making lab spaces more environmentally sustainable?
Yes, the institution has **programs** and **initiatives** to assist with making lab spaces more environmentally sustainable. (2 points)
There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives. (1 point)
There are **no** efforts at the institution to make lab spaces more sustainable. (0 points)

Score Assigned:	2

Score explanation: The Office of Sustainability has been working with the Department of Biochemistry, Molecular Biology, and Biophysics (BMBB) to create a Green Labs Program that currently includes guidelines for energy efficiency and recycling in lab spaces. Labs can also request Green Labs stickers to encourage energy conservation. Labs can opt-in for organics composting to be available in their space. There is an initiative to put stickers that say "Shut the sash" and "Turn off when not in use" to encourage energy conservation. Labs are encouraged to join the freezer challenge to track their efforts in implementing best practices of energy conservation and the results are reported back through an online system. According to the Office of Sustainability, their ongoing partnership with the BMBB, specifically The Bielinsky lab, has been productive, and all waste management, energy conservation practices and infrastructure changes are being piloted with the goal of expanding the program to many more labs in the future. Within the Bielinsky lab, more than 95% of paper towels and kimwipes are going into organic recycling rather than trash and the majority of plastic film and bags are being recycled rather than going to trash. However, the medical school has not been heavily involved nor are there any formalized programs or initiatives currently in place. Additionally, the University's

recycling department works directly with labs on improving recycling and organics collection. All waste is tracked on the University's waste dashboard.

5.11. Does your institution's endowment portfolio investments include fossil-fuel companies?	
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. (4 points)	
The institution is **entirely divested** from fossil fuels. (3 points)	
The institution has **partially divested** from fossil fuel companies **or** has made a **commitment to fully divest**, but **currently** still has fossil fuel investments. (2 points)	
The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organised advocacy** for divestment. (1 point)	
Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that. (0 points)	
Score Assigned:	0
Score explanation: According to local news sources, including the Star Tribune and MN Daily, the University of Minnesota in September of 2021 announced its plans to fully divest from fossil companies in the next five to seven years. Although there has not been any explicit confirmation or commitment since the 2021 announcement, as of August 27 2024, the University commented on their endowment investment strategies,"this action does not reverse any previously adopted positions or affect ongoing efforts to integrate environmental, social, and governance (ESG) principles into consolidated endowment fund investment decisions, a focus that is already codified in Board policy." As of December 10, 2024, approximately 1.7% of the 2024 endowment fund (FY24) is invested in fossil-fuel related exposures. This is reduced from approximately 2.5% in 2023.	

Section Total (18 out of 32)	**56.25%**

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(16/32) x 100 = 50%	C
Interdisciplinary Research (17.5%)	(16/17) x 100 =94.12%	A
Community Outreach and Advocacy (17.5%)	(10/14) x 100 = 71%	B
Support for Student-led Planetary Health Initiatives (17.5%)	(13/15) x 100= 87%	A
Campus Sustainability (17.5%)	(18/32) x 100 = 56%	C+
Institutional Grade	**(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = 69%%**	**B**