Planetary Health Report Card (Medicine)

University of Saskatchewan

2023-2024 Contributing Team:

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Land Acknowledgement: We acknowledge we are on Treaty 4 and Treaty 6 Territories and the Homeland of the Métis. We pay our respect to the First Nations and Métis ancestors of this land and reaffirm our relationship with one another.

Summary of Findings

Overall	**B**

Curriculum	**B**

- The University of Saskatchewan College of Medicine has improved its score from last year, and has made large strides to include environmental and planetary health in the curriculum. In 2024, a new lecture was introduced into the foundations component of the second year curriculum on extreme heat events and climate change. There are still specific areas of the curriculum that need better environmental and planetary health coverage.
- **Recommendations:** There is insufficient teaching on incorporating environmental and planetary health into conversations with patients. We recommend that this be incorporated into the clinical skills courses. The University of Saskatchewan provides very thorough education on different types of diets, however, the impacts of these diets on the environment are not considered. We recommend that the College of Medicine integrate the benefits of vegan and vegetarian diets on the environment into the curriculum. Furthermore, it was noted that the College of Medicine covered some metric criteria in depth in the core curriculum, but most of the criteria were covered very briefly in the system-specific modules. We believe that this coverage was not sufficient for students to have a good understanding of these topics, and recommend that the College of Medicine provide more detailed coverage in the system-specific modules of these topics with regards to planetary and environmental health impacts.

Interdisciplinary Research	**A-**

- The University of Saskatchewan's scores well in the category of research. It is home to two departments concerning environmental sciences, 2 annual sustainability research symposiums, and provides a hub for CASCADES. There are many researchers in the University of Saskatchewan currently working on sustainability projects.
- **Recommendations**: While there are many individuals involved with sustainability at the University of Saskatchewan, there is no dedicated research team for these projects. The University of Saskatchewan may also benefit from joining an EHS group.

Community Outreach and Advocacy	**C**

- The University of Saskatchewan College of Medicine has very limited community outreach relating to planetary health. They do not partner with community organizations, offer community facing courses/events or courses for post-graduate providers in planetary health, or have accessible educational materials for patients. They sometimes have sustainable healthcare topics included in communication updates. The University of Saskatchewan College of Medicine hosted a local hub in 2023 of the Summer Institute on Health Care Sustainability. This is an interdisciplinary one week learning activity with CASCADES as the national host. Last year there were facilitators and participants from public health, medicine, pharmacy, Saskatchewan Health Authority staff, and psychology. University of Saskatchewan will host a hub again in June 2024.
- **Recommendations**: Increase community partnerships related to planetary health in all areas including community events and courses, post-graduate training, and accessible planetary health materials for patients.

Support for Student-Led Initiatives	A

- The University of Saskatchewan's College of Medicine has continued to provide an overwhelming amount of support for student-lead initiatives pertaining to sustainability and planetary health. They have proven to be receptive to student feedback and have found additional ways to encourage students' involvement in the furthering of planetary health curriculum within the college. The college has asked student leaders in the field to create curriculum content and teach lectures as a way to increase planetary health education in the foundation course.
- **Recommendations**: Although College based support has increased since the publication of the first USASK PHRC their continues to be a need for a central hub for planetary health content such as a dedicated website or individual who can guide students and faculty and serve as a primary resources for planetary health initiatives occurring both at the University level as well as through the College of medicine.

Campus Sustainability	D

- The University of Saskatchewan has demonstrated interest in improving campus sustainability, with much of the focus being directed through the university-wide, Office of Sustainability. An ongoing decarbonization study, and the re-evaluation of the University's investment portfolio serve as opportunities for the University to prove its commitment to sustainability as a signatory of the Climate Charter for Canadian Universities.
- **Recommendations:** While the College of Medicine has a limited role in campus-wide sustainability, there are areas where the College of Medicine could become a leader within the University by adopting and adhering to standards and practices with sustainability in mind. Recommendations for further involvement by the College of Medicine include increasing compost and recycling program access within its facilities, adopting guidelines for sustainable food and beverage sourcing for events and spearheading initiatives to improve lab sustainability. Additionally, we recommend designating a staff member within the College of Medicine to be responsible for overseeing sustainability-related concerns and initiatives.

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 analyzing 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, urbanization, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment, and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change "the greatest threat to global health in the 21st century," many medical school's institutional priorities do not reflect the urgency of this danger to human health.

As future health professionals, we must be prepared to address the impacts of human-caused environmental changes on our patients' health. This preparation is in the hands of the institutions providing our medical training. It is imperative that we hold our institutions accountable for educating medical students about the health impacts of climate change and other anthropogenic environmental changes, generating research to better understand health impacts and solutions, supporting related

student initiatives, embracing sustainable practices as much as possible, and engaging with surrounding communities that are most affected by environmental threats. Because climate change and environmental threats disproportionately affect vulnerable populations (for example, communities of color, older adults sensitive to health threats, and individuals in low-resource settings), these issues are inherently ones of equity and justice.

With the purpose of increasing planetary health awareness and accountability among medical schools, we have created a Planetary Health Report Card that medical students internationally can use to grade and compare their home institutions on an annual basis. This medical-student-driven initiative aims to compare medical schools 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 centered on environmental health impacts 5) medical school campus sustainability.

Definitions & Other Considerations

Definitions:

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

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

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

- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions providers are taught to ask during medical encounters that elicits 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 mold after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution.

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

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

Other considerations:

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

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

Planetary Health Curriculum

Section Overview: ***This section evaluates the integration of relevant planetary health topics into the medical school curriculum.*** *Today's medical students will be on the frontlines of tackling the health effects of climate and other environmental changes. Therefore, it is critical that medical students are trained to understand the health effects of these changes, as well as planetary health issues and principles more broadly. Topics like the changing geography of vector-borne diseases, the health consequences of air pollution, environmental health inequities, and disaster response principles must be part of every medical school's core curriculum.*

Curriculum: General

1.1. Did your medical school offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered **more than one** elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered **one** elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does **not** have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a **lecture** on planetary health.
0	No, the medical school has **not** offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
Score explanation: One 2-week elective course is offered to fourth year medical students within the general area of Environmental Medicine. It is designed to cover approaches to environmental health issues in both the clinical care and public health contexts and the core principles of current and upcoming environmental issues.	

Curriculum: Health Effects of Climate Change

1.2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
Score explanation: A new lecture on the topic of extreme heat events and climate change has been introduced in the foundations component of the second year curriculum. This lecture explores in depth the health impacts of extreme heat events and their relationship to climate change.	

1.3. Does your <u>medical school</u> curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

Score explanation: Within the Health Promotion unit in the M1 core curriculum, there is a lecture titled "Environmental Health and Climate Change," with testable learning objectives.
Within this lecture, several slides cover the impacts of extreme weather events on individual health. There is also one slide that covers the effects on the health system.

Within the Respiratory unit of the M1 core foundations curriculum, there is a lecture titled "Respiratory: Changing Climate and Respiratory Diseases" with testable learning. This lecture covers in detail the effect of climate change on individual respiratory health. As previously mentioned, a new lecture on the topic of extreme heat events and climate change has been introduced in the foundations component of the second year curriculum. This lecture explores in depth the health impacts of extreme heat events and their relationship to climate change.

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

Score explanation: Within the Health Promotion unit in the M1 core curriculum, there is a lecture titled "Environmental Health and Climate Change," with one testable learning objective. Within this lecture, the changing pattern of infectious diseases is briefly mentioned on one slide in the context of social determinants of health.

Within the Respiratory unit of the M1 core foundations curriculum, there is a lecture titled "Respiratory: Changing Climate and Respiratory Diseases". This lecture includes one slide that briefly mentions how extreme weather events may increase the transmission of infectious diseases. The extreme heat events lecture also briefly touches on the topic.

1.5. Does your <u>medical school</u> curriculum address the respiratory health effects of climate change and air pollution?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.

1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

Score explanation: Within the Respiratory unit of the M1 core foundations curriculum, there is a lecture titled "Respiratory: Changing Climate and Respiratory Diseases". Several slides cover ambient air pollutants, worsened air quality, and respiratory health.

Within this unit there is also a lecture titled "Integrative Approach to Lung Health" that briefly includes how air pollution is both a risk factor for asthma and a reason for why asthma prevalence is rising worldwide.

1.6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat?

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

Score explanation: The College of Medicine at the University of Saskatchewan does not currently have a curriculum that addresses the cardiovascular health effects of climate change. Specifically, this topic is not covered in the Cardiovascular module in the Foundations of Clinical Medicine II course (MEDC 146) or Health Promotion unit or in the Foundations of Clinical Medicine I course (MEDC 136). The extreme heat events and climate change lecture which was introduced in 2024 does explore the impact of extreme heat events on cardiovascular conditions.

1.7. Does your <u>medical school</u> curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?

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

Score explanation: Within the Health Promotion unit in the Foundations of Clinical Medicine I course (MEDC 143), there is a lecture titled "Environmental Health and Climate Change". This lecture briefly highlighted mental health illnesses as a health outcome of climate change. The lecture also briefly mentioned the negative mental health impacts of displacement and evacuation due to Canadian wildfires from the summer of 2023.

The extreme heat events and climate change lecture which was introduced in 2024 discusses the impact of extreme heat events on certain neurological conditions such as dementia. Additionally, it discusses the impact of extreme heat events on psychiatric conditions such as schizophrenia. However, there was

no exploration of the effects of environmental degradation and climate change within the Mental Health modules in the Foundations of Clinical Medicine III course (MEDC 236).

1.8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
Score explanation: Within the Health Promotion unit in the Foundations of Clinical Medicine I course (MEDC 143), there is a lecture titled "Environmental Health and Climate Change". One of the lecture objectives is to "describe potential health impacts relating to environmental health and climate change including water security, air quality, heat exposure and cancer". This lecture explores the impact of climate change on human health including implications regarding water quality, air quality, environmental degradation, and food security. There may also be further incorporation of this topic in the Making the Links Global Certificate, however this would be dependent on speaker selection.	

1.9. Does your <u>medical school</u> curriculum address the outsized impact of climate change on marginalized populations such as those with low SES, women, communities of color, Indigenous communities, children, homeless populations, and older adults?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
Score explanation: Within the Health Promotion unit in the Foundations of Clinical Medicine I course (MEDC 143), there is a lecture titled "Environmental Health and Climate Change". This lecture contained one slide that briefly highlighted children, older adults, socially isolated individuals, First Nations, Métis, and Inuit communities as those particularly at risk of experiencing environmental health inequities in Canada. Additionally, one slide focused specifically on women and children, highlighting how temperature extremes influence health outcomes, such as delivery risk and preterm birth, especially in low and middle-income countries. The extreme heat events and climate change lecture also outlines populations at risk of experiencing heat related illness. These include the elderly, those with low SES, and children amongst others.	

1.10. Does your <u>medical school</u> curriculum address the unequal regional health impacts of climate change globally?	
3	This topic was explored **in depth** by the **core** curriculum.

2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
Score explanation: Within the Health Promotion unit in the Foundations of Clinical Medicine I course (MEDC 143), there is a lecture titled "Environmental Health and Climate Change". This lecture contained one slide that briefly mentioned geographical environmental health inequities in the context of climate change and health.	

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

1.11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
Score explanation: There are several slides in the "Female Infertility" lecture of the reproductive module that cover this topic briefly. It discusses the negative impacts of poor air quality and endocrine-disrupting chemicals like PCBs on female fertility. In the Respiratory module, the "climate change and respiratory disease" lecture mentioned that sulfur dioxide may be linked to reduced fertility.	

1.12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?	
3	This topic was explored **in depth** by the **core** curriculum.
2	**This topic was briefly covered in the core curriculum.**
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
Score Explanation: In the Changing Climate and Respiratory Diseases lecture, Saskatchewan's contribution to CO2 emissions are discussed. The extreme heat events and climate change lecture also briefly touches on the impact of extreme heat events in Saskatchewan. There are very few other local examples listed throughout the pre-clerkship and clerkship curriculum. Students have the ability to explore this option further if they choose to take the Environmental Health Elective in their fourth year.	

1.13. To what extent does your <u>medical school</u> emphasize the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?

3	Indigenous knowledge and value systems are **integrated throughout** the medical school's planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included **briefly** in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in **elective** coursework.
0	This topic was **not** covered.

Score explanation: The College of Medicine at the University of Saskatchewan offers an optional certificate for students called Making the Links-A Global Health Certificate. For this course, students are required to participate in CHEP 402- Global Health I and CHEP 411- Rural/Indigenous community practicum. These courses provide students with the opportunity to learn about indigenous history. Students have the opportunity to explore the significance of planetary health and sustainability in indigenous cultures if that is something of interest to them. In addition, students can choose to pursue an elective that focuses on indigenous health. Through this elective, students have the opportunity to learn about indigenous knowledge and value systems. Although this is not the focus of the elective, this may be something that students may choose to explore.

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

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

Score explanation: In the Changing Climate and Respiratory Diseases lecture that is offered during the respiratory module of the foundations course, the topic of worsening air quality as a result of anthropogenic environmental toxins like ozone, nitrogen dioxide, sulfur dioxide, traffic related pollution, and particulate matter are discussed particularly in the context of how they affect the respiratory system of various groups of individuals. It specifically talks about increased hospitalisation and death among the elderly and children. Furthermore, it described how city-dwellers, particularly low-income families, are especially vulnerable to extreme heat due to the "heat island" effect. In the same lecture, a slide is dedicated to identifying vulnerable subgroups.

One of the objectives In the Integrative Approach to Lung Health lecture which is offered during the same module is "discuss the underlying factors that may be contributing to the rise in asthma prevalence". Under this objective, it was discussed that the following marginalised groups were at increased risk of asthma: First Nations, Inuit, Metis, people of colour. In this same lecture, one of the causes for increased asthma prevalence was listed as air pollution.

In the Integrative Approach to Common Dermatologic Conditions, the rise of atopic dermatitis in children due to excessive exposure to airborne pollution is also discussed.

A lecture on the topic of extreme heat events and climate change has also been introduced for the 2023-2024 academic year has also been introduced. This lecture talks on vulnerable populations

susceptible to heat stroke and the role that AC as a heat mitigater plays in increasing air pollutants. Furthermore the lecture recognizes that the increase in environmental toxins contribute to worsening respiratory illnesses. The lecture also briefly touches on the impact of increasing forest fires on respiratory health.

Lastly, the college of medicine does offer an Indigenous Health elective and an Environmental Health elective that may touch on these topics.

Curriculum: Sustainability

1.15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
Score explanation: The University of Saskatchewan College of Medicine teaches students about the health benefits of various types of diets, including plant-based, across multiple modules in year one and two. However, when teaching about plant-based diets, the College of Medicine briefly addresses the environmental benefits in the core curriculum. The College of Medicine provided students with a Healthy Eating video in the self-study session, Macronutrients and Healthy Eating, within the Health Promotion section of Foundations I. This video briefly addresses the environmental benefits of plant based diets. In addition to this video, the College also provided an additional resource, BBC's "Follow the Food" series which more explicitly addresses climate and environmental impact.	

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored **in depth** by the **core** curriculum
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
Score explanation: At the University of Saskatchewan College of Medicine, the carbon footprint of health care systems is addressed in several lectures. In the Changing Climate and Respiratory Diseases lecture, the carbon footprint of various types of inhalers was discussed. This lecture also emphasises actions to decrease inhaler related emissions. *Furthermore, the College of Medicine provided an article by Ebi et al. titled "Extreme Weather and Climate Change: Population Health and Health System Implications". This article discusses the carbon foot-print of healthcare systems.*	

Moreover, the College supports student-led groups, elective lunch talks, and research opportunities that address topics like this one.

The University of Saskatchewan College of Medicine hosted a local hub in 2023 of the Summer Institute on Health Care Sustainability. This is an interdisciplinary one week learning activity with CASCADES as the national host. Last year there were facilitators and participants from public health, medicine, pharmacy, Saskatchewan Health Authority staff, and psychology. University of Saskatchewan will host a hub again in June 2024.

1.17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	
2	The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of **pharmaceuticals** and over-prescribing as a cause of climate health harm. Alternatively teaching on **deprescribing** where possible and its environmental and health co-benefits would fulfil this metric.
1	The health **and** environmental **co-benefits** of **non-pharmaceutical management** of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of **inhalers** on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	**Waste production** within healthcare **clinics** and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)

Score explanation: The University of Saskatchewan provides a lecture in Medicine and Society III labelled "Health Resource Stewardship". The lecture discusses overmedicalization, over-investigation, and over-treatment. The lecture also emphasizes how these concepts can increase wasted material, energy, and supplies which ultimately impacts the environment. Although the lecture extensively covers the economical consequences and various solutions to overmedicalization, it fails to cover the impact on climate change. Certain Choosing Wisely slides are also well incorporated throughout the curriculum with an emphasis on reducing unnecessary testing. This indirectly encourages the principles of sustainability.

The impact of pharmaceuticals, surgical healthcare, and use of anaesthetic gases on the environment is not established in the curriculum. Although non-pharmaceutical management is discussed throughout various Foundations in Clinical Medicine lectures, the environmental benefits are not included.

The Foundations in Clinical Medicine II course contains a lecture labelled "Changing Climate and Respiratory Disease". The lecture revolves around the impact of climate change on various respiratory illnesses. The lecture also emphasizes the environmental impact of various inhalers.

A new lecture has been introduced in the second year foundations curriculum that focuses on the topic of extreme heat events and climate change. The lecture briefly touches on the role of using reusable items in the OR such as gowns and the role of selecting the anaesthetic gases with a smaller carbon footprint in an effort to decrease our healthcares carbon footprint.

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the **core** curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in **elective** coursework.
0	No, there are **not** strategies introduced for having conversations with patients about climate change
Score explanation: The University of Saskatchewan currently does not introduce strategies for having conversations with patients about climate change. Topics exploring environmental effects on health come up throughout the program, but there is no link to applying or sharing this knowledge during clinical practice.	

1.19. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the **core** curriculum includes strategies for taking an environmental history.
1	Only **elective** coursework includes strategies for taking an environmental history.
0	No, the curriculum does **not** include strategies for taking an environmental history.
Score explanation: The University of Saskatchewan trains students to take a full history. The Respiratory module in particular introduces how to ask about environmental and occupational exposures within the Clinical Skills II course.	

Curriculum: Administrative Support for Planetary Health

1.20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?

4	Yes, the medical school is currently in the process of making **major** improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making **minor** improvements to ESH/planetary health education.
0	No, there are **no** improvements to planetary health education in progress.

Score explanation: The University of Saskatchewan college of medicine has several improvements underway. The USASK hub for CASCADES Summer Institute for Sustainability, with support from the college of medicine, was implemented for the first time in summer 2023.

New planetary health lectures have also been incorporated throughout the medicine curriculum, to allow for a more integrative approach. In addition, a research opportunity revolving around sustainability was developed and made available this year.

1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?	
6	Planetary health/ESH topics are **well integrated** into the core medical school curriculum.
4	**Some** planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in **(a) standalone lecture(s).**
0	There is **minimal/no** education for sustainable healthcare.

Score explanation: The University of Saskatchewan has been increasing planetary health education throughout the medicine curriculum. Several environmental topics, including occupational exposures, health effects of climate change, and identifying climate-related healthcare flags, are available in pre-clerkship and clerkship. The implementation of new lectures across different stages has served to increase longitudinal integration. Additionally, there is an environmental health elective available to those who are interested during their fourth year of training.

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

Score explanation: There is no designated faculty or staff within the college of medicine that is responsible for planetary health content or sustainability in healthcare. There are however, key individuals who have championed sustainability and planetary health initiatives. The DSA has also been making an effort to be more involved and aware of initiatives within the college of medicine.

Section Total (53 out of 72)	73.61%

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

Interdisciplinary Research

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

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
3	Yes, there are faculty members at the **medical school** who have a **primary r**esearch focus in planetary health **or** healthcare sustainability.
2	Yes, there are individual faculty members at the **medical school** who are conducting research **related** to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the **institution**, but none associated with the medical school.
0	No, there are **no** planetary health and/or healthcare sustainability researchers at the **institution** or **medical school** at this time.
Score explanation: The College of Medicine at the University of Saskatchewan supports 21 researchers focused on topics related to sustainability and healthcare. These researchers are listed on the Office of Sustainability website which has a comprehensive inventory of researchers across the university who focus on sustainability. However, none of the 21 researchers are primarily focused on planetary health related topics as their main research interest.	

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?	
3	There is **at least one** dedicated department or institute for interdisciplinary planetary health research.
2	There is **not currently** a department or institute for interdisciplinary planetary health research, but there are **plans** to open one in the next 3 years.
1	There is an **Occupational and Environmental Health department**, but no interdisciplinary department or institute for planetary health research.
0	There is **no** dedicated department or institute.
Score explanation: The University of Saskatchewan is home to two interdisciplinary planetary health focused departments including the Global Institute for Water Security (GIWS) and the School of Environment and Sustainability. The GIWS works to protect Canada's freshwater resources, mitigate the risk of water related natural disasters, forecast extremes of global change, as well as cocreating	

knowledge with Indigenous communities. The Institute also hosts the Living Skies Postdoctoral Fellows (PDF) program which specifically works to foster interdisciplinary research within the GIWS. The School of Environment and Sustainability hosts graduate programs in Water Security, Regenerative Sustainability, Energy Security, and Environment and Sustainability. The department supports research across many of the fields of planetary health and is focused on addressing the 2030 Sustainable Development Goals.

Furthermore, the University of Saskatchewan Signature Areas of Research are largely focused on planetary health issues with researchers across departments working on these issues. Finally, the Office of Sustainability serves as a central coordination system for suitability related work throughout the university.

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 medical school?	
3	Yes, there is a process in which community members impacted by climate and environmental injustice have **decision-making power** in the climate + environmental research agenda.
2	Yes, there is a process in which community members impacted by climate and environmental injustice **advise** the climate + environmental research agenda.
1	**No**, but there are **current efforts** to establish a process for community members to advise or make decisions on the research agenda.
0	There is **no** process, and **no** efforts to create such a process.
Score explanation: Researchers have the option to partner with UNESCO and complete community-based research with community participation and action. The group also encourages knowledge exchange between communities, university groups, and researchers.	

2.4. Does your institution have a planetary health website that centralizes ongoing and past research related to health and the environment?	
3	There is an **easy-to-use, adequately comprehensive** website that **centralizes** various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that **attempts to centralize** various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
1	The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment.
0	There is **no** website.
Score explanation: University of Saskatchewan's Office of Sustainability showcases an easy to use website that provides information regarding sustainability programs and events, opportunities for student involvement, campus footprint reports, an inventory of researchers who focus on sustainability-related topics, and appropriate resources.	

2.5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the **medical school** has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the **institution** has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the **institution** has hosted a conference on topics related to planetary health in the past three years.
1	The **institution** has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the **institution** has not hosted a conference on topics related to planetary health in the past three years.

Score explanation: The University of Saskatchewan College of Medicine division of social accountability hosted a hub for the annual Summer Institute for Sustainability in partnership with CASCADES (Creating a Sustainable Canadian Health System in a Climate Crisis) this past summer. The institute aimed to increase awareness of sustainable health systems and current sustainability research across Canada as well as build a professional network of interdisciplinary researchers, clinicians, and trainees.

Additionally, the School of Environment and Sustainability hosts two annual symposiums: The Summer Professional Symposium and The Spring Research Symposium, where students present their research related to their studies in energy and water security, sustainability, and other topics related to planetary health.

2.6. Is your medical school a member of a national or international planetary health or ESH organization?	
1	Yes, the medical school is a member of a national or international planetary health **or** ESH organization
0	No, the medical school is **not** a member of such an organization

Score explanation: While the University of Saskatchewan's College of Medicine is not currently a member of global planetary health or ESH organisation, they have formed a partnership with CASCADES in offering a USask hub for the Summer Institute for Sustainability. A gathering aimed at connecting researchers, clinicians, and trainees in learning about sustainable health systems and current Canadian sustainability research.

Additionally, researchers at the University of Saskatchewan have partnered with UNESCO to work with communities and Indigenous peoples in the areas of environmental stewardship and governance, community-engaged research practices, Indigenous food systems, and gender and youth in environmental management.

Section Total (14 out of 17)	82.35%

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

Community Outreach and Advocacy

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

3.1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the **medical school** meaningfully partners with **multiple** community organizations to promote planetary and environmental health.
2	Yes, the **medical school** meaningfully partners with **one** community organization to promote planetary and environmental health.
1	The **institution** partners with community organizations, but the medical school is not part of that partnership.
0	No, there is **no** such meaningful community partnership.

Score explanation: There are currently some community partnerships to promote environmental and planetary health, but the College of Medicine is not specifically involved in many of these partnerships. For example, the U of S partners with the Saskatchewan Waste Reduction Council, who is dedicated to helping the people of Saskatchewan reduce waste. It is a non-governmental organisation that addresses the underlying causes of waste by identifying opportunities, creating connections, and promoting solutions for a waste-free Saskatchewan. The university is a sponsoring member of the Council and maintains two seats on its Board of Directors.

The City of Saskatoon and USask also created a Community Projects Partnership which established a new partnership where students will be paid an honorarium to complete small research projects for the City of Saskatoon on sustainability topics.

Finally, the College of Medicine offers students in their 2nd year of the program the opportunity to complete their Community Learning Experience at CHEP Good Food Inc which is a local organisation that, in addition to providing people with access to healthy foods, also offers education on nutrition and supports 47 community gardens in Saskatoon. This is a great partnership that the CoM is directly involved in, but only a few students take part each year which means there is lots of work to still do in this area.

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

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

Score explanation: The University of Saskatchewan has hosted some community facing courses and events, but the College of Medicine was not involved in the planning of these events. For example, in March 2023 the Office of Sustainability hosted a week of events to celebrate the United Nations' Sustainable Development Goals and Open Education with a series of panels, workshops, professional development sessions, and other events. This was widely advertised to the public.

In 2023, the University of Saskatchewan also hosted a TEDx event that was open to the community. It had one of its speakers, Dr. Maureen Reed, give a talk on academic programs in sustainability and the changes needed in those programs. Although the entire TEDx event was not focused on sustainability, it did have elements that touched on it.

3.3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?	
2	Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are **sometimes** included in communication updates.
0	Students **do not** receive communications about planetary health or sustainable healthcare.

Score explanation: The College of Medicine digitally publishes weekly newsletters called the "E-News for the College of Medicine" which sometimes provide information related to planetary health or sustainable healthcare.

For example, in the October 2023 newsletter, the article, "USask, City of Saskatoon explore merits of sustainable transportation strategies" was listed. This article was also available on the College of Medicine website's News section.Other articles relating to planetary health/sustainable healthcare have been in the news section in the past as well. An example is, "How a Pandemic Sparked a Passion for Planetary Health & Climate Change".

Other sources of news were identified as affiliated with the COM, such as the MyMD Blog and Message from Dean blogs, but only one article was found to be related to planetary health and sustainability. The Division of Social Accountability (DSA) occasionally has coverage on the topic. For example, in January 2022, the SHA hosted a webinar called "Health in a Changing Climate: The Role of Healthcare Professionals".

The Office of Sustainability occasionally puts out media from the College of Medicine. For example, an article from the College of Medicine featured on the Office of Sustainability website is called "USask researcher leading charge in the fight against AIDS". It is important to note this article is not explicitly tied to climate change or planetary health, but is instead related to sustainability. It is also important to

note that the Office of Sustainability is not directly affiliated with the College of Medicine, and therefore not directly affiliated with the medical school.

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?	
2	Yes, the **institution** or **main affiliated hospital trust** offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are **no** such accessible courses for post-graduate providers
Score explanation: The College of Medicine has a Continuing Medical Education initiative. However, no references were found to any CME resources or courses relating to planetary health and sustainable healthcare. Similarly, the Saskatchewan Health Authority (SHA) does not have any resources for continued education relating to planetary health and sustainable healthcare itself. However in 2023, the SHA co-hosted the Nourish Food for Health Symposium, which emphasised the contribution of food and health care systems to the climate crisis. *In 2022, a lecture on "Planetary health and One Planet health care: Integrating the ecological determinants of health with medicine" was delivered at the Highlights in Medicine Conference and Reunion. This conference is aimed at the College of Medicine alumni. No lectures on planetary health or sustainable healthcare were delivered at the subsequent conference. The College of Medicine's Division of Social Accountability did have one book club meeting focused on planetary health where they listened and discussed the podcast, "Environmental Impact on Health Advocacy and More with guest Dr. Courtney Howard," on the podcast series Solving Healthcare hosted by Dr Kwadwo Kyeremanteng. This book club is primarily attended by staff and faculty. The USask hub of the CASCADES Institute for sustainable healthcare systems also offers some opportunities for professional education. It however is primarily directed at individuals early in their training.*	

3.5. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?	
2	Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients.
1	**Some** affiliated hospitals have accessible educational materials for patients.
0	**No** affiliated medical centers have accessible educational materials for patients.
Score Explanation: The Saskatchewan Health Authority (SHA) oversees all U of S College of Medicine associated hospitals and operates a website with health information for patients. The "Environmental Health" page within the SHA website is a Healthline Online content page created by Healthwise and was most recently updated February 28th, 2023. This page provides information on topics such as Environmental Illness, Lead Poisoning, Carbon Monoxide Poisoning, and Radon. Locating these	

resources through the SHA website search function is challenging. Users must search for specific topics such as "Radon" to locate relevant pages, while searching broadly for "Environment" does not produce relevant results. Select educational materials is available for patients, but these materials are not easily accessible and are not produced by the SHA directly. The U of S College of Medicine website does not offer any patient friendly education materials related to environmental health exposures.

3.6. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?	
2	Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients.
1	**Some** affiliated hospitals have accessible educational materials for patients.
0	**No** affiliated hospitals have accessible educational materials for patients.
Score explanation: The Saskatchewan Health Authority (SHA) oversees all U of S College of Medicine associated hospitals and operates a website with health information for patients. However, there is no information regarding climate change and health impacts directly identified on the website. Relevant information could potentially be available through the provided resource links, however, such resources are not readily accessible for patients. The U of S College of Medicine website does not offer any patient friendly education materials related to climate change and health impacts.	

Section Total (7 out of 14)	**50.00%**

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Support for Student-Led Planetary Health Initiatives

***<u>Section Overview:</u>* 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 <u>medical school</u> or your <u>institution</u> offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the **medical school** or **institution** *either* offers grants for students to enact sustainability initiatives/QI projects *or* sustainability QI projects are part of the core curriculum.
1	The **medical school** or **institution** encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, **but** there is no student funding available and there is no requirement to participate.
0	No, **neither** the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.
Score explanation: The Division of Social Accountability (DSA) within the College of Medicine offers $3000 of funding per project via the Social Accountability Lab for Learning and Teaching (SALLT). Projects are student-developed and aimed towards adding to the growing body of advocacy work, community engagement and health equity principles in the realm of social accountability, including planetary health or sustainability. They also offer funding for College of Medicine student groups involved with social accountability, advocacy, and health-equity. While the funding is not specific for sustainability projects, they are included within the eligibility criteria. Since the publication of the 2022-2023 PHRC the DSA has also taken additional interest in increasing sustainability within the college and supporting sustainability initiatives. *The College of Medicine Division of Research also offers funding for summer research projects, of which some projects may be related to sustainability initiatives or quality improvement. Students can work with faculty to develop projects and apply for this funding.* *The University of Saskatchewan's Office of Sustainability and the USSU Sustainability Committee have partnered to offer $10 000 for student-developed sustainability projects at the University of Saskatchewan since 2016.*	

4.2. Does your <u>institution</u> offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The **institution** has a **specific** research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these **require student initiative** to seek these out and carry them out in their spare time.

0	There are **no opportunities** for students to engage in planetary health/sustainable healthcare research.

Score explanation: The College of Medicine's Office of the Vice Dean of Research offers students opportunities to become involved in different types of research, including planetary health or sustainable healthcare research. This research is not specific to planetary health/sustainable healthcare research. Students can reach out to faculty interested in sustainability to create research projects and apply for funding from this division. Faculty can also post research opportunities related to planetary health or sustainability.

The University of Saskatchewan's Sustainability Education Research Institute within the College of Education offers a collaborative environment for faculty, postdoctoral fellows, graduate students, staff, and other partners conducting research on environment and sustainability in relation to education. Unfortunately, there is currently no partnership with the College of Medicine.

The Office of Sustainability at the University of Saskatchewan has a comprehensive list of sustainability and planetary health research occurring at the university with some representation from the College of Medicine.

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

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

Score explanation: The College of Medicine does not specifically have a webpage dedicated to sustainable healthcare or planetary health. The University of Saskatchewan's Office of Sustainability however, does have numerous web pages dedicated to research, workshops, and learning opportunities for students who are interested in engaging in sustainability initiatives. Additional planetary health and sustainability content can also be found throughout the Universities home page or when directly searched such as the USask Health Sciences and College of Education "Food for Thought Planetary Health Series". Sustainability initiatives through the College of Medicine are also often advertised through DSA platforms, My MD Blogs, or other college communication mediums.

The Planetary Health Student Group of the Student Medical Society of Saskatchewan (SMSS) has social media pages on which planetary health news and activities are shared, however they are not a formal part of the College of Medicine and are not listed specifically on the College of Medicine's website. Students must take the initiative to follow these pages in order to access the content.

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

culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?	
2	Yes, there is a student organization **with faculty support** at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it **lacks faculty support.**
0	No, there is **not** a student organization at my institution dedicated to planetary health or sustainability in healthcare.
Score explanation: The Student Medical Society of Saskatchewan (SMSS) has both an Environment and Sustainability Representative and a registered Planetary Health Student group aimed at increasing student engagement with planetary health concepts. Both work to create planetary health initiatives and events within the academic setting as well as outside of them. Both roles are closely intertwined and have been supported by faculty, particularly course directors and the Associate Dean for Undergraduate Medical Education. Through these roles and with the support of faculty new curriculum components have been created to enhance planetary health teaching at the undergraduate medical education level. Which has been one of the greatest successes of the 2022-2023 PHRC.	

4.5. Is there a student liaison representing sustainability interests who serves on a <u>medical school</u> or <u>institutional</u> decision-making council to advocate for curriculum reform and/or sustainability best practices?	
1	Yes, there is a student representative that serves on a medical school or institutional decision-making council/committee.
0	No, there is no such student representative.
Score explanation: The Student Medical Society of Saskatchewan has an Environment and Sustainability Representative tasked with advocating for and increasing awareness of national planetary health initiatives in collaboration with relevant groups such as the Planetary Health Student Group. The individual in this role has proven to play a crucial role in furthering the college of medicines sustainability practices and planetary health curriculum.	

4.6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	
1	Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.

1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students)

Score explanation:

1. *The College of Agriculture and Biosciences has a Gardening at USask public resource which provides advice and additional resources about sustainable agricultural practices.*
2. *The Planetary Health Student Group hosts events throughout the year featuring a broad range of speakers such as student leaders, community members and medical specialists involved in planetary health advocacy. Additionally, the USask Health Sciences and College of Education hosted a Food for Thought Planetary Health Series which was aimed towards addressing the global food insecurity crisis with an understanding of the relationships between humans and planetary health. There are also planetary health based lectures within the medical education curriculum.*
3. *The Office of Sustainability hosts an annual EcoHack to create solutions to problems with a focus on sustainability.*
4. *ART*Cycled is a partnership between the USask Office of Sustainability and UofS Art students where students used university-surplus goods destined for the landfill to create sustainable art.*
5. *The Office of Sustainability outlines numerous volunteer opportunities dedicated to promote sustainability and improve planetary health such as PlantForever, a group dedicated to planting trees in the city. Through the College of Medicine the Environmental and Sustainability Representative has historically also created volunteer opportunities for students interested in planetary health initiatives.*
6. *There are numerous sustainability-focused and sustainability-related groups at the University of Saskatchewan which promote outdoor programs for students. These include groups such as the Planetary Health Student group through the SMSS.*

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

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

Campus Sustainability

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

5.1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is **at least one designated staff member** for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but **no specific staff member** in charge of medical school and/or hospital sustainability.
1	There are **no salaried sustainability staff,** but there is a sustainability task force or committee
0	There are **no** staff members **or** task force responsible for overseeing campus sustainability
Score explanation: The University of Saskatchewan Office of Sustainability consists of a Chief Sustainability Officer and a Reporting and Engagement Specialist. In the past it has had up to four full-time salaried employees and 2-3 part-time or full-time term student employees. The Saskatchewan Health Authority has a full-time staff member focused on Energy and Sustainability to oversee sustainability in Saskatchewan hospitals.	

5.2. How ambitious is your institution/medical school plan to reduce its own carbon footprint?	
5	The institution/medical school has a **written and approved plan** to achieve carbon neutrality by **2030**
3	The institution/medical school has a **written and approved plan** to achieve carbon neutrality by **2040**
1	The institution/medical school has a stated goal of carbon neutrality by **2040** but has **not created a plan** to reach that goal or the **plan is inadequate**
0	The institution/medical school does **not** meet any of the requirements listed above
	Score explanation: In the most recent 2022-2023 Annual Sustainability Report, the University identifies three pathways to meet its goal of net zero emission by 2050: decarbonization, reducing demand, and building better. A plan for decarbonization will be further structured following a decarbonization study that is currently being conducted. There is an intermittent goal of a 45%

	reduction in 2010 greenhouse gas levels by 2030. There are more initiatives mentioned in the report, such as educating lab users on closing fume hood sashes to avoid energy waste. This has led to a 2% decrease in emissions from 2021-2022 and an overall reduction of 14% from 2010 levels. There are a number of student-led initiatives at the College of Medicine that work to make our sites more sustainable, such as a glove recycling initiative.

5.3. Do buildings/infrastructure used by the <u>medical school</u> for teaching (not including the hospital) utilize renewable energy?	
3	Yes medical school buildings are **100%** powered by renewable energy
2	Medical school buildings source **>80%** of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source **>20%** of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source **<20%** of energy needs from off-site and/or on-site renewable energy.
Score explanation: The buildings on campus are powered by grid electricity and natural gas directly and indirectly. The campus has two solar PV arrays; the Horticulture Department and the John Mitchell Building. There are a couple of initiatives throughout campus aimed at making energy use more efficient, such as replacing older light bulbs with LEDs and adding controllers to parking lot plug-ins. The Health Science building makes use of solar collectors for its supply of domestic hot water, and also has features such as heat reclamation and occupancy sensors for lights to reduce energy usage.	

5.4. Are sustainable building practices utilized for new and old buildings on the <u>medical school</u> campus, with design and construction of new buildings and remodeling of old buildings conforming to a published sustainability rating system or building code/guideline?	
3	Yes, sustainable building practices are utilized for new buildings on the medical school campus and the **majority** of old buildings **have been retrofitted** to be more sustainable.
2	Sustainable building practices are utilized for new buildings on the medical school campus, but most old buildings have **not been retrofitted.**
1	Sustainable building practices are **inadequately or incompletely** implemented for new buildings.
0	Sustainability is **not considered** in the construction of new buildings.
Score explanation:The U of S College of Medicine is located across two campuses, the Health Sciences Building in Saskatoon and the Regina General Hospital in Regina, Saskatchewan: ● *The Health Sciences Building underwent several renovations with sustainability in mind. The D-Wing renovations which were conducted from July 2007 to December 2012 led to a LEED Silver certification for this area in September 2017. The E-Wing renovations led to a LEED Gold certification for this area in February 2016. The A-wing was renovated in accordance with LEED Gold principles.* *Sustainability has been taken into account with new renovations but there are no guidelines that have to be adhered to.*	

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

Score explanation: Medical school orientation advertises an inter-hospital shuttle offered between the various hospitals at regular intervals during daylight hours. Additionally, the secondary campus site (Regina), provides information about the city bus service and a park-and-ride shuttle from an off-site parking lot.

Primary modes of transportation to the campus include public transportation and driving. The University of Saskatchewan automatically includes a bus pass (U-pass) for Saskatoon Transit within undergraduate medical student fees for the Fall and Winter semesters (September-April) to encourage utilisation. The campus contains a hub where many buses can be accessed for transportation across the city. There are on-campus parking lots in which students can enter into a lottery to purchase a parking pass, as well as pay-per-visit lots and parking metres across the campus. At the Regina campus there is the option for students to take a shuttle between hospitals for no additional cost.

The University of Saskatchewan advertises the various other transportation options for students (e.g. biking). The U of S campus contains some bike racks and more secure bike lockers are available for rent ($20/month) whereas medical students can make use of bike lockers for free at the hospitals.

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

Score explanation: U of S has a single-stream recycling program, where all types of recyclables can go into any recycling bin seen on campus, including the bins in the medical school building (Health Sciences Building). There are also multiple trash bins in the medical school building.

There is no compost program across campus. Batteries and small electronics can be recycled at Health Sciences Stores in the Health Science Building and at numerous other stores across campus. Disposable masks can be recycled in some buildings on campus, including the medical school building.

5.7. Does the <u>medical school</u> apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
3	Yes, the medical school has a**dequate s**ustainability requirements for food and beverages, including meat-free days or no red-meat, and **is engaged** in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The medical school **is engaged** in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are **insufficient or optional.** The medical school is **not** engaged in efforts to increase food and beverage sustainability.
0	There are **no** sustainability guidelines for food and beverages.
Score explanation: There are no official sustainability guidelines for food and beverage on campus. U of S Culinary Services have taken sustainability initiatives, including purchasing from local producers and partners, but these are not an official guideline for the university.	

5.8. Does the <u>medical school</u> or <u>institution</u> apply sustainability criteria when making decisions about supply procurement?	
3	Yes, the medical school has **adequate** sustainability requirements for supply procurement **and** is **engaged** in efforts to increase sustainability of procurement.
2	There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The medical school is **engaged** in efforts to increase sustainability of procurement.
1	There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The medical school is **not engaged** in efforts to increase sustainability of procurement.
0	There are **no** sustainability guidelines for supply procurement.
Score explanation: The U of S Sustainability guidelines for supply procurement are optional and can be found on the university's web page. The most recent update was in the Spring 2023 by an amendment. It should be noted that the U of S College of Medicine and Saskatchewan Health Authority are not involved in sustainable procurement.	

5.9. Are there sustainability requirements or guidelines for events hosted at the <u>medical school</u>?	
2	Every event hosted at the medical school **must** abide by sustainability criteria.
1	The medical school **strongly recommends or incentivizes** sustainability measures, but they are **not required.**

0	There are **no** sustainability guidelines for medical school events.

Score explanation: The Saskatchewan Medical Student Society (SMSS) has a sustainability policy for all student-led events. The policy consist of the following:

- *Student Society groups that host ≥ 4 sustainable events are eligible for an extra $100 in funding as an incentive for medical student events.*
- *Event hosts must remind students to bring their own materials in the event advertisement if necessary.*
- *All leftover food must be donated to event attendees or local organisations.*
- *The U of S also has a guide to sustainable events on campus that medical students could refer to for tips, however this is optional and not incentivized.*

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

*Score explanation: There is a Work Green initiative on Work Green Labs spearheaded by the Office of Sustainability**.** Small grants of up to $300 can help Work Green Units invest in greener practices. The College of Medicine Dean's Office and Biomedical Sciences Main Office have been awarded Work Green Gold Certification through this program. The Green Labs initiative is ongoing, where U of S staff are able to reach out for financial support to make small sustainable changes to their lab space. There are also efforts to increase signage for labs to keep variable flow fume hood sashes closed when not in use. On the back-end of things, it works with facilities for building decommissioning and renewal to bring older buildings up to more modern energy-efficiency standards. The College of Medicine is not involved in leading these initiatives. No information about new initiatives or further success of these previous initiatives was available.*

5.11. Does your institution's endowment portfolio investments include fossil-fuel companies?	
4	The institution is **entirely divested** from fossil fuels **and** has made a **commitment to reinvest divested funds** into renewable energy companies or renewable energy campus initiatives.
3	The institution is **entirely divested** from fossil fuels.
2	The institution has **partially divested** from fossil fuel companies **or** has made a **commitment to fully divest**, but **currently** still has fossil fuel investments.
1	The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organized advocacy** for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that.

Score explanation: The University is currently in the process of reviewing and readjusting its investment portfolio. It utilises highly rated investment solutions offered by professional management firms but has no screens to exclude fossil fuel companies as investment options. The last review in December 2019 found investments including fossil fuel companies were just over 4% of the total investment holdings for the University. Financial operations are moving forward in the incorporation of environmental and social governance strategies and carbon intensity measures as a signatory to the Climate Charter for Canadian Universities.

Section Total (10 out of 32)	**31.25%**

Back to Summary Page here

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

Grading

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

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

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

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(53/72) x 100 = 74%	B
Interdisciplinary Research (17.5%)	(14/17) x 100 = 82%	A-
Community Outreach and Advocacy (17.5%)	(7/14) x 100 = 50%	C
Support for Student-led Planetary Health Initiatives (17.5%)	(13/15) x 100= 87%	A
Campus Sustainability (17.5%)	(10/32) x 100 = 31%	D
Institutional Grade	**(74x0.3 + 82x0.175 + 50x0.175 + 87x0.175 + 31x0.175) = 65.95%**	**B**

Report Card Trends

Section Overview

This graph demonstrates trends in overall and section grades for the years in which University of Saskatchewan's College of Medicine has participated in the Planetary Health Report Card initiative.