



Planetary Health Report Card:

University of Toronto



TEMERTY FACULTY OF MEDICINE
UNIVERSITY OF TORONTO

2021-2022 Contributing Team

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We want to acknowledge that the people in our team as well as our medical school, the University of Toronto Faculty of Medicine, is located in Tkaronto, the lands of the Huron-Wendat, the Seneca, and the Mississaugas of the Credit. We want to recognize the many Indigenous people and communities who continue to care for the lands on which we reside. We also want to acknowledge these communities for what they have taught us about medicine and well-being, that the land and water is essential for the flourishing of human communities, that we are inextricably linked to the more-than-human around us. In doing so, we want to simultaneously and explicitly recognize the need to work in solidarity with Indigenous communities across Turtle Island. Our curriculum should recognize the salience of supporting Indigenous communities in their LandBack movements, as they counter extractivist practices by state and corporate forces, and as they enforce laws rooted in their various epistemologies and ontologies.

Summary of Findings

Overall	D
<u>Curriculum</u>	C +
<ul style="list-style-type: none"> The Faculty of Medicine has made progress on the planetary health curriculum. However, most of the content is limited to two lectures during week 11 and a handful of self-learning modules in preclerkship teaching. Recommendations: We recommend the Faculty work toward fully integrating discussions on planetary health and environmental/climate justice into the curriculum and hire a theme lead who can bring together the environmental and structural determinants of health. We also recommend the faculty firmly integrate a climate justice approach when discussing anti-oppression and vice versa, during discussions on environmental health. 	
<u>Interdisciplinary Research</u>	D
<ul style="list-style-type: none"> The Faculty of Medicine has some faculty members and initiatives on planetary health research. However, more commitment is needed to develop in these areas and foster partnerships with other offices, departments, and faculties that are engaged in similar lines of work. Recommendations: We recommend the faculty support researchers (e.g. increased funding) who are doing planetary health work and develop stronger partnerships with Dalla Lana School of Public Health's Division of Occupational & Environmental Health. 	
<u>Community Outreach and Advocacy</u>	D-
<ul style="list-style-type: none"> The University of Toronto Faculty of Medicine has little to no community outreach and advocacy regarding planetary health. Recommendations: Community partnerships must be developed, particularly ones that are rooted within marginalized communities. 	
<u>Support for Student-Led Initiatives</u>	D
<ul style="list-style-type: none"> The University of Toronto has no support for student groups dedicated to planetary health. There is one registered medical society (GreenMeds) dedicated to increasing awareness on the importance of sustainability in medicine. However, it is not supported by faculty. Recommendations: The faculty should fund sustainability projects, which can be advertised on a central website, and at least offer an opportunity to engage in this research in the core curriculum. 	
<u>Campus Sustainability</u>	F+
<ul style="list-style-type: none"> Campus sustainability is largely shaped by initiatives at the university-wide level. Stronger external and internal partnerships are lacking in order for the Faculty of Medicine to establish concrete approaches in cultivating campus sustainability. Recommendations: We recommend that a designated staff member within the Faculty of Medicine be connected to the Office of Sustainability as a point person. 	

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 schools' 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 “ 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.” 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.
- **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 (for example, undergraduate departments (USA), other related departments eg 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.

- a. For the University of Toronto, given the size of the institution, for resources outside of the Faculty of Medicine, we are considering only resources accessible to medical students. For resources not readily accessible to medical students, we provide recommendations to the medical school on developing partnerships with these external groups. For the section on Campus Sustainability, we primarily consider all of the University of Toronto, unless indicated otherwise.
- **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 example).

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. 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.
<p><i>Score explanation: There are currently no formal electives in Sustainable Healthcare or Planetary Health. However, the GreenMeds coordinators at the University of Toronto's Temerty Faculty of Medicine, in collaboration with the Centre for Sustainable Health Systems at the Dalla Lana School of Public Health, run a Canadian-wide speaker series addressing sustainability in medicine. This series is student-organized and is available to all medical students. The series comprises 6 lectures: Introduction to Sustainable Medicine, Sustainable Medicine in a Primary Care Setting, Sustainable Medicine in a Hospital Setting, Sustainable Medicine in a Pandemic Setting, Advocacy Approaches for Sustainable Healthcare, and Practical Steps to Sustainable Healthcare.</i></p>	

Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?	
3	This topic was explored in depth by the core curriculum.

2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: As a part of the Foundations curriculum, in week 11, there is a pre-week self learning module entitled 'Climate Change and Health' in which the health impacts of extreme heat are briefly explored in an infographic. Further, the week 11 lecture entitled 'Climate Change and Health' had two slides related to the negative health impacts of high heat and strategies to stay healthy amidst heat waves. Additionally, in the week 11 lecture 'Health in a Changing Climate', two slides were dedicated to rising temperatures and the geographic disparity in heat vulnerability across communities in Toronto. Lastly, in the week 71 lecture 'Disparity and Solidarity', extreme heat was brought up in an infographic explaining climate change's impact on health as a whole.</i></p>	

3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: As a part of the Foundations curriculum, in week 11, there is a pre-week self learning module entitled 'Climate Change and Health' in which the health impacts of extreme weather events such as floods, droughts, and forest fires are briefly explored through an infographic. Further, the week 11 lecture entitled 'Climate Change and Health' had two slides related to extreme weather events, particularly the impact of forest fires in Western Canada. Additionally, in the week 11 lecture 'Health in a Changing Climate', two slides were dedicated to increased risk of drought and subsequent consequences of reduced crop yield.</i></p>	

4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.

0	This topic was not covered.
<p><i>Score explanation: As a part of the Foundations curriculum, in week 11, there is a pre-week self learning module entitled 'Climate Change and Health' in which the increased risk of tick-borne disease is explored in an infographic. Further, the week 11 lecture entitled 'Climate Change and Health' once again briefly mentioned increased risk of tick-borne disease. Additionally, in the week 11 lecture 'Health in a Changing Climate', one slide detailed the increasing risk of both mosquito- and tick-borne disease. During week 13, there is a self-learning module entitled 'Emerging Infectious Diseases', which describes the rising incidence of west-nile virus in North America in relation to climate change. This self-learning module has the associated learning objective: "The following factors are associated with emergence: microbial adaptation, human susceptibility, economic development and land use, climate and weather, travel and commerce, breakdown of public health measures, intent to harm" Lastly, in the week 71 lecture 'Disparity and Solidarity', climate change in relation to the burden of infectious disease globally is discussed over several slides.</i></p>	

5. Does your medical school 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.
<p><i>Score explanation: As a part of the Foundations curriculum, in week 11, there is a pre-week self learning module entitled 'Climate Change and Health' in which the connection between air pollution and respiratory illness is briefly discussed in connection to an infographic. Additionally, in the week 11 lecture 'Health in a Changing Climate', one slide discussed the direct connection between air pollution, particulates, and lung disease. In week 58, there is a self-learning module entitled 'Illness Reduction and Health Promotion: The Built Environment and Social Capital' in which air pollution and its impact on respiratory health, particularly asthma, is discussed. Lastly, during the week 58 lecture, 'Pediatric Asthma', a slide was included explaining the role of climate change in increased asthma risk.</i></p>	

6. Does your medical school 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.
<p><i>Score explanation: As a part of the Foundations curriculum, in week 11, there is a pre-week self learning module entitled 'Climate Change and Health' in which the connection between air pollution, increased heat, and poorer cardiovascular health is briefly discussed in connection to an infographic. Additionally, in the week 11 lecture 'Health in a Changing Climate', one slide discussed the direct connection between heat waves and heart disease. Lastly, in the week 71 lecture 'Disparity and Solidarity', extreme heat and its impact on cardiovascular health is discussed through an infographic.</i></p>	

7. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: As a part of the Foundations curriculum, in week 11, there is a pre-week self learning module entitled 'Climate Change and Health' in which the mental health impact of climate change, specifically related to extreme weather events and forced evacuation, is briefly discussed in connection to an infographic. Additionally, in the week 11 lecture 'Health in a Changing Climate', one slide discussed the direct connections between forest fires, economic disruption, and loss of habitat to poor mental health in the form of 'ecological grief.'</i></p>	

8. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: As a part of the Foundations curriculum, in week 11, there is a pre-week self learning module entitled 'Climate Change and Health' in which the connection between extreme weather and food insecurity is briefly discussed through an infographic. Additionally, in the week 11 lecture 'Health in a Changing Climate', one slide discussed the direct connections between increased</i></p>	

heat, drought, and loss of food production. Lastly, in the week 71 lecture 'Disparity and Solidarity', the relationship between climate change and water and food security is discussed through an infographic.

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

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

Score explanation: As a part of the Foundations curriculum, in the week 11 lecture 'Health in a Changing Climate', several slides discussed how climate change disproportionately impacts equity-seeking groups, specifically Indigenous peoples, both within the city of Toronto as well as across Canada. During week 65, there is a self-learning module with the explicit learning objective of "Describe the disproportionate impact of climate change on communities that already experience significant health inequities" in which several patient cases are used as examples of the connection between marginalization and climate change. Lastly, in the week 71 lecture 'Disparity and Solidarity', there is an in-depth discussion of how climate change disproportionately impacts the poorest nations on earth while the wealthiest nations continue to be the greatest polluters. This concept is also covered in a week 65 module titled "Climate Change: The Impact of Climate Change on Populations with Health Inequities." The objective of this module is to describe the disproportionate impact of climate change on communities that already experience significant health inequities, through the use of three case vignettes.

10. Does your medical school 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: In the pre-clerkship foundations curriculum, the week 71 lecture entitled 'Disparity and Solidarity' several slides go into detail to explain how the global south faces the majority of the burden of climate change, with substantial consequences for the health of populations, while the major CO2 emitters in the global north do not.

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

11. Does your medical school curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: This topic is not addressed in the pre-clerkship foundations curriculum. While air pollution has been discussed in reference to its respiratory health effects, it has not been linked to reproductive health effects.</i></p>	

12. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university’s surrounding community?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: In the pre-clerkship Foundations curriculum, the week 11 lecture highlighted communities that are the most heat vulnerable in the university’s surrounding community, and how that intersects with poverty/socioeconomic status. There is also a week 58 module titled “Public Health - Illness Reduction and Health Promotion: the Built Environment and Social Capital.” This module discusses the concept of the built environment and its relationship to health, as well as how healthy policies lead to healthy environments, which in turn promotes healthy behaviors and people. It includes examples drawn from the Greater Toronto and Hamilton Area to explain how environments with certain human-made design features can lead to specific health outcomes.</i></p>	

13. To what extent does your medical school emphasize the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?	
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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: In the pre-clerkship Foundations curriculum, the importance of Indigenous knowledge and value systems as essential components of planetary health solutions was mentioned in the week 11 pre-week module titled, "Climate Change and Health." This content was included through the use of two videos. The first was titled, "Indigenous Climate Action: Indigenous Peoples & Climate Change." The second was titled, "Climate Change & Our Health with Eriel Deranger." Both videos discussed the unique impacts of climate change on the health of Indigenous populations, and the importance of using Indigenous ancestral knowledge when developing solutions to climate change, such as through decolonization and being more rooted to the land. This concept was also covered in 1-2 slides during a 30 minute lecture titled, "Climate Change". These slides discussed capacity, and "the need to shift existing extractive relationships to ones characterized by genuine reciprocity;" as well as the diverse ways of knowing of Indigenous knowledge.

14. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, 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 pre-clerkship foundations curriculum, the disproportionate impact of anthropogenic environmental toxins on marginalized populations is discussed in week 11 pre-week module titled, "Climate Change and health." In the module, the concepts of 'climate justice' and 'environmental justice' are introduced. An example discussed in this module is that of the Grassy Narrows First Nations who have faced over 50 years of mercury poisoning as a result of untreated mercury waste being dumped into the Wabigoon River from a pulp and paper mill in Dryden, Ontario. This concept was also covered in 2-3 slides during a 30 minute lecture titled, "Climate Change". In this lecture he discussed the impacts of heat vulnerability, its relationship to poverty, and also the

current COVID-19 pandemic. This concept is also covered in a week 65 module titled “Climate Change: The Impact of Climate Change on Populations with Health Inequities.” The objective of this module is to describe the disproportionate impact of climate change on communities that already experience significant health inequities, through the use of three case vignettes. This concept was also covered in a week 58 module titled, “Public Health - Illness Reduction and Health Promotion: The Built Environment and Social Capital.” Specifically, it discussed housing and respiratory health, and the fact that Black, Hispanic and other “non-white” groups, along with individuals from low-SES communities, were more likely to reside near more particulate matter emission sources and were exposed to higher level of pollutants than white individuals, or those in high SES communities.

Curriculum: Sustainability

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

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

Score explanation: In the preclerkship Foundations curriculum, while the importance of a healthy diet and plant-based nutrition were discussed at length throughout the curriculum (particularly during week 10 - health promotion), their environmental co-benefit was not mentioned alongside the health benefits.

16. Does your medical school 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: In the preclerkship Foundations curriculum, the carbon footprint of the healthcare system was discussed briefly in one slide in a 30 minute lecture titled “Climate Change and Health”. In the slide, she lists that Canadian healthcare emissions of CO₂ contribute to 4.6% of Canada’s total emissions; and globally, if the healthcare sector were a country, it would be the 5th largest emitter on the planet. This concept was brought up to highlight the importance of discussing climate change and its health impacts in medical school.

17. Does your medical school curriculum cover these components of sustainable clinical practice in the core curriculum? (1 point each)

1	Waste production within the healthcare system and strategies for reducing waste in clinical activities, such as in the operating room
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally anaesthetic gas options with reduced greenhouse gas emissions
1	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 fulfill 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 for obesity. This is commonly known as social prescribing in the UK.
1	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment

Score explanation:

- 1) *Waste production in the healthcare system (0/1) - In the preclerkship Foundations curriculum, there was one slide highlighting operating rooms as being very energy intensive and contributing up to one-third of the total hospital waste, in a 30 minute lecture titled "Climate Change and Health" delivered by Dr. Samantha Green. However, there was no discussion on how strategies to reduce waste in clinical activities. Thus no score was awarded for this category.*
- 2) *Impact of Metered-Dose Inhalers (1/1) - In the preclerkship Foundations curriculum, there was one slide highlighting the environmental impact of metered dose inhalers, and the importance of using powdered inhalers as an alternative, in a 30 minute lecture titled "Climate Change and Health" delivered by Dr. Samantha Green.*
- 3) *Impact of Anesthetic Gasses (0/1) - Not covered in the preclerkship Foundations curriculum.*
- 4) *Environmental Impact of Pharmaceuticals and Over-Prescribing (0/1) - This concept was covered in a week 12 module titled "Antimicrobial Stewardship." In this module, the concept of antimicrobial steward was defined and its importance was explained in terms of the rise in antimicrobial resistance, the lack of new antimicrobial development, growth in immunocompromised patients, and the dangers of overprescribing (e.g. adverse drug reactions, drug interactions, etc). However, while the health benefits of antimicrobial stewardship were*

highlighted in this module, the environmental co-benefits were not explicitly discussed. Thus, no score was awarded for this category.

- 5) *Co-Benefits of Non-Pharmacological Management (1/1) - During week 10 (Health Promotion week) of the preclerkship Foundations, concepts of exercise prescription and introduction to weight management were introduced through two self-learning modules. During this week, we also had a lecture titled “Exercise-ology” delivered by Dr. Kim Coros, to explain the benefits of exercise and physical activity and its role in disease prevention. In week 11, during a 30 minute lecture, titled “Climate Change and Health” delivered by Dr. Samantha Green, the concept of exercise prescriptions was introduced as a micro-level action for practicing sustainability. The importance of lifestyle modifications for disease management have also been emphasized in a number of our weekly case-based learning questions.*
- 6) *Health and Environmental Co-benefits of Avoiding Over-Medicalization, Over-Investigation, and Over-Treatment (1/1) - In the preclerkship Foundations curriculum, this concept was highlighted through one slide introducing Choosing Wisely Canada guidelines, in a 30 minute lecture titled “Climate Change and Health” delivered by Dr. Samantha Green. It was also highlighted in a week 12 module titled “Resource Stewardship Primer,” which indicated 3 main reasons for eliminating “low-value” healthcare and wasteful practices.*

Curriculum: Clinical Applications

18. In training for patient encounters, does your medical school’s curriculum introduce strategies to have conversations with patients about the health effects of climate change?

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

Score explanation: To our knowledge, there has been no strategies introduced for having conversations with patients about climate change in our current clinical skills preclerkship Foundations curriculum.

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

2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.

0	No, the curriculum does not include strategies for taking an environmental history.
<p><i>Score explanation: In the preclerkship Foundations curriculum, during year 1, there was one clinical skills session on occupational health. The learning objective for this session was to learn how to obtain a brief occupational history, and how to screen for specific patient exposures such as biologic agents, chemicals, dust/fibers, extreme temperatures, fumes, heavy lifting etc. It is important to note that the exposures covered in this lecture were more centered around workplace exposures, rather than environmental exposures.</i></p>	

Curriculum: Administrative Support for Planetary Health

20. Is your medical school 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.
<p><i>Score explanation: In the last two years, the preclerkship Foundations curriculum has made significant progress in implementing planetary health education to the undergraduate medical curriculum. This implementation initially started with two former medical students. Since then, other medical students have been involved in continuing this implementation and improvement of the current curriculum. To date, these objectives have been integrated across 4 weeks of the preclerkship curriculum:</i></p> <ol style="list-style-type: none"> <i>1) Week 11 (Integration week): pre-week learning material, 1 hour lecture on Climate Change and Health</i> <i>2) Week 58 (Pediatrics - Child): pre-week module</i> <i>3) Week 65 (Equity and Intersectionality week): self-learning module</i> <p><i>However, at this time, we would not classify these implementations as major improvements because all of the curriculum additions thus far (with the exception of week 11) is in the form of self-learning modules or pre-week reading material. Therefore, they are not fully integrated with the week's overall learning objectives and lecture material.</i></p>	

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.
<p><i>Score explanation: As explained in question above, all the current additions to the planetary health curriculum are in the form of stand-alone self-learning modules/pre-week reading materials, with the exception of one 1 hour lecture during week 11. Thus far, this curriculum material is only seen in ~4 weeks across the two years of the preclerkship Foundations curriculum. At this time, there is no planetary health curriculum in clerkship.</i></p>	

<p>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?</p>	
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.
<p><i>Score explanation: The University of Toronto, undergraduate medical education (UGME) department currently does not have a specific faculty member who is responsible for overseeing curricular integration of planetary health and sustainable healthcare.</i></p>	

Section Total (38 out of 69)	38
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Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation: Within the Faculty of Medicine at the University of Toronto, Drs. Edward Xie and Samantha Green were appointed as the Department of Family and Community Medicine (DFCM) 's first-ever Faculty Co-Leads in Climate Change and Health in 2020. This new role was created under the Global Health and Social Accountability portfolio in response to increasing calls for primary care providers to address the effects of climate change on the communities they serve in their clinical work, scholarship, and education. However, planetary health or healthcare sustainability is merely one aspect of their research focus - not the primary research focus. For example, Dr. Xie's academic interests focus on health equity and structural determinants of health, with projects addressing homelessness, addictions, global health, and planetary health.</i></p>	

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?	
3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.

1	There is an Occupational and Environmental Health department, but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.
<p><i>Score explanation: There is no such department or institute for planetary health research. However, the University of Toronto's Dalla Lana School of Public Health has an Occupational & Environmental Health Division. This Division comprises a multidisciplinary group whose aim is to aid in the prevention of occupational and environmental disease. The Division works collaboratively with the Division of Occupational Medicine in the Department of Medicine and the Department of Occupational and Environmental Health at St Michael's Hospital through the Gage Occupational and Environmental Health Unit. Research activities focus on both occupational and environmental health.</i></p>	

3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your medical school?	
3	Yes, there is a process in which community members impacted by climate and environmental injustice have decision-making power in the climate + environmental research agenda.
2	Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda.
1	No, but there are current efforts to establish a process for community members to advise or make decisions on the research agenda.
0	There is no process, and no efforts to create such a process.
<p><i>Score explanation: At the University of Toronto, there is no formal process for community stakeholders to provide input on the research agenda. However, community stakeholders are able to provide input by joining monthly community of practice meetings that work to answer important stakeholder questions related to climate change. Interested participants can contact the dfcm.climatechange@utoronto.ca directly. However, this is not specific to marginalized communities who are disproportionately impacted by climate and environmental injustice. The university remains inaccessible to many communities subject to environmental injustice, rendering this existing channel of communication difficult to effectively engage the key stakeholders.</i></p>	

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:

There are currently no active partnerships between the the Faculty of Medicine and the Office of Sustainability at the University of Toronto. Notably, the University of Toronto has two individual websites (one for the St. George campus and one for University of Toronto Mississauga campus) focusing on sustainability resources, including programs for action, learning and professional experiences, resources, and information related to the campus initiatives. These may also be locations where such research can be shown to the wider community.

<https://www.fs.utoronto.ca/sustainability/transforming-our-campus/>

<https://www.utm.utoronto.ca/green/sustainability-office>

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: On February 24, 2021, the Department of Family and Community Medicine at the University of Toronto hosted the first one day virtual symposium on climate change: the health of our communities. The target consisted of family physicians, primary care providers, health professionals, students, residents, and interested health care providers.

<https://dfcm.utoronto.ca/event/symposium-climate-change-and-health-our-communities>

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: The University of Toronto Dalla Lana School of Public Health is a member of the Planetary Health Alliance, however, the Temerty Faculty of Medicine is not currently a member. No faculty of the University of Toronto is a member of the Global Consortium on Climate and Health Education.

Section Total (6 out of 17)

6

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Community Outreach and Advocacy

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

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation: Based on our knowledge and research, the University of Toronto Faculty of Medicine, and the University of Toronto as a whole, has no explicit, meaningful partnerships with community organizations.</i></p>	

2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The medical school has not offered such community-facing courses or events.
<p><i>Score explanation:</i></p>	

To date, there has been no annual community-facing courses or events regarding planetary health. There were two events in the past year on Climate Change and Environmental Health. However, the first, a Department of Family and Community Medicine (DFCM) organized virtual symposium in February 2021 on climate change and the health of our communities, was intended for physicians and medical students and not the community. The second, a virtual seminar on how health professionals are working to mitigate the climate crisis, was organized through the School of Environment, and not the Faculty of Medicine. This second event was targeted toward students, faculty, staff, and wider community members.

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

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

Score explanation: Based on our knowledge and research, the University of Toronto Faculty of Medicine, and the University of Toronto as a whole, has no regular coverage of issues related to planetary health or sustainable healthcare in university update communications.

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: At the University of Toronto Faculty of Medicine, there was a “Symposium on Climate Change and the Health of our Communities” in February of 2021 that explored what primary care providers and health professionals can do to sustainably deliver care and help communities build resilience. This Group Learning program was certified by the College of Family Physicians of Canada and the Ontario Chapter for up to 3 Mainpro+ credits. This was the first and only continuing education program/event thus far to our knowledge. Furthermore, the CASCADES,

https://cascadescanada.ca/courses/, a university-wide program allows clinicians to build skills in this area via courses, webinars, and other resources.

5. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about environmental health exposures?

2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centers have accessible educational materials for patients.

Score explanation: There are no designated materials for patients on environmental health exposures.

6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?

2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.

Score explanation: There are no designated materials for patients on climate change and its impacts.

Section Total (3 out of 14)	3
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Support for Student-Led Planetary Health Initiatives

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

1. Does your institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, the institution does not offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Score explanation:</i> <i>The Faculty of Medicine does not offer sustainability quality improvement projects for any part of the core medical curriculum nor does it have funding specific to sustainability projects.</i></p>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation:</i> <i>The Faculty of Medicine does not offer formal research opportunities in planetary health or sustainable healthcare through programs or fellowships. There are several projects that are student-led. Medical</i></p>	

students need to take the initiative to find these opportunities in order to get involved. These research projects would be considered “extra” and would need to be completed in their spare time. Currently, medical students must seek out the very few research opportunities related to sustainable healthcare and conduct them on their own time without funding. Furthermore, many of these projects are backed by other organizations such as the Centre for Sustainable Health Systems but not the Faculty of Medicine, formally.

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

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

Score explanation:

The Faculty of Medicine does not have its own website pertaining to sustainability or climate change. The University of Toronto as an institution has some resources that the faculty of medicine should follow:

U of T as a whole: <https://www.fs.utoronto.ca/sustainability/>

- *Published Carbon and Energy Master Plan: <https://climatepositive.utoronto.ca>*
- *Includes a map of green space, compost bins, bike racks on campus: <https://www.fs.utoronto.ca/resources/>*
- *New 2022 Sustainable Change Programs to help students that are looking to improve their lab/office/course/residence/event and/or get recognition for it: <https://www.fs.utoronto.ca/programs-for-action/>*
 - *Note: website has not been updated since Fall 2021 (dead links)*
- *Opportunities to formally get involved in sustainability by working with the Sustainability Office: <https://www.fs.utoronto.ca/experiential-learning-jobs/>*

Conglomerate of faculties: <https://elesh.sa.utoronto.ca>

- *Tab for upcoming events such as Sustainable Healthcare Virtual Challenge, book club*
- *Archived events*
- *There are details about involved students and faculty members and a general contact page for opportunities to get involved*
- *The website’s home page mentions research activities but this could not be found in their tabs*

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:

Registered with the University of Toronto Medical Society

GreenMeds is a medical society-associated position of the University of Toronto Medical Society, which is the official decision-making body for students in the Faculty of Medicine. GreenMeds aims to increase awareness on the importance of sustainability in medicine. It coordinates the sale of refurbished anatomy equipment, advocates for waste reduction policies, and collaborates with the Centre for Sustainable Health Systems (CHS) and Environmental Sustainability in Healthcare (ELES) to create certificate programs on sustainable healthcare for Canadian medical students. However, although GreenMeds is a registered student group, it is not supported by faculty.

Unregistered

The University of Toronto Faculty of Medicine Environment Committee is a new student-led initiative that brings medical students together to form a collecting body of groups that strive for awareness on climate change and sustainability within and outside of medicine. The focus of the group is to address the need for planetary/climate/environmental health education, roots and impacts of climate change, and center these discussions around marginalized communities and Indigenous sovereignty. The Environment Committee is composed of the following working groups: curriculum development, ecological literacy, and program needs assessment.

Project Greening Healthcare was created in 2020 by medical students across Canada to tackle green initiatives in healthcare and advocate for system-level change. The students investigated the environmental impact of family medicine practices in Canada, and used the Choosing Wisely Canada™ recommendations for family physicians to guide their research. They summarized their findings in a module, and created a survey to study the current knowledge of the Choosing Wisely Canada guidelines amongst healthcare professionals, and demonstrate how these guidelines can align with an environmentally-focused lens to promote greener healthcare practices.

The Local Officers for Climate Change and Health works with the Climate Change and Health Network at the Canadian Federation of Medical Students (CFMS) to coordinate environmental advocacy activities at the University of Toronto. They lead initiatives such as local campaigns and educational events such as information sessions for medical students on climate change and health.

5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional 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:
GreenMeds is a medical society-associated position of the University of Toronto Medical Society, which is the official decision-making body for students in the Faculty of Medicine. GreenMeds aims to increase awareness on the importance of sustainability in medicine. It coordinates the sales of refurbished anatomy equipment, advocates for waste reduction policies, and collaborates with the Centre for Sustainable Health Systems (CHS) and Environmental Sustainability in Healthcare (ELESH) to create certificate programs on sustainable healthcare for Canadian medical students. There is no student liaison from GreenMeds who represents student interests in faculty committees.

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

1	Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students)

Score explanation:
The Faculty of Medicine's registered environmental group, GreenMeds, collaborated with the Centre for Sustainable Health Systems to create an annual Canadian-wide speaker series addressing sustainability in medicine. This speaker series was intended to increase medical students' exposure to

topics surrounding sustainable medicine. The series consists of six sessions featuring speakers sharing their experiences pertaining to sustainable medicine. A certificate program was available to recognize medical students' commitment to learning about sustainable healthcare through this series.

Project Green Healthcare collaborated with Choosing Wisely to create a module focusing on the environmental impact of healthcare and how physicians and medical students can incorporate environmental sustainability into their current or future practice.

Wilderness Medicine is a registered group that organizes trips and education seminars that encourages medical students to spend more time outside and enjoy nature. At the same time, Wilderness Medicine educates about wilderness emergency medicine. Trips include hiking, camping, backpacking, and an annual adventure race called MedWAR. However, many such initiatives are inaccessible to historically excluded communities (e.g. low socioeconomic status and disabled).

Section Total (4 out of 15)	4
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Campus Sustainability

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

1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff, but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation: University of Toronto has a Tri-Campus Sustainability Board that oversees sustainability at the three campuses, and provides a hub for sustainability awareness. The Office has full-time staff members, academics, and student representatives from different departments and faculties. However, there is no specific staff member or a committee that is in charge of University of Toronto Medical School. UofT does not receive full points because the campus is not exclusively health focused, and is associated with an undergraduate campus. There is a great potential for UofT Medicine to get involved in the Office of Sustainability as academic partners or through a committee of medical students.</i></p>	

2. How ambitious is your medical school/institution’s plan to reduce its own carbon footprint?	
4	The institution has a stated goal of carbon neutrality by 2030 or earlier and the medical school / institution has a well-defined and adequate plan in place to achieve this goal.
3	Yes, there is a stated carbon neutrality goal by at least 2040 and the medical school/institution has a well-defined and adequate plan in place to achieve this goal.

2	Yes, there is a stated carbon neutrality goal by at least 2040, but the medical school/institution has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.

Score explanation: To the best of our knowledge, the University of Toronto Faculty of Medicine buildings or affiliated hospitals have no concrete plan for further CO2 emissions reductions. In 2015, there was discussion of an [energy reductions project](#) that was implemented in the Medical Sciences Building that reduced emissions by hundreds of tonnes of CO2, however, we are not aware of further work or the specificities of this project. A recent initiative, the [Sustainable Health System Community of Practice](#), has an aim to promote more sustainable health systems, but there are no specifics on reduction of CO2 emissions. However, the University of Toronto, in their [Climate Positive](#) plan, does describe an 80% reduction in carbon emissions by 2050. The Faculty of Medicine does not present any information about emissions on its website.

3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital) utilize renewable energy?	
3	Yes medical school buildings are 100% powered by renewable energy
2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.

Score explanation: To the best of our knowledge, there is no such initiative.

4. Are sustainable building practices utilized for new and old buildings on the medical school campus, with design and construction of new buildings and remodeling of old buildings conforming to a published 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.
<p><i>Score explanation: The University of Toronto has developed a Climate Positive plan, which describes approaches to sustainable infrastructure, however, the extent of implementation, especially for the medical school campus is unclear. The extent of retrofitting is also unclear, despite the University of Toronto being part of the LEED initiative.</i></p>	

<p>5. Has the medical school implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?</p>	
2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<p><i>Score explanation: University of Toronto medical school has utilized the Shuttle Bus services (UHN, Sunnybrook, UTM) for different hospitals that are further from the main campus and hard to access. The Shuttle Bus service is only free for staff members; however, the service is made available and free for all medical students. The medical school has shared the service schedules so that students can easily access these buses. Since there are two campuses for UofT medical school, there are shuttle bus services and carpooling made available by the school for students to commute between St. George and Mississauga campuses for clinical skills sessions. All of the hospital sites also offer bike parking options, both covered and uncovered. Although, some recommendations are necessary:</i></p> <ul style="list-style-type: none"> • <i>University of Toronto has a BikeChain initiative, a non-profit bicycle shop working to make cycling and bicycle repairs more accessible for students and the wider community. This includes free bike repairs and rentals on weekdays. UofT Medical School must make efforts to share these resources with the students and make them more visible for incoming students to be aware of. This would promote sustainability in transportation for the students, and encourage them to use the free resources available on campuses</i> • <i>The Canadian Residency Matching Service (CaRMS) interviews require frequent air travel for medical students to attend interviews at various institutions across Canada. Due to the COVID-19 pandemic, these interviews are held virtually. A recent study discovered that mandatory in-person residency interviews in Canada contribute significant emissions and reflect a culture of emissions-intensive practices, and a switch to virtual interviews could eliminate the carbon footprint entirely. This would also help the students that come from low-income communities and are unable to afford frequent air travels. UofT Medical School</i> 	

should advocate for initiatives to reduce the carbon footprint by continuing to host virtual interviews.

- [Study](#) on carbon footprint of Canadian Residency Tour

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: In some spaces, such as the Medical Sciences Building cafeteria, both composting and recycling are available. However, in other spaces, such as the McCaul study space, only recycling is available.

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?

3	Yes, the medical school has adequate sustainability 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 is no evidence of such initiatives.

8. Does the medical school or associated institution apply sustainability criteria when making decisions about supply procurement?

3	Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.
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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.
<i>Score explanation: There is no evidence of such initiatives.</i>	

9. Are there sustainability requirements or guidelines for events hosted at the medical school?	
2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required.
0	There are no sustainability guidelines for medical school events.
<i>Score explanation: There is no evidence of such initiatives.</i>	

10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
2	Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the medical school to make lab spaces more sustainable.
<i>Score explanation: GreenMeds has initiatives to reuse lab coats, however, this is student-run. There are no proper guidelines and programs established by the Faculty of Medicine to make lab spaces more environmentally sustainable.</i>	

11. Does your institution's endowment portfolio investments include fossil-fuel companies?	
4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	No, the institution is entirely divested from fossil fuels.

2	The institution has partially divested from fossil fuel companies 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.
<p><i>Score explanation: Following extensive advocacy by communities, students, and faculty, the University of Toronto has decided to divest from fossil fuels by 2050. The extent to which it has divested is unknown. Furthermore, the endowment funds of hospitals still remain invested in fossil fuels with no moves to divest.</i></p>	

Section Total (6 out of 31)	6
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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 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 Toronto Faculty of Medicine

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

Section	Raw Score	Letter Grade
Planetary Health Curriculum (30%)	$(38 / 69) \times 100 = 55.07\%$	C+
Interdisciplinary Research (17.5%)	$(6 / 18) \times 100 = 33.3\%$	D
Community Outreach and Advocacy (17.5%)	$(3 / 14) \times 100 = 21.43\%$	D-
Support for Student-led Planetary Health Initiatives (17.5%)	$(4 / 15) \times 100 = 27.67\%$	D
Campus Sustainability (17.5%)	$(6 / 31) \times 100 = 19.35\%$	F+
Institutional Grade	34.16%	D

