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# Planetary Health Report Card:

## *University of Ottawa*

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uOttawa

Faculté de médecine  
Faculty of Medicine

### ***Land acknowledgment***

*The writers of this report, on behalf of the University of Ottawa, would like to pay respect to the Algonquin people, who are the traditional guardians of this land. The city of Ottawa is located on the unceded land of the Algonquin Anishinabe Nation. We acknowledge their long standing*

*relationship with the Ottawa territory, which remains unceded. We pay respect to all Indigenous people in this region, from all nations across Canada, who call Ottawa home. We acknowledge the traditional knowledge keepers, both young and old. And we honour their courageous leaders: past, present, and future.*

**2022-2023 Contributing Team:**

- **Students:** Makenna Timm\*, Allison Chhor, Alexie Leclerc, Liam Quartermain
- **Faculty Mentor:** Husein Moloo
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## Summary of Findings

Overall	C+
<u>Curriculum</u>	C-
<ul style="list-style-type: none"> <li>In January 2023, the Faculty of Medicine Phase 3 Planetary Health Curriculum Working Group began meeting to create recommendations for a longitudinal, spiral planetary health curriculum at the University of Ottawa Faculty of Medicine (uOttawa FoM).</li> <li><b>Recommendations:</b> The working group will focus on longitudinal integration of planetary health into medical education, expanding beyond the single, one-hour lecture that is currently devoted to the topic in Year 2. We acknowledge the ongoing efforts of the FoM and encourage further progress. Additionally, we support their intention to adhere to the <a href="#">11 curricular competencies</a> identified by the Canadian Federation of Medical Students' Health and Environment Adaptive Response Task force.</li> </ul>	
<u>Interdisciplinary Research</u>	B
<ul style="list-style-type: none"> <li>The appointment of Dr. Husein Moloo as Director of Planetary Health continues to create momentum for planetary health research. Dr. Moloo ensured that the uOttawa FoM joined the Global Consortium on Climate and Health Education and established the first research symposium on planetary health. His work in creating an interdisciplinary Planetary Health Council has also promoted knowledge-sharing between hospitals and departments related to planetary health research.</li> <li><b>Recommendations:</b> A department specifically dedicated to planetary health research has yet to be established. Additionally, there is no policy by which the FoM's research agenda remains accountable to communities disproportionately impacted by climate change. Community partnership represents an avenue for improvement.</li> </ul>	
<u>Community Outreach and Advocacy</u>	C-
<ul style="list-style-type: none"> <li>A number of public-facing events &amp; professional development activities related to planetary health took place at the FoM this year. However, the FoM does not partner with community organizations at this time.</li> <li><b>Recommendations:</b> Development of strong, longitudinal community partnerships, and integration with the curriculum, should remain a priority.</li> </ul>	
<u>Support for Student-Led Initiatives</u>	A-
<ul style="list-style-type: none"> <li>Interested medical students can pursue planetary health initiatives through existing programs with non-specific focuses, such as the 4th year Leadership Elective. A planetary health website was also created this year.</li> <li><b>Recommendation:</b> Listings of planetary health events on the website could be updated more frequently. Increased availability of planetary health-specific research funding and opportunities to connect with relevant Faculty would also improve student engagement.</li> </ul>	
<u>Campus Sustainability</u>	C+
<ul style="list-style-type: none"> <li>The uOttawa Office of Campus Sustainability is well-established, with multiple programs for the entire university. PPE recycling and sustainable event guidelines were initiated at the FoM in 2021.</li> <li><b>Recommendations:</b> Most sustainability initiatives occur at the main campus, separate from the medical school. Focus on expansion of the application of the FoM's sustainable event guidelines, sustainable food selection, and sustainability in lab spaces is recommended.</li> </ul>	

# 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 “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.
- **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.

*Score explanation: Although uOttawa doesn't offer an elective whose primary focus is ESH/PH, the Faculty of Medicine offers a Global Health Concentration and a Leadership Elective which gives the opportunity for students to further their learning and knowledge on ESH/PH.*

*The [Global Health Concentration](#) is an optional curriculum that promotes global health education via didactic learning, self-teaching and experiential learning. Medical students may pick and complete whichever of offered topics interest them, and they can complete this optional curriculum over a period of 1-4 years. Planetary health is not the main focus of the global health concentration but is one of several learning topics offered (the other topics include social accountability and Indigenous health). Students that choose to pursue further Planetary Health education through the Global Health Concentration have several learning opportunities made available to them, such as workshops with topics in planetary health or attending and presenting at planetary health conferences..*

*Furthermore, the Faculty of Medicine offers a [leadership elective for 4th year students](#) which promotes leadership in healthcare via a change management project. Although this elective is not directly aimed at PH/ESH, one of the projects that was accepted for the 2021-2022 school year, conducted by one of our students Nathan Chiarlitti, focuses on improving sustainable healthcare at The Ottawa Hospital (TOH) General Campus. Nathan is working to quantify greenhouse gas emissions generated directly and indirectly by the TOH General each year, according to the [Greenhouse Gas Protocol](#). Once this assessment is complete, he will meet with the TOH Green Team to discuss his recommendations for reducing the hospital's carbon footprint. In contrast to the Global Health Concentration, this*

*non-clinical elective program does not include any lectures or instruction on Planetary Health, but it does provide an experiential learning opportunity.*

### ***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.
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2	This topic was briefly covered in the core curriculum.
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1	This topic was covered in elective coursework.
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0	This topic was not covered.
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*Score explanation: This topic was discussed in the 1-hour "Climate Change and Health lecture" in Unit 2 of Year 2. The learning objective related to this topic is the following: "Explain the current and projected health impacts of climate change on the Canadian population". The slide 30 to 38 are dedicated to this objective and introduces why climate change is a public health crisis. The following slides delved into different effects of climate change in Canada such as extreme heat, air pollution, wildfires and smoke, floods and water, as well as food and water security. Regional climate-related health risks are also outlined.*

*Concepts such as planetary health and environmental health were explained in the context of the learning objective: "Define Planetary Health and Environmental Health".*

#### **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.
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2	This topic was briefly covered in the core curriculum.
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1	This topic was covered in elective coursework.
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0	This topic was not covered.
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*Score explanation: This topic was discussed in the 1-hour "Climate Change and Health lecture" in Unit 2 of Year 2, as part of the learning objective "Explain the current and projected health impacts of climate change on the Canadian population". The lecture discussed several examples of climate change leading to specific health consequences and included a map from the Lancet that illustrated various extreme weather trends and events across Canada, and their various impacts on human health*



*There was a focus on recent wildfire events in Canada, and the resulting effects on individual and healthcare.*

**4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?**

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

*Score explanation: This topic was not discussed and there is a lack of mention of climate change as a major factor of changing patterns of infectious diseases within the microbiology block as well as in the emerging infectious diseases lecture. There are steps to be taken in order to expand on this topic.*

**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.

*Score explanation: The topic of air pollution and cardiorespiratory health is explored in depth within the respirology block. A full 45–60-minute mandatory self-learning module is dedicated to Air pollution and Lung Health. The learning objectives include the following: 1) recognize the contaminants that may affect indoor air quality and influence respiratory health and 2) List important outdoor air pollutants, their important causes, and their effects on health.*

*It explores the health effects of outdoor and indoor pollution, the link between air quality and lung health, the effects of CO<sub>2</sub> and global warming and it describes criteria pollutants (NO<sub>x</sub>, CO, SO<sub>2</sub>, O<sub>3</sub>). The concept of Particle matters is explored and PM<sub>2.5</sub> and PM<sub>10</sub> is explained. Big smog events worldwide and in Canada are explained. The connection to health is made clear and is reinforced with estimation of premature death due to air quality. There is also a mention of biomass fuel in developing countries and wood stoves in Canada and their effect on health.*

*Air pollution is also mentioned briefly as one of multiple etiologies in the COPD lecture, cough self-learning module, and pneumonia & COPD case-based learning sessions.*

**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.

*Score explanation: This topic was briefly discussed in the 1-hour "Climate Change and Health lecture" in Unit 2 of Year 2, as part of the learning objective "Explain the current and projected health impacts of climate change on the Canadian population". A slide dedicated to extreme heat listed heart conditions as one of the resulting aggravating health effects.*

**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.

*Score explanation: This topic was briefly mentioned in the 1-hour "Climate Change and Health lecture" in Unit 2 of Year 2, as part of the learning objective "Explain the current and projected health impacts of climate change on the Canadian population". A slide dedicated to extreme heat listed mental health as one of the resulting aggravating health effects.*

**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.

*Score explanation: In the Environmental Health lecture in Year 3 there is mention of water and food security and the effects of contaminants on health. Concepts such as Tolerable Daily Intake and Acceptable Daily Intake are taught. The link between air pollution and water contamination is discussed. There are 4 slides on water and threats to water sources and there are 2 slides dedicated to*

pesticides. "Sustainable management practices for water quantity and quality" is also mentioned as "Climate Change & Health Solutions as Health Professionals". One slide also describes Canada's Top Climate Change risks which includes a paragraph on Ecosystems and one on Fisheries.

In the "Climate Change and Health" lecture, there is one slide dedicated to food and water security as part of the health effects of climate change in Canada. Examples are provided from a timeline of events in Syria, such as drought affecting supplies and availability of food from the land based on changing climate.

**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: This topic was briefly discussed in the Air Pollution and the Lungs self-learning module, where there is a specific tab dedicated to the effects of air pollution on babies.*

**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 Environmental Health lecture in Year 3, one slide is a graph from the World Health Organization which shows the number of deaths linked to the environment. It highlights the disproportionate unequal number of deaths in different regions of the world.*

*However, this score is generous as this is the only mention in the curriculum. The emphasis on the unequal global impact is not made clear considering the burden of the issue.*

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

<b>11. Does your medical school curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation: The topic of reproductive health and toxins was not discussed in the curriculum or in elective coursework.</i>	

<b>12. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation: Some examples of human-caused environmental threats in Ottawa and Gatineau, Quebec were addressed in the Climate Change and Health lecture in Unit 2 of Year 2, as part of the learning objective "Explain the current and projected health impacts of climate change on the Canadian population". Examples given included floods, extreme heat and storms.</i>	

<b>13. To what extent does your medical school emphasize the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?</b>	
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 Climate Change and Health lecture, one of the objectives is: “Illustrate how climate change adversely impacts different patient populations - specifically low SES individuals, the elderly, women, children, people of color and Indigenous Peoples”. However, Indigenous knowledge and value systems were not incorporated into the lecture.*

**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 Climate Change and Health lecture, one of the objectives is: “Illustrate how climate change adversely impacts different patient populations - specifically low SES individuals, the elderly, women, children, people of color and Indigenous Peoples”. However, this objective was not discussed in class.*

***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: The environment and health co-benefits of a plant-based diet are not discussed in the curriculum or in elective coursework.*

**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.
<p><i>Score explanation: This topic was discussed in the 1-hour "Climate Change and Health lecture" in Unit 2 of Year 2, as part of the learning objectives (1) "Analyze the carbon footprint of healthcare and propose new approaches" and (2) "Describe how the CanMeds role Health Advocate is applicable to Planetary Health". In the lecture, the role of physicians and the healthcare system are discussed. Specific examples such as waste generated from a blood sample tray are shown. Examples provided also include the elimination of examination table paper family medicine practice clinics and the utilization of tap water instead of sterile water for procedures.</i></p> <p><i>The best options for anesthetic gases are discussed in the Anesthesia lecture in Year 2. However anesthetic options in the context of sustainable healthcare is not part of a learning objective for that lecture.</i></p> <p><i>The Environmental Health lecture in Year 3 goes over the role of physicians within the climate crisis and resources such as the Canadian Association of Physicians for the Environment (CAPE) are provided.</i></p>	

<b>17. Does your medical school curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (1 point each)</b>	
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)
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 anesthesia 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	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
2	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.
2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment

*Score explanation: These topics are not included in the core curriculum. Anesthetic gases and different inhaler types in the context of sustainable clinical practice have been mentioned, however they are not part of the formal learning objectives. Therefore, we cannot guarantee that these topics are discussed.*

**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: In the training for patient encounters, there are no strategies taught to have conversations with patients about the health effects of climate change.*

**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.

*Score explanation: In the Environmental Health Lecture in Year 3, there is a slide dedicated to Taking an Occupational and Environmental Exposure History with associated resources. However, the details are not specific to climate change-related issues.*

**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.
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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: The uOttawa Faculty of Medicine's new Vice Dean of Global Health, Dr Mark Walker, created a Planetary Health Director position which was <a href="#">appointed to Dr Husein Moloo in 2021</a>.</i></p> <p><i>Dr Husein Moloo and his research team are currently conducting a scoping review on planetary health education within undergraduate and postgraduate medical education. This will provide data to support the implementation of an evidence-based planetary health curriculum at the Faculty of Medicine. A phase 3 planetary health curriculum working group was formed in the fall of 2022. It began its work in January 2023, and will provide the Faculty of Medicine with recommendations for a longitudinal (across pre-clerkship and clerkship), spiral planetary health curriculum. The key curricular competencies identified in a <a href="#">report</a> from the Canadian Federation of Medical Students' Health and Environment Adaptive Response Task force (HEART) will be used as a foundation.</i></p> <p><i>The FoM hosted its first Planetary Health Symposium in April 2022. Planetary health and ESH will be included in continuing medical education courses and community-facing events in the upcoming year.</i></p> <p><i>Furthermore, Dr Laura Muldoon, the unit leader for the Society, the Individual and Medicine curriculum, has used feedback from local experts and resources from the Canadian Association of Physicians for the Environment (CAPE) to improve the content of the Climate Change &amp; Health lecture in year 2. However, this process is ongoing and will be informed by the curriculum working group.</i></p>	

<b>21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?</b>	
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: The lectures solely dedicated to Planetary Health topics are: Air Pollution and the Lungs in Year 1 Respiriology Block, Climate Change and Health in the context of the Society, the Individual and Medicine (SIM) curriculum in Year 2, and Environmental Health lecture in the context of the Mandatory selective clerkship rotation in Year 3.</i></p> <p><i>Some Planetary Health concepts were integrated in the following lectures: Anesthesia, COPD, Asthma, Coagulation, Nutrition, Emerging Infectious Disease, and Rhinosinusitis.</i></p> <p><i>There is a clear need for more substantial and strategic integration of planetary health with the curriculum. Since the link between climate change and health is not consistently reinforced, students</i></p>	



*may not be aware of the intersectionality of the climate crisis and its impact on the health of their future patients. A larger number of specific objectives should be incorporated into the curriculum to keep professors accountable. We decided to award a score of 2, since the longitudinal learning is not appropriately integrated and there are no specific learning objectives outside of the standalone Climate Change and Health lecture.*

**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: In Summer 2021, the FoM appointed Dr Husein Moloo as Planetary Health Director. He is a strong contributor to applying pressure for change within the FoM and sits on the planetary health curriculum working group.*

<b>Section Total (32 out of 72)</b>	<b>32</b>
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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.

<b>1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?</b>	
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.

*Score explanation:* Following his appointment as the Director of Planetary Health, Dr. Husein Moloo's primary research focus is now planetary health. Dr. Moloo has initiated multiple research projects related to planetary health in medical education, usage of tap water instead of packaged sterile water for colonoscopies, virtual residency interviews, and sustainable postoperative pathways. A short communication on the importance of Planetary Health education in medical schools was [published in August 2021](#), while a protocol for a scoping review [was published in 2022](#).

*Dr. Curtis Lavoie also has a primary focus of planetary health and healthcare sustainability. He is the chair of the CHEO Hospital Green Team, and his [biography](#) on the uOttawa Faculty of Medicine Website lists “environmental sustainability in health care” among his clinical and research interests. He is currently working with a PGY1 family medicine resident on a project on exam table paper.*

*Dr. Mary Hanna, an anesthesiologist at the Ottawa Hospital Civic Campus, also has a research focus on sustainability in anesthesia.*

<b>2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?</b>	
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 an interdisciplinary Institute of the Environment at the University of Ottawa, directed by Professor Stewart Elgie, Environmental Research Director at the University of Ottawa.</i></p> <p><i>Although there is not currently a department dedicated exclusively to planetary health research, Dr. Husein Mooloo has created an interdisciplinary Planetary Health Council which includes members from all departments within the Faculty of Medicine and its affiliated hospitals. The Council brings together its members to discuss research projects and share knowledge around implementation of sustainable practices.</i></p>	

<b>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?</b>	
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: There is no process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at the medical school.</i></p> <p><i>The social accountability mandate for undergraduate medical education does not mention communities disproportionately affected by climate change and environmental injustice. Their priorities lie in Indigenous health and Francophone health.</i></p>	

<b>4. Does your institution have a planetary health website that centralizes ongoing and past research related to health and the environment?</b>	
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: The International and Global Health Office (IGHO) created a [planetary health website](#) in 2022 for the Faculty of Medicine. It includes upcoming events, news, resources, leaders in planetary health but not funding opportunities.*

*The [uOttawa Sustainability Office](#) website attempts to centralize campus resources. Although the News section is not updated frequently, it does mention some planetary health leaders and their activities. Funding is not specified.*

*The [Sustainability and Climate Change Committee website](#) has only one landing site and it comes with a few resources. The webpage mentions that the resources section is frequently updated.*

<b>5. Has your institution recently hosted a conference or symposium on topics related to planetary health?</b>	
4	Yes, the <b>medical school</b> has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the <b>institution</b> 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 International and Global Health Office (IGHO) and Office of Social Accountability at the FoM hosted a planetary health symposium in April 2022. The conference was called “Leading Innovation for a Healthier World” and it included multiple presentations dedicated to planetary health.*

*Additionally, the Planetary Health Interest Group (PHIG), which is a student-led group, has organized multiple events during the 2021-2022 school year. PHIG received funding from the FoM via the Aesculapian Society (official student council). They invited experts to discuss topics such as climate change and health, public health within the climate crisis, sustainable healthcare, environmental racism and advocacy challenges.*

**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 Ottawa FoM has joined the Global Consortium on Climate and Health Education. Planetary Health Director Dr. Moloo currently sits on their medical working group.*

**Section Total (12 out of 17)**

**12**

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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.*

<b>1. Does your medical school partner with community organizations to promote planetary and environmental health?</b>	
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: In past years, the Climate Change and Health Lecture in year 2 of the curriculum was co-presented by one of the founders of MOMS4HealthyRecovery, a climate-related advocacy group. No community organizations were involved with this lecture in 2022, likely because these partnerships depend on networking and availability of staff which varies from year to year. When present, they also do not represent a meaningful partnership between the Faculty and a specific community organization.</i></p>	

<b>2. Does your medical school offer community-facing courses or events regarding planetary health?</b>	
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.

*Score explanation: The FoM's "Mini Medical School" is a six-week course for members of the general public which focuses on the human body, the health care system, and current health challenges faced by society. On May 10th, 2022, Planetary Health Director Dr. Moloo presented an hour-long session on planetary health. Dr. Moloo and the Office of Continuing Professional Development have expressed interest in also incorporating planetary health content into this year's Mini Medical School, currently being planned for spring 2023.*

*From November 2022 to April 2023, the Faculty of Medicine's International and Global Health Office (IGHO) is hosting a 6-session Planetary Health Community of Practice and Webinar Series. Although this series is targeted towards staff and learners at the Faculty of Medicine, sign-up is available on the public-facing IGHO website and recordings of the webinars are published to YouTube.*

**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: In 2021, the Faculty of Medicine created a newsletter for students and staff called MedFlash. While this publication is not specifically dedicated to planetary health or sustainable healthcare, it has been used monthly to advertise the Planetary Health Community of Practice and Webinar Series being held from November 2022 to April 2023 to learners, faculty and support staff at the Faculty. In November 2022, MedFlash was also used to share the results of the completed 2021-2022 Planetary Health Report Card.*

**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: From November 2022 to April 2023, the Faculty of Medicine's International and Global Health Office is hosting a Planetary Health Community of Practice and Webinar Series*

*(PHCPWS). The PHCPWS will include 6 sessions on topics including planetary health lessons from Indigenous communities, integration of planetary health with clinical and research activities, and greening healthcare settings. The series is designed for Faculty members, learners and support staff of the Faculty of Medicine and features expert speakers from across Canada. It is accredited by the Royal College of Physicians and Surgeons of Canada and College of Family Physicians of Canada and is approved by University of Ottawa's Office of Continuing Professional Development. It will provide 1.0 hour of Continuing Medical Education credit per webinar attended (6.0 hours total).*

**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: The Bruyere Hospital provides online patient education resources on preventing ulcers and falls. However, we could not find anything on environmental health exposures. The Ottawa Hospital provides a page on Education and Learning for patients and their families, however, there are no educational materials on environmental health exposures. There is also a website on prevention of infectious diseases, but no educational materials. The same applied to Montfort Hospital.*

**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: The Bruyere Hospital, Ottawa Hospital and Montfort Hospital did not have any accessible patient education resources on climate change and health impacts.*

<b>Section Total (6 out of 14)</b>	<b>6</b>
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*Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

# Support for Student-Led Planetary Health Initiatives

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

1. Does your institution offer support for medical students interested in enacting a sustainability initiative/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.

*Score explanation: The University of Ottawa currently does not offer any grants to medical students specifically enabling them to enact sustainability initiatives, or specifically geared towards planetary health projects. However, there are clear examples of the Faculty of Medicine encouraging medical students to get involved with sustainability initiatives and supporting those that do. Moreover, the University of Ottawa also offers non-clinical electives including a leadership elective, a patient safety and quality improvement elective as well as a research elective. Sustainability related initiatives are not specifically encouraged through these electives. However, students can potentially utilize these opportunities to pursue such projects if they choose. In 2022, a fourth-year medical student (Nathan Chiarlitti) has used this non-clinical elective opportunity to pursue a project in healthcare sustainability. All projects must secure the support of a supervisor. Nathan's project has received supervision and support from Dr. Curtis Lavoie. This is the only form of official support offered to students pursuing projects, although Nathan notes that his project has still received significant assistance from the Planetary Health Director Dr. Moloo, regardless.*

*Additionally, residency programs at The Ottawa Hospital now include teaching about sustainability, in collaboration with the Quality Improvement department at the hospital. Following this education, some residents have been motivated to take on sustainability initiatives, such as an inventory on the carbon footprint of interviews in medicine, and a [publication](#) led by a medical student (Niève Séguin) on the importance of planetary health education in all medical school curricula. The projects have generally received significant support and assistance from the Planetary Health Director, Dr. Moloo.*

**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: The FoM's International and Global Health Office offers the <a href="#">Advancements in Global Health Studentship program</a> which financially "support[s] projects that advance global health through innovative approaches to global health challenges and improvements in global health education", including those related to planetary health. However, students must independently identify a project and supervisor.</i></p> <p><i>The FoM also provides research funding through the Summer Studentship Program. The program provides \$5000 for up to 54 first- and second-year medical students to participate in 10-week summer research projects. However, research supervisors must submit their project for the grant and this list of projects is distributed to the medical students. Therefore, a research supervisor must submit a proposal for a planetary health project for a student to be able to participate in such an opportunity. In summer 2022, a second-year student (Alexie Leclerc) and the Planetary Health Director (Dr Husein Moloo) collaborated on multiple planetary health education and sustainable healthcare research projects. However, there are no planetary health related projects associated with the Program for summer 2023.</i></p> <p><i>Although the research opportunities outlined above are organized by the FoM, there is no program specific to planetary health or sustainable healthcare. Thus, there is no well-established program to ensure the continuity of projects focused on those topics.</i></p>	

<b>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.</b>	
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.
<p><i>Score explanation: A new <a href="#">Planetary Health website</a> was created by the International and Global Health Office (IGHO) to centralize Planetary Health initiatives and news. It includes links to the new Planetary Health Community of Practice and Webinar Series and lists names of speakers scheduled for</i></p>	

upcoming events throughout the year. It also lists resources for learners and completed projects, including the aforementioned paper published by Niève Séguin. A portion of the page is also dedicated to ongoing planetary health projects, although there are currently none listed. Students are directed to contact the IGHO by email with queries, and the IGHO has connected several students with Planetary Health Director Dr. Moloo for mentorship.

**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 Sustainability and Climate Change Committee (SACC) is a student-run committee dedicated to "to inspire a shift within the uOttawa Faculty of Medicine's culture towards more sustainable and waste-reduction practices and increase planetary health and climate justice awareness". It was founded in the Fall of 2019 and became an Aesculapian Society Committee in March 2020. Unfortunately, the group receives no funding from the faculty.*

*In September 2020, the Planetary Health Interest Group (PHIG) was created to promote Planetary Health within the student population. This student-led group is supported by Dr Curtis Lavoie and has received funding from the faculty via the Aesculapian Society. PHIG organized multiple events throughout the school year. They invited experts in the field to discuss topics such as Climate Change and Health, Public Health within the Climate Crisis, Sustainable Healthcare, and they also organized discussions on Environmental Racism and Advocacy challenges.*

**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.

*As part of the Faculty's curriculum renewal, multiple working groups have been formed. The Phase 2 working group included medical student Niève Séguin, who advocated for the inclusion of planetary health topics in the curriculum. As a direct result of her efforts, the faculty formed a Phase 3 group, which also includes medical students Liam Quartermain and Sherry Tan, who further advocate for curriculum reform and sustainable practices at the FoM.*

**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:*

- 1. The Planetary Health Interest Group (PHIG) is partnering with the MealCare club at uOttawa to redirect leftovers from the uOttawa campuses (including the RGN cafeteria) to the Ottawa Mission. A team of student volunteers will meet with uOttawa Food Services to pick up food donations and transfer donations to the Ottawa Mission. Through this collaboration, they aim to reduce food waste while addressing food insecurity within the community.*
- 2. Multiple events were planned for the 2022-2023 school year by PHIG. The events included conferences, group discussion, sustainability challenges, documentary viewings, and volunteer opportunities.*
- 3. In November 2022, the Planetary Health Webinar welcomed Dr. Nicole Redvers, a member of the Deninu K'ue First Nation in Denendeh (NWT), and an Associate Professor and Director of Indigenous Planetary Health at the Schulich School of Medicine & Dentistry at Western University. Dr. Redvers' talk was titled "Lessons of Planetary Health and Healing from Indigenous Communities" and was open to all faculty members and learners.*
- 4. In January 2023, the PHIG organized a viewing of the documentary "The True Cost". This film highlights the effects the clothing industry has on the environment as well as the lives of individuals working for fast fashion companies. The goal of the movie showing was for students to consider how the clothing industry impacts the health of people and the planet.*
- 5. The institution has not provided volunteer opportunities in this area.*

6. *The Faculty of Medicine does not currently have an outdoors club. However, medical students can join the wider [University of Ottawa Outdoors Club](#). The club confirmed that they promote Leave No Trace principles.*

**Section Total (12 out of 15)**

**12**

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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.

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: The University of Ottawa has a well-established Office of Campus Sustainability with multiple full-time staff dedicated to sustainability and advocacy; however, there is no specific staff member in charge of the medical school. The Faculty of Medicine is located at Roger Guindon Hall, far from the Main Campus where the Office of Sustainability is located. Even though the Office includes this building in their mandate, they often experience barriers because of the physical distance. A staff member dedicated to sustainability at the medical school would be an important initiative to lead change.</i></p>	

2. How ambitious is your medical school/institution’s plan to reduce its own carbon footprint?	
5	The institution/medical school has a <b>written and approved plan</b> to achieve carbon neutrality by <b>2030</b>
3	The institution/medical school has a <b>written and approved plan</b> to achieve carbon neutrality by <b>2040</b>
1	The institution/medical school has a stated goal of carbon neutrality by <b>2040</b> but has <b>not created a plan</b> to reach that goal or the <b>plan is inadequate</b>
0	The institution/medical school does <b>not</b> meet any of the requirements listed above

*Score explanation: The University of Ottawa has a goal of becoming carbon neutral by the year 2040. This would specifically apply to direct emissions (scope 1) produced by burning natural gas and fuel (20,018 tons produced in 2019). The institution adopted Policy 72 Environmental Management and Sustainability in 2017, which led to the Campus Sustainability Plan. Under this policy, each faculty (including the Faculty of Medicine) is required to create a sustainability plan.*

*The broad plan to reach carbon neutrality, according to the Office of Campus sustainability, is to reduce campus emissions as much as possible, followed by offsetting whatever emissions cannot be eliminated. However, a well-defined plan has not been created, possibly because an inventory of the university's greenhouse gases has not been completed and priorities have not been set. As of February 2022, the University was in scope 2 of a greenhouse gas inventory and planned to complete the inventory within the next year. The Office of Campus Sustainability also noted that the biggest areas of focus for emissions reductions will likely be building retrofits and electrifying the campus.*

*As of December 2022, the plan is still under development. The Office of Campus sustainability states that deep energy retrofits, fuel switching, and offsets for remaining areas will be included in the plan.*

**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: The electricity used by medical school buildings is supplied by the province. As of [2016](#), over 30% of the electricity supplied by the Ontario electric grid is renewable. Although the exact percentage of renewable energy supplied by the province may vary throughout the year, the electricity used by the medical school is still over 30% renewable on average. The Office of Campus Sustainability notes that solar panels are planned to be incorporated into the new Advanced Medical Research Centre, which is currently under construction.*

**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.
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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: Roger Guindon Hall, the medical school's building, is an older construction at the university. However, efforts have been made to renovate the institution in 2016 which led to [saving 5 million kilowatt hours of electricity a year](#). At the University of Ottawa, all new university buildings must now be built to a LEED silver certification standard. There is also a requirement to consider (or add) a green roof to new constructions or in the retrofitting process (weight permitting).*

<b>5. Has the medical school implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?</b>	
2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.

*Score explanation: Our medical school building provides some bike racks, but no electric vehicle charging stations. The Office of Campus Sustainability plans to install chargers at the new Advanced Medical Research Centre, which is currently under construction.*

*The University of Ottawa Students' Union advocated for student bus passes, so students have unlimited use of both the city bus system and light rail (O-Train). However, city public transit is not sufficient, accessible or regular enough for most students to rely on it for commuting to campus. There is a bus stop located right on campus, but it is serviced only by one bus route, which only comes every 15 minutes. Moreover, the route of this bus is relatively limited, and makes commuting to many areas of the city impractical (especially in directions away from downtown). There are also shuttle buses between the medical campus and main campus, yet these come only every 30 minutes. Most medical students find their own way to campus, with a large portion of them driving.*

*In 2021, the Sustainability and Climate Change Committee started a carpool group exclusive to medical students. The group has seen only moderate use, and so far, has only been used by students looking to leave the city on one-time trips, and there are no examples of students using it to organize daily commuting. SACC members have also promoted the use of the intercampus shuttle, which runs between the Civic, General, and Riverside campuses of The Ottawa Hospital. Students are encouraged to use the service, as it offers an efficient and sustainable way to travel between RGN and the Civic campus, where many students have electives and clinical placements. It cannot be determined how*

widely used the service is by medical students, and it may be beneficial for the route to be further promoted.

**6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?**

2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	The medical school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the medical school.

*Score explanation: The FoM building, Roger Guindon Hall, has both compost and recycling programs available for Faculty and students. The Office of Sustainability has been receptive to adding more compost stations throughout the building.*

**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: A new cafeteria was recently completed at Roger Guindon Hall and the following sustainability initiatives will be incorporated: the menu has mainly made-to-order items instead of pre-packaged food, no bottled water will be sold, packaging will be a mix of recyclable and compostable products, and all equipment is EnergyStar rating.*

*In 2022, uOttawa Food Service signed on to the Cool Food Pledge to commit to reducing the carbon footprint derived from food served on campus. This includes a commitment to reducing the emissions associated with campus food by 25% by 2030 relative to a 2015 baseline, which aligns with the goals of the Paris Climate Agreement. Food purchases will be reported by weight each year, including data on all animal-based products and plant proteins. This data is analyzed by the World Resources Institute based upon peer reviewed methodology, and an annual climate impact will be calculated and compared each year.*

*However, no food sustainability criteria are applied to any externally franchised food vendors (such as Tim Hortons, Starbucks, etc.), or external caterers of campus events. According to the Office of Campus Sustainability, although there is a strong desire to increase the sustainability of on-campus catering, no policies have been introduced to address this and none are planned.*

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

3	Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is engaged in efforts to increase sustainability of procurement.
1	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is not engaged in efforts to increase sustainability of procurement.
0	There are no sustainability guidelines for supply procurement.

*Score explanation: In early 2021, two Faculty members under the Administrative Services Modernization Program reached out to the Sustainability and Climate Change Committee (SACC) to begin a Sustainable Supply Chain Committee. Their first project was to implement PPE recycling boxes across the Faculty of Medicine which was a successful initiative. They are continuing their work in sustainable supply procurement and collaboration with the Faculty's Executive Leadership Team, but progress has been slow during the COVID-19 pandemic. Furthermore, the university has a [policy regarding ethical purchasing](#) and mentions sustainability in its [procurement policy](#). As of December 2022, the Procurement team at uOttawa is still working on developing guidelines to address the sustainability of supply procurement.*

**9. Are there sustainability requirements or guidelines for events hosted at the medical school?**

2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required.
0	There are no sustainability guidelines for medical school events.

*Score explanation: The Aesculapian Society (medical student council) has adopted sustainability guidelines as policy for student-lead events. These guidelines were created by students involved with the Sustainability and Climate Change Committee and will be implemented for the 2021-2022 school year and onwards.*

*However, these guidelines are not yet implemented for faculty events. According to the Office of Campus Sustainability, there is currently no enforcement of sustainability guidelines or policies on groups that do not “belong” to the campus. As it relates to sustainability, no guidelines are enforced*

when campus groups/events seek services from external organizations, with food catering being perhaps the most notable example. There is no enforcement of what foods can be served, or how they can be served (i.e., with single use plastics). As of February 2023, a Sustainable Events Committee has been created, and has held two meetings thus far. The team anticipates more news to come as the committee's mandate is further developed.

**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 are no guidelines or programs to make Faculty of Medicine lab spaces more sustainable, aside from a [PPE recycling program](#) that is promising and allows for recycling of gloves, masks, safety glasses and several other forms of PPE. However, this program does not constitute a guideline and is not enforced. Moreover, the boxes allowing for PPE disposal are primarily located at main building entrances and not around lab facilities, meaning many students dispose of their PPE in more accessible garbage cans. This recycling program has had further difficulties with usage especially because each lab is run independently, and inter-lab communication is scarce. The Sustainability and Climate Change Committee has recruited graduate student leaders to create guidelines and initiate programs inspired by the [University of British Columbia's Green Labs Program](#).

**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.

Score explanation: On February 17<sup>th</sup>, 2022, the University of Ottawa [announced](#) that it will divest all of its direct equity in fossil fuel holdings by 2023, followed by all indirect holdings by 2030. Moreover, since the University signed the Montreal Carbon Pledge in 2015, requiring them to measure and publicly share the carbon footprint of their investment portfolio, the University has reported a \$94

*million increase in sustainable investments (\$19 million in renewable energy, \$64 million in low carbon equities, and \$11 million in “green” bonds). The University has also set the target of having 10% of its long-term investment portfolio in sustainable investments by the end of 2025. Fossil fuel companies currently make up 2% of the University’s equity portfolio.*

*The University has further announced that it will be matching a \$2 million investment from the Jarislowsky Foundation to create the new Jarislowsky Chair in Clean Economy and Innovation. This research Chair will work to further our understanding of the role that humans play in climate change, as well as the resulting impact on communities, economies, Canadian ecosystems, and Canadian species.*

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

**17**

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

# Grading

## Section Overview

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

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

## Planetary Health Grades for the University of Ottawa Faculty of Medicine

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

Section	Raw Score	Letter Grade
<b>Planetary Health Curriculum (30%)</b>	$(32 / 72) \times 100 = 44.44\%$	C-
<b>Interdisciplinary Research (17.5%)</b>	$(12 / 17) \times 100 = 70.59\%$	B
<b>Community Outreach and Advocacy (17.5%)</b>	$(6 / 14) \times 100 = 42.86\%$	C-
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	$(12 / 15) \times 100 = 80.00\%$	A-
<b>Campus Sustainability (17.5%)</b>	$(17 / 32) \times 100 = 56.3\%$	C+
<b>Institutional Grade</b>	<b>57.03 %</b>	<b>C+</b>