



Planetary Health Report Card (Medicine) *[Dalhousie University]*



2023-2024 Contributing Team:

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Land acknowledgement:

The authors of this report would like to acknowledge that Dalhousie University, and therefore where they live, work and study, is located on the traditional unceded territory of the Wolastoqiyik (Maliseet) and Mi'kmaq Peoples. This territory is covered by the "Treaties of Peace and Friendship" which Wolastoqiyik (Maliseet) and Mi'kmaq Peoples first signed with the British crown in 1725. The treaties did not deal with surrender of lands and resources but in fact recognized Mi'kmaq and Wolastoqiyik (Maliseet) titles and established the rules for what was to be an ongoing relationship between nations.

Summary of Findings

Overall	C
<u>Curriculum</u>	C
<p>Summary:</p> <ul style="list-style-type: none"> - All first year students at Dalhousie Medicine receive one lecture on planetary health and complete one tutorial case related to that lecture on planetary health. Tutorials are based on group discussion, so student experiences with this case may vary - Dalhousie medicine students in first and second year have the option to participate in an interprofessional learning course on planetary health (one of many options to fulfil their interprofessional education requirement) - In second year there is no dedicated lecture on planetary health, but there are a few lecture slides on environmental toxins and their effects on the respiratory system <p>Recommendation:</p> <ul style="list-style-type: none"> - We recommend Dalhousie University include more lecture content on the climate crisis, specifically in the Med 2 curriculum as there is currently only a lecture on planetary health in Med 1. As the Med 1 lecture addresses the global impacts of climate change more than the local ones, we propose a Med 2 lecture or professional competencies tutorial focused on the impact of the climate crisis and environmental mis/managment in Nova Scotia and New Brunswick, including Indigenous perspectives 	
<u>Interdisciplinary Research</u>	B+
<p>Summary:</p> <ul style="list-style-type: none"> - Dalhousie has a Healthy Populations Institute that does climate related research - Dalhousie Medicine is a participant in cross-Canada and international planetary health related initiatives - Dalhousie Medicine has hosted conferences and speaker series focused on planetary health - Students at Dalhousie Medicine must all complete one research project, there are options to do this project in a planetary health related subject <p>Recommendation:</p> <ul style="list-style-type: none"> - We recommend that Dalhousie University Faculty of Medicine further explore the link between itself and the Healthy Populations Institute, and make students aware of this potential research site for their Research in Medicine (RIM) projects early in first year 	
<u>Community Outreach and Advocacy</u>	C
<p>Summary:</p> <ul style="list-style-type: none"> - The student service learning program at Dalhousie Medicine has options for students to volunteer with environmental organisations in the community - Dalhousie and Dalhousie's Faculty of Medicine have hosted learning events on planetary health that are open to the public as well as students - Dalhousie Medicine students have participated in advocacy groups such as CAPE - Students can opt-in to receiving communication and updates about planetary health events and research at the school <p>Recommendation:</p> <ul style="list-style-type: none"> - There is currently no educational material available for patients at any of the teaching hospitals associated with Dalhousie. Given the impact wildfires, changing temperatures, and extreme storms have had on the Canadian maritimes, educational material available at hospitals or on their websites has the potential to be beneficial to those facing difficult decisions on how to best manage their health while living through climate collapse. We recommend Dalhousie University Faculty of Medicine take an initiative in furnishing these 	

materials

Support for Student-Led Initiatives

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Summary:

- There are a number of student groups at Dalhousie Medicine (such as the Green Team, or the Global Health Interest Group) promoting advocacy for planetary health and appreciation for the environment
- The school supports a yearly Green Week before Earth Day by making room for it in the student calendar

Recommendation:

- Dalhousie Medical School maintains steadfast backing for student-led endeavours focused on the convergence of sustainability and medicine. To elevate its score, we suggest the Faculty of Medicine consistently publicise its endorsement of such initiatives to both faculty and students, utilising communication channels and website features. Additionally, it is recommended to clearly delineate the procedure for prospective students seeking support for future sustainability projects.

Campus Sustainability

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Summary:

- Dalhousie has made several commitments to increasing sustainability over the past years (areas of focus include energy usage and waste management) and provides periodic updates on these on the “Sustainability resources and policies” page of the school’s website

Recommendation:

- Dalhousie University, including the medical campuses, has made significant progress in enhancing the sustainability of its operations and has set ambitious carbon neutrality targets. We would like to see the Faculty of Medicine make a public commitment to the future sustainability goals of the school and recommend that they provide further opportunities for labs in the medical faculty to connect with Dalhousie’s Office of Sustainability’s Green Labs program, to increase the number of medical school and affiliated hospital labs pursuing sustainable operations.

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance describes planetary health as “a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth’s natural systems on human health and all life on Earth.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanization, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment, and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change “the greatest threat to global health in the 21st century,” many medical school’s institutional priorities do not reflect the urgency of this danger to human health.

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

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

With the purpose of increasing planetary health awareness and accountability among medical schools, we have created a Planetary Health Report Card that medical students internationally can use to grade and compare their home institutions on an annual basis. This medical-student-driven initiative aims to compare medical schools nationally and internationally on the basis of discrete metrics in five main category areas: 1) planetary health curriculum, 2) interdisciplinary research in health and environment, 3) university support for student planetary health initiatives, and 4) community outreach centered on environmental health impacts 5) medical school campus sustainability.

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as “the health of human civilisation and the state of the natural systems on which it depends.” For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional ‘environmental health’ examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of medical school education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term “planetary health” to satisfy the metric.
- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimises use of healthcare services.
- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:
 1. Describe how the environment and human health interact at different levels.
 2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
 3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.
- **Medical School vs. Institution:** When “medical school” is specified in the report card, this only refers to curriculum and resources offered by the School of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments). In contrast, when “institution” is specified in the report card, we are referring to the university more

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

- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions providers are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mold after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution.
- **Elective:** The word "elective" refers to an optional course or lecture series that a medical student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.
- **Clerkship:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations or placements.

Other considerations:

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

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

Planetary Health Curriculum

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

Curriculum: General

1.1. Did your <u>medical school</u> 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: Dalhousie University offers all health professional students one ESH/Planetary Health themed Interprofessional Education Mini-Course. The mini-course was developed and organised by students, with support from the Healthy Populations Institute, and is equivalent to 6 hours of instruction. It has been offered in the winter of the 2023-24 school year. This IPE course is an option presented amongst numerous IPE courses available, from which students choose those that interest them.</i></p>	

Curriculum: Health Effects of Climate Change

1.2. Does your <u>medical school</u> 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: The first year professional competencies course includes a lecture titled "Planetary Health: The Impact of Healthcare Systems on the Planet," which briefly discusses extreme heat as one</i></p>	

of several metrics affecting health outcomes as our climate changes. The accompanying tutorial case, “Anat Stockhart: Planetary Health and Advocacy,” discusses the Nova Scotia wildfires which may prompt some student groups to also discuss the effects of extreme heat from climate collapse on health outcomes.

1.3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?

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

Score explanation: The first year professional competencies course had a tutorial case (“Anat Stockhart: Planetary Health and Advocacy”) in which students learned about the effects of wildfires and air pollution on asthma using a case-study of a child affected by the Nova Scotia wildfires and in which students answered questions about the impacts of changing climate events on the healthcare system in which they are training

1.4. 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 briefly (1 slide and a video link) discussed in a first year professional competencies lecture titled “Planetary Health: The Impact of Healthcare Systems on the Planet,” and in a lecture in the Microbiology component of the Host Defence unit titled, “Antimicrobials: Principles of Use and Antimicrobial Stewardship.” Understanding the impact of climate change on patterns of infectious disease was stated as an objective for the first year Host Defence unit, but the outline did not include a lecture specifically on this topic.

1.5. 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: There is a first year professional competencies tutorial titled “Anat Stockhart: Planetary Health and Advocacy” which uses a case study of a child with respiratory health problems, and asks students to think about the relationship between respiratory health and the effects of climate change and air pollution, as well as the factors that may predispose some populations to be at greater risk than others for adverse health effects from this.</i></p>	

1.6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: This topic was not covered at Dalhousie Medical School.</i></p>	

1.7. Does your <u>medical school</u> curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: This topic was not covered at Dalhousie Medical School.</i></p>	

1.8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: The first year professional competencies tutorial “Anat Stockhart: Planetary Health and Advocacy” briefly touched on the impact of lower socioeconomic status on being more vulnerable to the effects of climate change, but only in relation to air pollution not food and water security. In the tutorial discussion for this case students are encouraged to propose their own planetary health</i></p>	

advocacy project based on problems they have noticed in their community, potentially opening a space for students to discuss food and water security in the community in which they are training.

1.9. 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: The first year professional competencies tutorial “Anat Stockhart: Planetary Health and Advocacy” briefly addresses the impact of lower socioeconomic status and the marginalisation that newcomers face on vulnerability to respiratory disease due to climate change, but does not address the other groups in this category. As this is a tutorial case done in small groups the learning experience also differs student to student.

1.10. 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: The first year professional competencies lecture “Planetary Health - Impact of Healthcare Systems on the Planet” briefly covers uneven global distributions of climate change related consequences, but its focus is primarily on what Canadian healthcare systems are facing.

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

1.11. 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.

Score explanation: This topic was not covered at Dalhousie Medical School.

1.12. 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.

*Score explanation: Within the second year respiratory curriculum component an environmental hazards lecture has a few slides discussing coal miners lung, pertinent to this region given the still-recent history of coal mining here. At Dalhousie University this topic may be covered within other tutorials of the core curriculum or elective coursework, but at the discretion of a preceptor. For example, in clinical skills sessions teaching on how to take an environmental history, students may or may not be taught questions specific to human-caused environmental hazards people in their communities may be facing - some communities in Nova Scotia have and continue to deal with contaminated water (e.g. see film *There is Something in the Water*) and some preceptors may discuss this with students in clinical skills or elective sessions*

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

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

Score explanation: Dalhousie Medical School requires all medical learners to take an Interprofessional Education Mini-Course titled "Introduction to Cultural Safety in Healthcare for Indigenous People". This course is meant to provide students with a holistic understanding of Indigenous peoples' health, including the historical context, the unique contemporary determinants of Indigenous well-being, practices to consider for therapeutic health care encounters integrated with domains from the Canadian Interprofessional Health Collaborative framework (CIHC). The course is equivalent to ~8 hours of instruction. Yet, throughout the course there is no mention of planetary health or environmental sustainability and how Indigenous knowledge and value systems can help us find solutions.

1.14. 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.
<p><i>Score explanation: In the first year curriculum the Professional Competencies unit contains a didactic lecture titled “Planetary Health” with a corresponding self-directed study tutorial titled “Environmental Health and Advocacy”. The lecture is primarily focused on topics of environmental exposure and health risks. The lecture primarily focuses on the outsized risk of environmental toxin exposure to children and developmental impacts.</i></p> <p><i>The corresponding tutorial investigates additional socioeconomic factors and how these relate to exposure risk. One of the stated tutorial objectives is “Understand how cultural and socioeconomic factors are influenced by, impact on, and interact with the environment.” The tutorial sessions are student led, with students required to prepare with assigned readings and then group discussion.</i></p>	

Curriculum: Sustainability

1.15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: This topic is not covered anywhere in the curriculum, and there are a few metabolism lectures that group vegan diets under “fad” diets, potentially biasing future doctors against a plant based diet.</i></p> <p><i>However, for this to be an improvement in the curriculum related to Planetary Health – and therefore merit points – we feel the question needs to be appropriately contextualised from a determinants of health perspective. As it stands, this is a perspective of environmental and health co-benefits that in some contexts would be culturally inappropriate. So theoretically, one could get a higher score, even if the approach to teaching this is incongruent with the questions around Indigenous knowledge systems, for example, which are crucial to Planetary Health as indicated in some of the other questions.</i></p>	

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored in depth by the core curriculum
2	This topic was briefly covered in the core curriculum.

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: This topic was not covered at Dalhousie Medical School. The Dalhousie Green Team has been advocating for inclusion of such topics within the curriculum, though they have not been incorporated.</i></p>	

1.17. Does your medical school curriculum cover these components of sustainable clinical practice in the core curriculum? (points for each)	
2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would 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. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
<p><i>Score explanation: At Dalhousie Medicine students receive a didactic lecture and participate in a self directed learning tutorial about sustainable resource use in the healthcare system. However, sustainability is only discussed in regards to conscientious resource use and cost, and there is no discussion on environmentally sustainable clinical practice in the core curriculum.</i></p>	

Curriculum: Clinical Applications

1.18. 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
<p><i>Score explanation: No, there is no component of the curriculum at Dalhousie Medical School that introduces strategies to have conversations with patients about the health effects of climate change. In the first year curriculum the Professional Competencies unit contains a didactic lecture titled “Planetary Health” with a corresponding self-directed study tutorial titled “Environmental Health and Advocacy”. In this lecture there is a slide prompting class discussion about counselling patients about climate change risk, yet this is an unstructured discussion piece, so there are no strategies integrated in the lecture or tutorial itself. This lecture also has some content that covers the importance of discussing the risk of environmental toxin exposure with patients, especially those preparing to be or currently pregnant. Again however, there are no firm strategies presented in this lecture</i></p>	

1.19. In training for patient encounters, does your <u>medical school’s</u> curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.
<p><i>Score explanation: The core curriculum does include strategies for taking an environmental history or exposure history (e.g. Skilled Clinician respiratory exam class, Professional Competencies and Metabolism and Human Development units). Strategies are directed at discussing exposures to asbestos, lead, occupational hazards, pets and other traditional environmental health items. There is nothing in the curriculum at this time that discusses strategies for identifying exposures to wildfires and reduced air quality, migration, water pollution, or other human-caused environmental exposures indicative of a medical school lens.</i></p>	

Curriculum: Administrative Support for Planetary Health

1.20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?	
4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.
<p><i>Score explanation: From 2020-22 Dalhousie underwent a curriculum refresh to transition to competency-based medical education. As part of this process, a designated working group, had specifically been tasked with improving the inclusion of Planetary Health throughout all years of the medical school curriculum. The Canadian Federation of Medical Students Health and Environment Adaptive Response Task Force (CFMS HEART) has developed 12 core competencies: all of which were proposed by Dalhousie’s Planetary Health Working Group to be integrated into the curriculum. While</i></p>	

some changes have been made, such as the inclusion of a planetary health lecture and tutorial session, there remains a great deal of work to be done.

Dalhousie Faculty/Staff in the Faculty of Medicine also received a presentation from a representative of the Dalhousie Medical Student Society Green Team in September 2020 during the Undergraduate Medical Education office Case Writing Retreat, and in November 2021 for the Clerkship Directors Retreat. The first presentation focused on HEART's core curriculum recommendations and tips on how to include these topics throughout their case-based learning sessions, and the second focused on why these topics need to be further included into our clinical training. The administration has expressed interest to implement more topics into the general longitudinal curriculum in the first two years.

1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?

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

Score explanation: The first year professional competencies course contains a lecture titled "Planetary Health: Impact of Healthcare Systems on the Planet" with a corresponding self-directed study tutorial titled "Anat Stockhart: Planetary Health and Advocacy."
Otherwise there is no longitudinal integration of Planetary Health/ESH in our curriculum.

1.22. Does your medical school employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?

1	Yes, the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	No, the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.

Score explanation: The Dalhousie Curriculum Committee created a temporary Planetary Health Working Group, which was a volunteer project for students, faculty, and international experts, but there is no formal long-term position available.

Planetary Health is a priority under the social accountability mandate of the Faculty of Medicine, as per the work that is happening through the Global Health Office. Of note, the Office is engaged with the Community of Practice, memberships in national and international Planetary Health networks, and medical curriculum refreshment. The Global Health Office reports to the Faculty of Medicine's social accountability committee on this work, has a program manager identified as the lead for Planetary Health within the office, and has identified a Faculty Lead for this purpose as well.

However, no member of this office has a specific mandate to advocate for or oversee the integration of Planetary Health and sustainable healthcare within the curriculum.

Section Total (31 out of 72)

43%

Back to Summary Page [here](#)

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

Interdisciplinary Research

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

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <u>medical school</u> ?	
3	Yes, there are faculty members at the medical school who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the medical school who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution , but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation:</i> While there are no researchers at Dalhousie Medical School solely focused on planetary health or healthcare research, there are faculty members who are active in research in this area. Some examples of this research are participation in the Creating a Sustainable Canadian Health System in a Climate Crisis (CASCADES) project aiming to help Canada's healthcare system transition to a net-zero system and the Sustainable Health Systems research and knowledge translation project from the Healthy Population Institute, a multi-faculty research institute aiming to promote the health of Atlantic Canadians. Individual physicians and researchers associated with Dalhousie medical students' Research in Medicine (RIM) projects may also contribute to research happening on planetary health at the university.</p>	

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your <u>institution</u> ?	
3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	There is an Occupational and Environmental Health department , but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.

Score explanation: “[The Healthy Populations Institute](#) (HPI) is a multi-faculty research institute at Dalhousie University that aims to improve population health and health equity in Atlantic Canada and beyond by understanding and influencing the complex conditions that affect the health of communities.”

The HPI Sustainable Health System's Flagship Project Team is a partner in CASCADES (Creating a Sustainable Canadian Health System in a Climate Crisis), a national project working to improve the sustainability of the healthcare system by reducing greenhouse gas emissions linked to health care and finding “green” options for health care.

The HPI is in collaboration with the Centre for Sustainable Health Systems in Ontario and the Centre for Sustainable Healthcare in the UK.

2.3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your medical school?

3	Yes, there is a process in which community members impacted by climate and environmental injustice have decision-making power in the climate + environmental research agenda.
2	Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda.
1	No , but there are current efforts to establish a process for community members to advise or make decisions on the research agenda.
0	There is no process, and no efforts to create such a process.

Score explanation: This does not currently exist on any forum easily found and accessed by students and community members, but this is a goal of the HPI for the future years, as per 2023 PHRC communication.

2.4. Does your institution have a planetary health website that centralizes ongoing and past research related to health and the environment?

3	There is an easy-to-use, adequately comprehensive website that centralizes various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that attempts to centralize various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
1	The institution has an Office of Sustainability website that includes some resources related to health and the environment.
0	There is no website.

Score explanation: A few websites, including that of the Office of Sustainability, promote campus and community resources as well as goals for the future, but these are not currently centralised or in

communication with each other. The following links are web pages showing some Dalhousie resources on health and environment:

<https://www.dal.ca/dept/sustainability.html>

<https://www.healthypopulationsinstitute.ca/sustainablehealthsystems>

<https://www.dal.ca/about-dal/impact-on-global-goals.html>

<https://medicine.dal.ca/departments/core-units/global-health/planetaryhealth.html>

2.5. Has your **institution** recently hosted a conference or symposium on topics related to planetary health?

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

Score explanation: "Planetary Health and the Climate Crisis: Our Planet, Our Health, Our Responsibility," was a theme for the Thomas and Alice Morgans Fear Memorial conference in June of 2022, but the theme of this conference changes on a year-to-year basis. The Healthy Populations Institute hosts a Summer Institute on Sustainable Health Systems, which runs on a yearly basis.

2.6. Is your **medical school** a member of a national or international planetary health or ESH organization?

1	Yes, the medical school is a member of a national or international planetary health or ESH organization
0	No, the medical school is not a member of such an organization

Score explanation: Dalhousie Medical School is a member of the [Global Consortium on Climate and Health Education](#) and [Planetary Health Alliance](#). The medical school, through the Dalhousie Medicine Green Team also has strong ties to the Canadian Federation of Medical Students Health and Environment Adaptive Task Force (CFMS HEART). Dalhousie medicine faculty and students are also part of the Canadian Association of Physicians for the Environment, Nova Scotia chapter (CAPE NS) and New Brunswick chapter (CAPE NB). Dalhousie Medical School is a founding faculty of the Healthy Populations Institute which is a member of the national group on planetary health and sustainable health systems titled CASCADES (Creating a Sustainable Canadian Health System in a Climate Crisis).

Section Total (13 out of 17)	76.47%
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Back to Summary Page [here](#)

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

Community Outreach and Advocacy

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

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

Score explanation: There are a few ways Dalhousie encourages partnerships with community organisations focused on planetary and environmental health. Students in first and second year of the MD program are encouraged through the Service Learning program to become involved in a community organisation and to become more aware of community needs. The Service Learning program and the Dalhousie Green Team are working on providing more avenues for students to become involved with environmental or planetary health focused organisations through this program.

The Office of Community Partnerships and Global Health for Dalhousie Medicine has numerous partnerships that conduct community outreach and advocacy at local and global scales. Because many communities experience disproportionate impacts related to climate change, waste, and environmental health, the Office of Community Partnerships and Global Health provides learners with opportunities in Global Health that inherently incorporate Planetary Health learning and advocacy experience with EDIA (Equity, Diversity, Inclusion, Accessibility) principles. The office also has a membership in the Planetary Health Alliance.

Several medical school faculty members are actively involved in the Canadian Association of Physicians for the Environment (Nova Scotia and New Brunswick chapters).

The Healthy Populations Institute held a provincial summit on low carbon, sustainable health systems in September 2023 which brought together key players in the province to discuss the link between high quality and low carbon care, to showcase leading practices in the province, to develop new ideas and actions to work on as a province and to inspire efforts, build energy and momentum to improve clinical care experiences and planetary health.

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

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

Score explanation: The Dalhousie College of Sustainability Environment, Sustainability and Society (ESS) hosts a lecture series looking at the intersections between climate change and health. This is a community facing event with a focus on health, but not specifically from the medical school.

In 2022 Dalhousie Medical School's annual Thomas and Alice Morgan's Fear Memorial conference chose the theme of Planetary Health and the Climate Crisis: Our Planet, Our Health, Our Responsibility. Topics covered included planetary health justice, environmental racism, Indigenous philosophies and ways of valuing the land, and managing and preventing health impacts of climate change, among others. The planning of the conference included ongoing community engagement and the event was attended by community members as well as members of the medical school.

In 2022, two speaker series events were also held by Dal Med on planetary health. Though primarily designed for an audience within the medical school, these events were open to the community. Similar events did not take place in 2023.

The Healthy Populations Institute, together with the Dalhousie School of Health and Human Performance, hosts the Crossroads Interdisciplinary Health Research Conference which is open to the community. The conference has included a panel on environmental health and inequalities in years past.

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

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

Score explanation: Medical student members of the CAPE Nova Scotia chapter manage the social media for that group, and have published a letter to the editor in a regional paper.

The Healthy Populations Institute has a monthly newsletter which promotes their involvement with Sustainable Health Systems and CASCADES Canada.

There is also a biweekly newsletter from the Office of Community Partnerships and Global Health students are able to electively sign up to receive. While this newsletter occasionally includes topics or

highlights events related to planetary health, the medical school does not have regular coverage of Planetary Health or related issues in university update communications to all medical students, staff, faculty, the wider institution community, or the public as students must opt-in to receive these communications.

3.4. Does the institution or main affiliated hospital trust engage in professional education activities targeting individuals post graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?

2	Yes, the institution or main affiliated hospital trust offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the institution or main affiliated hospital trust offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are no such accessible courses for post-graduate providers

Score explanation: Planetary Health is identified as a priority in the Dalhousie Continuing Professional Development and Medical Education. The Fear Memorial Conference held on June 9 & 10 in 2022 was a CPD accredited event and focused on promoting an understanding of Planetary Health. CASCADES Canada, a partner institution to the Healthy Populations Institute, also runs free CPD courses for Canadian healthcare professionals on planetary health and sustainable healthcare.

The university also hosts visiting speakers through the Global Health office who discuss planetary health at events open to learners of all levels. In 2022 the medical school hosted a two speaker series on planetary health, highlighting the work of Dr. Stephanie Green and Dr. Chantelle Rizan. In the past, several departments have also chosen planetary health related topics for their weekly grand rounds discussions.

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

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

Score explanation: Easily acceptable patient resources on environmental health exposure could not be found on the websites for the IWK, the QEII, the Saint John Regional Hospital, and Saint Joseph's Hospital, the four hospitals affiliated with Dalhousie Medical School teaching.

3.6. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?

2	Yes, the medical school or all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.
<i>Score explanation: Easily acceptable patient resources on climate change and health impacts could not be found on the websites for the IWK, the QEII, the Saint John Regional Hospital, and Saint Joseph's Hospital, the four hospitals affiliated with Dalhousie Medical School teaching.</i>	

Section Total (7 out of 14)	50%
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Back to Summary Page [here](#)

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.

4.1. Does your medical school or your institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the medical school or 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 or institution encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, neither the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.

Score explanation: The Research in Medicine (RIM) component of the Medical curriculum at Dalhousie Medical School is a 4-year longitudinal program, beginning in September of the first year. All Dalhousie medical students are required to complete a RIM project during medical school. The RIM program allows students to explore research topics aligned with their interests. Students receive \$5,000 for research. The program does not require a clinical focus and is not competitive. Research in Planetary Health or sustainable healthcare is an option. The associated grant is not specifically for sustainability initiatives or quality improvement projects.

4.2. 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.

Score explanation: The Research in Medicine (RIM) component of the Medical curriculum at Dalhousie Medical School is a 4-year longitudinal program, beginning in the first year with completion in the fourth year. Dalhousie medical students must undertake a RIM project as part of their schooling. This program offers students research opportunities aligned with their interests, including Planetary Health and sustainable healthcare. The Dalhousie Medical Green Team facilitates networking for

regional students and researchers. Through the Global Health Office there are bursaries for students to participate in conferences, which can be planetary health focused, given that is one of the mandates of this office.

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

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

Score explanation: The Dalhousie Global Health Office has a [Planetary Health page](#) that displays ongoing medical school initiatives related to Planetary Health and sustainability. There is no specific information available on faculty mentors within the medical school involved in Planetary Health initiatives, however it does link to the Dalhousie Medical Student Society [Green Team page](#) which shares Planetary Health initiatives and information on how to get involved in research, and this content is specifically directed at the medical student body. However, this page is student run and not formally endorsed by the Faculty of Medicine. The Faculty of Medicine itself does not have a webpage with information on Planetary Health and/or sustainable healthcare activities.

4.4. Does your medical school have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?

2	Yes, there is a student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support .
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.

Score explanation: The Dalhousie Medicine [Green Team](#) was founded by four Dalhousie University medical students with a shared interest in environmental health and sustainability. The network was crafted with the purpose of advancing eco-friendly healthcare initiatives in our learning and work environments throughout the Maritime provinces. The Green Team aims to establish connections among students, healthcare providers, and other stakeholders who are enthusiastic about participating in sustainability projects within the healthcare sector. The team is currently engaged in several initiatives, such as a formal curriculum update, advocating for in-hospital Green Teams, and providing an interprofessional mini-course, among others. Members of the team can be found at both the Nova

Scotia and New Brunswick Dalhousie Medical School campuses, and any interested students are welcome to join. In 2018, Dalhousie Medical School's [Global Health Initiative](#) created the position of a Local Officer of Environmental Health and Sustainability. This role serves to organize local awareness events and initiatives within our medical community and also becomes a member of the Dal Med Green Team.

4.5. 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: There is no formal position for a student liaison representing sustainability interests on a medical school or institutional decision-making council of this nature. Dalhousie Medicine Green Team members are occasionally asked for input but have no formal representation on such councils/committees.

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

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 Dalhousie agricultural campus (in Truro, Nova Scotia) [community garden](#) brings together students, staff, and community members with a range of experience growing food. Across campus and throughout the greater Truro area, the community garden brings people together. Each plot in the garden costs \$20, and there are approximately 40 plots in total. Students at Dalhousie University's Studley Campus run and fund the Dalhousie Urban Garden on the campus of Dalhousie University in Halifax. The Dalhousie Urban Garden Society ([DUGS](#)) values skill sharing and collaborative learning, by offering a wide range of workshops on diverse subjects, including food

preservation, container gardening, and herbal medicine. The partnerships with organizations such as Loaded Ladle and the Dalhousie Food Bank enable us to give back to the community. They strive to make the most of the land and prevent food waste. The [Loaded Ladle](#) provides accessible, sustainable, locally-sourced free food on the Dalhousie University campus. They have events that examine barriers to food sovereignty, security, and justice. Both the Global Health Office and a few departments' individual Grand Rounds presentations have held presentations and speaker series at Dalhousie Medical School that focused on teaching students about planetary health (details in earlier sections!). There are student led clubs, such as both the Nova Scotia and the New Brunswick Dalhousie Run Club that bring students into contact with the natural environment around them (ex: trail running at Irving Nature Park), and the student Global Health and Green Team groups hold a yearly Green Week before Earth Day that often involves an outdoors activity (ex: scavenger hunt for native species).

Section Total (7 out of 15)

46.67%

Back to Summary Page [here](#)

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

Campus Sustainability

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

5.1. Does your <u>medical school</u> and/or <u>institution</u> 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 Office of Sustainability at Dalhousie University (https://www.dal.ca/dept/sustainability.html) works to improve the sustainability of campus activities and infrastructure as a whole, but currently there is no specific staff member in charge of medical school or hospital sustainability.</i></p> <p><i>No official position for incorporating sustainability into hospital infrastructure exists at Nova Scotia Health, Horizon Health or Dalhousie Medical School, although some staff members work independently to integrate this objective.</i></p>	

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

Score explanation: Item 1 best represents the current state though the carbon neutrality goal is 2050 not 2040. The focus of early carbon reductions is not offsetting but hard reductions on campus. There are multiple targets throughout the plan including 50% reduction by 2030 and 80% reduction 2040 of scope 1 and 2. The 3rd version of the [University Operations Climate Change Plan](#) outlines the strategies which include all campuses including the medical school. Each year a [GHG](#) report is published reporting on progress.

5.3. 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: Dalhousie University uses renewable energy technologies like solar and waste biomass residue to power 10% of its campus. A new power purchase agreement is being negotiated to buy all of the university's electricity from local wind energy. If finalized this year, the plan will be implemented in 2025, a unique initiative in a regulated single provider market.

5.4. 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.

Score explanation: Dalhousie has passed a **green building policy** [\[PDF - 89KB\]](#) that recommends **all new buildings should be built to LEED® Gold Certified standards or higher and existing building upgrades follow a green building standard** [\[PDF - 177KB\]](#). Dalhousie is a member of the [Canada Green Building Council](#).

The Tupper building underwent sustainable upgrades leading to a significant reduction in energy and water usage. Here is a [Video and education material](#) for all projects including the Tupper building on the green building site.

5.5. Has the medical school or institution implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?

2	Yes, the medical school or institution has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school or institution has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school or institution has not implemented strategies to encourage and provide environmentally-friendly transportation options.

Score explanation: Dalhousie University offers a subsidized bus pass to students and employees, included in the fees, providing access to public transportation. Additionally, there is a good bike infrastructure on campus. The campus offers car sharing services with discounts for ride sharing. Other active transportation and commuter education and supportive programs are provided:
<https://www.dal.ca/dept/sustainability/smart-trip.html>

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

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

Score explanation: Dalhousie's medical school has implemented a thoughtful waste management system with 3-in-1 waste bins for trash, recycling, and composting. This promotes a cleaner and more sustainable environment.
<https://www.dal.ca/about/mission-vision-values/sustainability/campus-initiatives/sustainability-partners-and-publications/sustainability-resources-and-policies.html> Waste standards, posters and guides for lab-specific recycling, composting and solid waste management are also available.

5.7. 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.
<p><i>Score explanation: Dalhousie has a Sustainable and Healthy Food Framework that was developed in 2016. The framework sets the policy direction for sustainable food sourcing such as ethical considerations and reports to STARS. Regarding supplies, Dalhousie has sustainability embedded in the purchasing policy including criteria such as ethical considerations.</i></p> <p><i>Food Services at Dalhousie incorporates local produce in their menus by sourcing from local farmers and distributors. They change their list of suppliers throughout the year to accommodate seasonality and availability. The Chef's Garden on Dalhousie's Agricultural Campus provides organic produce to the Agricultural Campus dining services and a portion of the produce used in Food Services on the Halifax Campus. They produced 11,000 lbs of food in 2019 with 20% going to campus food service, 60% in direct sales to staff/students, and 5% to Halifax campus food service. The remaining 15% was donated to food banks, Maggie's Place, and other local charities.</i></p> <p><i>Aramark has pledged to a sustainable seafood policy that includes ocean health, ethical labor, transparency, and a renewable seafood industry. They promise to educate and track sustainable seafood purchases in addition to their purchasing policy. The policy can be found here: https://www.aramark.com/content/dam/aramark/en/environmental-social-governance/climate-impact/souce-responsibly/Aramark%20Sustainable%20Sourcing%20Policy%20-%20November%202023.pdf</i></p> <p><i>Fair trade tea and coffee are served at all dining halls and in all cafes and retail locations. See here for more information about Aramark's Green Thread sustainability program: https://dal.campusdish.com/BeingGreen</i></p> <p><i>Aramark emphasizes plant-forward movement that focuses on vegetables, fruits, whole grains, legumes, nuts, and seeds as the main ingredients. Animal products are used in smaller portions for flavoring or garnish. https://www.aramark.com/about-us/blog/unpacking-the-popularity-of-plant-forward#:~:text=Plant%2Dforward%20is%20a%20style,as%20a%20flavoring%20or%20garnish .</i></p> <p><i>Several programs are implemented, including vegan dining, trayless dining, lean path, local farm and fair trade education, and full organics diversion.</i></p>	

5.8. Does the <u>medical school</u> or <u>institution</u> apply sustainability criteria when making decisions about supply procurement?	
3	Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional . The medical school is engaged in efforts to increase sustainability of procurement.
1	There are sustainability guidelines for supply procurement, but they are insufficient or optional . The medical school is not engaged in efforts to increase sustainability of procurement.
0	There are no sustainability guidelines for supply procurement.
<p><i>Score explanation: Dalhousie purchases items via the InterUniversity Services Inc (ISI) (ISI), a purchasing cooperative that several universities and colleges participate in. ISI adheres to</i></p>	

sustainability standards when purchasing, as outlined in its Sustainability Policy. Dalhousie and other academic institutions in Atlantic Canada actively engage in the ISI sustainability committee, exchanging ideas and knowledge on sustainable procurement practices.

The University can purchase through Nova Scotia government tenders as part of the municipalities, academia, schools, and hospital sector (MASH). The Nova Scotia government has passed a [Sustainability Policy](#) and criteria in purchasing regulations. Dalhousie University has included sustainability criteria in its Purchasing Policy to guide university purchasers. The university evaluates and adds sustainability criteria in individual Request for Proposals and Tender documents. A [Sustainability Purchasing Checklist \[PDF - 100KB\]](#) can be used by individual purchasers using purchasing cards to guide purchasing decisions. Educational programming efforts include lunch and learn workshops, lectures, and other events focused on sustainable purchasing practices. These initiatives aim to promote awareness and understanding of sustainable purchasing among participants.

More information about the sustainability aspects per commodity are found at: [https://www.dal.ca/dept/sustainability/campus-initiatives/Procurement and Waste.html](https://www.dal.ca/dept/sustainability/campus-initiatives/Procurement_and_Waste.html)

5.9. 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: Dalhousie University has sustainable event [guidelines](#), which are not specific to the Faculty of Medicine and are not required to host an event on campus.

5.10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?

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

At Dalhousie University, there are established institutional guidelines aimed at promoting environmental sustainability in laboratory spaces. However, it should be noted that these guidelines do not specifically apply to the medical school and affiliated hospital labs. As a member of Canada's prestigious U15 group of research-intensive universities, Dalhousie has over 1450 laboratory spaces across its four campuses. To further promote sustainability, the Office of Sustainability has implemented a Green Labs program, which is designed to develop standards, oversee their implementation, and encourage behavioural changes throughout the scientific community. <https://www.dal.ca/dept/sustainability/get-involved/greenlabs.html> Currently, the pathology lab in the

affiliated academic hospital is enrolled in the program, and we have received indications of interest from the microbiology lab in another hospital. However, we have not yet approached the medical school and hospital formally, and they are not actively involved in the program promotion or participation.

5.11. Does your institution's endowment portfolio investments include fossil-fuel companies?

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

Score explanation: Dalhousie University became a signatory to the PRI (Principles of Responsible Investing) June 2019. Currently in our second reporting cycle with them.

Dalhousie University was one of 15 Universities to sign the [Climate Change Charter](#). A little info on what the Charter stands for:

Universities must manage their investments to embrace digital advancements. It's crucial for their future relevance and competitiveness. With these considerations in mind, the signatories to this charter pledge to abide by the following principles and practices, and encourage other Canadian universities to do the same:

1. Adopt a responsible investing framework to guide investment decision-making, in line with recognized standards such as the UN-supported Principles of Responsible Investment (UN-PRI). Such a framework should:

a. Incorporate ESG factors into investment management practices

b. Encourage active engagement with companies to foster disclosure of ESG (including climate) related risks, and adoption of operational practices that reduce carbon emissions and foster ESG-positive behaviour more broadly

2. Regularly measure the carbon intensity of our investment portfolios, and set meaningful targets for their reduction over time

3. Evaluate progress towards these objectives on a regular basis, and share the results of such assessments publicly

4. Ensure that the performance evaluation of our investment managers takes into account their success in achieving such objectives, alongside the other criteria for assessing their performance

The most recent examination of Dalhousie's investments in fossil fuels took place in 2018. At the request of the Board, the Investment Committee conducted a thorough review and submitted their findings to the Board of Governors in February 2019. The report was met with unanimous approval.

https://cdn.dal.ca/content/dam/dalhousie/pdf/dept/university_secretariat/Board-of-Governors/Website%20Reports/Fossil%20Fuel%20Investment%20Report%20-%202019February12.pdf

Back to Summary Page [here](#)

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

Grading

Section Overview

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

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

**Within each grade bracket, a score in the top 5% (_5 to _9%), receives a "+", and a score in the bottom 5% (_0- _4%) receives a "--". For example, a percentage score of 78% would be a B+.*

Planetary Health Grades for the Dalhousie School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(27/72) \times 100 = 43\%$	C
Interdisciplinary Research (17.5%)	$(13/17) \times 76 = 77\%$	B
Community Outreach and Advocacy (17.5%)	$(7/14) \times 100 = 50\%$	C
Support for Student-led Planetary Health Initiatives (17.5%)	$(7/15) \times 100 = 47\%$	C

Campus Sustainability (17.5%)	$(17/32) \times 100 = 53\%$	C
Institutional Grade	$(43 \times 0.3 + 77 \times 0.175 + 50 \times 0.175 + 47 \times 0.175 + 53 \times 0.175) = 52.62\%$	C