



Planetary Health Report Card (Medicine) *[Queen's University]*



2023-2024 Contributing Team:

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Summary of Findings

Overall	C+
<u>Curriculum</u>	B
<ul style="list-style-type: none"> Queen's University's Medical School covered many topics related to planetary health and highlighted longitudinally, and in various classes, how the environment can impact our health. Recommendations: Exploring these topics more in depth, teaching sustainable clinical practice and teaching how to talk about climate change with patients in a clinical context are all areas for growth. Examples include delving deeper into the mental health and neuropsychological effects of environmental degradation and climate change, the unequal regional health impacts of climate change globally and the carbon footprint of healthcare. This could exist in the form of additional learning events and incorporating content into clinical skills sessions. 	
<u>Interdisciplinary Research</u>	B
<ul style="list-style-type: none"> There are members of the Queen's medicine faculty that conduct planetary health research and there are conference opportunities to showcase this research. Recommendations: Queen's University can create an accessible website to highlight the various resources related to health and the environment, highlighting research generated by the school and other institutions. A department for interdisciplinary planetary health research could also be founded. Queen's School of Medicine can join other medical schools to sign The Academic Health Institutions' Declaration on Planetary Health. 	
<u>Community Outreach and Advocacy</u>	D
<ul style="list-style-type: none"> Queen's University's Medical School has some ways to engage with the community such as including planetary health topics on communication updates. Recommendations: Queen's University's Medical School can increase partnerships with local organisations, offer community-facing courses, and improve accessibility of courses for post-graduate learners. For example, they can partner with sustainable local organizations such as the community gardens, the City of Kingston or Sustainable Kingston to offer workshops for the community to explore and address the intersection of the environment and their health. 	
<u>Support for Student-Led Initiatives</u>	C
<ul style="list-style-type: none"> Queen's University's Medical School has supported student-led events related to planetary health, such as a planetary health-themed conference. They also support students who wish to conduct planetary health research. Recommendations: Some areas for improvement include creating a student group dedicated to planetary health and creating a webpage for planetary health initiatives that students can take part in. In the long term, Queen's Medicine can work towards creating a specific research program or fellowship for students interested in pursuing planetary health research. They can also create a student sustainability representative position so that students can participate in curriculum reform. 	
<u>Campus Sustainability</u>	C
<ul style="list-style-type: none"> Queen's University Medical School has implemented goals of carbon neutrality in the medical building, implemented strategies to provide environmentally friendly transportation options, and has appropriate waste disposal. 	

- **Recommendations:** Switching to the use of renewable energy and implementing sustainability for supply procurement are actions that can improve campus sustainability. The school can hire a designated staff member to be in charge of medical school or hospital sustainability. The medical school can also more rigorously apply sustainability criteria to food and beverage selection.

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: There are currently no elective courses on Planetary Health or Sustainable Healthcare. However, the Global Health AEP is an optional certificate program offered to medical students, and students are required to attend 6 educational sessions on global health, some of which may include topics associated with planetary health or sustainable healthcare.</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: In the first year course MEDS 117: Health Determinants, a self-learning module titled "Environmental and Planetary Determinants of Health" describes the health impacts of extreme heat through an infographic. Additionally, 3 of the linked articles for further reading in the module cover the health impacts of extreme heat on health. In another self-learning module titled "Introduction</i></p>	

to Equity-Deserving Populations”, a linked article describes the impact of climate effects including extreme heat on health threats in specific vulnerable populations. In the fourth year course MEDS 482: Transition to Residency, a lecture titled “Health and the Climate Crisis” spends 2 slides analysing the impact of extreme heat on health with specific mentions of stroke and heatwaves in Canada.

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: In the first year course MEDS 117: Health Determinants, a self-learning module titled “Environmental and Planetary Determinants of Health” describes the health impacts of extreme weather events such as floods, droughts, and wildfires through an infographic. Additionally, 3 of the linked articles for further reading in the module cover the health impacts of extreme weather events on health. One of these focused on wildfires, while another focused on drought, wildfires, rainfall, and storms. In another self-learning module titled “Introduction to Equity-Deserving Populations”, a linked article describes the impact of climate effects including extreme weather events on health threats in specific vulnerable populations. In the fourth year course MEDS 482: Transition to Residency, a lecture titled “Health and the Climate Crisis” spends 2 slides analysing the impact of extreme weather events on health and the national infrastructure, by mentioning the burden of wildfires on Canada. This lecture also contains 2 slides showing how rising sea levels could affect populations globally, and the resulting burden on national infrastructure.

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: In the first year course MEDS 117: Health Determinants, a self-learning module titled “Environmental and Planetary Determinants of Health” describes the impacts of climate change on altered rates of vector-borne, food-borne, and water-borne diseases through an infographic and brief bullet points. Additionally, 2 of the linked articles for further reading in the module cover the impacts of climate change on altered distributions of infectious diseases. In another self-learning module titled “Introduction to Equity-Deserving Populations”, a linked article describes the impact of climate effects on infectious diseases in specific vulnerable populations. Another self-learning module titled “Social and Structural Determinants of Health” also briefly mentions how the environment (including climate/weather) affects susceptibility to infectious disease. In the fourth year course MEDS 482: Transition to Residency, a lecture titled “Health and the Climate Crisis” spends 2 slides analysing

the impact of climate change on infectious disease patterns, with specific mentions to Lyme disease and tick-borne transmission, malaria, West Nile virus, Giardia, and chikungunya.

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.

Score explanation: In the first year course MEDS 117: Health Determinants, a self-learning module titled “Environmental and Planetary Determinants of Health” describes the health impacts of climate change and air pollution through an infographic. Additionally, 3 of the linked articles for further reading in the module cover the impacts of climate change and air pollution on respiratory health, both directly and indirectly via wildfires and smoke inhalation. In another self-learning module titled “Introduction to Equity-Deserving Populations”, a linked article describes the impact of climate effects including air pollution on health threats in specific vulnerable populations. In the second year course MEDS 237: Respiriology, a lecture titled “Asthma Diagnosis and Management” mentions environmental pollutants as causes of asthma. Another lecture titled “Environmental and Occupational Lung Diseases” describes in detail the pathology of lung disease from various pollutants, some of which can be air pollutants. In the fourth year course MEDS 482: Transition to Residency, a lecture titled “Health and the Climate Crisis” includes 1 slide analysing the impact of air quality and climate change on respiratory health (specifically asthma) and changes in allergies.

1.6. 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: In the first year course MEDS 117: Health Determinants, a self-learning module titled “Environmental and Planetary Determinants of Health” describes the cardiovascular health impacts of extreme heat through an infographic. Additionally, 3 of the linked articles for further reading in the module cover the health impacts of extreme heat and pollution on cardiovascular health. In another self-learning module titled “Introduction to Equity-Deserving Populations”, a linked article describes the impact of climate effects including extreme heat on cardiovascular health threats in specific vulnerable populations. In the fourth year course MEDS 482: Transition to Residency, a lecture titled “Health and the Climate Crisis” spends 2 slides analysing the impact of extreme heat on cardiovascular health with specific mentions of stroke and heatwaves in Canada.

1.7. 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: In the first year course MEDS 117: Health Determinants, a self-learning module titled “Environmental and Planetary Determinants of Health” includes an article about indigenous health and climate change that mentions mental health as well as a physician’s guide to climate change, health, and equity that has a section on mental health and equity and how physicians can address it. The second year course MEDS 246: Psychiatry has a lecture called “Other Psychotic Disorders” that has a list of environmental factors that can cause neuropsychological diseases.

1.8. 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: The first year course MEDS 123: Population Health has a lecture and separate independent learning module dedicated to One Health and the connection between the environment and human health (however it focuses heavily on antimicrobial resistance). Another course MEDS 117: Health Determinants has a self-learning module titled “Environmental and Planetary Determinants of Health” which provides information on how different consequences of climate change (e.g. food and water scarcity, pollution, land degradation) will affect population health. It also links to a physician’s guide to climate change, health, and equity that features extensive information on how the effects of climate change will affect populations and individuals. Another self-learning module titled “Introduction to Equity-Deserving Populations” has a linked article describing the impact of different climate effects on specific vulnerable populations.

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: In the first year course MEDS 117: Health Determinants, a self-learning module titled “Environmental and Planetary Determinants of Health” mentions the disproportionate burden of the effects of climate change on indigenous communities and includes an article about indigenous health and climate change as well as a physician’s guide to climate change, health, and equity, that features extensive information on how vulnerable populations are less protected from the effects of climate change. In another self-learning module titled “Introduction to Equity-Deserving Populations”, a linked article describes the impact of climate effects including extreme heat on cardiovascular health threats in specific vulnerable populations such as pregnant women, immigrant communities and indigenous people. In the fourth year course MEDS 482: Transition to Residency, a lecture titled “Health and the Climate Crisis” contains information on how climate change affects indigenous lands disproportionately through flooding, exacerbates food scarcity for low-income populations, and could result in mass displacement and climate refugees.

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: In the fourth year course MEDS 482: Transition to Residency, a lecture titled “Health and the Climate Crisis” has a slide on tertiary effects of climate change that will lead to climate refugees and how food scarcity will be exacerbated in low-income countries, leading to more conflict and displacement. In the first year course MEDS 120: Mechanisms of Disease, a lecture titled “Antibiotics and Antibiotic Resistance” includes two slides on how developing countries are not currently equipped to address the rise of infectious diseases.

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 covered briefly in the lecture titled “Infertility and Assisted Reproductive Technology”. This lecture outlined environmental chemicals as a possible cause of infertility, however it was not explored in depth.

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: At Queen's University, environmental health was briefly covered in MEDS 117: Health Determinants. Professor Alexa Caturay prepared a Directed Independent Learning module for students to learn about environmental health, planetary health, and climate change & health. The modules also included links to the International Union for Conservation of Nature and the World Health Organization to further learn the importance of environmental health. The content was covered again in class but there was no mention of environmental threats that are relevant to the university's surrounding community.

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: this topic was mentioned briefly in a Directed Independent Learning module on Environmental & Planetary Determinants of Health. There was a short section on how environmental health could be improved by using 'land-based, Indigenous-led approaches.'

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.

Score explanation: MEDS 123: Population Health discusses different reasons why Indigenous people have lower life expectancy, including environmental factors. MEDS 117: Health Determinants also

offered a Directed Independent Learning module detailing how certain vulnerable populations are impacted by climate effects and which health threats they are at risk of.

Curriculum: Sustainability

1.15. 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: there was a brief mention of the 2015 Canadian food guide emphasising plant-rich food while de-emphasizing animal proteins and dairy.

1.16. Does your medical school curriculum address the carbon footprint of healthcare systems?

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

Score explanation: This topic is not covered.

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 anesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
	<p><i>Score explanation: In the 1st year antibiotic lecture, they mention that the use of antibiotics in agriculture is a cause of antibiotic resistance, which when spread through our environment can harm human health. Due to this, there is a push to prescribe less antibiotics.</i></p> <p><i>In the first year family medicine course, there is an emphasis on "Choosing Wisely", where the risk and benefit of choosing medications and testing is presented. The concept that more intervention does not necessarily equal better is emphasized. Lifestyle changes for hypertension management is emphasized as first-line treatment before pharmacotherapy.</i></p>

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
<p><i>Score explanation: Although there is emphasis on taking a complete history to gauge possible ways the environment can affect one's health, there are no explicit strategies to outline the specific impacts of climate change on health.</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: In a lecture titled "Gathering Information II - Completing the Interview", students are taught how to take a thorough history, including environmental exposures, living situations and occupational history. This was a lecture that was a part of the core curriculum.</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: In September 2023, the School of Medicine at Queen's Medicine hired a Planetary Health Lead to oversee planetary health education and initiatives at the PGME level. Additionally, the School of Medicine has funded a conference focusing on sustainability. This conference will feature speakers and workshops relevant to sustainability, thus providing educational opportunities for students.</i></p>	

1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> curriculum?	
6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s) .
0	There is minimal/no education for sustainable healthcare.
<p><i>Score explanation: Topics, such as the role that the environment plays in the development of respiratory pathologies are well integrated into the curriculum longitudinally, and appear multiple times within the curriculum through different courses and different years. Within each system block, environmental factors that affect health are mentioned, if applicable (e.g. hot weather and renal function relationship, environmental chemicals + infertility).</i></p> <p><i>In the first year curriculum, there is a directed independent learning module titled "Environmental & Planetary Determinants of Health" which explores how climate change can impact an individual's health. This is part of a course, titled "structural determinants of health", which explores the various factors that can improve or negatively impact one's health.</i></p>	

1.22. Does your <u>medical school</u> 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.
<p><i>Score explanation: Dr. Alexa Caturay is the course director for the undergraduate medicine public health program. Additionally, Dr. Laura Kroeker is the Planetary Health Faculty Lead for Queen's PGME department and works to "implement strategies to reduce our carbon footprint and reduce the impacts of climate change".</i></p>	

Section Total (53 out of 72)	74%
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Are there additional curriculum resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Interdisciplinary Research

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

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <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: There exists evidence of published research on planetary health by the medical schools faculty members (including medical students, residents, and attendings) as well as members of other departments within the institution. . Moreover, there are multiple ongoing Quality Improvement (QI) projects with a focus on sustainability and planetary health. Among such project leaders include Dr Anthony Train of the Family Health Team, investigating the impact of the overused medications on the environment.</i></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.
<p><i>Score explanation: As of 2024, Queen's University does not house a dedicated department or institute for interdisciplinary planetary health research. However, the university features an Environmental Health and Safety (EHS) department. This department is committed to enhancing teaching and</i></p>	

research endeavours by cultivating a healthy and safe work and study environment. EHS focuses on environmental exposures such as fire, chemical, biohazards, radiation, and waste disposal.

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: Queen's University School of Medicine has recently initiated a partnership in West Africa, conducting a surgical educational program. This program aims to advance equity and accessibility to cancer care, offering competency-based surgical oncology fellowship programs to train general surgeons in 18 countries in West Africa – representing one third of the continent's population. Through this fellowship, African surgeons will receive funding to conduct research with works underway to develop cancer databases and research registries. This program puts local trainees at the centre of the decision making circle.

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: Queen's does not have a publicly accessible website for resources related to health and the environment. However, the institute offers [Sustainable Queen's](#) website containing resources related to health and environment for students.

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: Queen's University has hosted several conferences related to topics falling under Planetary Health over the past years:

- *Together 2022: Canada's national conference devoted to tracking progress on the United Nations Sustainable Development Goals (SDGs) – hosted virtually between 2nd and 4th of March 2022.*
- *Queen's Conference on Indigenous Reconciliation: Initiating a conversation about Sustainable Pathways to Reconciliation – student-led conference hosted between 10th to 11th February 2023.*
- *Queen's Northern Research Symposium: Addressing environmental, social, and political challenges experienced in Arctic and subarctic regions – 1-day conference hosted on the 17th March 2023.*
- *LEADERS & PEOPLE Virtual Symposium: Persistent, Emerging, and Organic Pollution in the Environment and the Leaders in water and watershed Sustainability for Highly Qualified Personnel training – hosted virtually between 20th and 22nd of July 2021.*
- *The Annual Health and Human Rights Conference, whose theme is Sustainable Systems: Health and the Environment, will take place on March 3, 2024. It is planned and hosted by Queen's medical and Health Sciences Students.*

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: Queen's University is not a member of national or international planetary health or ESH organizations. Moreover, Queen's School of Medicine is the only Canadian medical school that is not one of the signatories of [The Academic Health Institutions' Declaration on Planetary Health](#), aimed at calling for immediate implementation of planetary health education and research. However, it should be mentioned that Queen's has been a part of CFMS's HEART program, which focuses on health and environment within Canadian Medical Schools. Additionally, there are CFMS environmental leads at Queen's University.

Section Total (12 out of 17)

71%

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

Community Outreach and Advocacy

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

3.1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation: Queen's University Medical School currently has no meaningful partnerships with the community regarding planetary and environmental health. However, Queen's University as an institution has partnered with community organizations, such as with Kingston Transit, to promote environmental health initiatives.</i></p>	

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.
<p><i>Score explanation: To date, the Queen's School of Medicine has not planned community-facing courses or events relevant to planetary health. The department of Public Health Sciences has seminars, some of which relate to planetary health, including 'Controversies in Epidemiological Studies of Air Pollution, COVID-19, and Human Health'. These seminars aim to connect students with researchers and practitioners working on current issues.</i></p>	

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: Sustainable healthcare topics are sometimes included in articles published through the Queen's Medical School Dean on Campus blog. These are provided by the Dean of Health Sciences and encourage students to engage with various health topics.

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

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

Score explanation: The Queens School of Medicine currently has no accessible courses in relation to planetary health and sustainable healthcare.

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: While none of the Queen's School of Medicine affiliated teaching hospitals host a comprehensive online platform to allow patients web access on these topics, all physical sites do provide patient-facing brochures on the links between environmental exposures and diseases.

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: Kingston Health Sciences has a blog available and accessible to patients and has touched on a few climate change topics, including putting out a heat warning.</i>	

Section Total (5 out of 14)	35.71%
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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: Queen's School of Medicine does not offer support for medical students interested in enacting a sustainability initiative/QI project. However, Queen's University at large offers a variety of opportunities for extracurricular student involvement on issues of climate change and sustainability, including Alma Mater Society Commission of the Environment and Sustainability (AMS CES), Queen's Backing Action on Climate Change (QBACC), and the Earth Centre.

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: Queen's University offers students opportunities to perform research related to planetary health topics through groups such as the Paleoeological Environmental Assessment and Research Laboratory (PEARL) and Queen's Institute for Energy and Environmental Policy (QIEEP). However, there is no specific research or fellowship program for medical students at this time, nor are many of these groups open to participation from medical students.

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: While Queen's University has a website dedicated to sustainability research and the School of Medicine has a website for general research opportunities for medical students, there is no direct overlap. The School website states that Dr. Laura Kroeker is the planetary health faculty lead for the School, but lacks information on whether opportunities for student research or involvement are available.

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 Queen's Environmental Advocacy In Medicine (EAIM) group was active as of March 2022, but does not currently appear on the list of current interest groups. [EAIM](#) aimed to advocate for planetary health, hosting events featuring guest speakers such as Anishinaabe Water Protector and Land Defender Beze Gray in collaboration with Queen's Indigenous Health Standing Committee, as well as the director of PaRx, a national nature prescription programme. The group does not appear to be active currently.

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.
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0	No, there is no such student representative.
<p><i>Score explanation: Queen's School of Medicine does not have a medical student liaison representing sustainability interests who serves on a medical school or institutional decision-making council or committee. However, Queen's University students at large are encouraged to participate on committees such as the Queen's Sustainability Advisory Committee and the Queen's Climate Action Plan Advisory Committee.</i></p>	

4.6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	
1	Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students)
<p><i>Score explanation: Queen's University has the Alma Mater Society Commission of Environmental Sustainability (AMS CES) which offers many opportunities for sustainable advocacy and engagement, including the Sustainability Hub which hosts events on topics such as agriculture and food security, transportation, and housing and energy. In addition, the Queen's University Outdoors Club organizes several trips and events throughout the year for students to be active outdoors, including weekly kayak sessions and weekend or day trips.</i></p>	

Section Total (8 out of 15)	53.33%
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Campus Sustainability

Section Overview: *This section evaluates the support and engagement in sustainability initiatives by the medical school and/or institution. The healthcare industry is a major contributor to greenhouse gas emissions as well as pollution that harms local, regional, and global ecosystems. While healthcare is, by nature, a resource-intensive endeavor, the healthcare sector is well poised to lead the*

world to a more sustainable future. This will involve scrutinizing every aspect of how our systems operate, from where we source our energy, to how we build our infrastructure, to what companies we invest in. Our medical schools, clinics, and hospitals must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimizing environmental impact.

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: Queen's University has a working group called "Sustainable Queen's" that is composed of tens of staff from various departments working towards a shared goal. There are multiple sub-groups involved in making transportation, community engagement, housing, and curriculum more sustainable. However, there is no designated staff member in charge of medical school or hospital sustainability.</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
<p><i>Score explanation: Queen's University is committed to net-zero greenhouse gas emissions by 2040 with a secondary goal of a 70% reduction by 2030. The Climate Action Plan can be found here.</i></p>	

5.3. Do buildings/infrastructure used by the <u>medical school</u> for teaching (not including the hospital) utilize renewable energy?	
3	Yes medical school buildings are 100% powered by renewable energy

2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.
<p><i>Score explanation: More than 75% of the university's scope 1 emissions are produced by a central heating plant which uses natural gas boilers. The remainder of scope 1 emissions are from fuel combustion, and scope 2 emissions are produced by the university's electricity usage (8%) (sourced from "Queen's GHG Inventory Report 2022"). Ontario's power grid was stated as being approximately 33% from renewable sources ("Canada's Renewable Power - Ontario"), so the university's renewable usage is approximately 2.6%. The medical school is owned by the university, and thus is subject to these usage statistics. The medical school does not utilize any on-site renewable energy sources.</i></p>	

<p>5.4. Are sustainable building practices utilized for new and old buildings on the <u>medical school</u> campus, with design and construction of new buildings and remodeling of old buildings conforming to a published sustainability rating system or building code/guideline?</p>	
3	Yes, sustainable building practices are utilized for new buildings on the medical school campus and the majority of old buildings have been retrofitted to be more sustainable.
2	Sustainable building practices are utilized for new buildings on the medical school campus, but most old buildings have not been retrofitted .
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.
<p><i>Score explanation: The School of Medicine building at Queen's University was built to a LEED Silver certification ("School of Medicine"). This is the only non-hospital building currently being used by the school of medicine. The university has updated its Building Standard with the requirement that new buildings must use non-fossil fuel-based heating (for more information, refer to "Queen's University Greenhouse Gas Inventory Report 2020").</i></p>	

<p>5.5. Has the <u>medical school</u> or <u>institution</u> implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?</p>	
2	Yes, the medical school 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.
<p><i>Score explanation: In partnership with the City of Kingston, Queen's University has provided all students with an unlimited bus pass funded by a mandatory \$122 student activity fee that is paid alongside tuition. Queen's University has also installed 60+ electric vehicle charging stations, 400+ bike racks, and implemented a car sharing program. However, accessing off-campus sites without a car in clerkship pushes students to rely on a personal vehicle. Additionally, these alternative transportation methods are not well-advertised during school orientation.</i></p>	

5.6. Does your <u>medical school</u> 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.
<p><i>Score explanation: The Queen's University medical school building has an organics recycling program and a conventional recycling program in multiple areas.</i></p>	

5.7. Does the <u>medical school</u> apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
3	Yes, the medical school has 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: The university does engage with improving the sustainability of foods acquired, and does offer vegetarian meals. However, these are not based on specific guidelines. The university reports that 68.6% of foods are sourced within Canada (45% within 500km) and offers a program supplying cheaper meals with "rescued" ingredients, in line with sustainability goals in place ("Sustainability Snapshot").</i></p>	

5.8. Does the <u>medical school</u> or <u>institution</u> apply sustainability criteria when making decisions about supply procurement?	
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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: Queen’s University provides guidelines for Sustainable procurement, which includes general purchasing tips to prioritise sustainability alongside sustainable suppliers for various resources ([Sustainable Procurement Guidelines](#)). However, the guidelines are not mandated and there is no clear indication of the medical school’s use of these guidelines or suppliers.

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: While there are no current mandatory sustainability requirements for events within the medical school, Queen’s University has multiple resources available to help improve and prioritize event sustainability ([Sustainable Resources](#)). Within the medical school, potential for sustainability is listed as a criteria for Aesculapian Society Initiative Grants, offered semi-annually. There is also a university wide advocacy community, [Sustain Queens](#), which provides further resources and commitment to increased sustainability throughout Queens and in events.

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

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

Score explanation: The university is currently undergoing a sustainability project to upgrade lab ventilation systems in the School of Medicine Building to decrease its GHG emissions (“[Climate Action Plan: Progress Report](#)”). The university’s “[Lab Safety Checklist](#)” includes turning off lights and other equipment, and closing windows while the lab is not occupied.

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.
<p><i>Score explanation: In 2020, Queen's University invested more than \$40 million into Pattern Energy, a renewable energy company. However, it is estimated that \$32 million of the endowment portfolio is still being invested into fossil fuel companies as mentioned here.</i></p>	

Section Total (17 out of 32)	53.13%
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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%

**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 Queen’s School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(53/72) \times 100 = 74\%$	B
Interdisciplinary Research (17.5%)	$(12/17) \times 100 = 71\%$	B
Community Outreach and Advocacy (17.5%)	$(5/14) \times 100 = 33\%$	D
Support for Student-led Planetary Health Initiatives (17.5%)	$(8/15) \times 100 = 53\%$	C
Campus Sustainability (17.5%)	$(17/32) \times 100 = 53\%$	C
Institutional Grade	$(74 \times 0.3 + 71 \times 0.175 + 33 \times 0.175 + 53 \times 0.175 + 53 \times 0.175) = 58.95\%$	C+