

Planetary Health Report Card (Medicine): *University of Global Health Equity*



2023-2024 Contributing Team:

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Summary of Findings

Overall	A
<u>Curriculum</u>	A
<ul style="list-style-type: none"> • While UGHE is still a young and growing university, its integrated curriculum has enabled holistic incorporation of planetary health education at different levels throughout medical school. ‘Introduction to One Health’ gives the students a foundation in planetary health knowledge which is supplemented as students advance through their Basic Medical Sciences. Further strengthening is done in the Clinical rotations where students are trained right at the start taking a One Health History. • Recommendations: Adding specific electives on planetary health and streamlining the objectives clearly would be very essential in ensuring that students do not miss out on understanding these aspects along the courses. 	
<u>Interdisciplinary Research</u>	A
<ul style="list-style-type: none"> • UGHE School of Medicine’s research in planetary health is taking a leap, especially under the collaboration with the Institution’s Center for One Health. Research projects understanding the negative impacts of a changing environment are disseminated in a culturally sensitive and community-friendly manner. UGHE allows the beneficiaries of the research projects to participate in the decision-making processes. • UGHE has also pushed global efforts through joining and partnering with other institutions in the Planetary Health Alliance (PHA), and the Africa One Health University Network (AFROHUN). • Recommendations: Conducting more conferences and events mainly dedicated to planetary health would be essential to inspire the university’s community and its reach to engage more in planetary health research and innovation. 	
<u>Community Outreach and Advocacy</u>	A
<ul style="list-style-type: none"> • UGHE and its School of Medicine are thriving in Community Outreach in relation to planetary health. Through student, faculty, and staff efforts, the institution as well as the Medical School have fostered various QI projects, Community development initiatives, and knowledge dissemination in a culturally sensitive, equitable, and inclusive manner. • Recommendations: UGHE should increase the accessibility of educational materials about planetary health and the impacts of climate change for patients in all affiliated hospitals. 	
<u>Support for Student-Led Initiatives</u>	A-
<ul style="list-style-type: none"> • Through the Student One Health Innovation Club, the Institution is doing a good job of giving students the opportunity to explore planetary health approaches and thus to partake in QI and Innovation. The Commendable Mentorship Support as well as financial support especially from the Center of One Health has enabled students to broaden their planetary health knowledge base as well as impact circle. • Recommendations: The presence of a specific website or webpage to highlight student engagement in related activities would be very essential to inspiring many more activities by the students. 	
<u>Campus Sustainability</u>	B+
<ul style="list-style-type: none"> • From the eco-friendly campus operations manuals to the green buildings and carbon footprint goals, waste management programs, and Sustainability initiative guidelines, the institution’s work in planetary health and sustainability highlights a medical education that has exemplary practices in preventive treatment. • Recommendations: Clear carbon footprint goals would help UGHE achieve its sustainability milestones. 	

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 analysing 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, urbanisation, 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 colour, 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 centred 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 mould 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 in 2022, 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.

Score explanation: So far, there are One Health certificate courses available to the entire student body, faculty and staff e.g., the Pandemic Preparedness and Response (PPR) where they can enroll at any time. As per curriculum plans, There is a 2 week period set aside for electives during the clinicals. Elective options haven't been finalised yet and no students have taken any so far.

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.

Score explanation: In MED 205, a pre-clinical course focusing on renal physiology, a seminar titled "Climate Change and Chronic Kidney Disease" is conducted. This course highlights concepts like the relationship between heat and climate change, heat waves, and heat-related

deaths and risks. It also emphasizes the harm to wildlife and humans, particularly those with kidney disease. These concepts are assessed during final exams. The course is four hours in total and is covered in-depth. While not incorporated into the clinical years, it does touch upon assessing risks and resources relevant to clinical practice.

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:


While a course titled "PGHE - Principles of Global Health Equity " which is a module on the Introduction to One Health, provides a foundation in One Health, focusing primarily on the link between extreme weather and individual health, also touching upon its impact on healthcare systems. The session on Climate Change and Health, a Case Study Session, an exploration of how extreme events due to climate change like floods and droughts influence food security, vectors patterns, and incidence of injuries. A Case Study on the recent drought in Madagascar was examined looking at the impacts of drought on individuals and the health system and how this is an interdisciplinary challenge.

Furthermore, during the pre-clinical course MED 204, Renal and Urinary System, a session Heat stress and heat strokes is conducted, exploring how extreme events like heat waves are associated with increase in presentation of Acute Kidney Failures.

Case study: Madagascar

- Other effects of climate change/rising CO₂:
 - more severe cyclones, increased rainfall intensity, rising sea temp. and ocean acidity, sea level rise, & change in vector ecology
- High vulnerability due to:
 - high poverty rates, economic reliance on local agriculture, chronic food insecurity
- This is a stark example of climate injustice



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.
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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: UGHE offers a course titled PGHE 301, which serves as an introduction to the "One Health" approach. This course focuses on studying various infectious diseases, including vector-borne and zoonotic diseases, emphasizing their epidemiology and the application of the One Health approach in managing and preventing them. Additionally, the MED 105 course, also known as "Infectious Diseases," utilizes the One Health approach to provide in-depth understanding of different infectious agents. This course covers their spread, control, clinical manifestations, and management and prevention strategies. It also delves deeper into vector-borne and zoonotic diseases, epidemiology, and public health concepts.

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: MED 202, a pre-clinical module focusing on the respiratory system, features a 4-hour lecture titled "One Health and Respiratory Disease." This lecture explores how various environmental, occupational, animal, zoonotic, and planetary changes can contribute to lung diseases and respiratory problems. It also covers the clinical presentations of these diseases and examines the link between air quality, pollution, and climate change with overall respiratory health.

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: MED 201, a pre-clinical module on the cardiovascular system, features a 4-hour lecture titled "One Health and Cardiovascular Disease." This lecture explores the impact of various environmental factors, such as indoor and outdoor pollution and particulate matter, on cardiovascular health.

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: During Med 207 which is a preclinical course that focuses on Neuroscience and Behavior the interaction between climate change and mental health was briefly introduced in a series of lectures about psychology eg by learning about Seasonal Depression disorders and how climate change affects them briefly. Furthermore, during the Psychiatry rotations in year 4, sessions on climate change and mental health are reviewed as well incorporating the clinical aspect and related history taking and clinical correlations.

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 PGHE is a One-week course which is the introduction to One Health involves expansive and focused discussions on the triad of One Health - Humans, animals, and the environment; climate change and health case study, cross-cultural and interdisciplinary communication, among others which all address the relationship between health, individual patient food and water security, ecosystem health and climate change. Furthermore, the course involves a field visit to animal farms (large scale and subsistence pig farms) where students witness this One Health notion firsthand understanding how encouraging indoors animal farming has helped to maintain food security but also minimizing on the climate impact of clearing land for farming as well as reducing the incidence of disease transmission due to the controlled animal grazing.

1.9. Does your medical school curriculum address the outsized impact of climate change on marginalised populations such as those with low SES, women, communities of colour, 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.
<p><i>Score explanation:</i> During the introduction to One health, the intersection between gender and division of impacts of climate change is explored. During Med 205, which is a renal physiology preclinical module, a lecture on CDKU (chronic kidney disease of unknown etiology) is delivered showing how certain marginalized communities (some examples from native communities in Canada and South Asia were elicited) face impacts of human activity on the environment.</p>	

1.10. Does your <u>medical school</u> curriculum address the unequal regional health impacts of climate change globally?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i> In reference to Rwanda and East Africa, the inequities encompassing the regional health impacts of climate change were highlighted looking at how air pollution does not lower the index only in industrialized areas but also in non-industrialized rural areas due to non-restricted travel of air currents. Furthermore, this was connected to the greater impact on rural communities(which are the minority contributors to air pollution and other climate change aggravating factors) as their access to healthcare is limited. This was covered in the modules, - Introduction to One Health, PGHE 301 and MED 201, the Cardiovascular System.</p>	

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

1.11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i> During MED 206, which is a pre-clinical course that focuses on Endocrinology and Reproduction, a lecture is given that focuses on endocrine disruptors and their effects on overall reproductive health. Different references to clinical cases are also reviewed in clinical years if they involve reproductive health effects of industry related environmental toxins e.g., in instances of congenital abnormalities or disease conditions that are due to individuals occupations. In the Introduction to Practical Medicine Course, a session on history taking with a focus on One Health history taking for occupational and</p>	

environmental hazards is given. Furthermore emphasis is continued in clinical years classes as well to ensure One Health component of history is well-taken and review on reproductive health effects of industry-related environmental toxins is reviewed along occasionally.

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: During the CBE (community-based education) course which happens annually for around 2 weeks every year, field visits are conducted. Some of them involve visiting mining sites and observing how that affects the livelihoods of people living around them. Field visits in the PGHE 301 course also expose students to concepts like how farming practices affect health outcomes such as with cysticercosis, brucellosis and so much more. During Year four, which are clinical years students are also exposed to occupational health. Moreover, One health History taking is emphasised in all clinical years as relevant to the surrounding community.

1.13. To what extent does your medical school emphasise 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: In the fifth session of introduction to One Health, students covered a case study on the Turkana tribe that lives in the Turkana region in Kenya. In the case study, students were exposed to risks the Turkana people have of being exposed to zoonotic disease because they are primarily pastoralists and usually have limited access to basic services because they are marginalised. In addition, the Kenyan government used the Turkana land without any compensation to build Turkana Wind Farm. Unfortunately, the Turkana people were not provided with electricity, which keeps them underdeveloped and less capable of coping with the changing climate conditions as it experiences droughts and reoccurring mild food insecurities. With this information students were able to understand the social injustices on the indigenous people and how it relates to planetary health. Further examples have been used in

case studies on indigenous communities and mercury poisoning in Canada during the “Renal Module”, a few to say.

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

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

Score explanation: In the Introduction to One Health (PGHE 301) course, during year 1, this was discussed in case study sessions where marginalized communities often face environmental injustices as most of them are living near industrial facilities, or waste sites this proximity exposing them to higher toxins and pollutants, also the seafood mercury poisoning affecting the most vulnerable communities.

This was reviewed in subsequent case studies during the “Renal Module - MED 205” in year 2.

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: During the introduction to one health course in MED 101, the topic was explored explaining more about food security in the community around us extensively looking at the plant-based diet benefits as well as the ecosystem balance with relation to food chains.

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.
<p><i>Score explanation:</i> During MED 205, a pre-clinical module focusing on the renal system, a session was delivered that briefly discussed the carbon footprint of health care. The slide was titled "Climate Change and Kidney Health," and it pointed out that the transportation used for ambulances, delivering medical supplies, and the significant energy used to power, cool, or heat medical equipment were all contributing factors to greenhouse gas emissions.</p>	

1.17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	
2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfil this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia's 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:</i> During MED 105 "The infectious Diseases module" and "Introduction to One Health - PGHE 301" students are exposed to concepts like antimicrobial resistance (AMR) which emphasize the health and environmental benefits of avoiding over medicalization, over- investigation and over treatment. The two courses also taught concepts like Bioavailability and biomagnifications and effects of medical and other chemical contaminants in the environment and to people and how overall health is affected (during the food security sessions.)</p> <p>For every pharmacology section of every medical module, non-pharmacological interventions are always discussed before introducing students to various drugs for treatment of the conditions.</p> <p>During clinical years, students are taught on how to rationalize medical supplies to minimize waste. This is done more practical during ward rounds and in-hospital teaching. Furthermore, during the Introduction to Practical Medicine Module at the beginning of</p>

	clinical rotations introduces students to the concept of rationalization in medical facilities which initiates students thoughts on proper use of resources and waste minimization.
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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
<i>Score explanation:</i> Strategies have been incorporated in Introduction to Practical Medicine courses in year 3, whereas students learn history taking which incorporates one health and social history where the environmental and climate change that they live in, or seasonal changes are asked. This is more emphasized throughout all clinical years.	

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.
<i>Score explanation:</i> In the school's curriculum as students transition into clinical practice, they learn history taking and one of the topics discussed extensively is how to take One Health history which includes environmental and exposures where learning which questions to ask on the specified topic is important to help direct your differentials.	

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:</i> The University has created a dean's grant to assess the credibility of the curriculum of which also includes assessing the incorporation of planetary health. The One Health Department is also making major improvements in planetary health education, with a particular emphasis on combining the social medicine (Community-based Education - CBE) and One Health concepts. This effort goes beyond simple community visits, seeking to promote ongoing learning about One Health and its seamless integration into community education, including diseases such as podoconiosis. There are also intentions to hold collaborative case discussions and learning with University of Rwanda (UR) veterinary students to acquire a broader perspective on planetary health.</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:</i> One Health stand-alone course given to all pre-medical students and the one health courses integrated in between modules of BMS which are testable and graded, and in clinical years there is an extensive emphasis on how to take a one health history which throughout the clinical years is emphasized.</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:</i> The school has a Center for One Health which is a broader team however there are 2 faculty members that specifically oversee and incorporate Planetary Health throughout the Basic Medical Sciences and Clinical Classes.</p>	

Section Total (64 out of 72)	88.89%
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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 emphasised.*

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 explanations:</i> The medical school has involvement in planetary health research through the Center for One Health. The department has 5 full-time and 3 part-time Faculty with a primary focus on One Health Research (under which planetary health is part). Here are some research projects that have been carried out:</p> <ol style="list-style-type: none"> 1. Podoconiosis in Rwanda; Knowledge, attitudes and practices among health professionals and environmental officers. 2. Snake bite envenomation in Rwanda: risk factors, patient care and anti-venom availability in the formal healthcare sector. 3. Host and geographic differences in prevalence and diversity of gastrointestinal helminths of foxes (<i>Vulpes vulpes</i>), coyotes (<i>Canis latrans</i>), and wolves (<i>Canis lupus</i>) in Quebec, Canada. 4. An outbreak of rift valley fever among peri-urban dairy cattle in northern Tanzania. 	

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: UGHE has the Center for One Health, which specializes in and carries out research related to planetary health.

<https://ughe.org/news> <https://ughe.org/dr-kelsey-ripp-on-how-a-one-health-approach-in-medical-education-at-ughe-addresses-health-inequities>

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: At UGHE, through the Community Engaging Department (which is a fully operational committee dedicated to ensuring community representation in the institution’s activities), Communities have opportunities to participate in research that the Center for One Health conducts. When certain research projects are proposed, community members and local leadership are consulted, involved in decision-making processes, and empowered to contribute their knowledge, experiences, and perspectives to shape the research. Additionally, efforts are made to ensure that research findings are communicated back to the community in a timely, culturally sensitive and accessible manner, such as through radio shows, comic books and posters. Overall, the goal is to establish collaborative partnerships based on reciprocity, trust, and respect, and to foster long-term engagement with communities to address local priorities and promote environmental and social justice. Our goal is to ensure that research projects are designed to benefit the community in tangible ways, such as addressing local priorities, solving community problems, or building local capacity.

In addition, the community health department has initiated discussions with the local government, to understand the needs as well as the gaps within communities that can be tackled by doing research/ community-based research.

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

3	There is an easy-to-use, adequately comprehensive website that centralises 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 centralise 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.
<p><i>Score explanation:</i> Through UGHE’s Website Latest News Section, information on research projects, activities and conferences by the Centre for One Health (including planetary health related ones) is posted. As each department has no specific web page yet, one has to rely on the search box tool to find the relevant information.</p> <p>One example of an article covering Centre for One Health Activities at the UGHE Website: https://ughe.org/ughe-one-health-students-recommend-collaboration-to-solve-global-health-challenges</p>	

2.5. Has your <u>institution</u> 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.
<p><i>Score explanation:</i> At our institution, we have an annual Global Health Research Day, which is a research conference that provides a platform for students, staff, and faculty research to share and showcase their work. This conference also features One Health/ Planetary Health among the themes.</p> <p>Furthermore, In the past year, the medical school, through the (Student One Health Innovation Club) SOHIC hosted Cascading Debates Sessions, Panel Discussion Symposiums, and Seminars on Climate Change, Plastics Use, Greed Building, and the Environment and Disease Pattern a few to say. There events were held in March, April, and November 2023, as well as a recent panel discussion in March 2024.</p>	

2.6. Is your <u>medical school</u> a member of a national or international planetary health or ESH organisation?	
1	Yes, the medical school is a member of a national or international planetary health or ESH organisation
0	No, the medical school is not a member of such an organisation
<p><i>Score explanation:</i> One Health/ Planetary Health is a very important concept and a potential area for exploration.</p> <p>UGHE is a member of the Planetary Health Alliance (PHA), the Global 1 Health Network (G1HN), the Africa One Health University Network (AFROHUN), the Capacitating One Health in Eastern and</p>	

Southern Africa (COHESA) consortium. We are also in the CUGH (Consortium of Universities for Global Health) working group on One Health and Planetary Health.

Section Total (16 out of 17)

94.12%

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 colour. 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 organisations to promote planetary and environmental health?

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

Score explanation: UGHE medical school actively collaborates with community organizations such as the Butaro Youth Community to champion planetary and environmental health initiatives, particularly in conserving a nearby swamp. Together, they orchestrate awareness-raising activities, such as the BYC-Conservation Cup, which features football matches uniting community members. These endeavours are bolstered by the participation of Student One Health Innovation Club (SOHIC), a student-led club. Additionally, UGHE medical school partners with local leadership, notably in the monthly "Umuganda" community work, where collective efforts focus on tasks like constructing trenches to mitigate soil erosion and landslides. During Umuganda sessions, participants receive education on various topics pertinent to planetary and environmental health, such as landslide prevention through terrace construction. In collaboration with local leadership through SOHIC, UGHE is actively engaged in implementing various community projects focused on planetary health. One ongoing project involves addressing the dangers associated with plastic disposal. Moreover, students engage in projects involving visits to neighbouring primary and secondary schools to identify opportunities for advancing planetary health. Notably, ongoing efforts include collaborating with the SOHIC to train the younger generations from those schools on One Health and planetary health in general. Additionally, an awareness campaign on "Climate Change" was carried out at a nearby school. Furthermore, the UGHE Student One Health Innovation Club is currently undertaking a project at one of these schools focused on procuring water filtration tanks.

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 Center for One Health at UGHE hosted a professional development session on the One Health approach for clinicians at Butaro District Hospital, titled "One Health Approach in Clinical Rotations." Additionally, the UGHE Student One Health Initiative organized a cascading debate event with the theme "Planetary Health."

Furthermore, each year, students from UGHE's One Health track participate in a field trip/school focused on One Health. During these trips, they venture beyond the confines of the classroom to various communities across the country to observe and gain firsthand knowledge of planetary health issues and the principles of One Health. Additionally, the Student One Health Initiative Club organizes annual trips to explore planetary health, such as their recent visit to an ecopark.

Moreover, a course on pandemic preparedness and response is offered annually, open to all individuals interested, including UGHE staff, faculty, and students.

<https://ughe.org/mghd-one-health-track>

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: UGHE's Center for One Health releases a newsletter under the student-led SOHIC each year. In this annual newsletter, different issues revolving around planetary health are highlighted. The newsletter spotlights different activities done by SOHIC and the Center for One Health.

Published monthly, UGHE Newsletter also includes various stories about things that are done regarding one's health and planetary health in general. Through the newsletter that is made accessible to the public, issues related to planetary health and sustainable healthcare are well

communicated, where other organizations or health policy makers can learn from and act accordingly.

Moreover, the student-led AEQUITAS Newsletter particularly covers student-led planetary health initiatives quarterly. Coverage includes field trips, community outreaches, planetary health competitions, debates and other events held on campus or outside the campus.

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: UGHE's Center for One Health annually hosts a course on Pandemic Preparedness and Response and Dynamic Health Systems Resilience, granting a certificate upon completion. The course is open to alumni as well.

In addition, the center provides an online One Health Certificate course titled "One Health: An Innovative Approach to Equitably Address Complex Health Problems," which is accessible to staff, students, and alumni. Both courses incorporate concepts related to Planetary Health. These courses were conducted last year and will be offered again this year.

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 <u>all</u> 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: UGHE through its Center for One Health usually distributes educational materials for patients about environmental health exposures. For instance, it distributed comic books about podoconiosis and snake bites to individuals in Butaro and patients in Butaro District Hospital, which is the affiliated teaching hospital for the university. The books provided educate the patients about the podoconiosis and snake bite risks associated with the geography of Burera, how they can avoid the risks, and what to do when affected.

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

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

Score explanation: UGHE through its Center for One Health usually distributes educational materials for patients about environmental health exposures. For instance, it distributed comic books about podoconiosis and snake bites to individuals in Butaro and patients in Butaro District Hospital, which is the affiliated teaching hospital for the university. The books provided educate the patients about the podoconiosis and snake bite risks associated with the geography of Burera, how they can avoid the risks, and what to do when affected. This also, though not implicit to climate change, is in a way related as these exposures are influenced by climate change.

Section Total (13 out of 14)

92.86%

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 fulfil 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: There is a Student One Health Innovation Club (SOHIC) whose leadership and membership are primarily students in the medical school. Each year, they determine their initiatives for the year, with some budget coming from the institution. They are encouraged to do sustainability initiatives on campus in partnership with the infrastructure and campus operations team. In summary, there is support offered (budget, partnerships) but it is for the club to decide if it wants to pursue sustainability initiatives.

Example: Recently, students have participated in coming up with community development projects funded by UGHE's Center for One Health. These projects includes water access project and proper polyethene disposal project.

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: As part of the MGHD courses, interested medical students may choose to join the One Health track where they specialize and perform research in the field of One Health (Planetary Health also a focus.)

Furthermore, students are also offered opportunities to participate in planetary health related research activities initiated by the Center for One Health and/or are asked to come up with their own research ideas.

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: At the UGHE website, there is a medical school specific webpage where various information on student and faculty initiatives, including planetary health and sustainable healthcare information, is present. However, it has information from different departments of the institutions hence not very specific.

<https://ughe.org/news>

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

Score explanation: There is a Student One Health Innovation Club (SOHIC) whose leadership and membership are primarily students in the medical school. Each year, they determine their initiatives for the year, including QI projects, community development projects, awareness campaigns, field study trips, and on campus events (debates, writing competitions) a few to say. The organization works under the Centre for One Health thus acquiring some budget coming from the Centre.

Recently, students have participated in coming up with community development projects for water access and proper polyethylene disposal, Swamp sustainability, following up on One Health Clubs at nearby lower education institutions among others.

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: Only a Faculty liaison is on board currently.

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 organise hiking, backpacking, kayaking, or other outings for students)

Score explanation:

1. Visit to Pig Farm:

In the last week of the Introduction to One Health Course taken in the 1st year of Medical School, students visit a Pig Farm to understand more about food security and zoonosis.

2. Panel discussion and cascading debate

In the past year, SOHIC held panel discussions and cascading debates raising awareness in the university community. For instance, students engaged in policy discussions on plastics and how they influence climate change, especially focusing on the role to be played by the university community.

3. Trip Buhanga Eco Park

SOHIC club also visited Buhanga Eco park, which is a historical and wildlife conservation park. The club members got to learn from the guides how this park was safeguarded by the local community of people around it, in honor of the cultural significance it carried – a holy place for the king’s reigning, thus preserving the forest’s ecosystem and wildlife. Buhanga being also a natural forest, and the club observed how it helps to maintain optimal rainfall range and air quality index. Through the One Health discussions, a partnership between conservationists and the UGHE Center for One Health can help share information for better One Health incorporation in wildlife conservation.

4. Trip to Ellen de Generes Campus of the Dian Fossey Gorilla Fund

In the Trip to Ellen de Generes, Students learnt about the effects of environment encroachment on wild life and how they can take part in mitigating such causes of climate change as health professionals.

5. Umuganda sessions

There is Umuganda outreach activity which is a community work taking place on the last Saturday of every month in Rwandan. People join hands to collectively complete developmental activities and address local issues. Occasionally, the SOHIC club joins hands with the community by completing these developmental activities and addressing local issues. After the Umuganda sessions, community awareness sessions take place where people in the community are educated by the club members about zoonotic diseases, NTDs, climate change, or any other alarming issue in society at that particular time.

6. Walk the Talk

SOHIC organized this kind of activity where the club members had to walk in the rural neighborhood of the campus as a way of identifying global health challenges around the area and coming up with One Health solutions which were funded by the UGHE Center for One Health.

Section Total (12 out of 15)	80%
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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 endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising 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 minimising 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:</i> The University of Global Health Equity (UGHE)'s Campus Operations Office overlooks campus sustainability and also every department is required to uphold sustainability practices in their line of work. In that manner, UGHE mainly achieves campus-wide sustainability through departmental efforts. A Sustainability Initiative Guide has been drafted to guide all campus operations activities. For instance, when designing the university's primary electricity source, the infrastructure team chose eco-friendly hydropower to minimise environmental impact. Similarly, the hospitality team avoids practices that may harm the environment when hosting events.</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:</i> The University of Global Health Equity (UGHE) demonstrates a commendable commitment to environmental sustainability through its ambitious plan to reduce its carbon footprint. One key facet of this initiative involves the reduction of waste, emphasizing responsible waste disposal and recycling practices to minimize the environmental impact of the institution.</p> <p>The institution has taken significant strides in establishing an eco-friendlier school system, incorporating environmentally conscious practices into various aspects of its operations. This includes optimizing heating, ventilation, and air conditioning (HVAC) systems to minimize energy consumption and reduce overall environmental impact. By implementing energy-efficient measures, UGHE aims to enhance its operational efficiency while simultaneously reducing its carbon footprint.</p> <p>Furthermore, UGHE is committed to responsible management of heating and cooling systems, advocating for the judicious use of campus air conditioners and heaters. By encouraging the community to use these resources wisely through its Sustainability Initiative Guide, the institution not only promotes energy conservation but also fosters a culture of environmental awareness among its members.</p>

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: UGHE prioritizes renewable energy because hydroelectricity is the main source of power for all buildings used for teaching, including classrooms, a library, laboratories, and offices. Additionally, there is on-site solar energy that lights the campus streets and one part of the water heating system. The other part of the heating system is powered by hydroelectricity. Diesel generators are only used as a backup during power outages.

5.4. Are sustainable building practices utilised for new and old buildings on the medical school campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?

3	Yes, sustainable building practices are utilised 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 utilised for new buildings on the medical school campus, but most old buildings have not been retrofitted .
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.

Score explanation: The University of Global Health Equity (UGHE) is firmly committed to sustainable building practices, both for new construction projects and the retrofitting of existing structures on the medical school campus. In alignment with this commitment, the institution adheres to the Leadership in Energy and Environmental Design (LEED) standards, a widely recognized and respected sustainability rating system for buildings.

For new construction, UGHE ensures that sustainable building practices are integrated into the design and construction processes. This includes the incorporation of energy-efficient technologies, the use of environmentally friendly materials, and the implementation of water and energy conservation measures (sensor activated systems, and solar-power in new buildings). By adhering to LEED standards, UGHE aims to minimize the environmental impact of its new buildings and create a healthier, more sustainable campus environment.

In addition to new constructions, the university has taken proactive steps to enhance the sustainability of existing buildings. Most old buildings on the medical school campus have undergone retrofitting initiatives to improve their energy efficiency and overall sustainability. This involves upgrading systems, such as lighting, heating, and ventilation, to meet modern environmental standards (e.g. all lighting has been upgraded to LED lights to improve energy conservation.)

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-utilised 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: Campus transportation at UGHE ensures minimal vehicle movement and, hence, low carbon emissions. There are many pedestrian walks around the campus to encourage active walking, and there is no car transportation for movements within the campus. In addition, students and

staff get to and from campus to major cities using public transportation provided by UGHE to minimize the use of personal cars, which additionally minimizes carbon emissions.

5.6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminium/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: Yes, the medical school at UGHE has implemented both an organic recycling program (compost) and a conventional recycling program, underscoring its commitment to environmentally sustainable practices.

The organics recycling program, focused on composting, involves the processing of degradable wastes to create fertilizers used in the campus garden. This approach aligns with the principles of circular economy and waste reduction. The campus garden benefits not only from the nutrient-rich compost but also contributes to the overall sustainability of the institution by closing the loop on organic waste.

Non-compost materials such as aluminum, paper, plastic, and glass are collected by a recycling company and taken for further recycling in Kigali. These materials are diverted from landfills and enter recycling streams, reducing the environmental impact associated with their disposal. The implementation of a comprehensive recycling program demonstrates UGHE's commitment to responsible waste management and its contribution to a more sustainable campus environment.

In addition to general waste recycling, the medical school at UGHE has a specific focus on recycling waste products from laboratories. Laboratory waste can include items like glassware, plastic containers, and other materials used in experiments and research. Implementing a recycling system for laboratory waste ensures that these materials are properly sorted and processed for reuse or recycling, minimizing the environmental footprint of scientific activities.

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:</i> Absolutely, the medical school at UGHE actively incorporates sustainability criteria into its decision-making processes concerning campus food and beverage selections. Several commendable initiatives underscore the institution's commitment to environmentally conscious practices in this regard.</p> <p>One notable approach is the implementation of a system to track the number of people on campus, enabling the optimization of food preparation. By closely monitoring the campus population, the medical school can adjust its food production accordingly, minimizing excess and reducing food waste. This proactive measure not only contributes to cost savings but also aligns with sustainability goals by preventing unnecessary resource consumption and waste generation.</p> <p>Moreover, the café contract at UGHE includes an obligation to source foods locally. This commitment to local sourcing not only supports regional economies but also reduces the carbon footprint associated with transportation, as locally produced foods generally require less energy for delivery. This approach aligns with broader sustainability goals by fostering community engagement and reducing the environmental impact of the institution's food supply chain.</p> <p>The emphasis on minimal waste in the food service is noteworthy. By adopting a self-service model, the medical school minimizes unnecessary packaging and reduces overall waste generation. Self-service encourages responsible portioning and allows individuals to make conscious choices, aligning with the institution's commitment to sustainable practices.</p>	

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

3	Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional . The medical school is engaged in efforts to increase sustainability of procurement.
1	There are sustainability guidelines for supply procurement, but they are insufficient or optional . The medical school is not engaged in efforts to increase sustainability of procurement.
0	There are no sustainability guidelines for supply procurement.
<p><i>Score explanation:</i> Yes, according to the campus operations manual, every supply and procurement processes have to be in line with campus sustainability guidelines about events, and campus equipment and facilities sustainability.</p>	

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: Yes, for all events hosted on campus, environment safeguarding is a crucial criterion. For example: for any events to take place in campus gardens, protocols are to be ensured such that the integrity of the green vegetation is kept. Vehicle entry is minimized for any events. All energy systems for event conduction are ensured to be renewable.

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: UGHE has a dedicated sewage treatment plant for lab spaces, which is different from the other sewage plant for other campus buildings. The waste collected from the labs is corrected and taken to a contractor in Kigali to be recycled hence mitigation of environmental harm that may arise from laboratory chemical waste.

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 organised advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.

Score explanation: There are no endowments made to UGHE yet. UGHE does not make any investments in fossil fuel companies.

Section Total (24 out of 32)	75%
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Back to Summary Page [here](#)

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

#

Grading

Section Overview

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

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

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

Planetary Health Grades for the University of Global Health Equity(UGHE) School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(64/72) \times 100 = 88.89\%$	A
Interdisciplinary Research (17.5%)	$(16/17) \times 100 = 94.12\%$	A
Community Outreach and Advocacy (17.5%)	$(13/14) \times 100 = 92.86\%$	A
Support for Student-led Planetary Health Initiatives (17.5%)	$(12/15) \times 100 = 80\%$	A-
Campus Sustainability (17.5%)	$(24/32) \times 100 = 75\%$	B+
Institutional Grade	$(88.89 \times 0.3) + (94.12 \times 0.175) + (92.86 \times 0.175) + (80 \times 0.175) + (78.13 \times 0.175) = 86.51\%$	A

