



Planetary Health Report Card (Medicine): *University of Geneva*



**UNIVERSITÉ
DE GENÈVE**

FACULTÉ DE MÉDECINE

2022-2023 Contributing Team:

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Summary of Findings

Overall	C
<u>Curriculum</u>	C+
<ul style="list-style-type: none"> The Medical Faculty of Geneva (MFac) is providing the basis for a Planetary Health (PH) curriculum, particularly through the implementation by the dedicated working group since 2021. Some topics are still to be integrated, like the clinical management of different environmental diseases and concrete examples to reduce its environmental impact in practice. Recommendations: We recommend to continue the longitudinal integration of new learning objectives and courses, in particular at Master level. Other forms of teaching could also be implemented in the future like workshops or group work. In order to facilitate the coordination of the working group, a position provided by the faculty would be of great help. We also advise to increase coordination with other faculties to provide students with sustainability education that meets the challenges. 	
<u>Interdisciplinary Research</u>	C+
<ul style="list-style-type: none"> The Institute of Global Health carries out a lot of research and specialised teaching on subjects related to PH. However, this knowledge is not easily accessible to medical students because of the distance separating the two campuses. Recommendations: The links between the Medical Faculty and the Institute of Global Health could be strengthened to allow for the diffusion of knowledge. 	
<u>Community Outreach and Advocacy</u>	D+
<ul style="list-style-type: none"> MFac has organised several conferences on PH in 2022, which is a step forward. More progress needs to be made to share the knowledge more widely with the community. Recommendations: Communication materials for the community could be developed. Geneva Medical School could also join PH organisations such as the Planetary Health Alliance. 	
<u>Support for Student-Led Initiatives</u>	B
<ul style="list-style-type: none"> MFac supports student groups dedicated to PH, like <i>Health for Future Switzerland</i>. Student leadership is however still needed for PH projects to be implemented. Recommendations: We recommend that the Medical School creates a page "Health and Environment" on its website which would explain its commitment to this topic and bring together the teaching and research in progress at UNIGE to allow cross-faculty dissemination. An annual grant could also be created to encourage projects and research in planetary health and healthcare sustainability. 	
<u>Campus Sustainability</u>	D+
<ul style="list-style-type: none"> University of Geneva makes an effort to have a more sustainable campus. However, aiming at carbon neutrality by 2050 is insufficient by itself, while having no public and transparent plan of action can only undermine trust on what will really be done. Overall, the university's environmental transition is largely insufficient in both its goal and its pathway. Recommendations: We recommend that the call for tender for the campus cafeterias be conditional on a much more extensive vegetarian and vegan offering than is currently available. We also call for more transparency from the university on its greenhouse gas emissions and the development, in collaboration with the student community, of a concrete plan to break the dependence on fossil fuels. In this sense, the action of the SDG Council could be strengthened. 	

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

Planetary Health Curriculum

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

Curriculum: General

1. Did your <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 is one elective course entitled “Better understand the links between health, medicine and the environment” which took place for the first time in the spring semester of 2022 for 3rd year students. This course is organised jointly by the universities of Geneva and Lausanne and was attended by about 15 students. Different courses dealing with global health issues were organised. Afterwards, the students had to carry out group work related to the community or to the medical institution.</i></p>	

Curriculum: Health Effects of Climate Change

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 : The link between extreme heat and health is briefly described in a lecture on «Effects of climate change on health» in 3rd year. However, the impacts on the different body systems (long and short term) are not detailed.

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

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

Score explanation : The link between extreme weather events and health is briefly described in a lecture on «Effects of climate change on health » in 3rd year. However, the consequences of the different extreme weather events (fire, hurricane, flood, drought, etc.) are not elaborated.

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 : The core curriculum includes several lectures mentioning the impact of climate change on infectious diseases :

- “Impacts of climate change on health” in 1st year
- “Effects of climate change on health” in 3rd year
- “Emerging virus” in 3rd year
- “Epidemics and infection control” in 3rd year
- “Zika epidemic” in 5th year

An elective course on tropical medicine in 6th year also provides an entire lecture on “One Health” during which changing patterns of infectious diseases are covered in depth. However, there is little emphasis on the issue of preventing epidemics on a global scale.

5. Does your medical school curriculum address the respiratory health effects of climate change and air pollution?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.

0	This topic was not covered.
<p><i>Score explanation : The respiratory health effects of climate change and air pollution is briefly covered in 3 lectures :</i></p> <ul style="list-style-type: none"> - “Dyspnoea in the practice” in 1st year - “Cancer and Environment” in 2nd year - “Effects of climate change on health” in 3rd year <p><i>However, there is no lecture during the Unit “respiration” in 2nd year covering this topic and no details on the different pollutants and their causes. There is also little emphasis on the solutions to prevent and address these emissions.</i></p>	

6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation : The core curriculum includes several lectures mentioning cardiovascular health effects of climate change :</i></p> <ul style="list-style-type: none"> - “Introduction to planetary health” in 1st year - “Preventive Cardiology” in 2nd year - “Effects of climate change on health” in 3rd year <p><i>However, there are no clinical skills related to this topic. The physiology and management of heat stress is not yet covered in the curriculum.</i></p>	

7. Does your <u>medical school</u> curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation : The mental health and neuropsychological effects of environmental degradation and climate change are a learning objective in a problem-based learning about anxiety disorders in year 4-5 during the master psychiatric module.</i></p>	

8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
3	This topic was explored in depth by the core curriculum.

2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation : The patient food security is a topic covered in a one hour lecture during the 2nd year Digestive module entitled “Planetary health: food industrialization and planetary health”. The alimentation co-benefits are also mentioned during the lecture “Introduction to planetary health” in 1st year and “Effects of climate change on health” in 3rd year. However, there is no dedicated learning objective about water security. There is also no teaching about how to advise a patient on different diets.</i></p>	

9. Does your <u>medical school</u> 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.
<p><i>Score explanation : This topic is mentioned in 4th year in a lecture on “immigrant patient” which includes the impact of global warming on migration and the impact of armed conflict on climate. However, the outsized impact on women, homeless people, communities of color or Indigenous population are not covered.</i></p>	

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: The unequal regional health impacts of climate change globally is briefly mentioned during the lecture “Effects of climate change on health” in 3rd year. This topic is also covered in more depth in the elective course on planetary health.</i></p>	

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

11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
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3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation : The environmental reproductive health effects are covered in the unit “Reproduction” in 2nd year during 3 problem-based learning with the following learning objectives :</i></p> <ol style="list-style-type: none"> <i>1. Understand how the environment can alter reproductive functions</i> <i>2. Understand how the maternal environment can alter her health and that of the fetus</i> <i>3. Understand how the environment can interfere with sex differentiation</i> <p><i>However, this topic is not covered during the gynaecology and obstetrics unit and no clinical skills are taught.</i></p>	

12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university’s surrounding community?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: As far as we know, this topic is not covered in our curriculum. The management of heat waves in Geneva could be implemented.</i></p>	

13. To what extent does your <u>medical school</u> 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.
<p><i>Score explanation: As far as we know, this topic is not covered in our curriculum.</i></p>	

14. Does your <u>medical school</u> 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?	
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3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: The lecture “Social inequalities and health” in 1st year explores the impact of how the socio-economic levels of certain populations are usually at higher risk for diseases, and indirectly, caused by pollutants. The toxicity impacts are also briefly mentioned during a lecture in 5th year entitled “Drug syndromes and neurotoxicity” in which mercury exposure and toxicity to fishing populations in Japan during the XXe century is discussed.</i></p>	

Curriculum: Sustainability

15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:·</i> <i>In 2nd year, there is a lecture on « Food industrialisation and planetary health » with the following objectives :</i></p> <ul style="list-style-type: none"> • <i>describe the main steps in the industrialisation of food</i> • <i>understand the effects of food production on climate</i> • <i>explain the impact of food choices on individual health and the co-benefits for health and the environment</i> • <i>discuss and advise patients on food and drink choices</i> <p><i>However, this topic is not covered during the clinical years.</i></p>	

16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored in depth by the core curriculum
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation :</i> <i>In 1st year, there is a lecture on « Impact of climate and environmental change on health » describes the environmental impact of health systems and the role of health professionals as actors of planetary health.</i></p>	

In 3rd year, this topic is covered in a lecture on “Health and climate: planetary limits - roles and responsibilities of health institutions and professionals”

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 fulfill this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
	<p><i>Score explanation:</i></p> <ol style="list-style-type: none"> <i>The need to reduce over-medicalisation is a recurring theme in the curriculum. However, there is little connection with the environmental impacts of investigations or treatments.</i> <i>The theme of de-prescribing is addressed in the curriculum but is linked to the reduction of side effects for the patient and health costs and not to environmental interests.</i> <i>As far as we know, this topic is not covered in the curriculum.</i> <i>This topic is covered during a lecture on Anesthesia in 4-5th year.</i> <i>This topic is briefly mentioned on a lecture in 1st year on the treatment of COPD.</i> <i>As far as we know, this topic is not covered in the curriculum.</i>

Curriculum: Clinical Applications

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: The need for individual and collective prevention is emphasised in the "Introduction to planetary health" course in 1st year. However, there is no clinical teaching on how to discuss environmental issues with our patients.</i>	

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: As far as we know, this topic is not covered in our curriculum.</i>	

Curriculum: Administrative Support for Planetary Health

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.
<i>Score explanation: The University of Geneva has a working group that is responsible for the development of the curriculum in planetary health by implementing new lectures and new learning objectives in existing courses. This group has been working on expanding planetary health education since 2021 and continues to do so in areas that need further improvement.</i>	

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: The topics are integrated longitudinally into the curriculum. Most of the new lectures and learning objectives have been implemented from the 1st to 3rd year. Currently, further efforts are made to introduce and develop the curriculum in the clinical years.</i></p>	

<p>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?</p>	
1	Yes, the <u>medical school</u> has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	No, the <u>medical school</u> does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.
<p><i>Score explanation: In 2021 a working group including teachers and students has been created (mandated by the deanship), responsible for the development of a curriculum in planetary health. Pre Johanna Sommer is responsible for this working group. Please note that there is no one hired by the faculty to help coordinate planetary health teaching.</i></p>	

Section Total (42 out of 72)	58%
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Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <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 : Different professors and doctors belonging to the working group on the implementation of planetary health education in the medical curriculum are conducting Master Theses on different subjects related to sustainable healthcare. For example, Pre Johanna Sommer supervises a student's work on eco-prescription.</i></p> <p><i>However, these researches are not their primary focus and there is no dedicated centre nor a team on planetary health research.</i></p>	

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: The research program called "Human, Animal and Environmental Health" conducted by Professor Nicolas Ray in the Global Health Institute, performs highly interdisciplinary research and teaching activities at the interfaces between public/global health, animal health, ecology,</i></p>	

epidemiology, and environmental sciences. It collaborates extensively in research and teaching with the Institute for Environmental Sciences (ISE) of the University of Geneva. It is composed of three working groups: the Environmental Health Unit, The GeoHealth group and The One Health unit. Although this program is highly efficient, their findings do not resonate in the medical faculty.

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.

As far as we know, there is no process open to the community to give input about the research agenda.

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

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

Score explanation : There are several web pages on the University of Geneva's website devoted to sustainability and links between environment and health. There is a special [interface](#) to Sustainable Development Goals with some resources and information about sustainability in the campus. The [Human, Animal and Environmental Health](#) division (which was mentioned above) also has a dedicated web page. A Moodle page is also being created for medical students with references to the different teachings and materials. However, there is not yet an institutional website centralising various campus resources related to health and the environment.

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.
<p><i>Score explanation: Different lectures were hosted by the medical faculty in 2022 :</i></p> <ul style="list-style-type: none"> - <i>“For a sustainable and healthy diet” on February 10th 2022.</i> - <i>“Health, climate and environment : citizens and scientists, let’s work together!” on May 23rd 2022, with the presence of Pr Antoine Flahault and Pr Jacques Dubochet and a panel of experts.</i> 	

6. Is your <u>medical school</u> 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
<p><i>Score explanation: As far as we know, the medical school is not a member of such an organisation</i></p>	

Section Total (10 out of 17)	58%
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Community Outreach and Advocacy

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

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation: Except some exchange with the interfaculty group for sustainable developmental goals, there is no real link with community organizations.</i></p>	

2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The institution/medical school have not offered such community-facing courses or events.
<p><i>Score explanation: The medical faculty has started in 2022 to organize a conference on sustainable health systems for a larger community audience. On November 22nd a second conference was organized for community audience on smarter medicine and less medical health system consumption. We still have to make sure that this will be maintained on a regular rhythm.</i></p>	

3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?	
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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.
<p><i>Score explanation: Sustainable health systems were presented several times in the monthly journal of medical faculty in Geneva. It was either related to conferences or other actions inside the faculty or for community audience.</i></p>	

<p>4. Does the <u>institution</u> or <u>main affiliated hospital trust</u> 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?</p>	
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
<p><i>Score explanation: The medical faculty offers to teachers a course twice a year that aims to integrate sustainable health system learning objectives in their courses. A project aiming at sensitizing medical professionals of the university hospital has been accepted end 2022: it will have different objectives: -communication for all health care providers about more sustainable health care -advice for patients, as well as personal actions.</i></p>	

<p>5. Does your <u>medical school</u> or its <u>primary affiliated hospital</u> have accessible educational materials for patients about environmental health exposures?</p>	
2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centers have accessible educational materials for patients.
<p><i>Score explanation: The affiliated university hospital does not yet have educational materials for patients. In an optional course, at the university, a leaflet was developed. The active group on sustainable health plans to organise the distribution to all patients as well as health care providers.</i></p>	

<p>6. Does your <u>medical school</u> or its <u>primary affiliated hospital</u> have accessible educational materials for patients about climate change and health impacts?</p>	
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2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.
<p><i>Score explanation: The affiliated university hospital does not yet have educational materials for patients.</i></p> <p><i>In an elective course, a leaflet was developed. The active group on sustainable health plans to organise the distribution to all patients as well as health care providers.</i></p>	

Section Total (5 out of 14)	35%
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Support for Student-Led Planetary Health Initiatives

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

1. Does your <u>medical school</u> or your <u>institution</u> 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.
<p><i>Score explanation : Each year, the University of Geneva opens a call for projects for students which implement ideas for sustainability. A winning project can obtain a maximum of CHF 5,000.</i></p>	

2. Does your <u>institution</u> offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation : Although a specific section “Human, Animal and Environmental Health” exists in the Global Health Institute, there is not a specific research or fellowship program for medical students at this time. Some medical students are conducting research on topics related to planetary health in their master's thesis, but most of the time it comes from their own interest. There is no planetary health research platform regrouping research projects in which medical students can participate.</i></p>	

3. Does the <u>medical school</u> 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.	
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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.
<i>Score explanation : A webpage on the course sharing platform Moodle which references planetary health education and research opportunities is being created but is not opened to students yet.</i>	

4. Does your <u>medical school</u> 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.
<i>Score explanation : Health for future Geneva is a project part of AEMG (Geneva Medical Students' Association) since 2019. It conducts different projects and organises some events around planetary health and sustainable healthcare. Health for Future is an international organisation and has been implemented in Switzerland in 2021. Geneva's group receives annual seed money from AEMG and the faculty is supporting the projects through inviting students during faculty commissions and working groups and organising events open to the public within the faculty.</i>	

5. Is there a student liaison representing sustainability interests who serves on a <u>medical school</u> or <u>institutional</u> 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.
<i>Score explanation : Students are part of the working group on implementation of planetary health in the medical curriculum. There is also a student representative in the University SDG's council.</i>	

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

Score explanation :

1. *The University of Geneva holds a workshop that aims at teaching the gestures of gardening, so that students can be ready to maintain an ecological vegetable garden sustainably.*
2. *A lecture "Health, climate and environment : citizens and scientists, let's work together!" was organised in May 2022 and more than 300 people, including students, were present. It is however not a regular event.*
3. *On 15 February 2023, a conference and round table entitled "coming out of hiding - what impact on the health and living conditions of migrants?" was organised at the university with the testimony of migrants.*
4. *A book exposition took place in November 2022 in the medical library of the University but it was more a students' initiative than a cultural event organised by the University.*
5. *As far as we know, such an event did not take place in University of Geneva.*
6. *The sports program of the University is very rich and provides different sport camps and weekly outdoor activities such as skiing, climbing and hiking.*

Section Total (10 out of 15)

66%

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Campus Sustainability

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

1. Does your <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
<i>Score explanation : There is no specific staff member in charge of the faculty of medicine. There is one "rectorate advisor" (Conseiller au Rectorat) in charge of sustainable development and buildings.</i>	

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
<i>Score explanation : The University of Geneva has signed a call to reduce half of its emissions by 2030 and achieve carbon neutrality by 2050. As of now, there is no clear plan to achieve that goal and no way to track the progress.</i>	

3. Do buildings/infrastructure used by the <u>medical school</u> for teaching (not including the hospital) utilize renewable energy?
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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: We tried to contact the person in charge of energies on campus. Without any response from her, we give the lowest score to this question.

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

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

Score explanation : The new building of the faculty of medicine was constructed (2016) with sustainability practices, but the old building did not receive a major renovation to be more sustainable.

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

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

Score explanation : The location of the faculty of medicine is well-centered and accessible by public transportation, there is also biking infrastructure very close to the entrances.

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

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

Score explanation : There are recycling bins for aluminium, plastic and paper inside the university but no organic compost program.

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

3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.

Score explanation : 1/3 of the daily menus is vegetarian (and is vegan around twice a week), the rest of the offer is mostly meat and animal based. There is some effort made on proposing local food and zero waste initiatives. There is no strategy to reduce animal proteins. Change is expected to come in the future when the contract for the cafeteria will be renewed.

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.

Score explanation : The UNIGE has a responsible purchasing policy [available online](#) in which the "spirit of sustainable development" is mentioned. However, it is the economic aspects of supply

procurement that are highlighted and not their environmental impact. The guidelines are vague and no constraints on their application are raised.

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 : There is [a web page](#) on UNIGE's website "how to organise an event" but sustainability is not mentioned.

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

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

Score explanation : There are no guidelines aiming at reducing the footprint of the labs in the faculty of medicine in Geneva.

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

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

Score explanation : The institution does not have investment (its budget comes from the government). Some events taking place at the University of Geneva are partnered with external entities, one of them being Credit Suisse, a bank with fossil fuel investment.

Section Total (12 out of 32)	38%
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Grading

Section Overview

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

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

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

Planetary Health Grades for the University of Geneva School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(42/72) \times 100 = 58\%$	C+
Interdisciplinary Research (17.5%)	$(10/17) \times 100 = 58\%$	C+
Community Outreach and Advocacy (17.5%)	$(5/14) \times 100 = 35\%$	D+
Support for Student-led Planetary Health Initiatives (17.5%)	$(10/15) \times 100 = 66\%$	B
Campus Sustainability (17.5%)	$(12/32) \times 100 = 38\%$	D+
Institutional Grade	$(0.58 \times 0.3 + 0.58 \times 0.175 + 0.35 \times 0.175 + 0.66 \times 0.175 + 0.38 \times 0.175) = 52.3\%$	C