

Planetary Health Report Card (Medicine):

Faculty of Medicine of the University of Porto



2023-2024 Contributing Team:

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Summary of Findings

Overall	
Curriculum	D

- The Faculty of Medicine of the University of Porto (FMUP) partially incorporates planetary health into its curriculum. While various facets of planetary health are covered in lectures, there is room for improvement.
- **Recommendations**: The curriculum lacks a curricular unit that is dedicated to discussions on the topics related to planetary health. Introduction of a curricular unit focused on planetary health and its impacts on healthcare would ensure a more integrated approach to understanding and addressing these issues.

Interdisciplinary Research

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- The University of Porto organised conferences about planetary health and sustainability. However, these weren't specifically tailored for medical students. Additionally, FMUP is the workplace of many professors actively engaged in research related to planetary health and healthcare sustainability.
- **Recommendations**: FMUP should consider arranging a conference dedicated to Planetary Health to better engage its students. Additionally, joining the Planetary Health Alliance and the Global Consortium on Climate and Health Education would enhance the institution's commitment to planetary health initiatives.

Community Outreach and Advocacy

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- FMUP participated through university initiatives. Email updates and newsletters from FMUP highlight its involvement in pollution and climate change studies. The faculty offers focused post-graduate courses on planetary health. University Hospital Center of São João (CHUSJ) provides accessible patient education on environmental risks, emphasising air pollution and weather-related health impacts.
- **Recommendations**: Enhance engagement with affected communities by organising planetary health events and involving medical students. Increase visibility of faculty research through targeted communication channels, fostering a stronger connection between research efforts and community advocacy.

Support for Student-Led Initiatives

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- FMUP encourages sustainability, however it lacks a specific foundation. There is a Program in pulmonary restrictive diseases, and the Students' Association (AEFMUP) actively addresses environmental issues. Its students are represented in Pedagogic and Representative Councils, and AEFMUP promotes various outdoor activities.
- **Recommendations**: To improve, FMUP could establish a dedicated foundation for planetary health support and expand funding opportunities for student-led sustainability initiatives.

Campus Sustainability

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- While there is a specific group for energetic sustainability at CHUSJ and FMUP, there is room for improvement. FMUP's new buildings and remodelled old buildings prioritise sustained infrastructure objectives. Although there are recycling bins on campus, there is no organics recycling program. The new lab is environmentally sustainable, and FMUP is progressively increasing its use of solar panels and biomass for energy, indicating positive strides toward a more sustainable future.
- **Recommendations**: Introducing an organics recycling program with compost bins on campus would promote responsible waste management. Developing comprehensive sustainability guidelines for energy sourcing, infrastructure development, and investment decisions would ensure a holistic approach. FMUP's commitment to environmentally sustainable labs could be strengthened by integrating green technologies.

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 <u>Literature Review</u> <u>by Metric</u> 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

<u>Section Overview:</u> 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: At the Faculty of Medicine of the University of Porto (FMUP), "INOVPED: Hed well-being and architecture" is an elective offered to all students of the University of Porto (not just medical students) that is based in FMUP. Curriculum includes two classes that focus on: 1. Climate Change and Extreme Weather Events as Health Determinants and 2. More sustainable construction techniques.			

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.	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: Faculty of Medicine of the University of Porto second and third years curriculum included lectures on the impacts of climate change on health, in the classes of Preventive Medicine and Clinical Immunology*.

*The article discussed in this course was: von Hertzen L, Beutler B, Bienenstock J, Blaser M, Cani PD, Eriksson J, Färkkilä M, Haahtela T, Hanski I, Jenmalm MC, Kere J, Knip M, Kontula K, Koskenvuo M, Ling C, Mandrup-Poulsen T, von Mutius E, Mäkelä MJ, Paunio T, Pershagen G, Renz H, Rook G, Saarela M, Vaarala O, Veldhoen M, de Vos WM. Helsinki alert of biodiversity and health. Ann Med. 2015 May;47(3):218-25

Additionally, In the Populations' Health curricular unit, first year students explore, among many other themes, climate change and its potential impact on the health of populations. The extreme heat resulting from global warming is one of the topics covered, highlighting the various conditions that it can cause, such as exhaustion and dehydration, highlighting the risks to the elderly, children, or individuals with pre-existing medical conditions.

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

- 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.

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Score explanation: In the Faculty of Medicine of the University of Porto, in the 1st year curricular unit of Populations' Health, the possibility of the occurrence of more frequent and severe weather events, changes in precipitation patterns and changes in ecosystems are some of the topics covered. Students discuss the threat significance that these events present, particularly in more vulnerable populations, as well as its impact on health systems.

1.4. Does your <u>medical school</u> curriculum address the impact of climate change on the changing patterns of infectious diseases?

- 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 Faculty of Medicine of the University of Porto, in the Populations' Health curricular unit in year 1, infectious disease patterns are briefly addressed in relation to climate change. Students interpret the relationship between changes in temperature and precipitation patterns, the creation of suitable conditions for the propagation of insects and disease-carrying pathogens, such as malaria, dengue fever and Lyme disease.

1.5. Does your medical school curriculum address the respiratory health effects of climate change

and	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: At the Faculty of Medicine of the University of Porto in the Clinical Immunology module in year 3, there is a lecture on the impact of air pollution in the development of respiratory diseases, namely asthma. One article presented and discussed in this class was Paciência I, Cavaleiro Rufo J, Moreira A. Environmental inequality: Air pollution and asthma in children. Pediatr Allergy Immunol. 2022 Jun; 33(6).

In some Pulmonology lectures (year 4) climate change and air pollution are mentioned as a risk factor for the discussed disease, for example COPD and lung cancer, however they are not explored in depth. Additionally, in the Pediatrics module in year 5, there was a class about respiratory infections in which was discussed the influence of atmospheric conditions in RSV infection in Portugal.

Finally, in the curricular unit of Populations' Health, it is highlighted how air pollution is a risk factor for the development and/or worsening of cardiovascular and respiratory diseases.

1.6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat?

- 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: No curriculum content, core or elective, identified to support this metric.

1.7. Does your <u>medical school</u> curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?

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

Score explanation: At the Faculty of Medicine of the University of Porto, in the Preventive Medicine module in year 2, there is a class on "Mental Health, Depression, Anxiety and Stress" in which the impact of environmental degradation and climate change on mental health is mentioned.

Additionally, in the curricular unit Populations' Health, first year students address climate change and its potential impact on the health of populations, namely the way in which, in events of extreme climate conditions, mental health can be compromised, with the risk of development of anxiety, stress and depression.

	1.8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
3	This topic was explored in depth by the core curriculum.	
2	This topic was briefly covered in the core curriculum.	
1	This topic was covered in elective coursework.	
0	This topic was not covered.	

Score explanation: At the Faculty of Medicine of the University of Porto, in the Medical Microbiology II module in year 3, there is a class on "Food security" in which the main focus is diseases that originate from food and infections due to water contamination. The concept of One Health is also addressed in this class.

Additionally, in the Populations' Health curricular unit, among the possible consequences of climate change, the effect of climate change on food production is explored, leading to scarcity or even malnutrition, as well as the effect of changes in the standard of precipitation on the availability of clean water, which can worsen disease transmission by water.

1.9. Does your <u>medical school</u> 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?

This topic was explored in depth by the core curriculum.

This topic was briefly covered in the core curriculum.

This topic was covered in elective coursework.

This topic was not covered.

Score explanation: At Faculty of Medicine of the University of Porto, the Populations' Health curricular unit, in year 1, briefly addresses the urgent need to reduce the impact of climate change, especially considering the unequal burden between different population groups.

1.10. Does your medical school curriculum address the unequal regional health impacts of climate change globally? 3 This topic was explored in depth by the core curriculum. 2 This topic was briefly covered in the core curriculum. 1 This topic was covered in elective coursework.

0 This topic was **not** covered.

Score explanation: No curriculum content, core or elective, identified to support this metric.

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.	

Score explanation: At the Faculty of Medicine of the University of Porto, this topic is covered in one lecture in the Clinical Genetics module in Year 3, which mentions the harmful action of chemical and biological agents as a cause of infertility. Additionally, in the Nephrology and Urology module in Year 5, there is one lecture on Infertility that includes one slide and a table on the impact of exposure to gonadotoxins (such as radiation, pesticides, excessive heat, solvents and tobacco smoke) on male fertility.

1.12. 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.	
Score explanation: No curriculum content, core or elective, identified to support this metric.		

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.	
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Indigenous knowledge and value systems as essential components of planetary health solutions are included in **elective** coursework.

This topic was **not** covered.

Score explanation: No curriculum content, core or elective, identified to support this metric.

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.

O This topic was not covered.

Score explanation: No curriculum content, core or elective, identified to support this metric.

Curriculum: Sustainability

	1.15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored in depth by the core curriculum.	
2	This topic was briefly covered in the core curriculum.	
1	This topic was covered in elective coursework.	
0	This topic was not covered.	
Scor	Score explanation: No curriculum content, core or elective, identified to support this metric.	

1.16	1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored in depth by the core curriculum	
2	This topic was briefly covered in the core curriculum.	
1	This topic was covered in elective coursework.	
0	This topic was not covered.	
Score explanation: No curriculum content, core or elective, identified to support this metric.		

1.17. Does your medical school curriculum cover these components of sustainable clinical practice in the core curriculum? (points for each) The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment 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. 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. Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how 1 can it be mitigated The impact of **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anaestheisa's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions The impact of **inhalers** on the healthcare carbon footprint and the environmental benefit of dry 1 powdered inhalers over metered dose inhalers. Waste production within healthcare clinics and strategies for reducing waste in clinical activities 1 (e.g. single use items in the inpatient or outpatient setting) Score explanation: At Faculty of Medicine of the University of Porto in the Pharmacology modules (I and II) in year 3, there are various mentions across all lectures of the importance of avoiding over-medicalisation, over-investigation and over-treatment due to their impact on health and the environment. Additionally, in the Public Health module, in year 6, the students divided into small working groups were presented with a public health problem and were told to brainstorm possible solutions, which included not only but also non-pharmacological measures.

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.
Yes, there are strategies introduced for having conversations with patients about climate chin elective coursework. No, there are not strategies introduced for having conversations with patients about climate change		Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.

Score explanation: No curriculum content, core or elective, identified to support this metric.

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.
- Only **elective** coursework includes strategies for taking an environmental history.
- 0 No, the curriculum does **not** include strategies for taking an environmental history.

Score explanation: At Faculty of Medicine of the University of Porto students are taught the importance of questioning patients about their exposure history (such as tobacco, radiation, travelling, home environment, occupational exposure, etc.). This is mainly addressed in the Medical Propedeutics and Surgical Propedeutics modules in year 3.

Additionally, in year 1, in the Curricular Unit of Humanities in Medicine, students study and apply the skills underlying clinical communication, including obtaining psychosocial history and the possibility of exposure to harmful materials.

Curriculum: Administrative Support for Planetary Health

1.20. Is your medical school currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education? Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.

- 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.

Score explanation: No evidence identified to support this metric.

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

Score explanation: At Faculty of Medicine of the University of Porto, Planetary health/ESH is scarcely mentioned throughout the modules, mainly in year 3, however there is a lack of modules, core or elective, dedicated to these topics.

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?

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

Score explanation: No evidence identified to support this metric.

Section Total (23 out of 72)	D
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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 emphasised.

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

- Yes, there are faculty members at the **medical school** who have a **primary research** focus in planetary health **or** healthcare sustainability.
- 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.
- There are planetary health and/or healthcare sustainability researchers at the **institution**, but none associated with the medical sc hool.
- No, there are **no** planetary health and/or healthcare sustainability researchers at the **institution** or **medical school** at this time.

Score explanation: The Faculty of Medicine of the University of Porto is the workplace of many professors that are conducting research related to planetary health and healthcare sustainability, namely:

- Professor Carla Lopes has some projects that address nutrition and its relationship with the environment:
 - 1. Dose-response relationships in health risk assessment of nutritional and toxicological factors in foods
 - 2. Portuguese Dietary Survey (2012-2015) Support to national dietary surveys in compliance with the EFSA Guidance on General principles for the collection of national food consumption data in the view of a pan-European dietary survey
- Professor Henrique Barros also has projects/articles in the area of urbanisation/gentrification and climate:
 - 1. HUG: The health impacts of inner-city gentrification, displacement and housing insecurity: a quasi-experimental multi-cohort study
 - 2. Public Health Aspects of Climate Change Adaptation in Three Cities: A Qualitative Study. 10.3390/ijerph191610292
- Professor Elisabete Ramos:
 - 1. HEALS Health and Environment-wide Associations based on Large population Surveys
- Professor João Vasco
 - 1. "BEST-COST", a new research project that aims to contribute to policies and practices that reduce the "burden" of the disease, promoting more and better health.
- Professor Bernardo Sousa Pinto
 - 1. Catalyse Climate Action To Advance Healthy Societies in Europe

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution? There is at least one dedicated department or institute for interdisciplinary planetary health research. 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. There is an Occupational and Environmental Health department, but no interdisciplinary department or institute for planetary health research. There is no dedicated department or institute. Score explanation: The Faculty of Medicine of the University of Porto has an Occupational

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?

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.

Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda.

No, but there are current efforts to establish a process for community members to advise or make decisions on the research agenda.

Score explanation: No evidence identified to support this metric.

There is **no** process, and **no** efforts to create such a process.

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department (FMUP - Núcleo de Saúde Ocupacional)

	2.4. Does your <u>institution</u> 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.	

Score explanation: At University of Porto, the School of Medicine and Biomedical Sciences has a website dedicated to One Health with the mission "to train students with a holistic perspective across the human, animal and environmental sectors, and to promote interdisciplinary and synergistic research in order to improve public health for all". This website shares many articles, events and news on this topic.

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

Score explanation: The University of Porto has hosted more than one conference or symposium on topics related to planetary health in 2023, namely:

- "Epidemiology to build the future" hosted between 5th and 8th of September 2023. You can consult the program <u>here</u>.
- 4th <u>PlantEd</u> Conference hosted between 18th and 20th of September 2023. This conference presented the latest advances in plant breeding research, fundamental to facing challenges related to population growth, sustainable agriculture and climate change.
- Expo One Health: Porto One Health Day was hosted between 2nd and 4th of November 2023. This event aims to highlight the relevance of the One Health concept and approach, and the impacts they have on the daily lives of all of us, communicating science through practical demonstrations, aimed at all audiences.

2.6. Is your medical school a member of a national or international planetary health or ESH organisation? Yes, the medical school is a member of a national or international planetary health or ESH organisation No, the medical school is not a member of such an organisation Score explanation: Faculty of Medicine of the University of Porto is a member of Eugloh.

Section Total (8 out of 17)	C
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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 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 <u>medical school</u> 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: No evidence identified to support this metric.	

3.2. Does your <u>medical school</u> 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: University of Porto and the schools integrated in it hosted events regarding planetary health and, although our medical school was not directly involved in the organisation, these were open to all students of the institution, for instance:

- One Health Talks: organised by the School of Medicine and Biomedical Sciences, it took place on the 13th of december 2023 and focused on the One Health vision on diarrheal disease in Africa.
- "One Health Core Competencies": from 16th of october to 11th of december 2023, this online course lasts 8 weeks and is designed for approximately 90 working hours (3 ECTS), including

30 hours working with online material and meetings and around 60 hours of self-study and project work.

3.3. Does your <u>medical school</u> 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.
	Vas planetary health and/or sustainable healthcare tonics are sometimes included in

Yes, planetary health and/or sustainable healthcare topics are **sometimes** included in communication updates.

Students **do not** receive communications about planetary health or sustainable healthcare.

Score explanation: The Faculty of Medicine of the University of Porto occasionally shares via email the events mentioned in section 3.2 and has a <u>newsletter</u> in which sometimes are shared the participation of professors of FMUP in projects and studies related to pollution, climate change, etc.

3.4. 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?

- 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.
- Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
- There are **no** such accessible courses for post-graduate providers

Score explanation: At the Faculty of Medicine of the University of Porto there are multiple post-graduate courses relating to planetary health and/or sustainable healthcare as a primary focus.

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

- Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients.
- Some affiliated hospitals have accessible educational materials for patients.
- **No** affiliated medical centres have accessible educational materials for patients.

Score explanation: University Hospital Center of São João has accessible educational material on risk of reaction exposures for patients to consult.

3.6. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change? Yes, the medical school or all affiliated hospitals have accessible educational materials for patients. Some affiliated hospitals have accessible educational materials for patients. No affiliated hospitals have accessible educational materials for patients.

Score explanation: University Hospital Center of São João and Faculty of Medicine of the University of Porto have accessible educational material, namely "Consequence of heat or cold weather. i) Shocks to health; Exposure at air pollution" (with specific outpatient consultations).

Section Total (7 out of 14)	C
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Support for Student-Led Planetary Health Initiatives

<u>Section Overview:</u> 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 <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 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: The Institution encourages sustainability, however it has no specific foundation	

4.2. 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.
Score explanation: The Institution has a Program in pulmonary restrictive diseases (PhD, consultation	

4.3. 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.

and research)

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: No evidence identified to support this metric.

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? Yes, there is a student organisation with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.

Yes, there is a student organisation at my medical school dedicated to planetary health or sustainability in healthcare but it **lacks faculty support.**

No, there is **not** a student organisation at my institution dedicated to planetary health or sustainability in healthcare.

Score explanation: There is a Students Association Group at the Faculty of Medicine of the University of Porto involved in the development of Ambiental problems.

4.5. 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?

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.

1

Score explanation: Faculty of Medicine of the University of Porto's Students are represented in the Pedagogic and Representative Councils.

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

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.

Panels, speaker series, or similar events related to planetary health that have students as an intended audience.

onmental justice and how health ures and impacts.
health that have students as
e to anthropogenic
ing, kayaking, or other
ki

 $Score\ explanation:\ The\ Students'\ Association\ of\ Faculty\ of\ Medicine\ of\ the\ University\ of\ Porto\ (AEFMUP)\ promotes\ multiple\ outdoor\ activities.$

Section Total (6 out of 15)	C-

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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 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.	5.1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.	
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.	
1	There are no salaried sustainability staff , but there is a sustainability task force or committee	
0	There are no staff members or task force responsible for overseeing campus sustainability	
Score explanation: There is a Specific group responsible for energetic sustainability in the University Hospital Center of São João and the Faculty of Medicine of the University of Porto.		

5.2. How ambitious is your institution/medical school plan to reduce its own carbon footprint?			
5	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2030		
3	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2040		
1	The institution/medical school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate		
0	The institution/medical school does not meet any of the requirements listed above		
	Score explanation: No evidence identified to support this metric.		

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

2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.

Score explanation: Faculty of Medicine of the University of Porto is currently installing solar panels on campus.

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

- 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.
- O Sustainability is **not considered** in the construction of new buildings.

Score explanation: Faculty of Medicine of the University of Porto's new buildings were all built with a sustained infrastructure objective and the old buildings are being remodelled.

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

- 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.
- The medical school or institution has implemented **some** strategies to provide environmentally-friendly transportation options, but the options are **unsatisfactorily** accessible or advertised.
- The medical school or institution has **not** implemented strategies to encourage and provide environmentally-friendly transportation options.

Score explanation: All students (including university students) in Portugal have free access to public transports with several environment friendly options and most students use them to reach the campus.

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: There are recycling bins on campus, but there is not an organics recycling program with compost bins available for students or faculty.

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

- Yes, the medical school has a**dequate s**ustainability requirements for food and beverages, including meat-free days or no red-meat, and **is engaged** in efforts to increase food and beverage sustainability.
- 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.
- 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: In the Faculty of Medicine of the University of Porto there are mandatory rules for the type of food served in the institution for student and Staff Members.

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

- Yes, the medical school has **adequate** sustainability requirements for supply procurement **and** is **engaged** in efforts to increase sustainability of procurement.
- 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.
- 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.
- There are **no** sustainability guidelines for supply procurement.

Score explanation: In the Faculty of Medicine of the University of Porto we have a list of suppliers for lab equipment and cleaning that adhere to sustainability guidelines.

5.9. Are there sustainability requirements or guidelines for events hosted at the <u>medical school</u> ?			
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: For every event in Faculty of Medicine of the University of Porto there is a strong recommendation to encourage sustainability

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

There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives.

There are **no** efforts at the medical school to make lab spaces more sustainable.

Score explanation: In the Faculty of Medicine of the University of Porto, the new lab was built by experts to make it environmentally sustainable.

5.11. Does your institution's endowment portfolio investments include fossil-fuel companies? 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. The institution is entirely divested from fossil fuels. The institution has partially divested from fossil fuel companies or has made a commitment to fully divest, but currently still has fossil fuel investments. The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organised advocacy for divestment. Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.

Score explanation: Faculty of Medicine of the University of Porto is growing on the use of energy from solar panels and biomass.

Section Total (19 out of 32)	C +
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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%
В	60% - 79%
С	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 Faculty of Medicine of the University of Porto

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(23/72) \times 100 = 31.94\%$	D
Interdisciplinary Research (17.5%)	(8/17) x 100 = 47.06%	С
Community Outreach and Advocacy (17.5%)	$(7/14) \times 100 = 50.00\%$	С
Support for Student-led Planetary Health Initiatives (17.5%)	(6/15) x 100= 40.00%	C-
Campus Sustainability (17.5%)	$(19/32) \times 100 = 59.38\%$	C+
Institutional Grade	(31.94x0.3 + 47.06x0.175 + 50.00x0.175 + 40.00x0.175 + 59.38x0.175) = 43.96%	C-