



Planetary Health Report Card: *University of Bristol*



2021-2022 Contributing Team:

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Summary of Findings

Overall	C
<u>Curriculum</u>	C
<ul style="list-style-type: none"> • After the administration of the new sustainability lead, who has introduced more lectures and sessions on climate change, there has been more planetary health in the curriculum. • Recommendations: Teaching could be extended to cover how climate change disproportionately affects communities like homeless people and about healthcare generated waste. Furthermore, there currently isn't teaching about how to have conversations with patients about climate change, taking an environmental history and how it can affect their health, this could be integrated e.g., into a respiratory teaching and explaining to a patient how pollution can affect asthma. Information about how social prescribing is better for the environment could easily be integrated into current teaching. 	
<u>Interdisciplinary Research</u>	C
<ul style="list-style-type: none"> • The Cabot Institute and the Elizabeth Blackwell Institute for research are the main drivers of Planetary Health research within the University. • Recommendations: The University of Bristol could start a conference to do with planetary health and encourage the advent of faculty members whose primary focus is planetary health research. 	
<u>Community Outreach and Advocacy</u>	F+
<ul style="list-style-type: none"> • University of Bristol has some opportunities for sustainability volunteering for students and some courses for the community, but the medical school wasn't directly involved. • Recommendations: Provide regular updates about sustainability to the medical school via the Sustainability Champion. Develop an SCC for students to complete leaflets about planetary health for patients. 	
<u>Support for Student-Led Initiatives</u>	B -
<ul style="list-style-type: none"> • The Green Apple Fund and the Inspire Research Funding provide opportunities for students to conduct planetary health research and conduct improvements. Student Societies e.g., Students for Global Health run events to do with planetary health. • Recommendations: Develop sustainable research opportunities for students and include these on an easily accessible web page. 	
<u>Campus Sustainability</u>	C+
<ul style="list-style-type: none"> • The university has good sustainability to do with campus food including meat Free Mondays and discouraging disposable cups by adding an extra charge. The University became divested from fossil fuels in 2020. • Recommendations: Publish actionable plans to become carbon neutral and increase renewable energy usage. 	

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance describes planetary health as “Planetary health is 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 “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”. 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.
- **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 (for example, undergraduate departments (USA), other related departments eg 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. Paediatrics, 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 example).

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

Planetary Health Curriculum

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

Curriculum: General

1. Did your medical school 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:</i> In the Year 2 Student Choice Catalogue there was an option to do a project entitled "Achieving Sustainable Healthcare through Quality Improvement", this was run by Students Organising for Sustainability UK. They're a student-led charity focusing on environmental Sustainability. https://www.sos-uk.org/</p>	

Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.

0	This topic was not covered.
<p><i>Score explanation:</i> A lecture within the Year 1 curriculum, entitled “Global Health” touched on this, this was further explored by a Lecture in Year 2- Planetary Health the Pathology, this included detail on how feedback systems work in the same way as human body feedback loops. Furthermore, a workshop session for Year 3s also explored this topic- HUB Sustainable Healthcare.</p>	

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.
<p><i>Score explanation:</i> Year 2 Lecture entitled Planetary Health the pathology explores this concept in depth, this is further explored in the Year 3 HUB session for Sustainable Healthcare.</p>	

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.
<p><i>Score explanation:</i> Lecture within Year 1 on Global Health briefly mentioned the changing patterns of infectious diseases, touching on diseases like malaria and dengue fever. This was also touched on in the Year 3 Hub session for sustainable healthcare.</p>	

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.
<i>Score explanation:</i> Lecture within Year 1 on Global Health mentioned effects of air pollution including asthma. This was also touched on in the Year 3 Hub session for sustainable healthcare.	

6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation:</i> Lecture within Year 1 on Global Health briefly touched on this via use of an infographic talking about heat stress and cardiovascular failure.	

7. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation:</i> Lecture within Year 1 on Global Health briefly spoke about mental health impacts such as anxiety, despair and PTSD.	

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

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i> 2- Lecture within Year 1 spoke about Climate change not being a single system disease but compounding pressures on housing, food, and water security. It also provided the Lancet article “Food, livestock production, energy, climate change and health” to look at.</p>	

<p>9. Does your medical school curriculum address the outsized impact of climate change on marginalised populations such as those with low SES, women, communities of colour, Indigenous communities, children, homeless populations, and older adults?</p>	
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> This topic wasn't included in the core curriculum or elective coursework.</p>	

<p>10. Does your medical school curriculum address the unequal regional health impacts of climate change globally?</p>	
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> This topic was covered twice in the core curriculum. This is covered in a year 1 lecture in Global Health and then again in Year 3 during a sustainable healthcare lecture.</p>	

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

<p>11. Does your medical school curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?</p>	
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.
<i>Score explanation:</i> This is not covered in the core curriculum or elective coursework.	

12. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation:</i> This topic is not covered in the core curriculum or elective coursework. May not be as relevant to Bristol compared to other more industrial cities.	

13. To what extent does your medical school emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?	
3	Indigenous knowledge and value systems are integrated throughout the medical school's planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework.
0	This topic was not covered.
<i>Score explanation:</i> This topic was not covered in the core curriculum or elective coursework.	

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

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

Score explanation: This topic was not covered in the core curriculum or elective coursework

Curriculum: Sustainability

15. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?

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

Score explanation: This is mentioned in a Year 3 lecture covering the topic of healthy diets, and which are beneficial for planetary health. This explored the positive health impacts of a plant-based diet.

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

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

Score explanation: At University of Bristol Medical School, the “Global Health” given to first year students covered the rise of atmospheric CO₂ and its impacts on health. As well as being explored in Evidence Based Medicine, where the challenges of carbon footprint were explored.

Y2 Planetary Pathology Lecture

Y3 HUB session

17. Does your medical school curriculum cover these components of sustainable clinical practice in the core curriculum? (1 point each)

1	Waste production within the healthcare system and strategies for reducing waste in clinical activities, such as in the operating room
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
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 anaesthetic gas options with reduced greenhouse gas emissions
1	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfil this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes for obesity. This is commonly known as social prescribing in the UK.
1	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment

Score explanation: Year 2 cross disciplinary session on breathlessness briefly mentioned the impact of inhalers and the benefit of using dry powdered inhalers over meter dose inhalers

Curriculum: Clinical Applications

18. In training for patient encounters, does your medical school's curriculum introduce strategies to have conversations with patients about the health effects of climate change?

2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change

Score explanation: There are no strategies introduced for having conversations with patients about climate change.

19. In training for patient encounters, does your medical school's 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.

Score explanation: Closest thing to being taught an environmental history is through social history

Curriculum: Administrative Support for Planetary Health

20. Is your medical school 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.

Score explanation: will lead an interactive workshop session with Y3 medical students on Sustainable Healthcare.

Dr Trevor Thompson newly appointed Head of Sustainability at Bristol Medical School.

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

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

Score explanation: At University of Bristol, planetary health is covered in Year 1 of the new curriculum, with a standalone lecture discussing Global Health and planetary health issues distributed throughout the curriculum.

“Planetary Health and Sustainability - the Pathology” lecture delivered to Year 2 students.

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

1	Yes, the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	No, the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.
<i>Score explanation:</i> Dr Trevor Thompson is head of sustainability at the University of Bristol	

Section Total (34 out of 69)

34

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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.

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> • Prof. Trevor Thompson – Co-author of book “Sustainable Healthcare”. Projects include consultation seminar on priority learning outcomes for sustainable medical education <p>https://www.bristol.ac.uk/people/person/Trevor-Thompson-de945b38-f324-47d8-9fa4-c02f385c64ef/</p>	

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

- Score explanation: Elizabeth Blackwell Institute for Health Research – working alongside Cabot Institute for the Environment in incorporating planetary health in the research that is either being planned or conducted at the university. <https://www.bristol.ac.uk/blackwell/news/2021/cop26-climate-and-health-blog.html>
- Cabot Institute for the Environment – a diverse community of experts focusing on protecting the environment and identifying ways of living better with our planet. The institute delivers evidence base and solutions to tackle challenges of food, security, water, low carbon energy, city futures, environmental change, and natural hazards and disaster risk. <http://www.bristol.ac.uk/cabot/>

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

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

Score explanation: There is no way currently for members of the community to influence research.

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

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

Score explanation: The University of Bristol has a Sustainability site which is easy to use and centralises resources related to the environment. It includes a section on what they're currently involved in across lots of sectors. It includes upcoming opportunities and projects for both students

and staff. There is a contact page to find the leaders in planetary health at the University of Bristol. It also contains information on the Green Apple Scheme – which provides grants of up to £1500 for sustainability projects.

<https://www.bristol.ac.uk/sustainability/>

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

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

Score explanation: The University hasn't hosted a conference/symposium related to planetary health.

6. Is your medical school a member of a national or international planetary health or ESH organisation?

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

Score explanation: The university isn't currently a member, but the process is underway.

Section Total (8 out of 17)

8

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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.*

1. Does your medical school partner with community organisations to promote planetary and environmental health?

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

Score explanation: The University of Bristol offers links to community organisations for volunteering opportunities on their Sustainability webpage. There are also many opportunities through the student union. The medical school itself doesn't have any particular links with community organisations

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 medical school has not offered such community-facing courses or events.

Score explanation: Societies affiliated with the Student Union such as Healthy Planet Bristol and Students for Global Health offer courses which the wider public community are welcome to attend, but the medical school is not involved in these events, they are purely student led.

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

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

Score explanation: No recent regular updates about planetary health or sustainable healthcare on the Galenical's Newsletter or the medical school's weekly bulletin.

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

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

5. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about environmental health exposures?

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 centres have accessible educational materials for patients.

Score explanation: Currently, affiliated hospitals don't have such resources available for patients

6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?

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.
<i>Score explanation:</i> Currently, affiliated hospitals don't have such resources available for patients	

Section Total (2 out of 14)	2
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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 institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the 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 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, the institution does not offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Score explanation:</i> The Green Apple Scheme, which can be student led but require a staff members support, provides a grant of £500-£1500 to explore and experiment with new educational experiences which contribute to the University's Sustainability Strategy. If students want to get involved with making change, they can join the Sustainability Network who aim to improve the sustainability of Bristol SU and the University.</p> <p>https://www.bristol.ac.uk/sustainability/doing/sustainability-courses/green-apple-scheme/#:~:text=The%20Green%20Apple%20Scheme&text=Green%20Apple%20(GA)%20funding%20provides,complement%20the%20University's%20Sustainability%20Strategy.</p>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation:</i> INSPIRE Research funding for a Summer Studentship or an Elective Research Project can be used for planetary health/ sustainable healthcare, but students would need to find a Planetary Health researcher and arrange this independently.</p>	

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

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

Score explanation: There is no webpage on planetary health specifically for the medical school.

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

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

Score explanation: Societies affiliated with the Student Union such as Students for Global Health are run by medical students, but the medical school doesn't get involved in their events/courses.

5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional decision-making council to advocate for curriculum reform and/or sustainability best practices?

1	Yes, there is a student representative that serves on a medical school or institutional decision-making council/committee.
0	No, there is no such student representative.

Score explanation: Matthias Mitra is the Sustainability Champion for Bristol Medical School

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

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

Score explanation:

Workshop given to Year 3 students given by Trevor Thompson

Art installation of an extinction bell, outside of the chemistry building, that rings 150-200 times a day to represent the number of species lost per day.

In the Year 2 Student Choice Project, there is an option for students to be a part of a 5 day Leadership in Wilderness development in a remote location in the English lakes.

There are opportunities to volunteer on environmental projects such as cleaning the Bristol harbourside and community gardening through the university's student union

<https://www.bristol.ac.uk/students/life-in-bristol/opportunities/volunteering-and-outreach/>

Section Total (9 out of 15)

9

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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.

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
<p><i>Score explanation:</i> https://www.bristol.ac.uk/sustainability/contacts/ There is an Office of Sustainability within the university of Bristol however there isn't a designated staff member for sustainability at the medical school or the teaching hospitals</p>	

2. How ambitious is your medical school/institution's plan to reduce its own carbon footprint?	
4	The institution has a stated goal of carbon neutrality by 2030 or earlier and the medical school / institution has a well-defined and adequate plan in place to achieve this goal.
3	Yes, there is a stated carbon neutrality goal by at least 2040 and the medical school/institution has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal by at least 2040, but the medical school/institution has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.
<p><i>Score explanation:</i> In 2015, the university aims to become carbon neutral by 2030 however the medical school hasn't yet created a plan to reach that goal https://www.bristol.ac.uk/media-library/sites/green/documents/Carbon%20Offsetting%20-%20University%20of%20Bristol%20position.pdf</p>	

3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital) utilise 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.
<i>Score explanation:</i> Unable to retrieve information	

4. Are sustainable building practices utilised for new and old buildings on the medical school campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?	
3	Yes, sustainable building practices are utilised for new buildings on the medical school campus and the majority of old buildings have been retrofitted to be more sustainable.
2	Sustainable building practices are utilised for new buildings on the medical school campus, but most old buildings have not been retrofitted.
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.
<i>Score explanation:</i> The University of Bristol uses BREEM and SKA to assess sustainability of construction at the university. https://www.bristol.ac.uk/sustainability/doing/construction/	

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-utilised 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.
<i>Score explanation:</i> The university holds a range of cycle events throughout the year, e.g. cycle clinics, lessons and bike maintenance lessons. Furthermore, those in University Halls in North	

Village are given a free bus pass. The University is in a city where bus, walking and voi use are most common to get around rather than car.

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 across campus, separated for metals, food waste, plastics and recycling however there aren't compost plans.

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: University of Bristol has introduced Meat Free Mondays across all its University Halls, every hall of residence has an allotment and compost bay area. It has also supported the growth of several gardens and allotments. Catering contracts are awarded partially based on their sustainability credentials and some packaging is procured from The Hungry Caterpillar Food Co-Op which provides ethical, packing free food. Cafés across campus also have a packaging free range and removed beef from their menus. The new student space Senate House (opened 2021) has a plant-based menu, to encourage bringing reusable cups they also charge extra for a takeaway cup. They have a Sustainable Food Action Plan-2021, setting out how they plan to make their food more sustainable- aiming to use more seasonal products, become carbon neutral and increase the number of drinks served in reusable containers.

<http://www.bristol.ac.uk/media-library/sites/green/documents/policy/sustainable-food-action-plan.pdf>

They also have 3 Silver awards in the Southwest Fair Trade Business awards.

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8. Does the medical school or associated 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 University have referred to guidance that can be used to help sustainable procurement- Sustainable Impact Assessments, Flexible Framework and Procurement’s Policies and Procedures. This has led to Procurement earning the CIPS Ethical Mark. However, it is guidance rather than compulsory, the University is developing guidance and tools to aid sustainable sourcing decisions.

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 are no current sustainability guidelines for medical school events.

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: Yes. The university has a Green Labs project which focuses on making lab spaces more environmentally friendly.

<https://www.facebook.com/Green.Labs.UoB>

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

Score explanation: The University of Bristol became completely divested from fossil fuels in 2020.

Section Total (18 out of 31)

18

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

Planetary Health Grades for the University of Bristol School of Medicine

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

Section	Raw Score	Letter Grade
Planetary Health Curriculum (30%)	$(34 / 69) \times 100 = 49.2\%$	C
Interdisciplinary Research (17.5%)	$(8 / 17) \times 100 = 47.0\%$	C
Community Outreach and Advocacy (17.5%)	$(2 / 14) \times 100 = 14.3\%$	F+
Support for Student-led Planetary Health Initiatives (17.5%)	$(9 / 15) \times 100 = 60\%$	B-
Campus Sustainability (17.5%)	$(18 / 31) \times 100 = 58\%$	C+
Institutional Grade	46%	C

Report Card Trends

Section Overview

This graph demonstrates trends in overall and section grades for the years in which University of Bristol has participated in the Planetary Health Report Card initiative.

PHRC Trends for University of Bristol Medical School

