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# Planetary Health Report Card:

## *University of Bristol*

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2020-2021 Contributing Team:

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## Summary of Findings

<b>Curriculum</b>	<b>C-</b>
<ul style="list-style-type: none"> <li>• Extracurricular opportunities to learn about health impacts of climate change, however few integrated within the curriculum</li> <li>• Global Health as a topic in MB16 is limited to 2 weeks of core teaching, during which one lecture thoroughly covered the health impacts of climate change</li> <li>• Recommendations more relevant to MB21 course as MB16 will no longer exist in 2021/22</li> </ul>	
<b>Interdisciplinary Research</b>	<b>C+</b>
<ul style="list-style-type: none"> <li>• There are currently a limited number of researchers engaged in planetary health research at Bristol medical school. The Elizabeth Blackwell Institute for Health research, at the university, are in the process of forming a new cross faculty group around the themes of climate and health. The Elizabeth Blackwell Institute and Cabot Institute have recently started a scheme where funding is available for interdisciplinary research projects in the area of climate change and health. This is hopefully a step in the right direction for increasing planetary health research output from the medical school.</li> <li>• There is a dedicated institute for interdisciplinary planetary health research in the form of the Cabot Institute.</li> <li>• Recommendations for improving in this metric would be to implement a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda.</li> <li>• Another recommendation would be to join the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education</li> </ul>	
<b>Community Outreach and Advocacy</b>	<b>C</b>
<ul style="list-style-type: none"> <li>• Whilst there is evidence of some meaningful partnership with the community, often courses and initiatives are directed mainly towards university students rather than the community as a whole.</li> <li>• There is no regular communication of planetary issues to the students.</li> <li>• There is some educational material available for patients regarding climate change and health however not all is made obvious or accessible via online platforms.</li> <li>• The medical school could consider including planetary health issues in their regular bulletins to students and look to promote courses to the wider community.</li> </ul>	
<b>Support for Student-Led Initiatives</b>	<b>B+</b>
<ul style="list-style-type: none"> <li>• University are very supportive of students wanting to engage with researching and learning more about the health impacts of climate change, however, financial support is rarely available</li> <li>• Recommendation: Publicise research opportunities and potential funding opportunities</li> </ul>	
<b>Sustainability</b>	<b>C</b>
<ul style="list-style-type: none"> <li>• Institutionally the University of Bristol has made some very strong commitments and put in good work promoting planetary health in its operations, and has often been ahead of the rest of the sector on this front.</li> <li>• The University has declared a climate emergency, set a carbon neutrality target of 2030, has divested from fossil fuels, constructs with sustainability in mind and has programmes to improve lab sustainability.</li> <li>• The University is lacking in guidelines and procedures regarding procurement and catering.</li> </ul>	

# Statement of Purpose

*Planetary health is human health.*

The Planetary Health Alliance defines planetary health as “a field focused on characterizing the human health impacts of human-caused disruptions of Earth's natural systems.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanization, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change “the greatest threat to global health in the 21st century,” many medical school’s institutional priorities do not reflect the urgency of this danger to human health.

As future health professionals, we must be prepared to address the impacts of human-caused environmental changes on our patients’ health. This preparation is in the hands of the institutions providing our medical training. It is imperative that we hold our institutions accountable for educating medical students about the health impacts of climate change and other anthropogenic environmental changes, generating research to better understand health impacts and solutions, supporting related student initiatives, embracing sustainable practices as much as possible, and engaging with surrounding communities that are most affected by environmental threats. Because climate change and environmental threats disproportionately affect vulnerable populations (for example, communities of color, older adults sensitive to health threats, and individuals in low-resource settings), these issues are inherently ones of equity and justice.

With the purpose of increasing planetary health awareness and accountability among medical schools, we have created a Planetary Health Report Card that medical students internationally can use to grade and compare their home institutions on an annual basis. This medical-student-driven initiative aims to compare medical schools on the basis of discrete metrics in five main category areas: 1) planetary health curriculum, 2) interdisciplinary research in health and environment, 3) university support for student planetary health initiatives, and 4) community outreach centered on environmental health impacts 5) medical school campus sustainability.

# 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 change. Therefore, it is critical that medical students are trained to understand the health effects of climate change, as well as planetary health 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*

<b>1. Did your medical school offer elective courses to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?</b>	
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> Student Selected Components (SSCs) in 2nd, 3rd &amp; 4th year include projects “Nature &amp; Health”, “Healthcare’s environmental Impact” where students learnt about the excess waste from healthcare systems and the psychological benefits of nature</p> <p>There were no Student Selected Components advertised for Year 3 in Summer 2020 (not sure about other year groups or this for this year) .</p>	

## *Curriculum: Health Effects of Climate Change*

<b>2. Does your medical school curriculum address the relationship between extreme temperature health risks and climate change, as well as the socioeconomic/racial disparities in extreme heat exposure?</b>	
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> One Global Health lecture on health impacts of climate change in Year 1	

<b>3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?</b>	
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> One Global Health lecture on health impacts of climate change	

<b>4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?</b>	
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.

<b>5. Does your medical school curriculum address the cardiorespiratory health effects of climate change, including air pollution?</b>	
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.

<b>6. Does your medical school curriculum address the mental health and neuropsychological effects</b>	
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<b>of environmental degradation and climate change?</b>	
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> Covered in “Nature & Health” student selected component. Links between psychological/mental health and the environment were highlighted, including how nature could be used within therapeutic techniques	

<b>7. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?</b>	
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.

<b>8. Does your medical school curriculum address the outsized impact of climate change on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, and older adults?</b>	
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.

<b>9. Does your medical school curriculum address the unequal health impacts of climate change globally?</b>	
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.
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*Curriculum: Environmental Health & the Effects of Anthropogenic Toxins on Human Health*

<b>10. Does your medical school curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?</b>	
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.

<b>11. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?</b>	
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.

<b>12. Does your medical school curriculum address the unique climate and environmental health challenges that have impacted and are impacting Indigenous communities?</b>	
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.

<b>13. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, and older adults?</b>	
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> “Social Determinants of Health” lecture looking at healthcare inequalities across the UK.	

***Curriculum: Sustainability***

<b>14. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?</b>	
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> eSSC on Nutrition & Medicine and Integrative Medicine, medical student group “Nutritank” providing extra-curricular events, study days on nutritional medicine.	

<b>15. Does your medical school curriculum highlight the waste generated by the healthcare system and identify ways to advocate for and implement sustainable best practices in health care?</b>	
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> eSSC offered by Centre for Sustainable Healthcares looking into waste created in primary care.</p> <p>HUB session covering the objective of defining sustainability, defining sustainable healthcare and understanding why sustainability should be part of quality improvement. This session discussed the greenhouse emissions produced by the NHS and highlighted how QI projects on reducing waste would also have a positive environmental, social and financial impact. The session also discussed a local QI project where desforane (60x worse for the environment than the next anaesthetic agent) use was reduced among local hospitals saving on finance and emissions.</p>	



*Curriculum: Clinical Applications*

<b>16. 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?</b>	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
<p><i>Score explanation:</i>            Year 2 sustainable healthcare student choice project with 2 of the 4 objectives being</p> <ul style="list-style-type: none"> <li>- Be able to describe how environmental sustainability and human health interact at different levels</li> <li>- Be able to 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</li> </ul> <p>Effective consulting tutorials do not specifically cover talking to patients about the health effects of climate change.</p>	

<b>17. In training for patient encounters, does your medical school’s curriculum introduce strategies for taking an environmental history or exposure history?</b>	
2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.
<p><i>Score explanation:</i> During effective consulting tutorials at the University of Bristol students are taught how to take a complete social history which would cover topics including occupation and living environment.</p>	

*Curriculum: Administrative Support for Planetary Health*

<b>18. Is your medical school currently in the process of improving Education for Sustainable Healthcare (ESH)/planetary health education?</b>	
4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.

2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.
<i>Score explanation:</i> Implementation of HUB sessions which tend to focus on less traditionally covered topics, including climate change and sustainability. These have been introduced with the new curriculum over the last 3 years and cover sustainability in healthcare.	

<b>19. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?</b>	
6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s).
0	There is minimal/no education for sustainable healthcare.
<p><i>Score explanation:</i> Planetary Health features in Global Health &amp; Public Health lectures, but not throughout the curriculum.</p> <p>Year 1 lecture:Global Health: an international perspective – LO: Have a basic understanding of the drivers and health implications of climate change</p> <p>One of the Helical themes for the curriculum is Global and public health – Covers: Explain the drivers and implications of Climate Change</p> <p>Hub sessions covering sustainable healthcare are also part of the core curriculum</p> <p>There are lectures covering climate change and sustainability throughout the medical course but I do not think that these are as integrated into the core curriculum as they could be. For example I found no mention of climate change in case based learning tutorial material.</p>	

<b>20. Bonus: Does your medical school have a program that offers incentives for faculty/departments to develop new planetary health/ESH courses and/or incorporate planetary health/ESH into existing courses?</b>	
1*	Yes, the medical school has an incentive program.
0	No, the medical school does not have an incentive program.

<b>Section Total (23 out of 58)</b>	<b>23</b>
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# Interdisciplinary Research

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

<b>1.Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?</b>	
4	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health and healthcare sustainability.
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in a 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"> <li>● The medical school is quite large and so knowing the full scope of activity is a challenge. However on discussing this metric with researchers at the medical school, including the Bristol Medical School Research Director and Lead for the Intercalated degree in Global Health this score was established.</li> <li>● Neither of them knew of a colleague associated with the medical school with whom planetary health or healthcare sustainability was their primary focus.</li> <li>● Prof. Trevor Thompson - sustainable healthcare book, Current project “Consultation seminar on priority learning outcomes for sustainable medical education.”</li> <li>● Worth mentioning, the <a href="#">Elizabeth Blackwell Institute for Health research</a>, at the university, are in the process of forming a new cross faculty group around the themes of climate and health. The Elizabeth Blackwell Institute and Cabot Institute have recently started a scheme where funding is available for interdisciplinary research projects in the area of climate change and health This metric is likely to increase in the near future.</li> <li>● The Cabot Institute exists at the University of Bristol but none of the researchers associated with the Institute.</li> <li>● There were some Student Choice projects in the catalogue.</li> <li>● <a href="https://www.bristol.ac.uk/people/person/Trevor-Thompson-de945b38-f324-47d8-9fa4-c02f385c64ef">https://www.bristol.ac.uk/people/person/Trevor-Thompson-de945b38-f324-47d8-9fa4-c02f385c64ef</a></li> </ul>	

**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:*  
 The university of bristol has the Cabot Institute for the Environment which brings together a diverse community of experts with the common cause of protecting the environment and identifying ways of living better with our changing planet. The Cabot institute aims to deliver the evidence base and solutions to tackle the challenges of food security, water, low carbon energy, city futures, environment change and natural hazards and disaster risk. They are committed to public engagement through public events, collaborating with government, businesses, industry and world-leading artists.  
<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 obvious way in which the public could contribute ideas to the research undertaken by the medical school apart from directly contacting academics whose emails are available.

**4. Does your institution have a planetary health website, or a website centralizing various campus resources related to health and the environment?**

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

*Score explanation:*

- The university of [Bristol Green University website](#) makes it clear what the university is already doing and explains the pledges that it has made, in order to be more sustainable.
- There is a large section of the website detailing how both students and staff can get involved in reducing their personal and the universities negative environmental impact. This includes links to events happening through the university or run student union societies.
- Every school within the university is required to have a climate action plan and the names of the coordinators for these are publicly available with students being encouraged to get involved. Contact details for staff who are involved with sustainability within the university are also made available.
- The website also mentions ‘The green apple scheme’, which provides funding to support initiatives by staff and students to enhance education for sustainable development.

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

4	Yes, the institution has hosted more than one conference or symposium on topics related to planetary health in the past year, including at least one on climate change.
3	Yes, the institution has hosted 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:*

- Bristol SU sustainability month contains many events on education about sustainability as well as information and events on how students can get involved  
<https://www.bristolsu.org.uk/sustainabilitymonth>
- As part of sustainability month, Bristol Medical School is launching a new seminar series around Climate and Health. The first of these talks is titled: Heatwaves and Mortality: Past, Present and Future

**6. Has your institution or medical school joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?**

2	Yes, the medical school has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education.
1	Yes, the institution has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education, but the medical school specifically has not.
0	No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.

*Score explanation:* The University of Bristol does not appear on either of these lists.

**Section Total (11 out of 19)**

**11**

# Community Outreach and Advocacy

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

<b>1. Does your medical school partner with community organizations to promote planetary and environmental health?</b>	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation:</i> Healthy Planet Bristol have run several community facing events in local schools, teaching students about sustainable living. Lots of opportunities for sustainability volunteering in the community - from University of Bristol rather than Bristol Medical School.</p>	

<b>2. Does your medical school offer community-facing courses or events regarding planetary health?</b>	
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.
<p><i>Score explanation:</i> Students for Global Health Short Course runs annually, mainly attended by University students. Topic also varies so not necessarily on planetary health.</p>	



Climate Emergency event organised by the university on Friday 26th March.

**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 regular coverage of planetary health or sustainable healthcare in either Galenicals weekly newsletter or weekly bulletin from the Medical School.

Recent feature in weekly bulletin regarding Climate and Health Seminar, but nothing regular.

**4. Does the medical school offer continuing medical education (CME) courses that address planetary health and/or sustainable healthcare? (QUESTION REMOVED)**

2	Yes, multiple in-person or online CME courses relating to planetary health and/or sustainable healthcare are offered, including at least one with a primary focus of planetary health.
1	Yes, one in-person or online CME course related to planetary health and/or sustainable healthcare is offered.
0	There are no CME courses on planetary health or sustainable healthcare topics.

**5. Do hospitals affiliated with your medical school 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 centers have accessible educational materials for patients.

*Score explanation:* Posters at RUH on impacts of air pollution, Gloucester Hospital notice board, press release from NBT & UHWB when they declared a climate emergency

No obvious patient information on the websites of the affiliated hospitals.

**6. Do hospitals affiliated with your medical school 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.

*Score explanation:* Posters at RUH on impacts of air pollution, Gloucester Hospital notice board, press release from NBT & UHWB when they declared a climate emergency

No obvious patient information found on any of the affiliated hospitals' websites.

<b>Section Total (6 out of 12)</b>	<b>6</b>
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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?	
2	Yes, the institution offers grants available to medical students for students to enact sustainability initiatives.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available.
0	No, the institution does not offer opportunities or support for sustainability initiatives.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> <li>• The University of Bristol runs the Green Apple Scheme, providing grants of £500-1,500 which is available year round. All students can apply (including medical students) and student involvement in projects is expected (although can collaborate with staff).</li> <li>• The medical school has signposted to SusQI frameworks from CSH, however it is not compulsory for students to do a QI project during their degree.</li> <li>• In terms of support for other initiatives, the medical school allowed students to attend the “Friday’s for Future” climate strikes and with student-support, and did a Health &amp; Climate demonstration as part of the Excellence in Medicine Day Feb 2020.</li> <li>• Generic initiatives such as ‘Inspire’ allow students to apply for funding for any research project.</li> </ul>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
3*	The institution offers an explicit paid fellowship for medical students to do research related to planetary health and/or sustainable healthcare.
2	The institution offers paid research opportunities for students and planetary health/sustainable healthcare projects would be considered eligible.
1	There are unfunded research opportunities for students to perform research related to planetary health/sustainable healthcare.

0	There are no opportunities for students to receive funding for planetary health/sustainable healthcare research.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> <li>INSPIRE funding is available to all medical students at the University of Bristol and can be used to fund planetary health research. It pays a grant stipend covering the cost of living wage for the duration of the research during vacation times (<a href="#">Source</a>).</li> </ul>	

<b>3. Does the medical school have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.</b>	
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.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> <li>There is a list of Student Selected Component topics which include planetary health/sustainable healthcare projects, however these are released periodically throughout the curriculum.</li> <li>There are also many newsletter clippings or press-releases about initiatives on Planetary Health, but there is not one specific webpage for these to be found.</li> <li>Cabot Institute offers postgraduate opportunities &amp; has a specific webpage, however there is no specific webpage for planetary health research for medical or undergraduate students.</li> </ul>	

<b>4. Does your medical school have funded, registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?</b>	
2	Yes, there is a funded student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support and/or funding.

0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> <li>• Galenicals, the undergraduate medical student society, which has identified sustainability targets, however it does not receive funding from Bristol Medical School.</li> <li>• There are other societies such as Healthy Planet &amp; Students for Global Health which lobby for curricula changes and provide educational events on planetary health, but do not have funding.</li> </ul>	

<b>5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional decision-making council to advocate for sustainability best practices?</b>	
1	Yes, there is a student representative that serves on a medical school or institutional decision-making council.
0	No, there is no such student representative.

<b>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)</b>	
1	Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.
<p><i>Score explanation:</i></p> <p>Art installation including an extinction bell which chimes 150-200 times a day which represents number of species lost per day. This features outside the chemistry building, where undergraduate medical students are taught (<a href="#">Source</a>).</p>	

Health Planety, a student sustainability group have a schools outreach programme, aiming to educate school children on the health impacts of climate change & build resilience.

As part of the SSCs, there are options for doing wilderness programmes, with a primary aim of expedition medicine, but also adopt the 'Leave No Trace' principles. These programmes are not compulsory, and within our compulsory curriculum there are no wilderness/outdoor programs. Although there are many volunteering opportunities in Bristol to learn about sustainable farming, community resilience, and panel discussions: these are not actively advertised within the medical school.

<b>Section Total (9 out of 14)</b>	<b>9</b>
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# Campus Sustainability

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

<b>1. Does your medical school and/or institution have an Office of Sustainability?</b>	
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></p> <p>The University of Bristol has a sustainability team (<a href="#">source</a>) with full-time staff dedicated to campus sustainability. Within this team there is no specific member dedicated to Bristol Medical School.</p>	

<b>2. Does your medical school and/or institution have a stated goal of carbon neutrality by 2050?</b>	
4*	The medical school is already carbon neutral.
3	Yes, there is a stated carbon neutrality goal and the medical school has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal, but the medical school 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></p>	

- In 2015, during Bristol’s tenure as the European Green Capital, the University of Bristol committed itself to becoming zero carbon by 2030 in its estate ([Source](#)).
- This declaration is backed by an 8-point plan describing the steps to carbon neutrality ([Source](#)).
- This was followed by a climate emergency declaration in 2019, being the first university in the UK to do so ([Source](#)).
- Progress towards this goal is reviewed annually in Annual Sustainability Reports ([Source](#)), with the most recent report from 2018-19 publically available ([Source](#)).
- Bristol Medical School falls under these institutional goals and thus is treated as such in the grading. However, the University of Bristol expects Climate Action Plans (CAP) from its constituent Schools - currently there is no public CAP for Bristol Medical School ([Source](#)).

**3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital) utilize renewable energy?**

3*	Yes medical school buildings are 100% powered by renewable energy
2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.

*Score explanation: Unable to ascertain information*

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

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

*Score explanation:*

- The University of Bristol has used BREEM for over ten years and SKA more recently to design and construct all new buildings and major refurbishments with sustainability in mind ([Source](#)).



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

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

*Score explanation:*

- There are no strategies within Bristol Medical School to encourage environmentally-friendly methods of transportation.

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

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

*Score explanation:*

- Across campus buildings and facilities use vegware packaging and recycling bins are available including food waste.

**7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections?**

3	Yes, the medical school has adequate sustainability requirements for food and beverages 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.

**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 medical school doesn't deal with the supply procurement, instead it is the hospitals.

**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.

**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:*

- Lab green champion network. ([Source](#))

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.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> <li>Bristol University has divested from fossil fuels (<a href="#">Source</a>)</li> </ul>	

<b>Section Total (x out of 29)</b>	<b>13</b>
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# Grading

## Section Overview

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

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

## 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	Grade
<b>Planetary Health Curriculum (30%)</b>	23 / 58 = 40 %	C-
<b>Interdisciplinary Research (17.5%)</b>	11 / 19 = 58%	C+
<b>Community Outreach and Advocacy (17.5%)</b>	6 / 12 = 50%	C
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	9 / 14 = 64%	B-
<b>Campus Sustainability (17.5%)</b>	13 / 26 = 50%	C
<b>Institutional Grade</b>	<b>50%</b>	<b>C</b>