



Planetary Health Report Card:

University of Exeter Medical School



2020-2021 Contributing Team:

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Summary of Findings

Curriculum	B-
<ul style="list-style-type: none"> • The administration at Exeter has actively worked to improve the planetary health (PH) content, introducing a new 3 week Special Study Unit (SSU) course on ‘Global and Planetary Health’ (GPH) as part of the 2020-21 core curriculum, with various elective project options for students within this. • However, PH could be integrated more longitudinally in the curriculum. The medical school should identify PH as a priority theme, including clear learning objectives, alongside filling content gaps, especially the impact of climate change on marginalised populations and communicating with patients about climate change. 	
Interdisciplinary Research	A+
<ul style="list-style-type: none"> • The European Centre for Environment and Human Health (ECEHH) is part of the University of Exeter Medical School (UEMS). There are multiple members of faculty carrying out interdisciplinary PH research, details of which are outlined on their website, and UEMS have held conferences on PH in the past few years. • ECEHH has excellent public engagement, its ‘HEPE’ group has a significant role in shaping research and has been utilised by other institutions, including the London School of Hygiene and Tropical Medicine. 	
Community Outreach and Advocacy	D
<ul style="list-style-type: none"> • The University of Exeter partners with community groups and offers community facing educational events in planetary and environmental health through the Global Systems Institute. However UEMS is not involved in the planning or delivery of these activities. • The Public Engagement in Medical Education (PIME) group at Exeter is well established, and though they currently don’t have a role in promoting sustainability, they are interested in doing so and strengthening medical school-community links going forward. • There are limited resources from UEMS for the community to be informed about climate change and health. 	
Support for Student-Led Initiatives	C
<ul style="list-style-type: none"> • The University of Exeter has multiple resources online if students wish to get involved in PH initiatives • There is no direct financial support for student-led PH initiatives. A senior member of staff confirmed that if a particular initiative was supported by the medical school, funds could be redistributed to support it. There is also a student guild sustainability fund which student groups can apply to. • Two societies exist at the University, ‘Truro Global Health Society’ and ‘Students for Global Health Exeter’, that run events for medical students touching on topics such as planetary health and environmental factors. • There could be further support for student-led initiatives in PH via representation on the student staff liaison committee (SSLC). 	
Sustainability	A -
<ul style="list-style-type: none"> • The University of Exeter has declared a Climate Emergency and has published a working paper outlining their roadmap to net zero by 2050. • Overall, the University is committed to improving sustainability. It is already 100% supplied by renewable energy, uses sustainable building practices and supply procurement, and has divested from fossil fuels. • There is an established Sustainability Office, but no paid member of staff for medical school sustainability, only voluntary ‘sustainability coordinators’. 	

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

1. Did your medical school offer elective courses 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>UEMS delivers one compulsory Special Study Unit (SSU) in 2nd year on 'Global and Planetary Health' (GPH), which is a 3 week course. This SSU is new, having started in the 2020/21 academic year. Within this there are multiple elective options that students can select, including 'Extreme Weather and Public Health', 'Climate, Air Pollution and Health', 'Impact of Climate Change for Health and Health Care Systems' and 'Global and Planetary Health'. All of the Global and Planetary Health SSUs concern human health effects placed in a broader (global and or planetary) context.</i></p>	

Curriculum: Health Effects of Climate Change

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?	
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.

As part of the GPH SSU, there is a lecture by Dr David Pencheon on 'Introduction to Planetary Health'. This lecture references how climate change leads to health risks from extreme temperature exposure on one slide, though the mechanism of this is not fully explored. There is some reference to socioeconomic disparities in mortality from climate change, but little mention of racial disparities, and this is not specific to heat exposure, nor expanded upon to explore reasons behind this.

A video masterclass called 'Environment, Climate Change and Global Health' by Dr Ben Wheeler, aimed at 3rd years, briefly highlights how climate change leads to increased likelihood of heat related deaths and illness on two slides. There is no reference to the mechanism of this, nor the associated inequity in heat exposure due to socio-economic or racial factors.

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.

The lecture 'Introduction to Planetary Health' as part of the GPH SSU references how climate change leads to extreme weather events which have associated 'health risks' on one slide, though these health risks are not expanded upon. There is no mention of the broader impact this will have on healthcare systems. Additional resources are provided on the main GPH SSU site, including links to the [World Disasters Report 2020](#), highlighting the humanitarian impact of climate change and extreme weather.

The masterclass 'Environment, Climate Change and Global Health' very briefly references how climate change leads to increased likelihood of extreme weather events on one slide. Though this is mentioned in the context of increased health risks and potential impacts, this is not explored in any detail.

An elective option in the GPH SSU is titled 'Extreme Weather and Public Health', and explores this metric in depth. Another elective option for this SSU is titled 'Wildfires and Human Health', specifically exploring this one extreme weather event and the impact on healthcare systems.

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.

The masterclass 'Environment, Climate Change and Global Health' briefly highlights the predicted expansion of malaria due to climate change. There is also a slide stating the worsening distribution of water-borne diseases and vector diseases, however no explanation of why or the impacts this will have.

The 2nd year lecture 'Public Health, Planetary Health, Global Warming and Emerging Infections' by Dr Bharat Pankhania explores the impact of climate change on patterns of disease and emerging infections.

An elective option in the GPH SSU is titled 'Emerging Infectious Diseases', and explores this metric in depth.

5. Does your medical school curriculum address the cardiorespiratory health effects of climate change, including 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.

The lecture 'Introduction to Planetary Health' references general health effects of climate change and air pollution on multiple slides, mostly highlighting the premature mortality effects. There is little exploration of the mechanism by which air pollution impacts the cardiorespiratory system.

The masterclass 'Environment, Climate Change and Global Health' references how air pollution increases mortality, though this is not addressed in great detail, and there is no exploration of the mechanics of this in the context of the cardiorespiratory system.

An elective option in the GPH SSU is titled 'Climate, Air Pollution and Health', which addresses this metric.

6. 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.

The lecture 'Introduction to Planetary Health' briefly mentions the impact of the climate crisis on wellbeing.

There are multiple elective options in the GPH SSU which address this metric in part. One is titled 'Wildfires and Human Health', it involves the students thinking about the effect wildfires have on people's mental health. Another option is titled 'Global Environmental Health Inequalities' and this involves students selecting a specific global environmental health inequality issue to investigate-they can choose to explore mental health here. Another option is titled 'Health and Housing' and this links wellbeing and housing conditions. A further option is titled 'Global and Planetary Health', and this explores the social determinants of health and uses case studies to explore physical and mental health inequalities.

7. 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.

The 'Introduction to Planetary Health' lecture addressed the links between health, the ecosystem and climate change.

The masterclass 'Environment, Climate Change and Global Health' discusses the relationship between climate change and its impacts upon food and water security and the consequences relating to health.

An elective option in the GPH SSU is 'The water cycle and human health, present and future'. This SSU uses case studies to explore the future impact of changing rainfall on human health. Another GPH SSU option is 'Water and Health: the water engineering that keeps civilizations flowing' which links the importance of water supply and health.

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?

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.

The 'Introduction to Planetary Health' lecture addressed the inequalities in impact of climate change, links between health, though this is not discussed specifically in relation to any of the populations mentioned.

9. Does your medical school curriculum address the unequal health impacts of climate change globally?

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

The masterclass 'Environment, Climate Change and Global Health' addresses the inequalities in relation to the impact of climate change. It more specifically focuses on the disproportionate effect on the Global South.

The 'Introduction to Planetary Health' lecture also explains the inequalities between which countries produce the most greenhouse gases and which will be most affected by climate change. It also discussed the use of child labour in parts of the world in the production of medical equipment.

There are multiple elective options to study the unequal health impacts of climate change within the GPH SSU. Specifically the options titled:

- *'Extreme Weather and Public Health', as extreme weather is a consequence of the climate crisis, this SSU requires the student to explore the impact of extreme weather on health. This will naturally lead to them exploring the impact of climate change globally.*
- *'Antimicrobial resistance and environmental pollution' explores how LMIC are disproportionately affected by antimicrobial resistance and environmental pollution.*
- *'Impact of climate change for health and healthcare systems' uses secondary data to examine the impact of climate change on public health globally.*
- *'Global Environmental Health Inequalities' involves investigation into environmental health inequalities.*
- *'Global Health and Trade' explores how international trade impacts upon health and the power imbalances involved in it. An example of this is the marketing of tobacco in LMIC from British and American companies.*
- *'Global and Planetary Health' uses case studies to explore the social determinants of health and health inequalities and the role of climate change.*
- *'Global Health Partnerships' explores the importance of supportive and collaborative working within LMIC.*
- *'Human migration and health a global perspective' considers the effect of climate change forcing migration and the associated health effects.*

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

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

3	This topic was explored in depth by the core curriculum.
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2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Although the health effects of environmental toxins is covered in the core curriculum, there is no mention of its specific relation to fertility and reproductive health.</i>	

11. 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>UEMS has several year 2 and year 3 SSU elective options which briefly cover this area, for example 'Disabling environments, encounters and environmental change', 'Get on your bike and save the world', 'Microbial pollution of aquatic environments', 'Impact of climate change for health and health care systems' 'Climate, Air Pollution and Health.'</i>	

12. Does your medical school curriculum address the unique climate and environmental health challenges that have impacted and are impacting Indigenous communities?	
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>The video masterclass 'Global Health & Climate Change' touches on some of the health impacts climate change will have if it continues as projected, such as increased risk of undernutrition and increased health impacts of lost work capacity/productivity in vulnerable populations.</i>	
<i>Three year 2 lectures, 'An Introduction to Planetary Health'. 'Public Health, Planetary Health, Global Warming and Emerging Infections', and 'Diabetes, the Global Challenge' touch on this topic, although only with one or two slides, and not going into a lot of detail.</i>	
<i>The year 2 GPH SSU has a series of topics that would be relevant here including 'Oceans and Human Health', 'Extreme Weather and Public Health', 'Water and Health: The water engineering that keeps</i>	

civilization flowing’, ‘Human migration and health a global perspective’, ‘Tuberculosis: an Infectious disease without borders’, ‘Global and Planetary Health’, ‘Emerging infectious disease’

A year 3 SSU, ‘Health services in Columbia - what is the difference?’, explores the issues of global and public health that impact the wellbeing of Colombian health. This is an elective part of the course.

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?

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.

A year 3 SSU option, ‘Impact of climate change for health and health care systems’, which is an elective part of the course, talks broadly about this, but this is not specific to environmental toxins, nor to marginalised populations.

Curriculum: Sustainability

14. 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.

No curriculum content was found.

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?

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>There is a GPH SSU option titled 'Antimicrobial resistance and environmental pollution ??? what is the link'. This discusses different pollution sources of antibiotics and other chemicals including pharmaceutical or manufacturing waste, and how humans and animals are becoming infected with resistant bacteria. However, this is specific to microbial waste, and does not highlight general waste generated by the healthcare system, nor ways to advocate for sustainable best practices.</i></p>	

Curriculum: Clinical Applications

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?	
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>The lecture 'Introduction to Planetary Health' has a slide on the importance of talking to patients about climate change, but offers no clear strategies for having these conversations.</i></p>	

17. 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.
<p><i>At UEMS, students are taught how to take a full social history, which includes asking patients about their occupation, hobbies and living situation. This highlights environmental factors that patients may be exposed to that could affect their clinical condition or predispose them to a particular disease (e.g. coal mining and pneumoconiosis). Students have the opportunity to practice their history-taking skills with actors in the clinical skills lab and are provided with feedback on their performances. Students are also assessed on their ability to take a social history during frequent in-vitro and in-vivo clinical assessments.</i></p>	

Curriculum: Administrative Support for Planetary Health

18. Is your medical school currently in the process of 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.

UEMS introduced a new 3 week SSU course titled 'Global and Planetary Health' (GPH) in the 2020-21 academic year. As this is the pilot year, this will be reviewed and further refined going forward after feedback from students. This SSU includes core teaching on global and planetary health and multiple elective options for students to complete a project in this area. There are also plans to update public health teaching in 5th year to a global and public health study day for 2020-21, which will integrate planetary health. This demonstrates how the medical school is actively engaged in improving planetary health education, having implemented some recent changes which will be reviewed.

19. 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.

The new 3 week GPH SSU in 2nd year constitutes part of the core curriculum, and integrates planetary health into the curriculum much more effectively than a one off lecture on this subject. However, planetary health could be better integrated longitudinally throughout the whole 5 years, as part of the spiral curriculum.

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?

1*	Yes, the medical school has an incentive program.
0	No, the medical school does not have an incentive program.

At UK universities, there is little money involved in innovating or developing new programmes. Faculty at UEMS are constantly encouraged to develop new programmes, but this is not specific to planetary health, and there are no explicit financial incentives for this.

There is no explicit planetary health department at UEMS like at some US universities, and no faculty specifically employed to improve planetary health. The Exeter PHRC team also found no evidence of staff having attended training programmes on teaching planetary health.

Section Total (36 out of 58)

36

Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
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>There are a variety of researchers and faculty at the European Centre for Environment and Human Health (ECEHH), which is part of UEMS. A select few are below.</i></p> <ul style="list-style-type: none"> • <i>Dr Benedict Wheeler has primary research specialism of environmental epidemiology to investigate environment and human health and geographical health inequalities.</i> • <i>Dr Tim Taylor has primary research specialism in environmental and health economics.</i> • <i>Dr Sian de Bell is working in research on 'Informing environmental investment for health and wellbeing' project. Her interests include the role of the environment in determining health and the translation of green space-health research into policy and planning.</i> • <i>Professor Michael Depledge is leading research teams on projects relating to the impacts of climate change on human health and wellbeing, emerging environmental chemicals and human health and many more.</i> <p><i>There is also the intercalation option of Masters in Environment and Human Health which has modules on sustainable development, climate change and environment and human health. This is led by Dr Cornelia Guell and Dr Benedict Wheeler.</i></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.
<p><i>The European Centre for Environment and Human Health (ECEHH) is part of UEMS, and conducts research on the interactions between the environment and human health. The centre is supported by the European Regional Development Fund and European Social Fund Convergence programme for Cornwall and the Isles of Scilly. The two main aims of their research are the emerging threats to health and wellbeing posed by the environment, and the health and wellbeing benefits the natural environment can provide. They have experts from diverse disciplines that include epidemiology, policy analysis, systematic reviews, health economics, psychology and microbiology.</i></p>	

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.
<p><i>The ECEHH, which is part of UEMS, has a Health and Environment Public Engagement (HEPE) group. This is made up of members of the public who live in the South West and who have an interest in research about the interconnections between environment and health. It consults ECEHH, ensuring that the work of ECEHH considers the public perspective, from design and conduct to dissemination. There is no evidence they have decision-making power in the research agenda. There is also a Peninsula Public Engagement Group (PenPEG), involving members of the public in research in the South West Peninsula more broadly.</i></p>	

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.
<i>UEMS has a website for the ECEHH which includes research articles, blog posts, current researchers/staff and upcoming events.</i>	

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.
<i>The College of Medicine and Health Annual Conference 2020 was titled 'Planetary Health and Human Health'. It also supports an annual study day in planetary health. Last year's study day was converted to a webinar series titled 'Waking up to the planetary health emergency'.</i>	

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.
<i>The University of Exeter is a member of the Planetary Health Alliance , which was organised and initially advocated for by faculty in the College of Medicine and Health.</i>	

Section Total (18 out of 19)	18
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Community Outreach and Advocacy

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

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>The University of Exeter Global Systems Institute partners with community groups e.g. plastic reuse networks in the South West and regenerative ecology projects in Kenya.</i></p> <p><i>ECEHH has good community links for research in planetary and environmental health, including the HEPE group, but not specifically in health promotion activities. However, the Public Engagement in Medical Education (PIME) group (a group of members of the public who sit on various UEMS committees to help inform curriculum change) have been alerted about the PHRC project and are interested in promoting sustainability going forward and strengthening community links.</i></p>	

2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.

0	The medical school has not offered such community-facing courses or events.
<i>The University of Exeter Global Systems Institute hosts several events and seminars during the year on planetary and environmental health issues. These are free and open to the public, but are not specifically part of the medical school.</i>	

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.
<i>Planetary health and sustainable healthcare issues are often mentioned and focussed upon within articles in the Exeter University College of Medicine and Health News updates and the College of Medicine and Health Student Newsletter.</i>	

4. 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.
<i>No members of the Exeter PHRC team have come across any of these resources easily accessible to patients during time based in Truro, Exeter and Barnstaple on placement.</i>	

5. 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.
<i>No members of the Exeter PHRC team have come across any of these resources easily accessible to patients during time based in Truro, Exeter and Barnstaple on placement.</i>	

Section Total (3 out of 12)	3
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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>Students can bring any initiative to medical school faculty, and these are directed to the most appropriate medical school committee for feedback and support. The vast majority of initiatives are supported and enacted, but the main difficulty is continuity with initiatives after lead students graduate. There is no funding money set aside for student initiatives generally, but funds can be sourced and redistributed from other areas if the project is very worthwhile and requires investment, so there is some monetary support from the institution.</i></p>	

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>SSUs, an elective part of the course, unpick some of the areas of this topic. The year 2 SSU theme 'Global and Planetary Health' includes multiple different SSUs options in this field for students to choose from and do research in. These are part of the core medical school curriculum, thus do not constitute funded research opportunities.</i></p> <p><i>There are intercalating options, including a new Masters of Public Health, which has a module on planetary health, and enables students to produce a research project within the area of public health. Tuition fees for intercalation are funded by the NHS, but the Exeter PHRC team are unsure if this would be considered a paid research opportunity.</i></p> <p><i>The INSPIRE research studentships offer some funding for research projects, and are open for any UEMS students to apply with a research proposal. The Exeter PHRC team were unable to find out if planetary health research proposals would explicitly be included within this.</i></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 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.
<p><i>The ECEHH website has some information on the research Exeter University is involved with to do with this topic including sustainable anaesthetic cases and climate change adaptation.</i></p> <p><i>There are some other pages on the university website outlining research and primary investigators in topics such as antimicrobial resistance and the environment. There is also access to a webinar series on 'Waking up to the planetary health emergency'</i></p> <p><i>The university also runs a grand challenge every year, and this year the topic is Planetary Health. This encourages students to work in teams to overcome challenges of climate change on certain health conditions, which could be using protocols and technologies.</i></p>	

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?

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.

There are two societies, 'Truro Global Health Society' and 'Students for Global Health Exeter' that focus their lectures around topics of planetary health, tropical medicine, infectious disease and humanitarian crises.

The Exeter student guild has recently introduced a sustainability grant, this allows student societies to apply for up to £500 worth of funding for events that increase awareness and help enhance sustainable practices.

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?

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.

There is no student representative.

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 organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.
<p><i>The webinar series on the University website titled 'Waking up to the Planetary health emergency' is partially targeted towards students as an audience.</i></p> <p><i>The societies 'Students for Global Health Exeter', 'Exeter Wilderness Medicine Society', and 'Truro Global Health Society' offer events regarding planetary health in which doctors and other healthcare professionals discuss their work in developing countries and in areas hit by humanitarian crises, sometimes caused by climate change.</i></p> <p><i>There are a few societies offered in Exeter which involve hiking and other outdoor activities for students, but these are aimed at Exeter University students as a whole.</i></p>	
Section Total (7 out of 14)	
7	

Campus Sustainability

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

1. Does your 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>The University of Exeter has an office of sustainability, consisting of a full time head of sustainability, energy manager, sustainability officer for transport and engagement, as well as a part time carbon data coordinator. There are 4 'sustainability coordinators' at the medical school, but this is a part time, voluntary role, so there are no salaried full time staff for the medical school.</i></p>	

2. Does your medical school and/or institution have a stated goal of carbon neutrality by 2050?	
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>The University of Exeter has pledged to be carbon neutral for scope 1 and 2 emissions by 2040 (emissions from resources either owned and controlled by the university, or purchased). They are</i></p>	

utilising a front-loaded approach, aiming to reduce emissions by 75% by 2030. They are currently on track to reduce emissions by 50% by 2026. There are also plans to reduce scope 3 emissions (indirect) by 50% by 2030 and aiming for net zero by 2050. This is outlined in the [Environment and Climate Emergency Working Group White Paper](#), an independent inquiry commissioned by the University of Exeter, which offers detailed plans and recommendations for how to achieve this.

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.

The University of Exeter has recently made a [green energy Power Purchase Agreement \(PPA\) in partnership with other UK universities](#) that adds to the existing [100% REGO-certified renewable electricity](#) contract that's been in place since 2017.

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.

All University of Exeter buildings utilise the BRE Environmental Assessment Method (BREEAM) as a tool for delivering [sustainable buildings](#). All new builds must achieve an 'Excellent' rating on this scale, and all refurbishments must receive a 'Very Good'.

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.
<p><i>The University of Exeter has a Sustainable Travel Plan for the Exeter Campuses 2016-2020. This includes a University bus service with an extended schedule and collaborating university projects with Sustran's active travel projects. There has been investment to improve cycle parking and changing facilities across Exeter campuses, and the central campus has priority access for pedestrians and cycles. A small fleet of electric bikes have been introduced for staff, and the campus hosts a small fleet of electrically assisted co-bikes as part of a city wide e-bike network. The University developed a strategy to convert 40% of service fleet vehicles to electrically powered alternatives by 2020. Additionally, there is a university car leasing scheme for new low CO2 emission vehicles, in collaboration with 'Co-Cars'. Details of these are outlined on the University website under sustainable travel.</i></p>	

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.
<p><i>The University of Exeter has a clear recycling programme, and all general waste is sent to a waste-to-energy plant rather than landfill. Some waste streams are also treated as resources to generate additional revenue for the university. Food waste is collected from all University catering outlets (including catered Halls of residence) and taken to an anaerobic digestion facility, after a trial of on-site anaerobic composting demonstrated the need for a commercial contract for management of food waste, outlined in the general Waste and Recycling Strategy. There is no evidence of a composting programme accessible to students.</i></p>	

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections?	
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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.
<p><i>A Sustainable Food Policy has been adopted at the University of Exeter. The main objectives of the Sustainable Food Policy are to ensure that where possible, all fresh produce is sourced from local suppliers, that packaging is environmentally-friendly, and that food is ethically sourced. All meat, poultry and milk on campus is sourced from Red Tractor Assured farms. This means that the meat sold by University venues has been certified as meeting certain safety, hygiene, animal welfare and environmental standards. There has also been effort to liaise with suppliers to increase their environmental performance, and sustainability criteria are used in awarding all contracts with suppliers. However there could be more vegan options on the menu.</i></p>	

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.
<p><i>The University has sustainability guidelines for supply procurement in the areas of food, construction, paper, travel, utilities and IT. There is a strategy group that regularly convenes to solve sustainable procurement issues.</i></p>	

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.

There is a [Sustainable Event Guide](#) produced for the Student Employability and Academic Success team, which could be applied to all University events. However, the medical school specifically does not have sustainability guidelines for 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.

The University of Exeter is undertaking the [Lab Efficiency Assessment Framework \(LEAF\)](#) accreditation and is on target to achieve bronze. They are also developing a framework to reduce plastic use and freezer temperatures are being increased from -80 to -70 to save energy usage.

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.

The University has now [divested from all direct investments in fossil fuels](#), but this did take a lot of persuading and was met by a lot of resistance when students e.g. Exeter University Extinction Rebellion took part in actions on campus to show their passion and the importance of divesting.

'After careful consideration, we have instructed our investment fund manager, Rathbone Greenbank, to sell our 2 holdings in oil and gas companies so we are no longer investing in fossil fuel companies'

However, there is no comment on reinvesting the divested funds into renewable energy companies.

Section Total (24 out of 29)	24
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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 Exeter Medical School

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

Section and weighting	Raw Score	Grade
Planetary Health Curriculum (30%)	36 / 58 = 62%	B -
Interdisciplinary Research (17.5%)	18 / 19 = 95%	A+
Community Outreach and Advocacy (17.5%)	3 / 12 = 25%	D
Support for Student-led Planetary Health Initiatives (17.5%)	7 / 14 = 50%	C
Campus Sustainability (17.5%)	24 / 29 = 83%	A -
Institutional Grade	63%	B -