



Planetary Health Report Card:

Lancaster University



2020-2021 Contributing Team:

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Summary of Findings

Curriculum	C+
<p>Strengths: Dr Connolly does an incredible job integrating planetary health into the curriculum through workshops and lectures. Elective courses in the form of Study Skills Modules (SSMs) encourage students to engage with the topic.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> ● Develop existing workshops to discuss areas of planetary health missing from the curriculum (see below for detail) ● Initiate a programme to offer incentives for faculty/departments to develop new planetary health/Education for Sustainable Healthcare (ESH) courses and/or incorporate planetary health/ESH into existing courses. 	
Interdisciplinary Research	D-
<p>Strengths: Individual faculty members at the medical school conduct research related to planetary health or healthcare sustainability. There is also an occupational and environmental health department; Lancaster Environment Centre (LEC).</p> <p>Recommendations:</p> <ul style="list-style-type: none"> ● Initiate collaboration between LEC and the medical school to focus on interdisciplinary planetary health research ● Join the Planetary Health Alliance and/or Global Consortium on Climate and Health Education ● Work with the university and the local community to generate interest and communication around research. 	
Community Outreach and Advocacy	D-
<p>Strengths: The year 2 project which teaches school students in the community about healthy eating and promotes low-carbon and plant-based diets.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> ● Initiate partnerships with community organisations in Lancaster to promote planetary and environmental health ● Set up regular communications with students around planetary and sustainable healthcare ● Encourage associated hospitals to create educational materials for patients around climate change, environmental exposures, and health. 	
Support for Student-Led Initiatives	C-
<p>Strengths: SSMs offer research opportunities into planetary health for students. There are student organisations dedicated to planetary health, as well as a student representative that advocates for sustainability best practises.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> ● Involve students more in decision making around sustainability best practises ● Create a medical school-specific webpage for locating planetary health and/or sustainable healthcare projects ● Begin encouraging and supporting student-led sustainability Quality Improvement (QI) projects. 	
Campus Sustainability	C+
<p>Strengths: The university has a sustainability group with an extensive and informative website. and the university has a clear carbon neutrality goal. There are sustainability criteria when it comes to supply procurement and food/beverages.</p> <p>Recommendations:</p> <ul style="list-style-type: none"> ● Put pressure on the university to divest from fossil fuel companies ● Implement strategies to encourage and provide environmentally-friendly transportation options for students ● Assign one or more staff members the role of improving medical school/campus sustainability ● Implement clear medical school-specific sustainability requirements for guiding decisions around food and 	

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.
Lancaster medical school offers two optional Study Skills Modules: one in year 1 related to environmental ethics and the other in year 2 which is a study around sustainable healthcare and planetary health.	

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 LMS core curriculum in year 2, all students attend a workshop led by General Practitioners (GPs) in which you spend short periods of time discussing the consequences of extreme temperature and health risk and climate change.

In Year 3, during the managing long term conditions rotation, there are both lectures and small group workshops, led by GPs, that discuss Climate Change Advocacy and the socioeconomic/racial disparities. One lecture included examples of the impact climate change has on the most vulnerable people in the world and how it affects different races. There was an opportunity to discuss how lower income groups and those living in deprived areas/those who are homeless are disproportionately impacted by extreme weather.

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 impacts of extreme weather events on individual health was briefly covered in Dr Connolly's plenary lecture in year 3. This topic was also discussed in workshops in both year 2 and year 3 but not as part of the official curriculum, so not all groups cover the same topics and questions.

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.

In Dr Connolly's year 3 planetary lecture, the impact of climate change on the spread of new infectious diseases is discussed. The slides discuss how rising temperature and weather extremes have an impact on vector-borne diseases and water-borne diseases. Therefore, this has been awarded 3 points.

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.
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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.
<p>Dr Connolly's year 3 plenary lecture discusses the impact of rising temperatures on the prevalence of heat stress and cardiovascular failure. The lecture also mentions the impact of air pollution on both cardiovascular disease and respiratory illnesses, such as asthma. There is a slide that outlines the impact of weather extremes on respiratory allergies. This is the only teaching students receive as part of the curriculum.</p>	

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.
<p>There are no specific learning objectives, lectures, or questions that cover this topic. However, it is occasionally discussed within workshops but not officially, nor is it part of the curriculum.</p>	

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.
<p>In Year 2, students are required to deliver a lesson to year 8 pupils about healthy and low carbon lifestyles and how they affect cardiovascular health.</p> <p>A lecture by Dr Connolly explores the impact of plastic pollution on our oceans, including plastic ingestion by wildlife causing plastic to enter the entire food chain, as well as how climate change-associated alterations to water temperature, acidity, or salinity can cause pathogenic organisms (<i>Vibrio</i> genus) which cause illness in human, fish, and other marine life.</p> <p>In a specific workshop, questions are given to students to assess their own diet and lifestyle and to discuss the impact of a low carbon diet on both their own health and the health of the planet.</p>	

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.

In year 1, there is a lecture on environmental ethics that briefly covers the impact of climate change on marginalised populations. Year 2 and 3 both have workshops which provide opportunity to discuss these matters but this is student led, so may not be covered in the same depth across the years.

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.

Dr Connolly's lecture includes the unequal health impact of climate change globally, specifically looking at the impact of rising sea levels and extreme weather. A year 1 Environmental ethics lecture provides some information around the unequal impacts of climate change. However, this topic is not covered in great depth.

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

Students in year 3 and year 4 both have learning objectives regarding subfertility and its causes, but neither year specifically includes industry-related environmental toxins.

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.

This topic has not been covered. Suggestions for future development in the curriculum include fracking in Cumbria and the nuclear power station in Heysham.

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.

This topic has not been covered.

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.

This topic is briefly covered in the curriculum under 'Population Health' and 'Health, Culture, and Society' which explore the prevalence of environmental toxin-related diseases and society's role in such diseases.

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.
This topic is briefly covered in Year 2, where students deliver a lesson about the role of healthy and low carbon lifestyles on cardiovascular health. This could be further developed in other modules and years. For example, in year 1 where a module focuses on nutrition and diet.	

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.
This topic is briefly covered in year 3 and year 5, covering principles of sustainable clinical practice and waste in the clinical environment. This could be further developed in clinical skills education in Year 1 where this could be further highlighted.	

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>There are no strategies taught for having conversations with patients about climate change. This could be something that could be easily integrated into the communication skills sessions that already take place during years 1 and 2, where students are taught about the importance of taking an environmental history or exposure history.</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>This is covered in communications skills sessions in years 1 and 2, including asking about asbestos exposure and previous employment.</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.
<p>As demonstrated in this report, the medical school has made some improvements to ESH/planetary health education, but there is certainly room to make further improvements. Dr Connolly has plans to improve ESH/PH education, including more workshops consistently across the year.</p>	

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.
Topics are revisited across the years, in a 'spiral curriculum' format. However, as seen in previous metrics, topics are not always consistent, nor compulsory.	

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.

There is currently no incentive program. Scope for possible incentives do not necessarily need to be financial if there is an issue of costs. Potential incentives could include training and certificates of training to be provided for clinicians/lecturers who will facilitate teaching in planetary health or integrate it into existing courses. Further scope for this to be developed might be within different specialities, especially in year 3. For example, within psychiatry teaching and rotation, discussions could be held about the effects climate change has had on patient's mental health or within Obs and Gynae, discussions could be held in teaching sessions about the effects of "gas and air"/Entonox use and its impact on the environment.

Section Total (34 out of 58)	34
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Interdisciplinary Research

Section Overview: This section evaluates the quality and quantity of interdisciplinary planetary health research at the medical school and broader institution. Interactions between health and the environment are complex and multifactorial. While climate change has been extensively studied from an environmental science perspective, planetary health is an emerging field. As leading health institutions with talented researchers and research resources, medical schools should fund research studying the health effects of climate change and anthropogenic environmental toxins. This obligation is particularly strong because the public and policymakers are more attentive to climate change when its implications for human health are 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>There are several projects that the post graduate students in Lancaster Medical School are working on alongside faculty members. The Amazonian Food Insecurity Project models the impacts of droughts and flooding on food insecurity for city dwellers living in the Amazon region. The project is funded to develop methods of sustainable food distribution.</p> <p>Another research project is the Campylobacter Transmission study. This project aims to identify reservoirs, environmental and social drivers of Campylobacter that affect human disease, analyse seasonal variations in pathogen load and their impacts on exposure and disease. This study will help identify future disease risk and control.</p> <p>While research in this area is being conducted, planetary health and healthcare sustainability is not the primary research focus for any of the faculty members.</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.

Lancaster University has a LEC (Lancaster Environmental Centre) which carries out research projects in climate change. However, currently there is no interdisciplinary department specifically focussing on planetary health. Dr Felicity Connolly hopes to collaborate with LEC to set up a department in this area in the near future.

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.

Most people that are experiencing climate change adversities e.g. coastal communities in Bangladesh are unlikely to be in contact with our medical school, and there is no process by which these communities give input to research agenda at the medical school.

It is important to note that the people worst affected by climate change are indigineous people and ethnic minorities who are rarely mentioned when discussing climate change issues. Additionally, this question raises an argument that in reality, everyone is affected by climate change e.g. through respiratory problems caused by pollution.

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.
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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.

Lancaster University has an [Office of Sustainability website](#) that includes some resources related to health and the environment, including encouraging cycling.

The medical school itself does not have a website dedicated to planetary health, though it does have a website displaying all the current research projects ([Chicas](#)). This includes research across all areas of medicine including Planetary Health. We hope that in the future, the medical school can develop a specific website that displays the current projects in Planetary Health and is primarily focussed on promoting planetary health agendas.

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.

The wider university has so far not hosted any conferences in relevance to planetary health, however with increasing interest in this area, there is likely to be conferences in the 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.
Neither Lancaster Medical School nor the wider university have joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.	

Section Total (4 out of 19)	4
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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.
The medical school has no such meaningful community partnership. However, there are real plans for partnership with the Eden Project North in areas of investment and education in the coming years, primarily led by Dr Felicity Connolly.	

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.
In year 2, students run lessons to promote healthy lifestyles including low-carbon lifestyles and plant based diets to students in local schools. This is run yearly. However, this is currently the only event and is limited in target audience and frequency.	

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.

There is no regular coverage of issues related to planetary health or sustainable healthcare in university update communications, and there are currently no plans that we are aware of to begin implementing this information into update communications.

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.

There is no information available online on trust websites. After contacting the trusts directly, none were able to direct us to any resources fulfilling the above criteria.

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.

There is no information available online on trust websites. After contacting the trusts directly none were able to direct us to any resources fulfilling the above criteria.

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.
Currently the institution does not offer any support for enacting a sustainability initiative. However, this is something we as students would like to encourage for the future.	

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.
There are research opportunities available to years 1 and 2 students. The special study modules include topics such as Environmental Ethics and Environmental Risks for Childhood Leukemia. These modules give students the opportunity to work with Faculty members that are involved in Environmental Projects, thereby contributing to further understanding the risks of air pollution and occupational hazards. We hope that as more awareness is raised on environmental projects, the medical school will fund research opportunities in the future.	

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.

The medical school has published a blog post on the [Centre for Sustainable Healthcare Networks website](#), which includes the planetary health teaching provided by the medical school throughout the different years. However, there is no medical school-specific webpage for locating planetary health and/or sustainable healthcare initiatives or mentors.

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 is a student organisation that supports sustainable healthcare that is supported by faculty within the medical school such as Dr Felicity Connolly and Dr John Appleby. As of yet, no advocacy occurs on the campus and currently there are no scholarships that are offered to medical students to foster a culture of planetary health engagement. However, the faculty have been really supportive in providing us with the necessary resources and supporting students who pursue planetary health efforts.

Additionally, student societies such as ‘Students for Global Health’ (part of a national charity) are actively involved in promoting planetary health initiatives. This organisation specifically focuses on the threat of climate change and its effects on the health of the wider population.

We as students are confident that our consistent efforts in raising awareness will encourage the institution to provide student led organisations with funding.

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.

Deborah Beange (a medical student from Lancaster Medical School) carries out various activities to encourage students to join Planetary Health efforts, along with attending national and international meetings. Faculty members, Dr Felicity Conolly and Dr John Appleby support student projects and provide students with guidance to pursue their interests. In year 3, following the General Practice rotation which heavily focuses on sustainable healthcare, Dr Felicity sent an email to all students encouraging them to join student organisations involved in promoting planetary health.

While there are student representatives, their role in medical school decision-making around sustainability is limited. Therefore, this has been awarded 1 point, with areas of improvement still present.

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.

The university's student union has an initiative called '[Edible Campus](#)' where students can get involved in practical and sustainable food production. The EcoHub aims to create an environment where students can learn, teach and exchange ideas about small-scale farming and sustainable practices. Therefore, the first point has been awarded.

The university's Sustainability website advertises a number of local volunteer opportunities related to building community resilience to anthropogenic environmental impacts, including the [LESS](#) initiative, promoting Sustainable Living in Lancaster. Therefore, this point has been awarded.

The university runs a number of outdoor programmes including forest walks that all follow Leave No Trace principles. The society '[Lancaster University Wilderness and Emergency Medicine](#)' also runs regular organised hikes that follow the same principles. Therefore, this last point has been awarded.

There are no panel/speaker events related to planetary health, or events where students learn from members of the local environmental justice community, or cultural art events currently run by the university. Therefore, these points have not been awarded.

In terms of the medical school itself, there is no hands on volunteering work or events organised. This is something that the medical school can work towards in the future and plan exciting events to raise awareness on planetary health.

Section Total (6 out of 14)	6
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Campus Sustainability

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

1. Does your 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>The institute has a Sustainability Group run by a team of full-time staff dedicated to campus sustainability: Sustainability Group Lancaster University. Dr Felicity Connolly from the medical school is the clinical lead in the education of sustainability and covers the curriculum. However, there is no staff member from the medical school faculty that is officially dedicated to improving the sustainability of the medical school and/or hospital.</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.

Lancaster University (as an institution) announced its aim to become carbon neutral by 2035 in November 2020. The university has a well-defined and clear plan in place to achieve this, including a new fully refurbished energy centre that will reduce University carbon emissions. As the medical school falls under this umbrella, the score has been based on the institutional goals.

The university's announcement can be found here: [University announces aim to become carbon neutral | Lancaster University](#).

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.

All buildings, including the Health Innovation Campus from which the medical school runs, come under the remit and guidelines of the University and therefore campus data has been used for this question. It was difficult to find actual statistics on the university website, despite a lot of information on reduction of carbon usage. Despite this, the university clearly sources more than 20% of its energy from off-site and/or on-site renewable energy including the university's [Wind Turbine](#), the [Combined Heat and Power unit](#), and the [Biomass Boiler](#).

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.

The university uses a design and assessment standard for sustainability of construction ([BREEAM, Sustainable Buildings | Lancaster University](#)). In 2005, the university set out a strategy with strict criteria to ensure that any new buildings on campus met the BREEAM Excellent standard and any

major refurbishments met BREEAM's Very Good criteria. In all buildings that have been completed to date, the university has met those targets. This includes the buildings that the medical school uses for teaching ('Furness Building' and 'Health Innovation One Campus').

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.

The medical school offers a coach for most students to attend placements far from the city. Car pooling among students is generally encouraged by the medical school and placements are often decided upon based on which students have access to a car in order to facilitate as much car pooling as possible. However, it is felt these strategies are not aimed to be environmentally friendly, as demonstrated by the fact that taxis are at times arranged to take students to placement. Additionally, there is no incentive for students to take public transport or to share lifts with other students.

The wider university has numerous environmentally-friendly transportation strategies ([Travel Plan | Lancaster University](#)) which medical students inadvertently use when travelling to campus. However, much of the travel undertaken by medical students is to and from placement.

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.

The university has an extensive recycling regime across the campus including offices and residential areas (which includes the medical school) and successfully recycled 76% of waste in 2013-14. There is currently no compost programme at the university or medical school.

Details about waste and recycling at the university can be found here: [Waste and Recycling | Lancaster University](#).

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.

The university has been a Fairtrade accredited University since 2008 and aims to improve the availability and range of Fairtrade products on campus. The university has also made movements to improve the sustainability of some products, namely milk and fish. Green Lancaster is also running a campus-wide planting project, 'Edible Campus', where fruit, vegetables, and herbs around the campus are free to be picked and used. The medical school meets the sustainability measures of the university when it comes to food and beverage. However, the university's sustainability criteria cover an insufficient portion of the food and beverage supplied by the university and further development is needed.

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.

The university has a Procurement Strategy ([Sustainable Procurement | Lancaster University](#)) which provides a framework for expenditure and is consistent with its environmental and social aims. However, it does not have a separate Sustainable Procurement Policy, simply seeking to embed best practice within its existing framework. While key aims for sustainable procurement have been highlighted, more could be done in this area.

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.

The university outlines a number of policies that relate to events including the [Sustainable Procurement Policy](#), the [Sustainable Food Policy](#), the [Fairtrade Policy](#) and the [Waste and Recycling Policy](#). These policies all apply to events hosted by the medical school. However, the medical school does not have its own personal guidelines, and the policies themselves are not compulsory, highlighting areas for improvement.

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 has no known guidelines or initiatives on how to make lab spaces more environmentally sustainable.

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 not divested from fossil-fuel companies and, in 2019, the university invested almost £250,000 into funds that directly had holdings in the fossil fuel industry. There are a number of student-led campaigns to encourage the university to divest from fossil fuels. The Lancaster University Extinction Rebellion Society conducted and released a report which listed how much the university invests in various fossil fuel companies, and organised a petition demanding the university to divest. The Student Union has supported these campaigns, and released their own 'Motion on Climate Change' report ([Motion on Climate Change](#)).

Section Total (17 out of 29)

17

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 Lancaster Medical School

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

Section	Raw Score	Grade
Planetary Health Curriculum (30%)	34 / 58 = 58.6%	C+
Interdisciplinary Research (17.5%)	4 / 19 = 21.1%	D-
Community Outreach and Advocacy (17.5%)	3 / 12 = 25.0%	D-
Support for Student-led Planetary Health Initiatives (17.5%)	6 / 14 = 42.9%	C-
Campus Sustainability (17.5%)	17 / 29 = 58.6%	C+
Institutional Grade	43.4%	C-