



Planetary Health Report Card (Medicine): *Lancaster University Medical School*



Lancaster University
Medical School

2022-2023 Contributing Team:

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Summary of Findings

Overall	C
<u>Curriculum</u>	B
<ul style="list-style-type: none"> ● Strengths: Planetary health is well integrated longitudinally into the curriculum through workshops and lectures. Elective courses in the form of Study Skills Modules (SSMs) encourage students to engage with the topic. ● Recommendations: ● Develop existing workshops to discuss areas of planetary health missing from the curriculum (see below for details) ● Initiate a programme to offer incentives for faculty/department to develop new planetary health/Education for Sustainable Healthcare (ESH) courses and incorporate planetary health/ESH into existing courses. 	
<u>Interdisciplinary Research</u>	C
<ul style="list-style-type: none"> ● 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 EnvironmentCentre (LEC). ● Recommendations: ● Initiate collaboration between LEC and the medical school to focus on interdisciplinary planetary health research. ● Work with the university and the local community to generate interest and communication around research. 	
<u>Community Outreach and Advocacy</u>	D+
<ul style="list-style-type: none"> ● Strengths: The year 2 project teaches school students in the community about healthy eating and promotes low-carbon and plant-based diets. ● Recommendations: ● 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 and collaborate with associated hospitals to create educational materials for patients around climate change, environmental exposures, and health. 	
<u>Support for Student-Led Initiatives</u>	C
<ul style="list-style-type: none"> ● Strengths: SSMs offer research opportunities into planetary health for students. The University continues to promote climate awareness through student-led initiatives. ● Recommendations: ● Involve students more in decision-making around sustainability best practices ● Create a medical school-specific webpage for planetary health and sustainable healthcare projects. ● Begin encouraging and supporting student-led sustainability Quality Improvement (QI) projects. 	
<u>Campus Sustainability</u>	C
<ul style="list-style-type: none"> ● Strengths: Lancaster University continues to demonstrate a positive commitment to sustainability, with extensive information on their plans available on their website. They have declared a climate emergency and have taken steps to increase the contribution of renewable energy to their energy mix. ● Recommendations: Our recommendations for the University remain the same from our 2021 Report. 	

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance describes planetary health as “a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth’s natural systems on human health and all life on Earth.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, 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 nationally and internationally on the basis of discrete metrics in five main category areas: 1) planetary health curriculum, 2) interdisciplinary research in health and environment, 3) university support for student planetary health initiatives, and 4) community outreach 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 and other environmental changes. Therefore, it is critical that medical students are trained to understand the health effects of these changes, as well as planetary health issues and principles more broadly. Topics like the changing geography of vector-borne diseases, the health consequences of air pollution, environmental health inequities, and disaster response principles must be part of every medical school's core curriculum.

Curriculum: General

1. Did your <u>medical school</u> offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>Lancaster Medical School provides students with the opportunity to undertake 'student selected modules' in a variety of areas within 1st and 2nd year. Some of these titles relate directly to planetary health, specifically in the context of the role of doctors. There are no student selected modules in year 5 that are tailored to planetary health, so there is room for improvement.</i></p>	

Curriculum: Health Effects of Climate Change

2. Does your <u>medical school</u> curriculum address the relationship between extreme heat, health risks, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Planetary health has been embedded within the community and GP teaching at Lancaster. In year 2 students have the opportunity to receive GP led teaching over 4 weeks. Within these sessions issues such as climate change and sustainable health care are touched upon. Community health teaching continues in year 3. A series of lectures by Dr. Connelly focuses on the implications of climate change, not only on health, but on the changing role of a doctor. Within our group teaching sessions there are scenarios to encourage discussion around sustainable health care and future implications.

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.

At Lancaster Medical School students are provided with lectures that cover issues around climate change. One of the many topics that are covered is the relationship between health and weather. Although this is contained within a lecture it was not covered in any great detail and there is room for further development of the curriculum. The content relating to the current energy crisis in the UK and how this may affect the provision of healthcare would be a relevant topic to be included in future lectures and workshops.

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.

Year 3 at Lancaster Medical School provides a module within the community and GP rotation that solely focuses on planetary health. Dr Connolly delivers lectures detailing the continued impact of climate change on disease spread throughout the world.

There is a slide highlighting how changing weather and environments may allow for new patterns of disease. Pollution of our waters and environments as a consequence of our waste is covered in detail in multiple slides.

While this topic is covered, there is scope to discuss this in more detail, especially in the context of COVID.

5. Does your medical school curriculum address the respiratory health effects of climate change and air pollution?

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

Owing to the nature of the curriculum at Lancaster Medical school, respiratory medicine is covered every year. The common risk factors for respiratory medicine with a focus on climate change and environmental factors are discussed. While these are briefly covered in lectures, there is no detailed information about these topics.

It would be beneficial for the medical school to dedicate a lecture to the complexity of this issue.

6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?

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

Lancaster Medical School covers cardiology in depth every year. This content does touch upon environmental risk factors and how these will impact cardiac health.

Dr Connolly's lectures focus broadly on the consequences of temperature change, but there is not much content in the context of health and the cardiovascular effects of this.

7. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?

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

While many of the physical consequences of climate change are covered within our planetary health modules, there is no mention of the psychological impact.

8. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?

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

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

9. Does your medical school curriculum address the outsized impact of climate change on marginalised populations such as those with low SES, women, communities of color, Indigenous communities, 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.

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 about the unequal impacts of climate change. However, this topic is not covered in great depth.

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

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

Issues surrounding health inequalities, specifically relating to environmental factors are explored in a multitude of modules throughout all years at Lancaster. In year 3 students are given the opportunity to really explore the geographical inequalities of climate change through a series of scenarios.

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

11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Despite Lancaster Medical School providing a comprehensive course in climate issues and planetary health, there are still small gaps in the curriculum. None of their resources or lectures discusses the impact of the environment on reproductive health. There are other opportunities for this to be covered, for example, in sexual health workshops and lectures relating to fertility issues throughout years 3 and 4.</i></p>	

12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>This topic is not part of the curriculum at Lancaster Medical School. Year 2 Health Inequalities course - looked at flooding, climate change and heat waves on local population - look at health inequalities. Outreach work available with senior lecturer and clinical staff - local engagement - elective - The current Year 2 Health Inequalities course looks at flooding, climate change and heat waves in the larger population as well as a more local demographic. There are also elective options available in terms of outreach work, conducted by senior lecturers and clinical staff. //// goals - more representation for lectures engaging in local community. Wider faculty members more involved in core curriculum.</i></p>	

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

This topic is very briefly covered in the curriculum as part of our Learning objectives under the sections of; 'Population Health' and 'Health, Culture, and Society', in which one has to explore the prevalence of environmental toxin-related diseases and society's role in such diseases. There are lectures and workshops dotted throughout the medical decree.

14. 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, Indigenous populations, and older adults?

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

The topic of anthropogenic environmental toxins are covered in a Year 3 Lecture by Dr. Fliss Connolly titled - Sustainable Healthcare and Planetary Health Introductory Lecture. The toxins covered were microplastics entering ocean and once ingested entering the food chain, information to a Lancet article regarding nitrogen and phosphorous pollution.

Curriculum: Sustainability

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

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

In Year 2 students partake in a Health Promotion module, where they choose a topic and talk to secondary school students regarding lifestyle changes that they can do to better their health this could be relating to cardiovascular disease, mental health etc. This concept can also be said to have been reinterpreted and explored through a Primary Care Clinical Teaching scenario of the "Health Benefits of a low carbon lifestyle". While the specifics of plant-based diets have not been included in the teaching or the learning objectives, the topic is explored in sufficient details as part of a wider branch of healthy living and healthy lifestyles.

16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored in depth by the core curriculum
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>A year 3 lecture explores the carbon footprint in healthcare in great detail, referring to the footprint medical equipment may create in production, in use and more. It also refers to the environment impact of surgical procedures, during and after. There is also reference to the Net Zero NHS report. Dr. John Appleby also delivers further sustainable healthcare lectures in Year 1 and Year 2, exploring the initial concepts of carbon footprint.</i></p>	

17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each) ***	
2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfill this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
	<p>a. <i>In Primary Care Clinical Teaching (PCCT) for Years 3 and 4, the topics explored in detail are over medicalisation, appropriate investigations according to NICE guidelines as well as efficient treatment regimens. These concepts are further discussed in Year 5 and while this not assessed it is still a key part of core curriculum.</i></p> <p>b. <i>While over-prescribing is discussed; the climate health harm caused and associated environmental effects are not related in the discussion.</i></p>

	<p>c. Co-benefits are taught in multiple modules such as health prevention and health promotion projects in Year 2 which promote exercise, social prescribing as well as lifestyle choices and habits for better health. Year 4 PCCT, Year 3 diabetes modules in the GP rotation, Mental Health modules in Year 4 as well as further lifestyle medicine elements.</p> <p>d. Surgical waste as well as medical waste and using appropriate bins for clinical waste are discussed in Year 2 and Year 3</p> <p>e. The Planetary Health Introductory lecture in year 3 goes over the environmental dilemma with anaesthetic gases, however the options of using less environmentally harmful options are not covered.</p> <p>f. There is no currently no information included on the impact of inhalers on the environment</p> <p>g. Dr John Appleby delivers a lecture on clinical waste which discusses this. The Sustainable healthcare module in Year 3 as well as resources on good clinical practice also covers this.</p>
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Curriculum: Clinical Applications

18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
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>There are currently no strategies for conversations with patients about the health effects of climate change. However as there is sufficient discussion of patient lifestyle and other environmental factors iwithin teaching scenarios in Year 3 PBL scenarios and Year 3 and Year 4 primary clinical care teaching scenarios, there is plenty of opportunity to include this.</i></p>	

19. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the core curriculum includes strategies for taking an environmental history.
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>Holistic and full history taking is a key part of clinical skills throughout medical school, a skill which is practiced and refined first through regular communication skills workshops in Year 1, clinical placements in Year 2-5. 3. In Year 3 (specifically blocks such as Managing Long Term Conditions) and Year 4 Primary Care Clinical Teaching emphasise the importance of environmental history taking for example air pollution in paediatrics and in Year 4 one is encouraged specifically to ask for exposure history e.g. asbestos, radiation etc.</i></p>	

Curriculum: Administrative Support for Planetary Health

20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education? ***	
4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.
<i>Yes, educational improvement documented - GMC, medical school council approved, curriculum review process currently ongoing. We look forward to seeing how these improvements manifest in the next Planetary Health Report Card</i>	

21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> curriculum?	
6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s) .
0	There is minimal/no education for sustainable healthcare.
<p><i>Score explanation: There are is a module in Year 3 of the curriculum (Managing Long-Term Conditions) which explores planetary health as a workshop, including such topics as climate change advocacy, principles of sustainable clinical practice, impacts of clinical waste, and the health impact of low carbon lifestyles. It also provides further reading material linking to current medical groups focused on sustainability. This module also has an introductory lecture, which aside from the above topics, also covers the effects of climate change on health.</i></p> <p><i>In Year 1, there is a learning objective looking at the effects of environmental quality on human health, with resources included.</i></p> <p><i>In Year 2, there are learning objectives covering sustainability in healthcare practice, management, and design, as well as the environmental costs of providing care in different specialties – with resources included. There is a lecture entitled Medical Ethics, Sustainability, and the Environment.</i></p> <p><i>In Year 5 - the previous topics are repeated under primary care teaching. Sustainability and planetary health is covered as a small-group discussion, and also partially delivered by tutors and students.</i></p> <p><i>In conclusion, ESH is covered longitudinally as part of the “spiral curriculum” – one area of improvement we suggest would be to integrate teaching into the fourth year curriculum.</i></p>	

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

1	Yes, the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.
0	No, the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.
<i>Score explanation: Dr. Felicity Connolly has been appointed as the Clinical Lead for Sustainability. Also employed as a senior clinical lecturer in General Practice. She is currently being assisted further</i>	

Section Total (x out of 72)	52
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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 <u>medical school</u>?	
3	Yes, there are faculty members at the medical school who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the medical school who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
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.
<i>There are several projects that the post graduate students in Lancaster Medical School are working on alongside faculty members. Furthermore, Lancaster Medical School has established a research hub, Centre for Health Futures (https://www.lancaster.ac.uk/lums/research/areas-of-expertise/health-futures/), which specialises in developing sustainable and innovative solutions to problems faced by the National Health Service. The Amazonian Food Insecurity Project models the impacts of droughts and flooding on food insecurity for</i>	

city dwellers living in the Amazon region. The project is funded to develop methods of sustainable food distribution. 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.

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 their Lancaster Environment Centre (LEC) which is involved with climate change and sustainability research opportunities. Some examples of their research challenges include “eco innovation”, “sustainable catchments”, “agri-food” and “tropical futures”. Furthermore, the LEC also has research groups that work in multi-disciplinary teams to try and put forward solutions for some of the planet’s environmental challenges. Examples of challenges that are researched are “atmosphere, climate & pollution”, “critical geographies”, “earth science”, “ecology & conservation” and “soil, plant & land systems”.

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.

Communities that suffer the worst from the effects of climate change are not likely to communicate with Lancaster Medical School. Furthermore, Lancaster Medical School have not yet opened up a process to allow communities and groups to input their thoughts into possible research.

4. Does your institution have a planetary health website that centralizes ongoing and past

research 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.
<p><i>Lancaster University has an Office of Sustainability website (https://www.lancaster.ac.uk/sustainability/) . This website includes examples of how Lancaster University are making a difference, for example their sustainability policies, people involved and their sustainable development goals. They also have an Annual Sustainability Report which covers carbon and energy management, biodiversity and landscape, waste and recycling, teaching and research, finance, organisation and resource, sustainability engagement, management and compliance.</i></p>	

5. Has your <u>institution</u> recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the medical school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>On 01/11/22, Lancaster University hosted a Sustainability event to discuss initiatives, objectives and progress on the university's sustainability goals.</i></p>	

6. Is your <u>medical school</u> a member of a national or international planetary health or ESH organization?	
1	Yes, the medical school is a member of a national or international planetary health or ESH organization
0	No, the medical school is not a member of such an organization

Lancaster University is a member of the Planetary Health Alliance.

Section Total (x out of 17)

8

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Community Outreach and Advocacy

Section Overview: *This section evaluates medical school engagement in community outreach and advocacy efforts associated with planetary health. Researching and teaching planetary health is necessary but not sufficient. It is critical that institutions also directly engage with communities most affected by environmental health harms. Although climate change is a problem largely created by those with power and resources, its impacts fall disproportionately on under-resourced populations and communities of 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.

Score explanation: [Green Lancaster](#) is a partnership between the Student’s Union and the University which runs events with the aim of “engaging students, staff, and the local community in practical responses” to climate change. For example, they hold weekly “ECOWoods” volunteering sessions – which involves natural landscape care and restoration. Notably, the medical school school itself is not affiliated with official community organisations.

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

In Year 2, students must complete a health promotion group project. Within this project, students must create a teaching event for local primary school students in regards to modifiable lifestyle risk factors. For example, students can cover low carbon lifestyles and the importance of healthy plant focused diets, alongside smoking and alcohol.

In the future, we hope that the medical school could offer more events for community involvement throughout the year to promote public interest in planetary health – not only for schoolchildren, but for the general public.

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 receive communications about planetary health or sustainable healthcare.

Score explanation: Regular communications do not include sustainability or planetary health regularly – mainly because we do not receive regular newsletters. Unfortunately, that means that this metric is unapplicable. It must be stated that most regular communications involve information regarding opportunities or policy notices, as opposed to updates.

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

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

Score explanation: There are post-graduate courses relating to planetary health that are available to health professionals run by the medical school, such as the [Clinical Research MSc](#) (which has an optional module on Infectious Diseases Modelling). As this is not the primary focus, we award 1 point. Furthermore, affiliated hospital trusts do not have specific courses relating to planetary health.

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

2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.

0	No affiliated medical centers have accessible educational materials for patients.
<p><i>Score explanation: No patient leaflets regarding environmental health exposures were found upon investigation on Trust websites. This is something that the Medical School and the NHS Trusts should work towards producing to promote patient awareness of environmental health exposures.</i></p>	

6. Does your <u>medical school</u> or its <u>primary affiliated hospital</u> 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.
<p><i>Score explanation: No patient leaflets regarding climate change or its health impacts were found upon investigation on Trust websites. This is something that the Medical School and the NHS Trusts should work towards producing to promote patient awareness of climate change and the impacts (both potential and current) it has on human lives.</i></p> <p><i>However, whilst no hospitals have materials easily accessible, one primary healthcare centre affiliated with the Medical School (a GP surgery) has released an article regarding switching inhalers to a more green alternative. See here. As a result, we have decided to award this metric 1 point.</i></p>	

Section Total (x out of 14)	5
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Back to summary page [here](#)

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 <u>medical school</u> or your <u>institution</u> offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the medical school or institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school or institution encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.

0	No, neither the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Score explanation: At present, the institution does not offer any opportunities or support for sustainability initiatives. This is a possible point of improvement for the future. However, there are plans for integrating susQI projects in the future.</i></p>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation: Students in Years 1 and 2 are granted opportunities to undertake research in sustainability. This is undertaken through Special Study Modules (SSMs), which cover a variety of topics – such as sustainable healthcare practice and ethics. In these SSMs, students work with members of Faculty involved in relevant fields of research. With the ever-increasing awareness of planetary health issues, we hope that more research opportunities will be available for students. ? Unlabeled programs outside for medical students ie intercalation.</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>Score explanation: No medical-school specific webpages were found for locating planetary health and/or sustainable healthcare projects or mentors. Plans are currently underway for a webpage to be developed in regards to this, so we as a team hope that this metric changes in future reports.</i></p>	

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

2	Yes, there is a student 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 .
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.

Score explanation: There was previously a Students for Global Health group, but it has been inactive for two years. However, there is an informal student organisation supporting sustainable healthcare that has faculty support within the medical school, backed by members such as Dr. Felicity Connolly and Dr. John Appleby. At the time of writing, there have not been any events supporting advocacy on campus, nor are there any scholarships offered. As such, these are areas that could be improved on in the future.

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

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

Score explanation: As far as this team is aware of, there are no student liaisons for sustainability within the medical school.

6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	
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)
<p><i>Score explanation:</i> The University has an edible garden and an orchard which uses sustainable practices, and it is run by the society Edible Campus. There are multiple groups which organise wilderness events (Green Lancaster, LU Hiking Club, Wilderness and Emergency Medicine Society).</p> <p>Green Lancaster is a partnership between the Student's Union and the University which runs events with the aim of "engaging students, staff, and the local community in practical responses" to climate change. For example, they hold weekly "ECOWoods" volunteering sessions – which involves natural landscape care and restoration.</p> <p>As for cultural and the arts, the Nuffield Theatre has hosted multiple events with artists whose works relate to climate change and health. Examples: talks with Alison Clough and Sena Başöz. In previous years, the Medical School itself has been host to climate and health-related art installations (but are irrelevant to the time remit of this report).</p> <p>However, there are no events or volunteering work related to the medical school itself, and this is a point that was previously brought up that could be improved on to improve public engagement with planetary health issues.</p> <p>We as students are of the opinion that Lancaster University should continue to support the pre-existing sustainability groups, which provide a variety of ways for students to get involved in climate change advocacy.</p>	

Section Total (x out of 15)	7
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Back to summary page [here](#) Are there additional student-led initiative resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

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>Lancaster University does have a sustainability team, consisting of 13 members, including Professor Simon Guy who is the for Pro Vice-Chancellor for Sustainability. Although Dr Felicity Connolly is the named lead for sustainability and planetary health education and Dr Cliff Shelton is the Sustainable Healthcare Champion for Wythenshawe Hospital, Dr Connolly is the staff member in senior leadership dedicated to sustainability in the medical school.</p> <p>It is important to note that Lancaster Medical School’s partner hospitals (Blackpool Victoria Hospital, East Lancashire NHS Trust, University Hospitals of Morecambe Bay NHS Trust in which students have their clinical placements all have established teams with publicly accessible ‘Green Plans.’</p> <p>https://www.bfwh.nhs.uk/about-our-trust/our-green-plan/ https://elht.nhs.uk/about-us/our-green-plan https://www.uhmb.nhs.uk/news-and-events/latest-news/uhmbt-launches-its-first-green-plan#:~:text=The%20Green%20Plan%20has%20designed,with%20a%20low%20carbon%20footprint.</p>	

2. How ambitious is your institution/medical school plan to reduce its own carbon footprint?	
5	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2030
3	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2040

1	The institution/medical school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate
0	The institution/medical school does not meet any of the requirements listed above
	Lancaster University is committed to net-zero carbon dioxide emissions by 2040, and this encompasses the medical school. It has a clear Climate Action Plan that outlines the work needed to meet this goal along with what has already been achieved. More information around the Climate Action Plan can be found here

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.

Although it is not possible to find the energy mix for the health innovation campus (in which the medical school is based) alone, Lancaster University receives 14% of its energy from its Wind Turbine and 2-3% from its biomass boiler. [This totals to 17% of its energy mix coming from renewable sources. 40% of its energy comes from a gas-powered Combined Heat and Power Engine.](#) The remaining proportion is from the National Grid. Plans are underway to develop a [‘solar PV farm comprising of around 39,000 solar panels.’](#) This will lead to renewables providing more than 20% of the University’s energy mix.

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 sustainability rating system or 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 employs the BREEAM standard with regards to the construction of buildings within the medical school. [The Health Innovation Campus has achieved a BREEAM ‘Excellent’ rating.](#) This practice has been in place since 2005 where the University set out a strategy which ensures that any new buildings must meet the ‘Excellent’ standard, whilst refurbishments should meet the BREEAM’s ‘Very Good’ standard.

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 provides buses for all students in the first, second and third year of their medical degree. The buses provide transportation to Blackpool Victoria Hospital, East Lancashire NHS Trust, Furness General Hospital and Westmorland General Hospital. For fourth year and fifth year medical students, the University has started a travel bursary which provides some financial support to those who drive and those who take public transport. Given Lancaster’s geographical location, a significant proportion of placements are within the community, which makes the current transport provisions impractical. Public transport to these locations is not as reliable – however, it is important to note this is not the fault of the University itself.

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.

Since 2011, when the University adopted its ‘Waste & Recycling Strategy,’ more than 70% of waste is recycled. 35 tonnes of waste was diverted from landfill for reuse in 2021. The ‘Don’t Ditch It, Donate It’ initiative repurposes unwanted items e.g. books, cookware, plates, bedding and resells them in its ECOShop. More information can be found [here](#)

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

3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
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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.

A Fairtrade-accredited University since 2008, the University has increased the availability and range of Fairtrade products on campus. Lancaster University also has the ‘Green Lancaster’ initiative, which encourages the planting of fruits, vegetables and herbs around the campus. These are free to be picked and used. However, the University’s current sustainability policies does not cover a wide enough range of food and beverages and further developments would be great.

8. Does the <u>medical school</u> or <u>institution</u> 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.

Lancaster University has a central commitment to Sustainable Procurement. However, this is only part of the University’s Sustainability Plans (which can be found [here](#)), it is not its own policy. Therefore, it is imperative that more work is done in this area, potentially the formulation of a specific procurement policy. The medical school does not have its own commitments, which it could potentially work on.

9. Are there sustainability requirements or guidelines for events hosted at the <u>medical school</u>?	
2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required.
0	There are no sustainability guidelines for medical school events.

The University has several policies which relate to events including the ‘Fairtrade Policy’ and the ‘Waste & Recycling Policy.’ These policies, however, are not strictly enforced by the medical school. Furthermore, the medical school does not have its own guidelines. This is definitely an area in which the medical school could improve on.

10. Does your <u>medical school</u> 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 follows the Laboratory Efficiency Assessment Framework (LEAF) on how to make lab spaces more environmentally sustainable.	

11. Does your <u>institution's</u> 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	The institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest, but currently still has fossil fuel investments.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
Following Lancaster University's declaration of the climate emergency, the University has moved its managed investment funds to two new funds, which has reduced investment in fossil fuel companies to 2.4%. More information on this can be found here .	

Section Total (17 out of 32)	17
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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%

**Within each grade bracket, a score in the top 5% (_5 to _9%), receives a “+”, and a score in the bottom 5% (_0- _4%) receives a “--”. For example, a percentage score of 78% would be a B+.*

Planetary Health Grades for Lancaster University Medical School

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(52/72) \times 100 = 72.22\%$	B
Interdisciplinary Research (17.5%)	$(8/17) \times 100 = 47.06\%$	C
Community Outreach and Advocacy (17.5%)	$(5/14) \times 100 = 35.7\%$	D+
Support for Student-led Planetary Health Initiatives (17.5%)	$(7/15) \times 100 = 46.7\%$	C
Campus Sustainability (17.5%)	$(17/32) \times 100 = 53.1\%$	C
Institutional Grade	$(72.22 \times 0.3 + 47.06 \times 0.175 + 35.7 \times 0.175 + 46.7 \times 0.175 + 53.1 \times 0.175) = 53.62\%$	C