



Planetary Health Report Card (Medicine): *University of Sheffield*



University of Sheffield

2023-2024 Contributing Team:

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Summary of Findings

Overall	B
<u>Curriculum</u>	B+
<ul style="list-style-type: none"> The University of Sheffield curriculum includes teaching of a number of planetary health (PH) issues, with mentions of important environmental issues in medicine and public health throughout the curriculum. Additionally, a couple of important PH topics, such as sustainable prescribing and sustainable quality improvement have been well integrated into the curriculum. Recommendations: Further integration of PH topics into the curriculum may be beneficial, especially mentioning the environmental impact of healthcare systems and interventions outside of lectures that are dedicated specifically to the topic. 	
<u>Interdisciplinary Research</u>	B
<ul style="list-style-type: none"> Research into the environmental impact of healthcare systems is taking place within the Division of Public Health of the medical school, as well as collaboration with other sustainability researchers across various specialisms in the wider university. Recommendations: The medical school could set up a website for PH news, as well as considering how to involve communities who are being disproportionately affected by climate change into decisions about the research agenda. 	
<u>Community Outreach and Advocacy</u>	C +
<ul style="list-style-type: none"> There is some community outreach relating to PH, primarily in the form of Student Selected Components (SSCs) in Phases 2b and 3a, but there is room for significantly more engagement with the local community on PH issues. Recommendations: The medical school could host community-facing events about planetary health, especially focusing on topics that are relevant to the local community. Additionally, communications from the medical school could include regular updates about important PH topics. 	
<u>Support for Student-Led Initiatives</u>	B
<ul style="list-style-type: none"> There are multiple student-led groups that are supported by the university to engage in PH activities, such as Healthy Planet Society and Students for Global Health. Furthermore, there are numerous societies within the wider university that focus on sustainability or engagement with nature. Recommendations: Further support could be put in place for students interested in conducting PH-related research, including providing information about available opportunities and mentors and providing grants to conduct such research. 	
<u>Campus Sustainability</u>	C+
<ul style="list-style-type: none"> Several important milestones have been met regarding campus sustainability, including divestment from fossil fuels and greater consideration of sustainability issues in building and procurement practices. However, significant work remains to be done to meet targets relating to building, transport, waste, procurement, and food sustainability. Recommendations: Targets to improve sustainability in areas such as transportation and waste need to be met. Examples could include introducing sustainable transport options for medical students on clinical placements, providing food waste recycling, and enforcing stronger sustainability guidelines on food and procurement. 	

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

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

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

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as “the health of human civilisation and the state of the natural systems on which it depends.” For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional ‘environmental health’ examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of medical school education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term “planetary health” to satisfy the metric.
- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimises use of healthcare services.
- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:
 1. Describe how the environment and human health interact at different levels.
 2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
 3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.
- **Medical School vs. Institution:** When “medical school” is specified in the report card, this only refers to curriculum and resources offered by the School of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments). In contrast, when “institution” is specified in the report card, we are referring to the university more broadly. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is specifically targeted for medical students, can meet this metric.
- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions providers are taught to ask during medical encounters that elicits patients’ exposures and

environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mould after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution.

- **Elective:** The word “elective” refers to an optional course or lecture series that a medical student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.
- **Clerkship:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations or placements.

Other considerations:

- If there are more than one “tracks” at your medical school with two different curricula (for example, Harvard Medical School has a Pathways and HST curriculum track), you can choose to fill out a report card for each track, or fill out just one report card and average the scores received by each track in cases where the scores are different (see the 2021 Harvard or Oxford report cards as examples).

Added to our resources in 2022, the Planetary Health Report Card [Literature Review by Metric](#) collates the evidence behind each of the metrics in the Planetary Health Report Card. It serves as a collection of references for further learning and a resource for those advocating for increased planetary health engagement at their institutions.

Planetary Health Curriculum

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

Curriculum: General

1.1. 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>There are multiple elective opportunities with a focus on planetary health available to students. During the Phase 2b Social Accountability SSC, there are a number of options relating to planetary health. For example, students can: work in a school discussing with students the health impacts of fuel poverty, exploring access to sustainable food; work at local farm trusts that provide animal therapy, teaching to children who are struggling in mainstream education, or support to people with dementia; work at community schemes that aim to make sustainable food accessible; or work with Schools' Climate Education South Yorkshire, an organisation that arranges conferences for schools on topics related to the climate and ecological emergency.</i></p> <p><i>In Phase 3a, students have the choice to take part in the Greener Practice SSC. During this 6-week rotation, they can develop their knowledge of climate change as a health issue then work in General Practices to implement the Green Impact for Health Toolkit, which is an audit tool aimed at reducing the environmental impact of General Practice.</i></p>	

Curriculum: Health Effects of Climate Change

1.2. 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.
<p><i>In the Phase 1 lecture titled 'An Introduction to Environmental Health' (14th December 2023), there is a slide explaining several health impacts of climate change, one of which is temperature-related illness and death.</i></p> <p><i>Additionally, in the Phase 4 lecture titled 'Climate Change, Sustainability, and Health' (6th October 2023) there is a slide discussing how climate change affects health, specifically mentioning the direct effects caused by heat and extreme weather events. A later slide in this lecture focuses specifically on the health consequences of heatwaves, such as cardiopulmonary problems and death in high-risk groups.</i></p>	

1.3. Does your <u>medical school</u> curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>In the Phase 1 lecture 'Environmental Influences of Lung Disease' (20th November 2023), extreme weather events such as thunderstorms are explained to be exacerbating factors for asthma, due to exposing people to dust. This issue is also discussed later in Phase 1, in the lecture 'Introduction to Environmental Health', which contains a slide linking climate change with extreme weather-related health events.</i></p> <p><i>Additionally, in Phase 4, the lecture 'Climate Change, Sustainability, and Health' (6th October 2023) contains several slides discussing how climate change affects health, including a few slides about the direct impacts of extreme weather events - such as cyclones, droughts, and heatwaves - on health and healthcare systems.</i></p>	

1.4. Does your <u>medical school</u> curriculum address the impact of climate change on the changing patterns of infectious diseases?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>The Phase 1 lecture 'Introduction to Environmental Health' contains a slide detailing the health impacts of vector-borne diseases (malaria, dengue fever, yellow fever etc.), explaining that rising temperatures mean that mosquitoes can breed in the UK, leading to an increased risk of such diseases. This is also covered in the Phase 4 lecture 'Climate Change, Sustainability, and Health', an introductory slide explains how environmental change can cause ecosystem-mediated effects on health,</i></p>	

such as emerging infectious diseases, or changes to the patterns of vector- and water-borne diseases. This is elaborated on later in the lecture, with two slides demonstrating the changing patterns of mosquito- and tick-borne diseases in the UK.

1.5. 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.

In the Phase 1 lecture ‘Environmental Influences of Lung Disease’ (20th November 2023), there are several slides explaining the impact of air pollution on lung disease, including descriptions of how it aggravates pre-existing lung diseases e.g. asthma, as well as how it may also induce allergy and therefore cause lung disease.

In another Phase 1 lecture, ‘Introduction to Environmental Health’, (14th December 2023), the causes and main air pollutants are explained, and then this is linked with various respiratory diseases, including COPD, asthma, lower respiratory tract infections, and lung malignancies.

Further discussion of this issue occurs later in the curriculum, such as in the Phase 3a lecture ‘Wheeze in Childhood’, (20th November 2023), in which environmental factors are mentioned as a cause of failure to respond to asthma treatment that students should be aware of.

1.6. 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.

The Phase 1 lecture ‘Introduction to Environmental Health’ (14th December 2023) includes a slide that references the link between climate change and temperature-related illness and death.

Additionally, the Phase 4 lecture ‘Climate Change, Sustainability, and Health’ (6th October 2023) contains a slide discussing the cardiopulmonary risks of heat waves in vulnerable patients.

1.7. 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.
<p><i>The Phase 1 lecture 'Introduction to Environmental Health' (14th December 2023) includes a slide that references the link between climate change and mental health effects.</i></p> <p><i>Another Phase 1 lecture, 'Pathways to Health and Wellbeing in Nature' (19th February 2024) explains how air pollution is linked with mental illness. There are also a few slides explaining in depth how access to green spaces and biodiversity is associated with lower levels of depression and more positive emotions.</i></p> <p><i>This is also mentioned briefly at the end of the Phase 4 lecture 'Sustainable Quality Improvement' (6th October 2023), which raises the issue of eco-anxiety, explaining that it is an appropriate response to the climate emergency, before signposting students to resources that can help with this.</i></p>	

1.8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>The Phase 1 lecture 'Introduction to Environmental Health (14th December 2023) spends several minutes discussing the links between sanitation, access to clean water, and health. This includes discussion of access to sewerage systems, and clean water and the links with infectious diseases such as cholera.</i></p> <p><i>Food and water security is also discussed at fair length in the Phase 4 lecture 'Climate Change, Sustainability, and Health' (6th October 2023), which shows a video explaining the impact of climate change on food and nutrition, explaining how climate change is impacting on nutrition. There are then a few further slides on this topic later in the lecture, which detail the loss of land to erosion and pollution, and the impacts of climate change on water, fisheries, livestock, crops, and aquacultures.</i></p>	

1.9. Does your <u>medical school</u> 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.
<p><i>In the Phase 1 lecture 'Introduction to Environmental Health' (14th December 2023), an introductory slide explains that the poorest and most vulnerable people are most exposed to environmental hazards. Later, the lecturer gives a specific example of how women are at a higher risk of exposure to indoor air pollution in many parts of the world, due to exposure to the smoke from cooking fuels.</i></p>	

1.10. 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.

The Phase 4 lecture 'Climate Change, Sustainability and Public Health' explains how changing patterns of population health are unevenly distributed, with greater impacts falling on Asia and Africa, and how climate change will continue these trends. It explains what the most significant impacts of climate change will be in various regions of the world, e.g. reduced crop yields and risk of flash flooding and heatwaves in Europe, with water stress resulting in significant falls in crop yields and exacerbation of malnutrition and food insecurity in Africa.

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

1.11. 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.

The Phase 3a lecture 'Investigation and Management of Infertility' includes a brief reference to occupational exposure to industrial chemicals as a cause of male infertility.

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

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

At the University of Sheffield, this is frequently mentioned in lectures and small-group teaching in all years, due to the local clinical relevance of the city being previously famous for industry. For example, the Phase 1 lecture 'Introduction to Environmental Health' (14th December 2023) discusses the health effects of lead poisoning and explains that industrial exposure can be a major risk

factor for this, whilst the lecture 'Environmental Influences of Lung Disease' (20th November 2023) explains in great detail the importance of occupational exposures for the development of asthma and COPD. Furthermore, in second year teaching, industrial chemicals are explained to be a cause of genetic changes in the lecture 'Case Presentation: Neoplasia' (7th November 2023), and many occupational exposures are explained in the lecture 'How a Respiratory History Can Point Towards the Right Diagnosis' (29th June 2023).

1.13. To what extent does your medical school emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?

3	Indigenous knowledge and value systems are integrated throughout the medical school's planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework.
0	This topic was not covered.

This topic is not covered in the core curriculum or elective coursework.

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

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

Several lectures include references to the impacts of environmental toxins on marginalised populations. For example, the Phase 1 lecture 'Learning Disabilities and Health' (8th December 2023) explains how exposure to environmental toxins such as cadmium and lead - which are risk factors for learning disabilities - is associated with poverty. Another Phase 1 lecture, 'Pathways to Health and Wellbeing in Nature' (19th February 2024) links proximity to green spaces first with better health outcomes (such as physical fitness, childhood obesity, and mental illness), and then with Carstairs' index (a measure of SES), thus demonstrating that people from lower SES backgrounds are more likely to experience the negative health impacts associated with air pollution. Furthermore, the Phase 4 lecture 'Climate Change, Sustainability and Health' (6th October 2023) discusses how increasing urbanisation leads to worse health outcomes, particularly affecting those in poverty, those with limited access to healthcare and limited access to key services such as clean water.

1.15. Does your <u>medical school</u> 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.
<p><i>The Phase 4 lecture 'Climate Change, Sustainability, and Health' (6th October 2023) contains a slide explaining the high carbon emissions of livestock farming, the importance of reducing meat consumption to reduce greenhouse gas emissions, and the health co-benefits of this action with regards to a reduced risk of IHD, colorectal cancer, and obesity.</i></p>	

1.16. 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>This topic is covered at several points during the curriculum, and it is a key focus of the series of lectures on sustainability in healthcare in Phase 4. The first of these, 'Sustainability in Primary Care' (6th October 2023), explains the sources of carbon emissions within the both NHS generally and in primary care more specifically, outlines the principles of sustainable healthcare, and gives specific advice on how to reduce these, including non-drug interventions to support healthy living, low-carbon asthma care, reducing unnecessary prescribing, and reducing unnecessary patient and staff travel. The second lecture in this series, 'Climate Change, Sustainability, and Health' (6th October 2023) also discusses the carbon footprint of the healthcare sector; details where it comes from, and systemic methods for reducing this (e.g. resource management, better buildings, and reducing travel). The final lecture in this series, 'Sustainable Quality Improvement' explains the concept of a carbon footprint and takes students through the reasons why sustainability is an important QI measure and how to perform a QI project on sustainability.</i></p>	

1.17. 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 fulfil this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities

	such as gardening for mental health conditions; active transport such as bicycle schemes. 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's 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><i>The Phase 4 lecture 'Use of Tests' explains to students that, as well as being unnecessary and invasive, unjustified tests are unsustainable. This is also covered in the Phase 3b ILA 'The Dying Patient,' in which one of the key learning objectives is to "discuss the role of de-prescribing and reducing unnecessary interventions in good palliative care and how these overlap with sustainability."</i></p> <p><i>The Phase 3b lecture 'Prescribing in Primary Care' (9th January 2024) includes a slide explaining that 65-90% of the carbon footprint of general practice comes from prescribing. This is also explained in the Phase 4 lecture 'Sustainability in Primary Care' (6th October 2023), which explains the importance of reducing unnecessary prescribing, using low-carbon alternatives, or alternatives to medications. It gives examples of non-drug interventions (e.g. active travel, green and blue social prescribing, a planetary health diet etc.) to support healthy living and manage disease, with a slide demonstrating the health and environmental co-benefits of active commuting with regards to air pollution, health, need for medication, waste production, and biodiversity. Deprescribing and its environmental co-benefits is also taught in the Phase 3b ILA 'Palliative Care', with the final learning objective in this tutorial being for students to "discuss the role of de-prescribing and reducing unnecessary interventions in good palliative care and how these overlap with sustainability."</i></p> <p><i>Social prescribing is taught during Early Years GP sessions during Phases 1 and 2a. There are specific learning objectives relating to it in the tutorials on polypharmacy and asthma/COPD, and it is also discussed in most other sessions as part of the holistic management of the particular condition being focused on that week.</i></p> <p><i>The Phase 4 lecture 'Sustainability in Primary Care' (6th October 2023) has a slide suggesting strategies to mitigate waste produced by healthcare, including reusable PPE and sterilisation services for surgical instruments.</i></p> <p><i>The Phase 4 lecture 'Sustainability in Primary Care' (6th October 2023) also has two slides detailing the principles of low-carbon asthma care, explaining the importance of inhaler technique and type, and a reduction in reliance of SABAs, followed by a separate slide explaining the differences between metered-dose inhalers and dry powder inhalers, directly comparing their respective carbon footprints. This is also briefly mentioned in the Phase 3a lecture 'Wheeze in Childhood' (20th November 2023), which encourages students to consider the environmental impact of inhaler prescribing when starting asthma therapy.</i></p>

Curriculum: Clinical Applications

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

2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
<p><i>The Phase 3a SSC Greener Practice encourages students to work with General Practices to implement environmental changes. As part of this, students conduct telephone calls with asthma patients to discuss switching to a more environmentally friendly inhaler, including the environmental rationale behind this.</i></p>	

1.19. 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>Students are taught how to take a history in Phase 2b of the curriculum. As part of this, the lecture 'Taking the Nearly Perfect History' (26th June 2023) explains to students the importance of considering prior occupational exposure as a risk factor for various diseases. This is built upon in the lecture 'How a Respiratory History Can Point Towards the Right Diagnosis' (29th June 2023), which contains several slides discussing occupational risk factors for lung disease, with example questions provided to teach students how to take this occupational history.</i></p>	

Curriculum: Administrative Support for Planetary Health

1.20. 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.
<p><i>According to Dr Pirashanthie Vivekananda-Schmidt, who runs the Professionalism and Patient Safety theme within the curriculum, efforts have been made to ensure that planetary health teaching meets the requirements set by the Centre for Sustainable Health. There has been some progress in the last year with regards to the teaching of topics such as sustainable QI and prescribing, but only small changes to the curriculum have been made.</i></p>	

1.21. 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>Planetary Health is taught at various points throughout the curriculum. Although the majority of this is taught in standalone lectures (mostly in public health teaching), some topics are well integrated into the curriculum. Examples of this include teaching on occupational and environmental exposures as risk factors, sustainable QI, and sustainable prescribing and deprescribing as an important factor contributing towards patient care. Overall, there is still some way to go to integrate teaching about the climate crisis into the curriculum, but aspects of planetary health which are particularly relevant to the local community are consistently taught throughout the programme.</i></p>	

1.22. 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.
<p><i>Dr Pirashanthie Vivekananda-Schmidt is the lead for Professionalism and Patient Safety and is actively involved in incorporating planetary health and sustainable healthcare into the curriculum through their responsibilities around ethical practice.</i></p>	

Section Total (56 out of 72)	77.78%
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Interdisciplinary Research

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

2.1. 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.

Within the Division of Public Health in the medical school, there are a number of researchers who have put together a bid with other universities and Sheffield City Council to study health system resilience to climate change. The [online profile](#) of one of these researchers, Dr John Richmond, describes how his main area of research is “the resilience of healthcare organisations in response to extreme events. This includes... extreme weather caused by climate change”.

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your <u>institution</u> ?	
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.

The University of Sheffield has the [Sheffield Centre for Health and Related Research](#) (SCHARR). One of their key research themes is ‘Global Health and Environment’, which explores “health system resilience for extreme weather emergencies, the effects of climate change on physical and mental health, health system sustainability initiatives, and the inequalities and marginalisation of communities

adversely affected by extreme weather.” Additionally, the [Food and Nutrition research group](#) is an interdisciplinary team researching interactions between food, nutrition, and society that works closely with the [Institute for Sustainable Food](#) within the University of Sheffield. The Institute of Sustainable Food works across the fields of science, engineering, arts, and humanities to find “solutions to the challenges of food security and sustainability.”

2.3. 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.

There is no such process currently in place at the University of Sheffield.

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

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

The University of Sheffield has a [website](#) which includes information on the environmental impact of the university, its sustainability strategy, ongoing research into sustainability, and opportunities for students to study courses in which this is a focus. The sections on sustainable research include researchers studying subjects related to health and the environment, but there is no section on the website that is specifically dedicated to this subject, and it appears that the website has not been updated for over a year, as the most recent list of achievements is from the 2021/22 year.

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

4	Yes, the medical school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>The university hosts the Grantham Symposium every year. This is a symposium focusing on sustainability - including planetary health - with sessions last year on flooding, migration, and food security. As part of the latter, there was focus on co-benefits of sustainable diets and small-scale urban food growing. This is not directly part of the medical school, so would be awarded 3 points.</i></p>	

2.6. Is your <u>medical school</u> a member of a national or international planetary health or ESH organisation?	
1	Yes, the medical school is a member of a national or international planetary health or ESH organisation
0	No, the medical school is not a member of such an organisation
<p><i>Sheffield Medical School is a part of the Planetary Health Alliance.</i></p>	

Section Total (12 out of 17)	70.59%
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Community Outreach and Advocacy

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

3.1. Does your medical school partner with community organisations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organisations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organisation to promote planetary and environmental health.
1	The institution partners with community organisations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>The medical school has strong links to the primary care sustainability group 'Greener Practice' via Dr Honey Smith. Third year medical students can take part in the Greener Practice SSC, which promotes sustainability within general practices, and encourages participation from an increasing number of practices each year. Phase 2b medical students have opportunities to work with community organisations promoting planetary and environmental health during their 4 week Social Accountability SSC. Examples include: working at Heeley City Farm, which uses the background of a mini farm and community gardens to address inequality and lack of opportunity in the local community; working with local schools, where students are expected to explore with students key issues relating to access to sustainable food and health impacts of fuel poverty; and working with Schools' Climate Education South Yorkshire, which arranges conferences for schools on topics related to the climate and ecological emergency.</i></p>	

3.2. 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.

The University has hosted community-facing events relating to the climate and environment. For example, the Grantham Centre is hosting a Sustainability Series which has started with a talk reflecting on the [impact of COP28](#), whilst other events have included a [talk on the impact of plastic pollution in the oceans](#), including its impact on marine life and communities that rely on the ocean for their livelihood and wellbeing.

3.3. 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.

The university has an [online sustainability newsletter](#), which sometimes includes planetary health topics. Sustainability issues have also been covered occasionally in the medical school newsletter when relating to good news stories from students; however, this is not a recurring theme.

3.4. 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

The School of Medicine and Population Health offers several optional CPD courses. One of these, [‘Key Issues in National and Public Health’](#) explores the social determinants of health, including consideration of inequalities and social justice. The theory taught in this module is “illustrated through major public health challenges whether they are diseases..., of socio-political origin..., or environmental (e.g. climate change)”.

3.5. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?

2	Yes, the medical school or all affiliated hospitals have accessible educational materials for patients.
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1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centres have accessible educational materials for patients.
<p><i>Sheffield Teaching Hospitals have produced this report to educate on climate change and health, and has an educational element relating to environmental health exposures (pages 8-12) such as extreme weather and changing patterns of diseases. Additionally, the third section of this report (pages 14-29) explains the importance of environmental exposures (such as air pollution and extreme weather events) for both planetary and individual health, with recommendations made and their environmental and health co benefits explained. This relates to health specifically in Sheffield, and as all the teaching hospitals are associated, it relates to all of them. However, as its sole purpose isn't education of patients, and is not readily accessible to patients, this shall receive 1 point.</i></p>	

3.6. Does your <u>medical school</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about the health impacts of climate change?	
2	Yes, the medical school or 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>Sheffield Teaching Hospitals have produced this report to educate on climate change and health, and has an educational element relating to environmental health exposures (pages 8-12) such as extreme weather and changing patterns of diseases caused by climate change. This is related to health specifically in Sheffield, and as all the teaching hospitals are associated, it relates to all of them. However, as its sole purpose isn't education of patients, and is not readily accessible to patients, this shall receive 1 point.</i></p>	

Section Total (8 out of 14)	57.14%
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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.

4.1. Does your medical school or your institution 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 fulfil clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, neither the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Sustainable QI is a part of the core curriculum at Sheffield Medical School. During the Phase 3b Community and Palliative Care rotation, students are required to perform a QI audit project within a GP practice which must consider the sustainability impact of its recommendations. Additionally, in Phase 4, the lecture 'Sustainable Quality Improvement' (6th October 2023) explains in great depth the rationale and methods involved in sustainable QI.</i></p> <p><i>There are further opportunities to take part in sustainable QI during SSCs, such as the Phase 3a Greener Practice SSC, which focuses on sustainability within primary care.</i></p>	

4.2. 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>Sheffield Medical School offers research opportunities to students in their fourth year wishing to intercalate. This can include planetary health topics, such as climate change as a public health issue, nutrition and climate, and climate change in the context of international development. However, these are unfunded and not necessarily the primary focus of the research, so this will be awarded 1 point.</i></p>	

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

2	The medical school has a webpage with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a medical school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
0	There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.
<p><i>The Medical School has created a Google site accessible to students called 'Planetary Health and Sustainability', which details what planetary health is and the opportunities available in the medical school to learn more about it. It also documents where Planetary Health has been included into the curriculum and it features videos explaining key concepts such as health promotion and the impacts of human activities on health. The page on student-led initiatives provides information on societies to join (such as Healthy Planet Society or Students for Global Health). However, it does not feature any contact details for potential mentors.</i></p>	

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

2	Yes, there is a student organisation with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organisation at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support .
0	No, there is not a student organisation at my institution dedicated to planetary health or sustainability in healthcare.
<p><i>Healthy Planet Society is a student group which aims to raise awareness of sustainability issues and advocates for sustainable practices within the medical school. The society receives faculty support from Dr Pirashanthie Vivekananda-Schmidt.</i></p>	

4.5. 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.

The University's [Sustainability Steering Group](#), includes Sam Timson, Students' Union Welfare and Sustainability Officer as one of its members, whilst the [Sustainability Delivery Group](#) includes Jo Campling, who is Students' Union Welfare and Sustainability Officer as well as Chair of the Student Sustainability Committee.

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

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

The University of Sheffield has a [Beekeeping Society](#), which holds weekly hive inspections during summer months and holds other activities such as crafting using sustainable materials such as wax wrap. There is also an [Allotment Society](#), which grows vegetables and holds workshops on various topics such as making tea from home-grown plants, and willow weaving.

There have been a handful of student-run events relating to planetary health in the past year, such as the event 'Pandemics, Deforestation, and Indigenous Defenders,' which was a talk by a consultant anaesthetist and climate activist hosted by the society Students for Global Health. Additionally, at the student psychiatric conference, there was a talk titled 'What Does Climate Change Have to Do With Psychiatry,' which explained the direct and indirect effects of climate change on mental health.

The University of Sheffield has a [webpage](#) for students looking for volunteering opportunities. Of these opportunities, one is related to improving the urban environment within an area of Sheffield, and one relates to countryside conservation.

The Wilderness Medicine Society runs several events throughout the year, including weekends away in the Peak District, walks in the peaks in which medical scenarios are practised, and talks from professionals working in the wilderness.

Section Total (11 out of 15)

73.33%

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Campus Sustainability

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

5.1. Does your <u>medical school</u> and/or <u>institution</u> have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff , but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>There is no office of sustainability within the medical school, but there are several full-time staff dedicated to campus sustainability in the wider university. There is also a sustainability leadership team, which reports to the University Executive Board, with representation from academic, professional services and student bodies. However, there is no specific staff member in charge of medical school sustainability.</i></p>	

5.2. How ambitious is your <u>institution/medical school</u> 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
<p><i>The University, including the medical school, has a target of carbon neutrality across all activities by 2038, including a target of net zero on campus by 2030. The strategy is described in a document downloadable from the University website, and the progress made towards this is detailed in a comprehensive document,</i></p>	

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

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

Sheffield Medical School is attached to the Royal Hallamshire Hospital, which is run by the Sheffield Teaching Hospitals Trust. As a result of this, the Medical School facilities - including energy - are all rented from the Hallamshire Hospital. According to Peter Townsend from the estates department of the trust, all of the electricity used by the trust is from a renewable energy provider, which they pay a premium for. However, the medical school still uses gas heating, which (based on figures from 2021) accounts for approximately half of its energy use, so this will be awarded one point.

5.4. Are sustainable building practices utilised for new and old buildings on the medical school campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?

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

Sheffield University's [Sustainability Action Plan](#) includes several metrics related to the construction and retrofitting of buildings, including embedding sustainability criteria into the decision making for new buildings and major refurbishments, implementing the Sustainable Building Standard, and retrofitting buildings within the University. The first of these metrics has been marked as complete, but the latter two have not, and older buildings within the medical school have not been retrofitted, so this will be awarded 2 points.

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

2	Yes, the medical school or institution has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport,
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	or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school or institution has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school or institution has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<p><i>The Medical School has implemented some environmentally-friendly transportation options. The main example of this is the H1 bus, which runs between the two major hospitals within Sheffield, the Royal Hallamshire (where the medical school is based) and the Northern General. This bus is free for NHS staff and University of Sheffield students, and is frequently used by students who have placements or teaching at the Northern General. There were also plans to implement similar shuttle bus schemes to the other major placement sites (in Rotherham, Barnsley, Chesterfield and Doncaster), but these were put on hold due to the COVID pandemic. There is now some renewed interest within the medical school about implementing these plans, but little progress has been made since 2019.</i></p>	

5.6. Does your <u>medical school</u> have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?	
2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	The medical school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the medical school.
<p><i>The Medical School's waste is handled by Sheffield Teaching Hospitals, aside from more specialist waste such as chemicals and computers. The trust does have a conventional recycling programme in place, although there is currently no organics recycling or food waste collection scheme, so this will be awarded 1 point.</i></p>	

5.7. Does the <u>medical school</u> apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.

The Medical School uses the University's sustainability criteria for sourcing food and beverages. This has included promoting sales of sustainable foods through nudge mechanisms and removing the most carbon-intensive foods (such as beef and lamb) from university retail outlets. The campus also has a zero-waste shop in the Students' Union. However, there is still much progress to be made, as many of the metrics relating to food and within the University's [Sustainability Action Plan](#) (such as requiring food suppliers to reduce waste and using environmental impact calculators to understand the environmental impact of the food on offer) have yet to be completed.

5.8. Does the medical school or 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.

Sheffield Medical School is covered by the University of Sheffield's [procurement strategy](#). This emphasises the importance of socially and environmentally responsible procurement (with sustainability a key focus of two of the seven priorities within the strategy), and includes plans to train staff to make sustainable procurement choices and embed sustainability into all of the processes and procedures involved in procurement. However, as detailed in the University's [Sustainability Action Plan](#), fewer than half of the sustainability metrics relating to procurement have been completed so far.

5.9. 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 Medical School follows the University's [sustainability strategy](#), which includes reviewing the sustainability plans of venues used to host events. As a result, events must now either be hosted in-house, or at a venue which is close to the university and accessible by public transport. However, there is no specific faculty policy relating to sustainability of events which are hosted at the medical school, so this will be awarded one point.

5.10. 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.
<p><i>The Green Impact scheme which the university takes part in includes a lab-specific section. Some departments have their own Green Impact Teams, such as the combined Departments of Infection, Immunity, and Cardiovascular Disease and Oncology and Metabolism (IICD-OM), which provides regular updates on campus-wide sustainability initiatives, provides practical information to enable staff and students to reduce their lab's impact and organises recycling and waste reduction initiatives. For example, a system has been established to collect and recycle pipette tip boxes, media bottles and chemical bottles, which cannot be recycled in normal mixed recycling bins. Advice is also given to reduce single-use plastic consumption, purchase from sustainable companies and run equipment more efficiently.</i></p>	

5.11. 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 organised advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
<p><i>The University of Sheffield has entirely divested from fossil fuels, as documented here. The University also strives to support companies that have a positive impact, including "Promotion of sustainability... Protection of the global environment, its climate and biodiversity... Sustainable provision and procurement of essential resources," although the website also notes that such investments will not always be possible. According to the Annual Impact Report, investments relating to charities, housing, renewable energy, green bonds, and healthcare innovation accounts for just 14.1% of the University's Endowment (as of 31/07/23), and so this will be awarded 3 points.</i></p>	

Section Total (19 out of 32)	59.38%
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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 the University of Sheffield School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(56/72) \times 100 = 77.78\%$	B+
Interdisciplinary Research (17.5%)	$(12/17) \times 100 = 70.59\%$	B
Community Outreach and Advocacy (17.5%)	$(8/14) \times 100 = 57.14\%$	C+
Support for Student-led Planetary Health Initiatives (17.5%)	$(11/15) \times 100 = 73.33\%$	B
Campus Sustainability (17.5%)	$(19/32) \times 100 = 59.38\%$	C+
Institutional Grade	68.91%	B

Report Card Trends

Section Overview

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

