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# Planetary Health Report Card:

## *University of Glasgow*

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University  
of Glasgow

2021-2022 Contributing Team:

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# Summary of Findings

<b>Overall</b>	<b>C</b>
<b><u>Curriculum</u></b>	<b>C-</b>
<ul style="list-style-type: none"> <li>• Education on planetary health is largely reliant on electives.</li> <li>• Students have nonetheless benefitted from two additional lectures on planetary health this year in the core curriculum and there are plans to appoint a “Global and Planetary Health” Vertical Theme lead.</li> <li>• <b>Recommendations:</b> Include the health effects of climate change in relevant lectures throughout the curriculum and strategies to make the NHS more sustainable, with using local examples relevant to Glasgow.</li> <li>• For clinical years, reiterate the importance of sustainable healthcare, and introduce teaching on how to have conversations with patients about the health effects of climate change.</li> </ul>	
<b><u>Interdisciplinary Research</u></b>	<b>B</b>
<ul style="list-style-type: none"> <li>• The Centre for Sustainable Solutions (CSS) continues to provide a hub for climate innovation, with an interdisciplinary research group and many conferences, events and courses around sustainability.</li> <li>• <b>Recommendations:</b> The medical school should further engage with the Centre, developing more research projects around planetary health, as well as hosting events, accessible to the public, on the topic.</li> </ul>	
<b><u>Community Outreach and Advocacy</u></b>	<b>D+</b>
<ul style="list-style-type: none"> <li>• Medical School community outreach programmes are not focussed on planetary health. The CSS, however, partners with various communities to co-produce sustainable solutions, with health co-benefits.</li> <li>• <b>Recommendations:</b> The Medical School could more actively participate in projects already in place at the University (GALLANT, “Sustainable Glasgow”, “Climate Ready Clyde”) and build connections with other environmental justice groups in Glasgow (eg Docs not Cops, Medact).</li> <li>• They could also encourage affiliated medical centres and hospitals to educate patients around the health effects of climate change and environmental toxins, by providing resources and pamphlets, for example.</li> </ul>	
<b><u>Support for Student-Led Initiatives</u></b>	<b>C</b>
<ul style="list-style-type: none"> <li>• This year has seen more student-led, sustainability-focussed events than ever. Many of these are intersectional and interdisciplinary, with planetary health not being the main focus but nonetheless included. While the university is largely supportive of these initiatives, efforts are predominately “bottom-up”</li> <li>• <b>Recommendations:</b> Funding for planetary health initiatives and QI projects would be greatly welcomed. More attainably, the medical school could develop a webpage centralising information around PH.</li> </ul>	
<b><u>Campus Sustainability</u></b>	<b>B-</b>
<ul style="list-style-type: none"> <li>• Given that most decisions are run centrally by the University, the medical school has little control over campus sustainability measures. Nonetheless, given the considerable impacts of climate change on health, the medical school should advocate for increased sustainability measures (divestment from fossil fuels).</li> <li>• <b>Recommendations:</b> The medical school should engage with the CSS S-Lab initiative. They should also create a set of sustainability guidelines for their events and better promote active travel.</li> </ul>	

# Statement of Purpose

*Planetary health is human health.*

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

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

With the purpose of increasing planetary health awareness and accountability among medical schools, we have created a Planetary Health Report Card that medical students internationally can use to grade and compare their home institutions on an annual basis. This medical-student-driven initiative aims to compare medical schools 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.

# 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.
- **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 (for example, undergraduate departments (USA), other related departments eg 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 mold 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 example).

**Many examples were copied and pasted from the 2020 and 2021 school-specific Planetary Health Report Cards and as such, can give you a sense of the level of detail requested in qualitative explanations.**

# 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*

<b>1. Did your medical school offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?</b>	
<b>3</b>	<b>Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.</b>
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>Score explanation: The University of Glasgow has introduced a new elective for this year; “Mapping the Sustainable Development Goals in MBChB year1 and 2”, run by Dr Camille Huser and Dr Waqar Ahmed, whose primary focus is ESH/planetary health. Topics such as “Climate Change and Health and UN Sustainable Development Goals” are mentioned. This student-selected component (SSC) can be taken during the Year 2 SSC block. “Global and Travel Medicine” by Dr Eric Walker is another SSC, whose sole focus is not on planetary health, but does include several lectures on the topic, which students can choose to take during this time.</i></p> <p><i>Finally, the University of Glasgow offers a “Global Health” intercalated degree option between Years 3 &amp; 4. Due to electives and student-selected components being able to be designed by students, there is the opportunity for students interested in Planetary Health/ESH to do something focused primarily on PH/ESH if they so wish.</i></p>	

## *Curriculum: Health Effects of Climate Change*

<b>2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?</b>	
<b>3</b>	This topic was explored in depth by the core curriculum.

2	This topic was briefly covered in the core curriculum.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.
<p><i>Score explanation: This topic was covered during the “Global and Travel Medicine” by Dr Eric Walker and “Mapping the Sustainable Development Goals in MBChB year 1 and 2” by Dr Waqar Ahmed. These are both SSCs in Year 2. These are electives, and as such, not all medical students are taught about this topic.</i></p>	

<b>3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.
<p><i>Score explanation: This topic was covered during the “Global and Travel Medicine” SSC by Dr Eric Walker and “Mapping the Sustainable Development Goals in MBChB year 1 and 2” SSC by Dr Waqar Ahmed.</i></p>	

<b>4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?</b>	
3	This topic was explored in depth by the core curriculum.
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: During Phase 1, students complete two Medical Independent Learning Exams (MILE) (one formative and not contributing to a student’s overall grade, and the other summative, which does). Here, students have to identify the main issues in a given scenario as well as generate and answer questions relevant to the scenario. This year the scenario for the formative MILE was on cholera, with one of the main issues being the impact of climate change on the pattern of spread of this disease. While no lecture was provided on the overall impact of climate change on the changing</i></p>	

*patterns of multiple infectious diseases, this coursework was able to address in detail the impacts of climate change on one disease.*

*The topic is explored in more depth in the “Global and Travel Medicine” SSC, with a lecture entitled “Pandemics, Epidemics and Outbreaks” delivered by Dr Eric Walker, and in the “Mapping the Sustainable Development Goals in MBChB year1 and 2” SSC with a lecture called “Climate Change and Health”.*

**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.
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.

*Score explanation: Throughout Phases 1 to 3 (pre-clinical years), environmental pollution is often cited as a risk factor for COPD, asthma, lung cancer and other respiratory conditions. It is usually written on one slide alongside other risk factors and encompassed within a more general Learning Outcome (“Understand the risk factors of XXX”), without mentioning climate change per se or going into depth.*

**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.
<b>0</b>	<b>This topic was not covered.</b>

*Score explanation: This topic was not covered in the core curriculum or in elective coursework to our knowledge. A student would have to find a relevant supervisor and propose their own self-proposed SSC to cover this issue.*

**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.
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2	This topic was briefly covered in the core curriculum.
1	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.
<p><i>Score explanation: This topic is covered in the “Global and Travel Medicine” SSC, with a lecture on the “Psychological health issues relating to Travel lecture” delivered by Emley Pine and in the “Mapping the Sustainable Development Goals in MBChB year 1 and 2” SSC in a lecture entitled “Climate Change and Health” by Dr Waqar Ahmed.</i></p>	

<b>8. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.
<p><i>Score explanation: This topic is covered in the “Global Health and Travel Medicine” SSC with a focus on different interpretations of “health” by different cultures and considering not just “patients” but the wishes and health of the general population. One lecture, “Food security”, addresses production issues, the impact of travel as well as the international trade of food products and another, “One Health”, links human and animal health. This is also covered in the “Mapping the Sustainable Development Goals in MBChB year 1 and 2” SSC. Here, lectures focus heavily on how all the Sustainable Development Goals are intertwined and how to tackle one you have to tackle them all.</i></p>	

<b>9. Does your medical school curriculum address the outsized impact of climate change on marginalized populations such as those with low SES, women, communities of color, Indigenous communities, children, homeless populations, and older adults?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.
<p><i>Score explanation: This topic is covered in the “Global and Travel Medicine” SSC when discussing the effects of Climate Change and the “Global South” in a lecture entitled “Health Services in India and three case studies on assisting remote and disadvantaged communities to improve their health”.</i></p>	

*“Mapping the Sustainable Development Goals in MBChB year 1 and 2” SSC discusses how social deprivation, gender and age all contribute to the impact caused by climate change.*

**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	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.

*Score explanation: This topic is covered during the “Global Health and Travel Medicine” SSC, especially when talking about the “Global South” and how different countries will be/are being more affected than the UK, in lectures entitled “Examples from Nepal of health issues affecting the local populations and travellers” and “Health Services in India and 3 case studies on assisting remote and disadvantaged communities to improve their health”.*  
*The topic is also covered in the “Mapping the Sustainable Development Goals in MBChB year 1 and 2” SSC; there is an in-depth discussion on how the countries contributing the most to climate change in the North see less effects than those in the Global South, which have contributed the least to climate change.*

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

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

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

*Score explanation: This topic is covered within the “Keeping People Healthy Block” in Year 1 and briefly reiterated within the “Reproduction, Nephrology and Urology” block in Year 2. The first lecture was by Dr Sharon Sneddon, and the second on “Endocrine Disruptors” by Dr Michelle Welsh where she talked about endocrine disruptors causing fertility problems and increasing incidence of diseases, such as cancer. She then went on to talk about phthalates and how they pose a risk to human development especially in infant males, causing infertility in adulthood. In Year 2 a lecture entitled ‘Cryptorchidism’ also refers to how environmental and lifestyle changes in the western world is increasing the prevalence of male infertility problems.*

**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	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.

*Score explanation: Given Glasgow's significant industrial past, it is sometimes referred to in lectures, particularly when talking about respiratory conditions as well as in the "Keeping People Healthy" and "People & Illness" blocks in Years 1 and 2, respectively. Unfortunately, these are more passing comments or anecdotes rather than information on lecture slides covered by Learning Objectives. Furthermore, while the impact of industry on human health may be mentioned, its impact on the environment is rarely approached.*

*Additionally, in Year 1, students have to complete a "Community Diagnosis", where they are allocated a neighbourhood in Glasgow and tasked to understand the impact of community on the health of its inhabitants. Depending on the neighbourhood (i.e. if it has had an industrial past and therefore suffered from industrial pollution), students may be able to explore important human-caused environmental threats that have affected that community. Unfortunately, this is only a very small section of the coursework and will not be covered by all students.*

**13. To what extent does your medical school 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	<b>This topic was not covered.</b>

*Score explanation: While the "Global & Travel Health" SSC does cover environmental challenges faced by Indigenous communities, it does not adequately emphasise the importance of their knowledge and value systems as essential components of planetary health solutions.*

**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.
<b>0</b>	<b>This topic was not covered.</b>
<p><i>Score explanation: This topic was not covered in the medical curriculum at the University of Glasgow. While lectures on homeless populations and migrants in Year 3 address their vulnerability and some of the social determinants affecting their health, they do not go into detail on anthropogenic environmental toxins.</i></p>	

***Curriculum: Sustainability***

<b>15. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
<b>0</b>	<b>This topic was not covered.</b>
<p><i>Score explanation: While lectures on kidney stones in Years 2 and 3 briefly mention increased consumption of animal protein as a risk factor, both the health and environmental benefits of a plant-based diet are not raised. It is neither approached in lectures on nutrition or obesity, with the emphasis rather being on the “EatWell plate”, which includes animal protein.</i></p>	

<b>16. Does your medical school curriculum address the carbon footprint of healthcare systems?</b>	
3	This topic was explored in depth by the core curriculum
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: The lecture “Sustainability in General Practice” in Year 3 by Dr Lynsey Yeoman addresses the NHS’s impact on the UK’s overall carbon footprint, in addition to breaking down what the sources of these carbon emissions are. It also mentions the GP carbon footprint and the impact of pharmaceutical prescribing.</i></p>	

17. Does your medical school curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (1 point each)	
1	Waste production within the healthcare system and strategies for reducing waste in clinical activities, such as in the operating room
1	<b>The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.</b>
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 anaesthetic gas options with reduced greenhouse gas emissions
1	<b>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.</b>
1	<b>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 for obesity. This is commonly known as social prescribing in the UK.</b>
1	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
<p><i>Score explanation: In Year 3, the lecture “Sustainability in General Practice” by Dr Lynsey Yeoman aims to cover most of these objectives. For example, waste production within the healthcare system is mentioned on one slide, but no concrete strategies or examples are provided for reducing waste in clinical activities (1). The impact of inhalers, and particularly the benefit of dry powdered inhalers is well covered (2), but there is no mention of the impact of anaesthetic gases (3). This lecture also covers the environmental impact of pharmaceuticals and over-prescribing as a contributor to climate health harm (4). Social prescribing, notably exercise for various conditions, is often mentioned in lectures throughout the preclinical years, but the emphasis remains on the health benefits. The “Sustainability in General Practice” lecture, however, does refer to its additional environmental benefits (5). While the health advantages of avoiding over-medicalisation, over-investigation and/or over-treatment were very well covered in Dr Margaret McCartney’s lecture “The role of evidence in practice, overdiagnosis and deprescribing” in Year 3, the environmental benefits were not (6).</i></p>	

### Curriculum: Clinical Applications

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	<b>No, there are not strategies introduced for having conversations with patients about climate change</b>
<i>Score explanation: There are no strategies introduced for having conversations with patients about climate change at the University of Glasgow.</i>	

<b>19. In training for patient encounters, does your medical school’s curriculum introduce strategies for taking an environmental history or exposure history?</b>	
2	<b>Yes, the core curriculum includes strategies for taking an environmental history.</b>
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.
<i>Score explanation: The modules “Vocational skills”, in Years 1 to 2, and “Clinical Skills”, in Year 3, train students to take a full history, which includes asking about environmental (e.g. travel, home environment) and occupational exposures (e.g. occupational hazards and toxins). This is done through several practice simulations with actors or volunteers acting as patients.</i>	

***Curriculum: Administrative Support for Planetary Health***

<b>20. Is your medical school currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?</b>	
4	<b>Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.</b>
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.
<i>Score explanation: Compared to last year, we have seen the appearance of more lectures based around sustainability thanks to student pressure. More specifically, “Introduction to Global and Planetary Health: the Sustainable Development Goals (SDGs)” by Dr Andrea Williamson in Year 1, which linked the SDGs to the social determinants of health and described how healthcare workers can help achieve the SDGs within their professional scope of work. In Year 3, the new lecture “Sustainability in General Practice” by Lynsey Yeoman addresses climate change, planetary health and sustainability in Primary care. There are also efforts to expand climate health education into the general curriculum thanks to the</i>	

*“Mapping the Sustainable Development Goals in MBChB year 1 and 2” SSC in Year 2. Here, students and staff are mapping areas in the first two years of the curriculum where planetary health education is lacking, and could be integrated. Resources will then be created and provided to lecturers in order to complement their lectures, and integrate planetary health education longitudinally into the curriculum. The University of Glasgow is also in the process of appointing a new Global and Planetary Health Vertical Theme lead, who would aim to integrate Planetary Health throughout the curriculum in all years.*

**21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?**

6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	<b>Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s).</b>
0	There is minimal/no education for sustainable healthcare.

*Score explanation: At the moment, planetary health topics are not integrated longitudinally into the curriculum. They are sometimes mentioned in passing here and there by lecturers who have a keen interest in the subject, but the focus remains on improving health rather than also co-benefiting the environment. We have seen the appearance this year of two standalone lectures on sustainability in Years 1 and 3, but this is not sufficient to cover the breadth of planetary health concepts.*

**22. Does your medical school 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	<b>No, the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.</b>

*Score explanation: The University of Glasgow is in the process of appointing a new Global and Planetary Health Vertical Theme lead, who would aim to integrate Planetary Health throughout the curriculum in all years, but this role has not been filled yet.*

**Section Total (31 out of 69)**

**31**

Back to Summary Page [here](#)

*Are there additional curriculum resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*



# Interdisciplinary Research

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

<b>1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?</b>	
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health <b>or</b> healthcare sustainability.
2	<b>Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.</b>
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation: Several faculty members at the Glasgow School of Medicine research planetary health, but not as their primary research focus. These members of faculty are: Dr Waqar Ahmed, Dr Camille Huser, Dr Andrea Williamson, and Dr Lynsey Yeoman.</i></p>	

<b>2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?</b>	
3	<b>There is at least one dedicated department or institute for interdisciplinary planetary health research.</b>
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	There is an Occupational and Environmental Health department, but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.
<p><i>Score explanation: Launched in April 2020, The Centre for Sustainable Solutions is an interdisciplinary research hub that aims to develop links between Schools and Colleges at the</i></p>	

*University around sustainability, as well as build relationships with the greater Glasgow community, in keeping with the Sustainable Development Goals 11 (Sustainable Cities and Communities) and 13 (Climate Action).*

*Since it was founded, the Centre has taken a key role within the University of Glasgow, calling for sustainable solutions across all sectors, providing resources for staff and students to develop sustainability-related initiatives, as well as leveraging local, national and international funding and multi-sector partnerships for future calls related to the climate emergency. Of interest, the Centre has enabled the founding of an “Environmental and One Health Economics” interdisciplinary research group, whose main areas of research include “Environment-health linkages and human well-being”.*

**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	<b>There is no process, and no efforts to create such a process.</b>

*Score explanation: There is not really a process for communities disproportionately impacted by climate change to give input/make decisions about the research agenda at the medical school. While the Centre for Sustainable Solutions does host regular ‘Connect with Climate Change’ events, where academics, students, public and businesses can share ideas and views on a range of climate change topics, we are unsure to what degree such communities interact with this platform.*

**4. Does your institution have a planetary health website that centralizes ongoing and past research related to health and the environment?**

3	<b>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.</b>
2	There is a website that attempts to centralize various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
1	The institution has an Office of Sustainability website that includes some resources related to health and the environment.
0	There is no website.

*Score explanation: The Centre for Sustainable Solutions website centralises various campus resources related to sustainability, including links to student societies (Green New Deal, Extinction Rebellion, GUEST, Glasgow Students against Climate Change), research being undertaken within various colleges, events and courses, as well as wider University measures tackling climate change (Glasgow Green: Climate Strategy for 2030 Carbon Neutrality). The overall aim being to promote both staff and student projects related to sustainability, in addition to offering multiple ways on how to get involved. Funding opportunities related to sustainability-oriented projects are also advertised on the website. While not directly focused on health and the environment, the website provides resources that are varied, with several covering this topic in more detail.*

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

4	Yes, the <b>medical school</b> has hosted at least one conference or symposium on topics related to planetary health in the past year.
<b>3</b>	<b>Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.</b>
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.

*Score explanation: The Students For Global Health Glasgow society, in collaboration with Global Goals Glasgow and the Glasgow University Student Representative Council, organised a series of online talks around public health, politics and climate change [1]. These included talks on “Green Politics as a Health Movement” and “Achieving Universal Health Coverage” by John Barry and William S Bolton, respectively, on the 17th of November, 2021, as well as discussions around food insecurity, the health effects of climate change and advocating for change within our institutions coordinated by Dr Eric Walker and Dr Sian Ashby, on the 2nd of November 2021.*

*In the run-up to COP26, the Centre for Sustainable Solutions, together with ScottishPower and the University of Strathclyde, hosted “Connect with Climate Change”, a virtual exchange series for academics, students, public and businesses to discuss varied climate change topics [2]. While planetary health was not explicitly the main topic of these discussions, the co-benefits of various sustainable measures on health and the environment were often mentioned throughout the talks. For example, the event entitled “Carbon free commuting and connection: travel in our new normal” emphasised the importance of moving away from car travel to walking, cycling, public transport or car-sharing, but also increased “from home” working. They stated that this not only helps reduce carbon emissions and air pollution, but also improves health and well-being, work-life balance, gender equality and economic opportunities.*

*The Centre for Sustainable Solutions also presented, co-produced and participated in several events around planetary health during COP26. For example, Prof Petra Meier contributed to the Health, Gender and Climate Day during a 10-day series of events called Girls@COP26 - The Solutions are Feminist [3]. The Centre also organised a “Sustainable Solutions Showcase”, with some exhibits demonstrating solutions to help improve health and combat climate change. This includes “Zero Carbon Shelters for Impoverished Communities”, a project building bamboo structures in flood-prone areas to provide a refuge for local communities [4].*

**6. Is your medical school a member of a national or international planetary health or ESH organization?**

<b>1</b>	<b>Yes, the medical school is a member of a national or international planetary health or ESH organization</b>
0	No, the medical school is not a member of such an organization

*Score explanation: The University of Glasgow has joined the Global Consortium on Climate and Health Education.*

**Section Total (12 out of 17)**

**12**

Back to summary page [here](#)

*Are there additional research resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

# Community Outreach and Advocacy

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

<b>1. Does your medical school partner with community organizations to promote planetary and environmental health?</b>	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	<b>The institution partners with community organizations, but the medical school is not part of that partnership.</b>
0	No, there is no such meaningful community partnership.
<p><i>Score explanation: The University of Glasgow has a strong partnership with Glasgow City Council and the City Region through Sustainable Glasgow, Clyde Mission and Climate Ready Clyde. Sustainable Glasgow, a group of 15 partners, works to “improve quality of life in Glasgow, boost the economy and protect the environment... with partners from housing, community, business...”; Clyde Mission aims to transform a riverside corridor running from Glasgow city centre to the sea, supporting a “green recovery” for the region; Climate Ready Clyde, an initiative run by 15 organisations, is planning how Glasgow can adapt to the effects of the climate crisis.</i></p> <p><i>Recently (January 2022!), the University of Glasgow, in partnership with Glasgow City Council, have launched GALLANT - Glasgow as a Living Lab Accelerating Novel Transformation, which aims to co-produce sustainable solutions (with many health co-benefits) with a variety of communities [1]. Their main projects are centred around halting flood risks, halting biodiversity loss, trialling new ways of regenerating derelict and polluted land, promoting active travel and inclusive mobility, as well as developing low carbon energy solutions.</i></p>	

<b>2. Does your medical school offer community-facing courses or events regarding planetary health?</b>	
3	The medical school offers community-facing courses or events at least once every year.

2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	<b>The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.</b>
0	The medical school has not offered such community-facing courses or events.
<p><i>Score explanation: The University of Glasgow took the unique advantage of COP26 to host climate-related events and courses for the community. Unfortunately, the medical school did not seem involved in the planning of these, and none were directly related to planetary health. The Centre for Sustainable Solutions also hosted regular 'Connect with Climate Change' events, where academics, students, public and businesses can share ideas and views on a range of climate change topics.</i></p>	

<b>3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?</b>	
2	Yes, all students regularly receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	<b>Yes, planetary health and/or sustainable healthcare topics are sometimes included in communication updates.</b>
0	Students do not regularly receive communications about planetary health or sustainable healthcare.
<p><i>Score explanation: Medical school communication updates occasionally publicise events related to Planetary Health or Climate Change. This was particularly the case during COP26, where there were more events of this type and where the university encouraged staff/ students to get involved. Whilst most of these events are planned by student-led societies (Students for Global Health, Global Goals Glasgow, GUEST), there does seem to be an increase in staff involvement, with U21 Sustainable Development Goals workshops, and staff work around sustainability being advertised as well. There is, however, no regular communication on planetary health or sustainable healthcare.</i></p>	

<b>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?</b>	
2	<b>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.</b>
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: The University of Glasgow offers several Continuing Professional Development (CPD) courses that cover topics related to planetary health. These include shorter, online courses on specific topics such as Lead or Asbestos exposure by the Healthy Working Lives Group, as well as longer, more extensive courses that can be online or face-to-face, running over 11 weeks. Of interest, the “Globalisation and Public Health” course blends lectures and seminars on topics such as: Millennium Development Goals and Sustainable Development Goals; Health, trade and human rights; Climate change and impacts on health; Reproduction and population control; Global health security. Additionally, the “Environment, sustainability and health” course includes topics such as the development of environmental control as a public health measure and sustainable healthcare. These two courses are both run by Jacqueline Reilly.*

**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.
<b>0</b>	<b>No affiliated medical centers have accessible educational materials for patients.</b>

*Score explanation: It does not seem that hospitals associated with Glasgow Medical School have accessible educational materials for patients about environmental health exposures.*

**6. Does your medical school or its primary affiliated hospital 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.
<b>0</b>	<b>No affiliated hospitals have accessible educational materials for patients.</b>

*Score explanation: It does not appear that hospitals associated with Glasgow Medical School have accessible educational materials for patients on climate change and health impacts.*

<b>Section Total (5 out of 14)</b>	<b>5</b>
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Back to summary page [here](#)

*Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

## 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.

<b>1. Does your institution offer support for medical students interested in enacting a sustainability initiative/QI project?</b>	
2	Yes, the 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 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	<b>No, the institution does not offer opportunities or support for sustainability initiatives or QI projects.</b>
<p><i>Score explanation: The Medical School supports “Self-Proposed Student Selected Components” in Years 3 and 4, which offer students the opportunity to choose a topic they would like to research for a five week period. Such projects can therefore be sustainability related. Unfortunately, these are entirely organised by students and self-funded, and there are no specific incentives to undertake such projects.</i></p>	

<b>2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?</b>	
2	<b>The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.</b>
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: Electives and Self-Proposed Student Selected Components allow students to research any topic they are interested in, as long as they find a relevant supervisor. As such, many students have undertaken research into planetary health and sustainable healthcare. However, the Medical School does not offer funding for such opportunities.</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	<b>There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.</b>

*Score explanation: There is no such website for medical students to find specific information related to planetary health/sustainable healthcare, or mentors within the medical school.*

**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	<b>Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support.</b>
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.

*Score explanation: There are several student societies dedicated to Global health (Students for Global Health, Global Goals), or to Climate Change in general (Extinction Rebellion, GUEST, Green New Deal); however, no society links the two, exclusively working on planetary health or sustainability in healthcare. Nonetheless, the aforementioned student societies foster a culture of advocacy on campus and host events on planetary health. The medical school is involved with the U21 SDG group which focuses on developing awareness and teaching around the Sustainable Development Goals. This group is faculty-led and receives some funding, although not directly linked to planetary health, and is not a student organisation, per se.*

**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?**

<b>1</b>	<b>Yes, there is a student representative that serves on a medical school or institutional decision-making council/committee.</b>
0	No, there is no such student representative.
<p><i>Score explanation: Whereas there is no such specific role within the medical school, there is an “Environmental Officer” position on the “Students’ Representative Council”, who is responsible for facilitating student responses to environmental issues of local and national importance. They are allowed to sit on sustainability boards, amongst others, at the Institution, and are aware of the discussions taking place around sustainability, serving as a vital link between University management and students. Any student is able to apply for this position, including medical students.</i></p>	

<b>6. In the past year, has the institution had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)</b>	
<b>1</b>	<b>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.</b>
<b>1</b>	<b>Panels, speaker series, or similar events related to planetary health that have students as an intended audience.</b>
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.
<b>1</b>	<b>Cultural arts events, installations or performances related to planetary health that have students as an intended audience.</b>
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
<b>1</b>	<b>Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students)</b>
<p><i>Score explanation: GUEST (Glasgow University Environment and Sustainability Team) has a community garden where students can gain an understanding of sustainable food production, while also having a role in the gardening process, throughout the year. In addition, they have hosted several cultural arts events, aimed at students, in collaboration with a variety of organisations as part of the “Youth Hub” during COP26. These included a protest poster making workshop with artist Molly Hankinson, an open mic/poetry sharing session as well as the opportunity to display student artwork during COP26. While not specifically aimed at planetary health, some of the artworks reflected on the effects of climate change on health. The University of Glasgow’s College of Arts has also hosted many events as part of “The Dear Green Bothy”, an open space where researchers, artists and communities can gather to respond creatively to the challenges of the ecological crisis. Some of these projects evoke planetary health, for example the showcasing of Gustav Metzger’s sculpture, ‘Mobbile’, which demonstrates the harmful effects of manmade pollutants. Several societies at the University have provided events on Planetary Health, for example Students for Global</i></p>	

*Health's short course series on "Women's health", "Climate change and health", "Asylum seeker health", and "Politics and public health". Many societies organise outdoor activities (e.g. Mountaineering Society, Surf Club), most of which respect Leave No Trace principles.*

**Section Total (8 out of 15)**

**8**

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.

<b>1. Does your medical school and/or institution have an Office of Sustainability?</b>	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	<b>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.</b>
1	There are no salaried sustainability staff, but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation: The University of Glasgow has a “Centre for Sustainable Solutions”, with one member of staff dedicated to Campus sustainability. However, there is no such staff within the medical school.</i></p>	

<b>2. How ambitious is your medical school/institution’s plan to reduce its own carbon footprint?</b>	
4	<b>The institution has a stated goal of carbon neutrality by 2030 or earlier and the medical school / institution has a well-defined and adequate plan in place to achieve this goal.</b>
3	Yes, there is a stated carbon neutrality goal by at least 2040 and the medical school/institution has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal by at least 2040, but the medical school/institution has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.
<p><i>Score explanation: The University of Glasgow has a carbon neutrality by 2030 plan. However, the Medical School does not have a stated plan of its own - rather, the carbon neutrality protocol is</i></p>	

centrally run by the University, and the Colleges within the University do not come up with their own plan. As the University's goal for carbon neutrality is 2030, it is expected that this will encompass the Medical School too. The Action Plan can be found here:  
<https://www.gla.ac.uk/myglasgow/sustainability/glasgowgreen/>

**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	<b>Medical school buildings source &lt;20% of energy needs from off-site and/or on-site renewable energy.</b>

*Score explanation: The University of Glasgow has put into place an "Energy Strategy" plan in order to better understand, manage and reduce the energy consumption and carbon emissions of the University. One of their main aims is to "supply sites with an increased amount of renewable energy" by reducing usage of fossil fuels, using renewable heating and sources of water, as well as integrating renewable materials during refurbishment works. Unfortunately the plan does not cite what has been done so far and what the University plans on doing to meet these aims. Last year, the medical school buildings sourced < 20% of energy from offsite/onsite renewable energy as the University's current energy project was EDF (who produce only 11% of their energy from renewables). When contacting relevant persons we were unable to receive a response on whether or not this has changed, hence we are awarding 0 marks for this metric.*

**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	<b>Sustainable building practices are utilized for new buildings on the medical school campus, but most old buildings have not been retrofitted.</b>
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.

*Score explanation: The University states on their website that they will ensure that "new buildings are delivered to the highest standard, with designs based on established methods of sustainable*

*construction and whole life costing principles, in order to minimise energy consumption and carbon emissions. All new build developments will be required to achieve a minimum Building Research Establishment Environmental Assessment Method (BREEAM) rating of “excellent” and EPC “A” rating.” [1] Regretably, we were unable to find whether the Wolfson Medical School Building, the central building for medical school teaching, fits under these criteria. There are efforts, however, to retrofit the old infrastructure at the university. For example, the steam boiler has been replaced at the Wolfson Medical School, according to the “Public Sector Report on Compliance with Climate Change Duties 2021”. It is unclear what it has been replaced with and to what extent this will help decrease greenhouse gas emissions.*

**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	<b>The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.</b>
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.

*Score explanation: While Glasgow, itself, strives to promote active travel, with the “Nextbike” initiative that allows students to use public bikes for free for 30 minutes, or recently the free bus travel measure for anyone under the age of 22, the medical school has not implemented strategies to encourage these. Nonetheless, bike parking spaces outside the medical school campus and placement sites are available. Furthermore, upon receiving placement allocations, a website link is provided detailing important information concerning the hospital; This includes guidance around transport, such as possible bus routes, nearest train stations and availability of safe bike parks.*

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

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

*Score explanation: There are available and obvious recycling and food waste bins in the main café of the medical school. These are accessible to both students and faculty and are well positioned.*

**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)?**

<b>3</b>	<b>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.</b>
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.

*Score explanation: There are no guidelines specific to the medical school, rather, decisions about food and beverages are run centrally by the University, where they have to follow a “Sustainable Food and Strategy and Action Plan” [1]. Its main aims are to source local/ regional and seasonal food, have a positive impact on local communities, and reduce related carbon emissions. This has allowed the University to achieve a 2-star rating (out of 3 stars) from the Sustainable Restaurant Association [2]. While the University has made considerable efforts sourcing local and seasonal food, providing more plant-based options, and decreasing plastic packaging, they still serve many meat options, which are not necessarily ethically sourced, and have not significantly reduced their energy and water use. The University also holds Fairtrade, Red Tractor, Vegetarian Society and Vegan Society accreditations.*

**8. Does the medical school or associated institution apply sustainability criteria when making decisions about supply procurement?**

<b>3</b>	<b>Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.</b>
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is engaged in efforts to increase sustainability of procurement.
1	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is not engaged in efforts to increase sustainability of procurement.
0	There are no sustainability guidelines for supply procurement.

*Score explanation: The medical school coordinates procurement through the University’s central Procurement Office, which has set sustainability objectives centred around “Corporate Social Responsibility, Circular Procurement, Fair Trade, Community Benefits, Living Wages, Supported businesses, Sustainability Code of Conduct, Anti-bribery & Corruption” [1]. The University of Glasgow is also an accredited Living Wage’ employer, holds Fairtrade status and is a member of Electronics Watch.*

<b>9. Are there sustainability requirements or guidelines for events hosted at the medical school?</b>	
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.
<b>0</b>	<b>There are no sustainability guidelines for medical school events.</b>
<i>Score explanation: There are no sustainability guidelines for events hosted at the Medical School.</i>	

<b>10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?</b>	
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.
<b>0</b>	<b>There are no efforts at the medical school to make lab spaces more sustainable.</b>
<i>Score explanation: The Centre for Sustainable Solutions at the University of Glasgow aims to improve lab sustainability, has gained funding for the <u>S-Labs: Sustainable Laboratories</u> project, as well as implemented the <u>Laboratory Efficiency Assessment Protocol (LEAF)</u>, a tool that helps laboratories assess and reduce the impact of their activities on the environment. It also offers a sustainable labs training course. Unfortunately, the medical school has not engaged with these initiatives.</i>	

<b>11. Does your institution's endowment portfolio investments include fossil-fuel companies?</b>	
4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	No, the institution is entirely divested from fossil fuels.
<b>2</b>	<b>The institution has partially divested from fossil fuel companies or has made a commitment to fully divest, but currently still has fossil fuel investments.</b>
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.
<i>Score explanation: The University of Glasgow decided to divest from fossil fuels in 2014, becoming the first University in Europe to do so, committing to a 10 year divestment period. Yet although the</i>	



*University led the way with its 2014 pledge, it has now been eclipsed by many other Universities due to its slow nature. As such, it is a “partially divested institution”.*

**Section Total (19 out of 31)**

**19**

Back to summary page [here](#)

*Are there additional sustainability resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

# 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 Glasgow's School of Medicine

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

Section	Raw Score	Letter Grade
<b>Planetary Health Curriculum (30%)</b>	$(31 / 69) \times 100 = 44.93\%$	C-
<b>Interdisciplinary Research (17.5%)</b>	$(12 / 17) \times 100 = 70.59\%$	B
<b>Community Outreach and Advocacy (17.5%)</b>	$(5 / 14) \times 100 = 35.71\%$	D+
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	$(8 / 15) \times 100 = 53.33\%$	C
<b>Campus Sustainability (17.5%)</b>	$(19 / 31) \times 100 = 61.29\%$	B-
<b>Institutional Grade</b>	<b>52.14%</b>	<b>C</b>

# Report Card Trends

## Section Overview

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

