Planetary Health Report Card (Medicine):

The University of Glasgow

2022-2023 Contributing Team:
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Summary of Findings

Overall	C+

Curriculum	C+

- Since the appointment of a "Global and Planetary Health" Vertical Theme lead, education on PH has greatly improved at the University of Glasgow over the last year, with the addition of several lectures on the topic. It would nonetheless benefit from being integrated more longitudinally.
- **Recommendations:** 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. For clinical years, introduce teaching on how to have conversations with patients around PH.

Interdisciplinary Research	B

- The Centre for Sustainable Solutions continues its commendable work as a research hub for resources and partnerships for staff and students to implement sustainable solutions. The medical school also have several members with research interests in planetary health and healthcare sustainability.
- **Recommendations**: The medical school can become more engaged with creating dialogues with communities affected by climate change that can inform future planetary health research. To improve this relationship we would like to see events organized by the medical school to encourage public discourse surrounding planetary health and the research that is undertaken.

Community Outreach and Advocacy	D+

- The university has fostered an innovative partnership with the Glasgow City Council which has led to the launch of GALLANT to produce sustainable solutions in Glasgow that will improve public health. There are continuing professional development courses available on planetary and occupational health topics.
- **Recommendations**: Although we appreciate that the University has continued its efforts to engage with the public, the medical school has not used this momentum to pioneer its own connections with patients and the community. Next year this can be achieved through organising regular events on the topic and creating easily accessible patient resources at affiliated teaching hospitals about PH.

Support for Student-Led Initiatives	A -

- The University of Glasgow's student body are greatly involved in sustainability, with many intersectional and interdisciplinary events being hosted throughout all domains, from the arts to the sciences. Amongst these, while planetary health may not always be the main focus, it is nonetheless included. The University is largely supportive of these initiatives, yet efforts remain predominately "bottom-up".
- **Recommendations**: Support for student-led initiatives mostly comes from the wider University rather than the Medical School specifically. We recommend the Medical School to develop a website that centralises information around PH or ESH, including opportunities and mentors.

Campus Sustainability	C+

- With most decisions 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.
- **Recommendations**: The Medical School should engage with the CSS S-Lab initiative, create a set of sustainability guidelines for events and better promote active travel. We would also like to see a more rapid divestment from fossil fuels.

Statement of Purpose

Planetary health is human health.

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

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

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

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 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 examples).

Added to our resources last year, 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. 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?	
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.
The University of Glasgow offers several student selected modules related to planetary health/ ESH: 1. "Global, Environmental & Travel Health", 2. "Health impacts and climate crisis: learning from Glasgow's living lab", 3. "Introduction to sustainable healthcare and climate change", 4. "The Climate Crisis and Emerging Infectious Diseases in Primary Care", 4. "Sustainability in Surgery".	

Curriculum: Health Effects of Climate Change

2. Does your medical school 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.
This was covered in the formative MILE (MBChB1) as well as in a lecture by Dr Waqar Ahmed titled 'Climate change and health' (MBChB1).	

This topic was also covered in "Global and Travel Medicine" by Dr Eric Walker and "Mapping the Sustainable Development Goals in MBChB year1 and 2" by Waqar Ahmed, which are both Student Selected Components in Year 2. Student Selected Components are elective, and as such, not all medical students are taught about this topic.

3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

This was briefly covered in a lecture by Dr Waqar Ahmed titled 'Climate change and health (MBChB1)', who discussed the direct and indirect effects of wildfires, storms and flooding on health.

4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

The lecture 'Climate change and health' (MBChB1) by Dr Waqar Ahmed touches on the increase in vector borne diseases.

The lecture "Endemic infections, outbreaks, epidemics and pandemics" delivered by Dr Eric Walker addresses climate change's impact on the worsening spread of various infectious diseases as part of the "Global, Environmental & Travel Health" Student Selected Component.

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.

The lecture 'Climate change and health' (MBChB1) by Dr Waqar Ahmed touches on the health impacts, including mortality, of air pollution on respiratory health.

6. Does your <u>medical school</u> 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.
No mention of CVS impact in the curriculum	

7. Does your <u>medical school</u> curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
The lecture 'Climate change and health' (MBChB1) by Dr Waqar Ahmed covers the mental health impacts of climate change. *This topic is equally covered in the "Global, Environmental & Travel Health" student selected component, with a lecture on the"Psychological health issues relating to Travel" lecture delivered by Emley Pine as well as within the GALLANT , where the mental health effects of environmental degradation and climate change are well recognised. However, these are not part of the core curriculum.*	

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.
The lecture 'Climate change and health' (MBChB1) by Dr Waqar Ahmed touches on the relationship between climate change and drinking water security. It discusses how increased water evaporation	

depletes surface water storages, and contamination of fresh water with salt (from rising sea levels), algae and chemicals. This lecture could benefit from further discussing food security and ecosystem health.

This topic is also covered in the "Global, Environmental & Travel Health" Student Selected Component, 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.

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

The lecture 'Climate change and health' (MBChB1) by Dr Waqar Ahmed covers how marginalised groups in society are more affected by climate change, as well as explores how socio-economic status affects the resilience to the impacts of climate change. Nonetheless, the affected groups are not specifically identified, especially at a global scale.

This topic is covered in the "Global, Environmental & Travel Health" Student Selected Component, 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".

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.

This was very briefly mentioned in the lecture 'Climate change and health' (MBChB1) by Dr Waqar Ahmed.

This topic is further covered during the "Global, Environmental & Travel Health" Student Selected Component, especially when talking about the "Global South" and how different countries will be/are being more affected than the UK, in lectures entitled "Health issues in local populations and travellers in Nepal" and "Health Services in India and 3 case studies on assisting remote and disadvantaged communities to improve their health".

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

11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
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 are increasing the prevalence of male infertility problems.	

12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
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. *Additionally, in Year 2, students undertake the "Family Project", where they are allocated a family through a local GP practice and must consider the factors that affect the growth and development of their child/children. One section of the project asks students to consider the effects of climate change on the development and health of the child, taking into account the impact on medical conditions and the social environment that they will grow up in.*	

13. To what extent does your <u>medical school</u> emphasize the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?

3	Indigenous knowledge and value systems are **integrated throughout** the medical school's planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included **briefly** in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in **elective** coursework.
0	This topic was **not** covered.
While the "Global, Environmental & Travel Health" Student Selected Component 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 <u>medical school</u> curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, Indigenous populations, and older adults?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
The lecture 'Climate change and health' (MBChB1) by Dr Waqar Ahmed discusses the increased vulnerability of certain demographics and communities to the impacts of climate change. However, it does not cover the effects of anthropogenic environmental toxins.	

Curriculum: Sustainability

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.
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.	

Nevertheless, two lectures within the "Global, environmental & travel health" Student Selected Component cover the personal and environmental benefits of plant based diets and nutrition, as well as the concept of a sustainable diet: "Alternative healthcare systems & plant-based medicines" and "Healthy food production, distribution, choices and consumption from global, human and environmental perspectives".

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.

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.

The lecture 'Climate change and health' (MBChB1) by Dr Waqar Ahmed addresses the emissions of the health sector, explaining that the medical sector is responsible for 5% of global emissions and discussing some strategies to limit the impact of the sector. Some of these are more limited, such as the installation of LED light bulbs, however some are more ambitious (but vague) such as the construction of net zero hospitals.

17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	
2	The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of **pharmaceuticals** and over-prescribing as a cause of climate health harm. Alternatively teaching on **deprescribing** where possible and its environmental and health co-benefits would fulfill this metric.
1	The health **and** environmental **co-benefits** of **non-pharmaceutical management** of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anesthesia 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)
	In the Year 3 lecture "Creating Sustainable Impact in General Practice," the health and environmental co-benefits are shown as reasons why social prescribing should be considered. *In the "Multimorbidity, polypharmacy, and Sustainable Healthcare" lecture also in Year 3, over-medicalisation, over-investigation and/or over-treatment is discouraged and the environmental co-benefits are listed as a reason for this. This lecture also covers waste management.* *Both lectures go over the impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.* *The environmental impacts of surgical healthcare and the impact of anaesthetic gases on the healthcare carbon footprint are not discussed in the curriculum.*

Curriculum: Clinical Applications

18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the **core** curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in **elective** coursework.
0	No, there are **not** strategies introduced for having conversations with patients about climate change
There are no strategies introduced for having conversations with patients about climate change at the University of Glasgow.	

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.
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.	

Curriculum: Administrative Support for Planetary Health

20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?	
4	Yes, the medical school is currently in the process of making **major** improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making **minor** improvements to ESH/planetary health education.
0	No, there are **no** improvements to planetary health education in progress.
The newly appointed Global and Planetary Health Vertical theme lead, Dr Noy Basu, is in the process of integrating planetary health throughout all levels of the curriculum, as well as within Problem Based Learning tutorials and within assessments, where possible. As she has only just started this role since last year, there are still many changes to go ahead; we are looking forward to seeing these being implemented. In Year 1, an introductory course to planetary healthcare has already been introduced, and there have also been changes made to the Vocational Studies handbook in Year 1 and Year 2 which include more about planetary health education. A new lecture on sustainable healthcare in the GP block during Year 3 was also introduced.	

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.
Although briefly mentioned in certain lectures where the environment is a factor in the development/exacerbation of a condition (e.g. asthma), the focus remains on improving health rather than also co-benefiting the environment. *However, there are two standalone lectures - "Climate change and Health" in Year 1 by Waqar Ahmed and "Sustainability in General Practice" in Year 3 by Dr Lynsey Yeoman that address planetary health and sustainability in healthcare.*	

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.
The medical school has a Global and Planetary Health Vertical theme lead.	

Section Total (x out of 72)	**41**

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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.*

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
3	Yes, there are faculty members at the **medical school** who have a **primary r**esearch 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.
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, Dr Noy Basu and Dr Lynsey Yeoman.	

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?	
3	There is **at least one** dedicated department or institute for interdisciplinary planetary health research.
2	There is **not currently** a department or institute for interdisciplinary planetary health research, but there are **plans** to open one in the next 3 years.
1	There is an **Occupational and Environmental Health department**, but no interdisciplinary department or institute for planetary health research.
0	There is **no** dedicated department or institute.
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 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.

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 <u>medical school</u>?	
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 process for communities disproportionately impacted by climate change to give input/make decisions about the research agenda at the medical school.	

4. Does your <u>institution</u> have a planetary health website that centralizes ongoing and past research related to health and the environment?	
3	There is an **easy-to-use, adequately comprehensive** website that **centralizes** various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that **attempts to centralize** various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
1	The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment.
0	There is **no** website.
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 <u>institution</u> recently hosted a conference or symposium on topics related to planetary health?

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

The University of Glasgow held several conferences in 2022/2023:

- *Communicating Sustainability (6-7th of September 2022), relating to how sustainability informs practice, and how to work with the sustainable development goals.*
- *Urban Neighbourhood Sustainability and Impacts from Covid-19 (15-16th of February 2023), relating to the links between sustainable cities, education and health, at the level of neighbourhoods in Africa and Asia.*

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

The University of Glasgow is part of the Global Consortium on Climate and Health Education.

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

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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.*

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the **medical school** meaningfully partners with **multiple** community organizations to promote planetary and environmental health.
2	Yes, the **medical school** meaningfully partners with **one** community organization to promote planetary and environmental health.
1	The **institution** partners with community organisations, but the medical school is not part of that partnership.
0	No, there is **no** such meaningful community partnership.
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. *As of January 2022, the University of Glasgow, in partnership with the Glasgow City Council, also 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. 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.* *The medical school has no direct part in these schemes.*	

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 Glasgow University Environmental Sustainability Team (GUEST) works with local schools, groups and societies, and offers the opportunity for children to learn about planting and gardening in our Viewfield Lane garden. GUEST also collaborates with other Glasgow universities to deliver the Glasgow Goes Green festival. The festival provides a forum for students and organisations across Glasgow to show their work, their values and the action they are taking to promote sustainability

The Baltic Street Community Food Hub, part of the Adventure Playground scheme developed and supported by our Adam Smith Business School, is a partnership with community growers and a food redistribution charity that offers local children the opportunity to grow and tend their own produce. They learn about healthy ways to cook, and ways to spread that knowledge to older residents. The garden has up to 500 visitors a day.

The University of Glasgow also held a Trees for Cities Zoom webinar (8th of December 2022), open to everyone, which explores the importance of trees to the physical and cultural environment of urban areas.

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.

Medical school communication updates occasionally publicise events related to Planetary Health or Climate Change. 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.

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 University of Glasgow offers several Continuing Professional Development 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 the Millennium Development Goals and Sustainable Development Goals, Health, trade and human rights, Climate change and impacts on health, Reproduction and population control, as well as Global health security. Additionally, the "Environmental health" course includes topics such as environmental control as a public health measure, and sustainable healthcare.

5. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about environmental health exposures?	
2	Yes, **all** affiliated hospitals have accessible educational materials for patients.
1	**Some** affiliated hospitals have accessible educational materials for patients.
0	**No** affiliated medical centers have accessible educational materials for patients.
While Greater Glasgow and Clyde hospitals are trying to integrate more sustainable practices, there does not seem to be specific 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.
0	**No** affiliated hospitals have accessible educational materials for patients.
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.	

Section Total (x out of 14)	**5**

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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.*

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** *either* offers grants for students to enact sustainability initiatives/QI projects *or* sustainability QI projects are part of the core curriculum.
1	The **medical school** or **institution** encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, **but** there is no student funding available and there is no requirement to participate.
0	No, **neither** the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.
The University of Glasgow can nominate up to 4 student-led projects based on an aspect of the United Nations Sustainable Development Goals, as part of the U21 RISE awards, to receive $2000 (USD) funding and ongoing networking and promotional support. *The University of Glasgow Medical School also allocates time during the core curriculum for "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. Namely, students can undertake a "Sustainability in Surgery" project which includes a QI or audit project relating to sustainable healthcare, or self-propose their own project related to sustainability.*	

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.
The University of Glasgow Medical School allocates time during the core curriculum for "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. This includes topics such as "Sustainability in Surgery", "Global and Travel Health", "Epidemic & pandemic disease, causes, characteristics", as well as "Health impacts and climate crisis: learning from Glasgow's living lab". Students can also propose	

their own topic as long as they find an appropriate supervisor; as such, many students have undertaken Student Selected Components on various aspects of planetary health.

3. Does the <u>medical school</u> have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.	
2	The **medical school** has a webpage with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a **medical school** webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
0	There is **no medical-school** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.
The medical school has two Moodle webpages dedicated to helping students with finding Electives and SSCs, however neither of these contain information about past/ possible projects in planetary health/sustainable healthcare, nor about mentors within the medical school.	

4. Does your <u>medical school</u> have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?	
2	Yes, there is a student organization **with faculty support** at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it **lacks faculty support.**
0	No, there is **not** a student organization at my institution dedicated to planetary health or sustainability in healthcare.
The U21 SDG group at the University of Glasgow focuses on developing awareness and teaching around the Sustainable Development Goals. It has official faculty support and some funding, and covers a range of topics around sustainability including on planetary health.	

5. Is there a student liaison representing sustainability interests who serves on a <u>medical school</u> or <u>institutional</u> 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 of Glasgow has an Environmental Officer on the Students' Representative Council, who is responsible for advocating for student opinions on environmental issues. 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.

6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	
1	Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students)

1. *Glasgow University Environment and Sustainability Team (GUEST) 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.*
2. *The University of Glasgow runs several lectures and events aimed at all students on planetary health, such as the "More Than A Meal: Exploring the Culture Behind Food Production and Consumption" event, which discussed the impacts of climate change on food production and the technological solutions to combat this.*
4. *The University of Glasgow's College of Arts organises "the Dear Green Bothy", a programme of free, weekly public events and activities demonstrating the vital role played by the arts and humanities in understanding and addressing climate emergency. While not centred around health per se, many of the events are created in the intention of sparking open discussions around climate-related issues; this naturally encompasses how environments shape human identity and behaviours, which are intrinsically linked to well-being and health.*
5. *GUEST hosts regular "Climate Cafes" and tree planting events where students and staff from the University of Glasgow and other surrounding universities can discuss climate change related issues, including health, in order to identify opportunities for local change and foster a sense of community and support.*
6. *Many societies at the University of Glasgow organise outdoor activities and programs; for example, the Glasgow Mountaineering Society organises fortnightly weekend meets where students can hike and climb around Scotland, England as well as Wales. Mountain Medicine society runs hikes, weekend trips to the highlands, wilderness medicine teaching, and mountain rescue events. The Glasgow Uni Surf Riders also hold surfing trips to the East and West coasts*

of Scotland. The Polar Bear Club runs trips across Scotland to Lochs, beaches and waterfalls for students to enjoy the benefits of wild swimming.

Section Total (x out of 15)	**12**

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

Campus Sustainability

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

1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is **at least one designated staff member** for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but **no specific staff member** in charge of medical school and/or hospital sustainability.
1	There are **no salaried sustainability staff,** but there is a sustainability task force or committee
0	There are **no** staff members **or** task force responsible for overseeing campus sustainability
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.	

2. How ambitious is your institution/medical school plan to reduce its own carbon footprint?	
5	The institution/medical school has a **written and approved plan** to achieve carbon neutrality by **2030**
3	The institution/medical school has a **written and approved plan** to achieve carbon neutrality by **2040**
1	The institution/medical school has a stated goal of carbon neutrality by **2040** but has **not created a plan** to reach that goal or the **plan is inadequate**
0	The institution/medical school does **not** meet any of the requirements listed above
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 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.	

3. Do buildings/infrastructure used by the <u>medical school</u> for teaching (not including the hospital) utilize renewable energy?	
3	Yes medical school buildings are **100%** powered by renewable energy
2	Medical school buildings source **>80%** of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source **>20%** of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source **<20%** of energy needs from off-site and/or on-site renewable energy.
Despite having an "Energy Strategy" plan in order to better understand, manage and reduce energy consumption and carbon emissions, the University of Glasgow sourced < 20% of energy from offsite/onsite renewable energy. Indeed, the current energy provider is EDF who produce only 11% of their energy from renewables. This includes medical school buildings.	

4. Are sustainable building practices utilised for new and old buildings on the <u>medical school</u> 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.
At the University of Glasgow, all new building projects are required to achieve a minimum Building Research Establishment Environmental Assessment Method (BREEAM) rating of "excellent" as well as an EPC rating of "A". This is the case for several new buildings that were completed this year; namely, the James McCune Smith learning hub, which held several lectures and exam sessions from the medical school. Indeed, while the medical school is centralised to one building (the Wolfson Medical School Building), the majority of the teaching is dispersed throughout the main campus. Nevertheless, while there are some efforts to refurbish the old infrastructure at the University, most old buildings have not been retrofitted.	

5. Has the <u>medical school</u> implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
2	Yes, the medical school has implemented strategies to encourage and provide **environmentally-friendly transportation options** such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.

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

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. 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. Nevertheless, hospital placements are often too far to be accessible by bike, with little to no safe bike paths, as well as poorly served by public transport.

6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?	
2	Yes, the medical school has **both** compost **and** recycling programs accessible to students and faculty.
1	The medical school has **either** recycling **or** compost programs accessible to students and faculty, but not both.
0	There is **no** compost or recycling program at the medical school.

The University of Glasgow has multiple bins for general waste, recycling, and composting located around campus, including in the medical school building. These 3-in-1 waste bins are largely placed near dining areas and building main entrances, and can be accessed by both staff and students.

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
3	Yes, the medical school has a**dequate s**ustainability 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.

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" from January 2019 [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 medical school does not seem to be engaged in efforts to increase food and beverage sustainability.

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.
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.	

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

10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
2	Yes, the medical school has **programs** and **initiatives** to assist with making lab spaces more environmentally sustainable.
1	There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are **no** efforts at the medical school to make lab spaces more sustainable.
The Centre for Sustainable Solutions at the University of Glasgow aims to improve lab sustainability, has gained funding for the S-Labs: Sustainable Laboratories project, as well as implemented the	

Laboratory Efficiency Assessment Protocol (LEAF), 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.

11. Does your <u>institution's</u> endowment portfolio investments include fossil-fuel companies?	
4	The institution is **entirely divested** from fossil fuels **and** has made a **commitment to reinvest divested funds** into renewable energy companies or renewable energy campus initiatives.
3	The institution is **entirely divested** from fossil fuels.
2	The institution has **partially divested** from fossil fuel companies **or** has made a **commitment to fully divest**, but **currently** still has fossil fuel investments.
1	The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organized advocacy** for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that.
The University of Glasgow decided to divest from fossil fuels in 2014, committing to a 10 year divestment period, but is yet to be fully divested from fossil fuel companies.	

Section Total (x out of 32)	**18**

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(41/72) x 100 = 57%	C+
Interdisciplinary Research (17.5%)	(12/17) x 100 = 71%	B
Community Outreach and Advocacy (17.5%)	(5/14) x 100 = 36%	D+
Support for Student-led Planetary Health Initiatives (17.5%)	(12/15) x 100 = 80%	A-
Campus Sustainability (17.5%)	(18/32) x 100 = 56%	C+
Institutional Grade	**59.53%**	**C+**

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.