Planetary Health Report Card (Medicine):

University of Southampton

2022-2023 Contributing Team: Southampton Planetary health student steering group

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Summary of Findings

Overall	B-

Curriculum	A

- University of Southampton does include planetary health in the curriculum, but it lacks integration longitudinally. In first and second year, various aspects of planetary health are discussed in lectures and in seminar work (ILAs).
- **Recommendations:** There is a lack of teaching about introducing conversations about planetary health into conversations with patients. This could be introduced in clinical skills, or early years GP teaching.

Interdisciplinary Research	C

- The University of Southampton does have staff whose primary research in on planetary health, although the institution lacks a coordinated way in which this research is disseminated to students.
- **Recommendations:** The University of Southampton could create a webpage to centralise planetary health research and to coordinate more communication between research teams.

Community Outreach and Advocacy	D+

- University of Southampton Medical School has little community outreach relating to planetary health. There are opportunities to take part in the Social Impact scheme, however there seems to be no scheme dedicated entirely to planetary health. Conferences have been run, but these were aimed mostly at prospective students, and not the wider public.
- **Recommendations**: more community partnerships relating to planetary health in SSCs.

Support for Student-Led Initiatives	C

- The University of Southampton Medical School supports students with planetary health initiatives. There is the student led Sustainable Medicine Society that focuses on planetary health that is supported by the university. There is also a planetary health group that actively works with the medical school staff on numerous projects, including developing education material for other students.
- **Recommendations**: Support for student-led initiatives is generally good.

Campus Sustainability	B+

- The University of Southampton Medical School has made good progress in becoming a more sustainable campus. In particular initiatives to make food and beverage more sustainable, sustainable travel options and a recycling and compost system.
- **Recommendations**: We suggest that the University publish more accessible energy usage figures on their public facing web pages, as well as what measure are in place to make old buildings more sustainable and energy efficient.

Statement of Purpose

Planetary health is human health.

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

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

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

Definitions & Other Considerations

Definitions:

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

- **Elective:** The word "elective" refers to an optional course or lecture series that a medical student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.

- **Clerkship:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations or placements.

Other considerations:

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

Added to these 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.
Score explanation: Score: 1. *Within the Global Health Student Selected Unit there is a dedicated 2-hour lecture on planetary health titled "health on a fragile planet".* *It discusses how climate change. in the form of storms, flooding, drought, famine and extreme heat impact physical and psychological health, as well as the increase in infectious diseases and pollution.* *This lecture also covers the importance of sustainability in healthcare and healthcare policy and resilience.* *Link to resource: https://blackboard.soton.ac.uk/ultra/courses/_152423_1/cl/outline*	

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.

Year 1:
Topic discussed in temperature Regulation lecture which specifically the role of climate change. It discusses the effect of extreme heat on mortality and human caused climate change. It also discusses the effect of both extremes of heat on health and which groups are most vulnerable.
Extreme heat discussed in lecture on global health and chronic disease in relation to cardiovascular and renal disease
Currently is scheduled to be discussed in the context of cardiovascular disease in Ischaemic heart disease lecture

Year 2:
Lecture in chronic kidney disease mentions the link between climate change and extreme heat and kidney disease.
Lecture in acute kidney disease discusses link between extreme heat and AKI
Lecture in pregnancy discusses the impact of extreme heat and its association with preterm birth, longer labours, PROM, low birthweight and still-birth

Year 5:
Lecture discusses the impact extreme heat has on the provision of healthcare and its effect on healthcare systems.

Resource:
https://blackboard.soton.ac.uk/bbcswebdav/pid-6003889-dt-content-rid-23055788_1/xid-23055788_1

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.

Score explanation:

Year 1:
Global health introduction lecture discusses planetary health and extreme weather in depth including the unequal distribution of extreme weather events as a result of climate change - it discusses how this impacts food security, infectious disease, child health and direct mortality arising from extreme weather events.

Global health and chronic disease lecture discusses how climate change and environmental degradation affect health infrastructure in LMICs and act as a major barrier to providing universal healthcare. Includes a extensive case study examining the impact of climatic events in providing healthcare in mozambique.

Year 3:

GP seminar leaders have been given guidance on discussing the impact of environmental degradation on the provision of healthcare and the importance of healthcare resilience in the context of a changing climate

Year 5:
This is covered in depth in '(Health) System Change - Not Climate Change'. The lecture focuses on how healthcare systems are affected by environmental change and the need to build climate resilience in global health systems. Includes examples of flooding, wildfires and resource depletion reducing the ability to provide effective healthcare.

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

Score explanation:

First year global health lecture explains the concept of planetary health. During the lecture, the professor explained that climate change can cause various substantial health impacts including higher exposure to infectious diseases.

Fifth year population and planetary health lecture "Health system Change" has a single slide that addresses this topic. The lecturer explains the impact of climate change on human health based on the diagram published by CDC and this includes explanation about the linkage between various climate changes and infectious disease.

5. Does your <u>medical school</u> 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.

Score explanation: 3.

Year 1: This topic was explored in depth in an asthma lecture in yr1, discussing how climate change is increasing asthma triggers, such as longer pollen seasons, wildfires producing particulate matter and

higher levels of domestic mould. This lecture also discussed the impact of inhalers and greener solutions.
This topic is also mentioned in the COPD symposium in yr1.
Discussed in depth in Global health lecture on tobacco and air pollution - explores the global toll of COPD as a result of air pollution
Discussed in Global Health lecture on chronic disease discusses impact of indoor and outdoor air pollution.

Year 3
Ethics lecture includes long case about true case of child who died from air pollution & poor indoor air quality

GP seminar leaders given cases to discuss with students regarding environmental history taking with a specific focus on air quality and pollution.

Year 4
Resources are also available in the child health lectures in yr4 discussing the case of Ella Kissi Deborah

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.

Score explanation: 3.
Year 1
A lecture titled 'Temperature' taught in Year 1 discusses extreme heat and mortality. It also teaches about interventions for extreme heat at an individual, local and policy level.

Global Health Chronic disease discusses the importance of climate change and its impacts on cardiovascular health. In particular ischaemic heart disease & atheroscleroma.

Ischaemic heart disease lecture slides include discussion on the impact of climate change on ischaemic heart disease & heart failure.

Year 2
Stroke lecture and teaches about the role of pollution in cardiovascular disease burden in comparison to respiratory disease.

Year 3
GP seminar leads give materials to discuss impact of climate change on diabetes

Year 5

Lecture on health systems discusses co-benefits of planetary health interventions which are beneficial to cardiovascular health and the planet. Examples include increase active transport or eliminating coal Reducing emissions = reduced cardiovascular disease.

Resource: https://blackboard.soton.ac.uk/ultra/courses/_152423_1/cl/outline
https://blackboard.soton.ac.uk/ultra/courses/_152423_1/cl/outline

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

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

There is no dedicated lecture or information included in the core curriculum. There is however, an optional lecture titled 'Mental Health on a Fragile Planet ' that is available in the Y4 Psychiatry resources folder, for those students who are interested. It discusses the link between climate change and its effect on suicide rates, congitive function and anxiety. It also discusses the relationship between nature and increased mood.

In the Medical Ethics and Law module within Psychiatry Year 4 there are also links to some journals discussing Sustainability and Climate

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

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

Score explanation: 3.
Year 1
This topic was discussed as part of the "Nutrition, health and the planet" lecture in year 1, but there is not an entire lecture dedicated on this topic. The following is excerpt -"The lancet commission of food, planet and health has developed a dietary guide which is evidenced to be good for human and planetary health. In general, a healthy, whole food, plant-based diet would be classed as ***co-beneficial*** *for health and the environment."*

Global health introduction lecture discusses planetary health and extreme weather in depth including the unequal distribution of extreme weather events as a result of climate change - it discusses how this impacts food security, infectious disease, child health and direct mortality arising from extreme weather events.

Global Health Chronic disease lecture discusses the importance of partnering with nature in managing chronic disease and the challenges of global food and water security

Year 5
Water security and quality is also discussed in the yr5 lecture "health system change - not climate change".

An SSU in Year 2 (Elective Module) discusses biodiversity loss and its impact on the human microbiome. It also discusses impacts on global food supply and crop yields.

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

Score explanation: 3.
Year 1
This topic is covered in "introduction to global health" in year 1, which discusses health inequalities, introduces the topic of planetary health including reference to the uneven distribution of health effects of climate change and pollution to the world's most vulnerable populations.

Global Health Chronic disease lecture discusses how climate events will have a greater effect on the health systems of poorer countries, further exacerbating existing inequalities. Also discusses how the past colonial destruction of nature has created major issues of chronic health. Lecture includes a case study of colonialism in pacific islands and destruction of natural resources.

Year 3
Resources are provided regarding the impact of climate change on worsening social inequalities. A lecture titled 'Ethics' taught in Year 3 teaches students to reflect on social and environmental inequality exacerbating health inequality in lower socioeconomic groups.

The elective module "health on a fragile planet" explicitly discusses that the impacts of climate change and environmental degradation will exacerbate already existing inequalities.

Resources: https://blackboard.soton.ac.uk/ultra/courses/_213251_1/cl/outline
https://blackboard.soton.ac.uk/ultra/courses/_152423_1/cl/outline

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.

Score explanation:

Year 1
Global health introduction lecture, discusses in depth the disparity that exists between the countries with the most extreme weather and those responsible for historic emissions. The lecturer explains that the most affected regions or countries are mainly the low income countries that they tend to have worse health outcomes compared to the other countries.

Global Health of chronic disease lecture includes reference to the unequal consequences of climate change to LMICs and how this impacts their health. Includes case studies on Mozambique and Pacific Islands and references environmental change.

Year 2
Stroke lecture includes geographic distribution of pollution
Lectures on chronic kidney disease and acute kidney disease discuss the geographic distribution of climate related kidney disease epidemics in central america, India and Sri Lanka

Year 1 Elective Module
Planetary Health lecture discusses in depth the geographic disparity in the impacts of climate change

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.

Score explanation: This topic is discussed as part of a lecture in year 2 with a section titled "climate change and pregnancy", the direct effects of air pollution on pregnancy are discussed. The lecturer mentions that prenatal exposures to particulate matter and ozone are associated with pre-term birth, low birth weight and stillbirth.

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.

Score explanation: Not covered

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

Score explanation:
Year 1
Topic briefly covered in global health of chronic disease. Lecturer discusses the importance of partnering with traditional healers in rural areas and how colonialism led to the destruction of indigenous knowledge which ultimately contributed to very high levels of obesity and diabetes, particularly in the pacific islands

14. Does your <u>medical school</u> curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous populations, and older adults?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

Score explanation: 2.

Year 1:
Lecture titled 'Health on Fragile Planet' in the SSU module, uneven distribution of extreme weather, flooding, extreme heat and vector ecology is taught about.

Global health and chronic disease lecture discusses how mining and soil degradation caused major issues for indigenous communities in pacific islands. Also discusses how indoor and outdoor air

pollution predominantly affects those in LMICS, indoor air pollution especially affects women due to indoor cooking.

Tobacco and air pollution lecture discusses the global disparity in air pollution

Year 2
O&G lecture discusses how environmental toxins specifically affect pregnant women and cause complications for the foetus and affect the whole life course of the unborn child.

Year 3
Lecture in medical ethics includes 2 cases which explore how air pollution and mould disproportionately affect children, those from lower socio-economic backgrounds and also those from racial minority or refugee groups.

Year 4
A learning resource in year 4 also includes slides which discuss how air pollution is particularly harmful to children in developing chronic respiratory disease.

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.

Score explanation:
Year 1
Two lectures cover the concept of co-benefits in depth in terms of public health interventions that are beneficial for both health and the climate. Examples mentioned include planetary health diet, active transport, reducing fossil fuel usage. Specific learning outcomes related to co-benefits

Nutrition Lecture which discusses co-benefits of a plant based diet in detail. Particularly the nuances behind the environmental impact of different food groups

Year 5:
Lecture "Health system change" covers the planetary health diet and how this links to health and environmental sustainability. The lecturer also explains the constituents of the planetary health diet. It also includes a three minute video from the Lancet Commision on food and the planetary health diet. This is also discussed more generally in the lecture with reference to a meta-analysis examining the impacts on health and the planet of different food groups.

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.
Score explanation: The topic is discussed in detail in the "health system change not climate change" lecture in yr5, the following is stated - "In the UK healthcare is responsible for around 4-5% of emissions, approximately equivalent to that of aviation or shipping." It goes on to discuss in detail Net Zero and the emissions profile of the health service. *There are two dedicated 1-hour lectures that discuss sustainability in surgery and general practice, where the relative climate impacts of different aspects of these specialties are discussed in detail*	

17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	
2	The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of **pharmaceuticals** and over-prescribing as a cause of climate health harm. Alternatively teaching on **deprescribing** where possible and its environmental and health co-benefits would fulfill this metric.
1	The health **and** environmental **co-benefits** of **non-pharmaceutical management** of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of **inhalers** on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.

1	**Waste production** within healthcare **clinics** and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
	Score explanation: 1. *Score: 2. The "health system change not climate change" module in year 5 explicitly discusses the climate impact of over-prescribing, unused prescriptions and how these do not improve patient outcomes. It also discusses how health can be improved without medication e.g. lifestyle changes, and how this is beneficial to both patient and planet.* 2. *Score: 2. This is covered again specifically in the "health-system change not climate change" lecture in year 5. Overprescribing and the overall climate impact of medications in the NHS is specifically discussed.* 3. *Score: 1. This is covered in the following lectures: "Health System Change not climate change" - year 5 - Specifically references social prescribing and asks students to come up with examples of interventions which carry co-benefits. "Physical Activity and Health" - Year 1 - Covers in detail the co-benefits of active transport and improved urban infrastructure.* 4. *Score: 1. A whole lecture on sustainability in surgery, 'Time to Cut Emissions', is provided in Year 5. This discusses the impact of different anaesthetics and PPE.* 5. *Score: 1. Covered in detail in the Time to Cut emissions lecture in Year 5. Discusses environmental impact of different anaesthetic gases and how to reduce anaesthetic emissions.* 6. *The impact of asthma inhalers are discussed in two lectures "Asthma" in Year 1 and "Health System Change not Climate Change" in Year 5. The environmental benefits of dry powder inhalers are also discussed..* 7. *Waste productions specifically referenced in the following lectures with strategies for reduction:* *Health System Change not Climate Change - Year 5* *Time to Cut emissions - Year 5*

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

Score explanation: A lecture titled ' Environmental history taking' is provided to students which shows how to investigate a patient's history for the role of climate change on their health. This is provided in the year 3 primary care placements.
There is also teaching on how we can provide information to a patient about choosing a inhaler, this includes the environmental benefits of dry powder inhalers
Resource: https://blackboard.soton.ac.uk/ultra/courses/_152423_1/cl/outline

19. In training for patient encounters, does your medical school's curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the **core** curriculum includes strategies for taking an environmental history.
1	Only **elective** coursework includes strategies for taking an environmental history.
0	No, the curriculum does **not** include strategies for taking an environmental history.

Score explanation: Year 3 GP seminar leaders were given guidance and teaching sessions on ' Environmental history taking' so that this can be delivered to students during primary care placements. Materials have been provided to students which shows how to investigate a patient's history for the role of climate change on their health.

Curriculum: Administrative Support for Planetary Health

20. Is your medical school 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.

Score explanation:

- *The population and planetary health team at Southampton medical school outlined its plans in the below blog: https://blogs.bmj.com/bmj/2021/06/07/infusing-climate-change-and-sustainability-into-the-medical-school-curriculum/*
- *Since 2020 the school has been infusing planetary health topics into the medical curriculum.*
- *In 2022 A new population and planetary health faculty team has been developed to develop a planetary health and sustainability curriculum for medical students.*
- *In 2022 the faculty hired a planetary health teaching fellowship to oversee the integration of planetary health teaching across the curriculum.*

- *In 2022 the curriculum was audited to assess for areas in which planetary health and sustainability teaching could be integrated.*
- *During 2022 the population and planetary health team has integrated teaching across all five years of the undergraduate curriculum and are in the process of developing the graduate curriculum.*

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.

Score explanation:

- *The medical schools strategy is outlined below: https://blogs.bmj.com/bmj/2021/06/07/infusing-climate-change-and-sustainability-into-the-medical-school-curriculum/*
- *Southampton medical school has adopted an infusion approach to teaching planetary health and sustainability.*
- *Following two audits of the curriculum, already existing teaching events were targeted for the inclusion of relevant planetary health or sustainability topics.*
- *In the first 2 years there is a focus on the health impacts of environmental degradation with content 'infused' into lectures regarding respiratory health, cardiovascular health, renal disease, early life and reproduction, infectious disease.*
- *In the third year GP seminar leaders have been given teaching on how to teach environmental history taking and have been provided with resources to integrate into their teaching around COPD, Diabetes and Dementia.*
- *In year 4 there is infused content into a number of specialty teaching blocks including ophthalmology, O&G and ENT.*
- *In year 5 there are two dedicated lectures designed to encourage students to become sustainable clinicians. The core lecture 'Health System Change not Climate Change' is taught during the primary care placement and discusses the environmental impacts of primary care and the NHS. Another core lecture 'Time to cut emissions' is taught during the surgery placement and focuses on reducing the impacts from surgery and anaesthetics.*

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.

Score explanation:

- *Yes: The faculty have recently appointed a planetary health teaching fellow, Dr James Bevan. He is responsible for integrating planetary health and sustainability topics across the undergraduate curriculum as well as developing thought leadership and delivering teaching sessions to both staff and students.*
- *He is also leading the planetary health student group within the faculty and gets involved in evaluation and development of the planetary health curriculum.*

Section Total (62 out of 72)	**86**

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Interdisciplinary Research

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

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.
Score explanation: *The University of Southampton has a keen research focus on the effect of air pollution and health, including researchers Stephan Holgate and Matthew Loxam who are leaders in their fields. Details of their research can be found below.* ● *https://www.southampton.ac.uk/people/5wxvnb/professor-stephen-holgate* ● *https://www.southampton.ac.uk/people/5xc5gs/doctor-matthew-loxham* *Lucy Green also has research in Development Origins of Health and Disease which researches topics related to climate change and disease, see below.* *https://www.southampton.ac.uk/people/5wzmdz/doctor-lucy-green#research*	

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.
Score explanation: *Currently there is none*	

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.
Score explanation: No Process	

4. Does your <u>institution</u> have a planetary health website that centralises ongoing and past research related to health and the environment?	
3	There is an **easy-to-use, adequately comprehensive** website that **centralises** various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that **attempts to centralise** various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
1	The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment.
0	There is **no** website.
Score explanation: *The University of Southampton has the below website which contains information on the universities sustainability strategy. Although there is no central website that outlines the sustainability strategy.* *https://www.southampton.ac.uk/susdev/index.page* *The Geography and Environmental science webpage contains resources on current research in the university, including by the population, health and wellbeing research group, which does some research into climate change and health.* *https://www.southampton.ac.uk/research/areas/geography-environmental-science* *https://www.southampton.ac.uk/research/institutes-centres/population-health-wellbeing-phew*	

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

Score explanation:

- *In March 2019 an event was held Climate Change A Critical Condition. This was a conference specifically regarding the health effects of climate change and how the health sector can improve sustainability. Held by a medical student group and supported by the faculty.*
  - *https://www.facebook.com/events/1143349222507161*
- *The university held an event 'Degrees to save the world' in 2022 which included webinars and talks from scientists across the environmental research spectrum, it also included specific talks on planetary health and healthcare sustainability.*
  - *https://www.google.com/search?q=degrees+to+save+the+world+southampton&rlz=1C5CHFA_enGB1002GB1002&oq=degrees+to+save+the+wor&aqs=chrome.0.0i512j69i57j0i22i30i625j0i390l3.4806j0j4&sourceid=chrome&ie=UTF-8*

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

Score explanation:.
University of Southampton is a founding member of the international medical education collaboration on climate and sustainability. An organisation that provides open source educational materials for medical educators or faculty to use in their curriculum. They have produced a 'hot to' guide to help medical schools integrate climate change and sustainability into their medical curriculum.
https://www.imeccs.org/

Section Total (8 out of 17)	**47%**

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Community Outreach and Advocacy

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

1. Does your medical school partner with community organisations to promote planetary and environmental health?	
3	Yes, the **medical school** meaningfully partners with **multiple** community organisations to promote planetary and environmental health.
2	Yes, the **medical school** meaningfully partners with **one** community organisation to promote planetary and environmental health.
1	The **institution** partners with community organisations, but the medical school is not part of that partnership.
0	No, there is **no** such meaningful community partnership.
Score explanation: The medical school is involved with the Social impact lab which focuses on sustainable development. *https://www.southampton.ac.uk/silab/index.page*	

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.
Score explanation: *The university held an event 'Degrees to save the world' in 2022 which included webinars and talks from scientists across the environmental research spectrum; it also included specific talks on planetary*	

health and healthcare sustainability. This was designed for prospective students who were not currently part of the university. *https://studynet-group.com/events/university-of-southampton-s-new-degrees-to-save-the-world-webinar-series-1646820000*

3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?	
2	Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are **sometimes** included in communication updates.
0	Students **do not** receive communications about planetary health or sustainable healthcare.
Score explanation: *Students are occasionally sent emails regarding opportunities in sustainability in healthcare. In addition the faculty does update on recent research at the university of which there is a significant amount of research looking at the health effects of pollution.*	

4. Does the institution or main affiliated hospital trust engage in professional education activities targeting individuals post graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?	
2	Yes, the **institution** or **main affiliated hospital trust** offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are **no** such accessible courses for post-graduate providers
Score explanation: *As part of foundation training doctor training, doctors are given two hours of lectures on planetary health and sustainability during their FY1 year.* *Additional adhoc training has been provided to Obs and Gynae, stroke and psychiatry teams.* *The University Hospital Southampton Trust offers an online course on Sustainability in Healthcare that provides guidance on how to improve clinical care while reducing carbon emissions and improving resource efficiency.*	

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 centres have accessible educational materials for patients.
Score explanation: Not that we can find.	

6. Does your <u>medical school</u> or its <u>primary affiliated hospital</u> have accessible educational materials for patients about climate change and health impacts?	
2	Yes, **all** affiliated hospitals have accessible educational materials for patients.
1	**Some** affiliated hospitals have accessible educational materials for patients.
	No affiliated hospitals have accessible educational materials for patients.
Score explanation: Not that we can find	

Section Total (5 out of 14)	**36%**

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Support for Student-Led Planetary Health Initiatives

Section Overview: ***This section evaluates institutional support for student-led planetary health initiatives, such as funding, fellowships, programming, and student groups.*** *Planetary health is a young field and, as young people facing a future deeply shaped by climate change, students are often some of the first at an institution to engage with it. Institutions should provide support for students to engage in sustainability quality improvement (QI) initiatives, discover mentors in their area of interest, and receive funding for planetary health projects.*

1. Does your 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 fulfil clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, **but** there is no student funding available and there is no requirement to participate.
0	No, **neither** the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.
Score explanation: ● *The university is currently developing opportunities and funding for students to undertake sustainable QI projects as part of their year 3 research block. This will come into effect in 2024.* ● *The medical school also provides a list of sustainability or planetary health related electives they may wish to undertake in their final year of medical school.*	

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.
Score explanation: ● *There are many research opportunities to engage with pollution research or sustainability QI work. This however requires student initiative.* ● *The medical school recently published a review of planetary health and sustainability teaching in UK medical schools which had a very large student involvement.* [*https://www.tandfonline.com/doi/full/10.1080/0142159X.2022.2152190*](https://www.tandfonline.com/doi/full/10.1080/0142159X.2022.2152190)	

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.
Score explanation: *There is a dedicated population and planetary health blackboard site that summarises educational resources for planetary health and sustainability used throughout the undergraduate medical curriculum. It contains contact information on the faculty and some other basic information.*	

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 organisation **with faculty support** at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organisation at my medical school dedicated to planetary health or sustainability in healthcare but it **lacks faculty support.**
0	No, there is **not** a student organisation at my institution dedicated to planetary health or sustainability in healthcare.
Score explanation: There is a planetary health student steering group supported by the faculty, that students can be involved in to evaluate and develop planetary health curriculum. There is also a recently created sustainable healthcare society run by students called Southampton University Sustainable Healthcare Society, with plans to raise awareness on campus about planetary health and hold a conference for medical students. They have already begun plans to change the hospital's main internet browser to Ecosia, a green search engine that plants trees sustainably using funds from advertisement.	

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.

Score explanation:

- *Southampton university has partnered with students to develop its sustainability strategy which includes more teaching across all subjects on climate change and sustainability.*
- *Southampton MedSoc has a Sustainability*
- *Lead who sits on the MedSoc council*
- *https://www.southampton.ac.uk/susdev/index.page*

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

Score explanation: The university held an event 'Degrees to save the world' in 2022 which included webinars and talks from scientists across the environmental research spectrum, it also included specific talks on planetary health and healthcare sustainability.

- *https://www.google.com/search?q=degrees+to+save+the+world+southampton&rlz=1C5CHFA_enGB1002GB1002&oq=degrees+to+save+the+wor&aqs=chrome.0.0i512j69i57j0i22i30i625j0i390l3.4806j0j4&sourceid=chrome&ie=UTF-8*

The Southampton Wilderness Medicine Society runs regular hikes throughout the year, including overnight camping trips around the UK.

Section Total (8 out of 15)	**53%**

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Campus Sustainability

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

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
Score explanation: ● *Dedicated Environment and Sustainability Manager for the University - Sarah Puckett* ○ *https://www.southampton.ac.uk/susdev/contact-us.page* ● *Dedicated Clinical Lead on Sustainability at UHS - Thom Daniels.*	

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

	Score explanation: ● *University of Southampton target net zero by 2030 for scope 1 & 2 emissions. Scope 1 are direct emissions that the university controls, primarily from fuel combustion on the university site. Scope 2 are indirect emissions from electricity that the university buys and uses.* ● ○ *https://www.southampton.ac.uk/~assets/doc/susdev/SustainabilityStrategy2020-2025.pdf*

3. Do buildings/infrastructure used by the <u>medical school</u> for teaching (not including the hospital) utilise renewable energy?	
3	Yes medical school buildings are **100%** powered by renewable energy
2	Medical school buildings source **>80%** of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source **>20%** of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source **<20%** of energy needs from off-site and/or on-site renewable energy.
Score explanation: There is little published detail on the sustainable energy consumption at the University of Southampton and attempts to obtain information from the Office of Sustainability have been unsuccessful. However, the 2022 Annual Management Review of University's Environmental Management System report, indicates the University is on a 100% renewable electricity tariff. The university's energy centre contains a gas fired combined heat and power plant (CHP) that generates electricity and heat, the heat produced from generating electricity is recaptured and is utilised to meet over half of the demand of heating campus. The centre now also has new more efficient boilers that use less CO2. However given the large usage of natural gas for energy (primarily heating), we have scored this metric 1 out 3. *We suggest that the University publish more accessible energy usage figures on their public facing web pages. All currently published material is available here:* *https://www.southampton.ac.uk/susdev/our-approach/carbon-and-energy.page* *https://www.southampton.ac.uk/~assets/doc/susdev/AnnualEMSReview2022.pdf*	

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.

Score explanation: There is a clear policy regarding new build, refurbishment and management projects, however we were unable to find information in regards to retrofitting of old buildings.
https://www.southampton.ac.uk/~assets/doc/susdev/SustainableBuildingsPolicy.pdf
https://www.southampton.ac.uk/~assets/doc/susdev/SustainableBuildingsInterimGuidanceDec2021.pdf

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-utilised 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.

Score explanation: The University of Southampton provides multiple locations for secure bike storage and runs regular sessions with the Bike Doctor to support cyclists. There is also a scheme to purchase second hand bikes for a significantly reduced price.
Award winning bus service UniLink reduces the need for staff and students to drive to campus. Students in University accommodation are given a free bus pass.
Staff who do need to drive are incentivised to car share and use low emission vehicles through a parking permit scheme. New charging points allow people to charge their eclectic vehicles on campus.
https://www.southampton.ac.uk/susdev/our-approach/travel.page

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

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

Score explanation: Mixed waste is sorted at a recycling facility. Anything that can't be recycled is sent to an 'energy from waste' facility to recover electricity and heat. Food waste is sent for anaerobic digestion producing gases that are used to generate electricity and heat. Leftover material can be used as a soil conditioner and fertiliser. Food waste bins and 3 in 1 recycling bins are in convenient locations around campus and in halls of residence.
https://www.southampton.ac.uk/susdev/our-approach/waste-recycling-a-z.page

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.
Score explanation: 3 - The Campus Kitchen has a clear environmental policy outlining all the measures they are taking to reduce their environmental impact. Examples include reducing the amount of beef items in the menu, with some outlets having no beef products at all with the aim to reduce impact of land degradation. Some other examples include purchasing local and seasonal produce, the reusable cup scheme and thinking sustainably in regards to waste. *Our most recent achievement is that we have reduced single use disposable take away items by over 70% across our department and 95% in Halls.* *https://catering.southampton.ac.uk/environmental-policy-catering-department*	

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.
Score explanation: The procurement team uses a Flexible Framework tool *https://www.southampton.ac.uk/susdev/our-approach/sustainable-purchasing.page*	

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.

Score explanation: Sustainability measures are strongly encouraged and will not be signed off unless a more sustainable option has been explored, however there is no strict criteria at the moment.

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.
Score explanation: The University of Southampton's sustainable building policy includes designing all laboratories to minimise energy and water use and waste production. We cannot however find any information regarding programs or initiatives. *https://www.southampton.ac.uk/~assets/doc/susdev/SustainableBuildingsPolicy.pdf*	

11. Does your institution's endowment portfolio investments include fossil-fuel companies?	
4	The institution is **entirely divested** from fossil fuels **and** has made a **commitment to reinvest divested funds** into renewable energy companies or renewable energy campus initiatives.
3	The institution is **entirely divested** from fossil fuels.
2	The institution has **partially divested** from fossil fuel companies **or** has made a **commitment to fully divest**, but **currently** still has fossil fuel investments.
1	The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organised advocacy** for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that.
Score explanation: We have reduced our fossil fuel exposure, making changes in our policy to disinvest from 'dirty' fuels – such as coal, tar and sand. We are also working with our fund managers on an engagement process – so voting to support moves to renewables. Over time this will reduce our fossil fuel investment to zero, as the underlying companies themselves make good on their commitments to deliver renewable solutions. Currently as it stands 0.8% of the investment portfolio is directly within fossil fuel companies and 0.8% indirectly. *https://www.southampton.ac.uk/~assets/doc/susdev/FossilFuelStatement2022.pdf*	

Section Total (25 out of 32)	**78%**

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Grading

Section Overview
This section focuses on the grading of the report card. The institution received a grade for each of the individual sections as well as an overall institutional grade. Section point totals were tallied, divided by the total points available for the section, and converted to a percentage. The overall institutional grade is a weighted average of the section grades, with curriculum receiving a higher weight owing to its larger number of metrics. Letter grades for each section and the institution overall were then assigned according to the table below.

Letter Grade*	Percentage
A	80% - 100%
B	60% - 79%
C	40% - 59%
D	20% - 39%
F	0% - 19%

**Within each grade bracket, a score in the top 5% (_5 to_9%), receives a "+", and a score in the bottom 5% (_0-_4%) receives a "--". For example, a percentage score of 78% would be a B+.*

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(62/72) x 100 = 86.11%	A
Interdisciplinary Research (17.5%)	(8/17) x 100 = 47.06%	C
Community Outreach and Advocacy (17.5%)	(5/14) x 100 = 35.71%	D+
Support for Student-led Planetary Health Initiatives (17.5%)	(8/15) x 100= 53.337%	C
Campus Sustainability (17.5%)	(25/32) x 100 = 78.13%	B+
Institutional Grade	**63.32%**	**B-**