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Planetary Health Report Card (Medicine):

Oxford University Medical School

2023-2024 Contributing Team:
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Summary of Findings

Overall	B

Curriculum	A

- The curriculum score has notably improved this year, especially through the 'Intro to Final Year' teaching, reflecting the ongoing integration of planetary health across pre-clinical and clinical courses. We would like to thank all students and faculty involved, especially ESH lead Dr SanYuMay, for their work towards this.
- **Recommendations**: We recommend core-curriculum clinical teaching on navigating communication with patients about the health effects of climate change, as well as explicit teaching on environmental history taking. It would be very valuable to see more of the key aspects of planetary health content, which are covered in detail in the elective modules, being integrated as part of the core curriculum for Clinical School.

Interdisciplinary Research	B+

- Planetary health research is prevalent within the university's Medical Sciences Division and broader community, yet lacks centralisation and specific engagement of communities affected by climate change.
- **Recommendations**: We recommend the Medical Sciences Division create a centralised planetary health website to help link researchers and students, and also establish a process to allow communities disproportionately impacted by climate change and environmental injustice to advise current research.

Community Outreach and Advocacy	D-

- The university engages with environment-focused community groups and offers local climate change and planetary health educational programs. However, these relationships do not directly involve the medical school. Patient resources regarding the health impacts of climate change are being researched, with scope for expanding the content covered in these resources and integrating into the affiliated hospital trust.
- **Recommendations:** We recommend the introduction of a university-wide series of lectures or events themed around planetary health and related topics. We would also encourage increased creation and distribution of patient resources within Oxford University Hospitals on environmental health exposures.

Support for Student-Led Initiatives	B

- The medical school and university offer support for student-led initiatives/QI projects, and there are spaces in the degree where research can be undertaken in the field. Additionally, there are web pages detailing broader research including planetary health, and various co-curricular opportunities exist for students.
- **Recommendations**: We recommend adding a dedicated planetary health webpage on the medical sciences division website, provision of grants towards sustainable initiatives/QI projects, enhancing direct access to research opportunities, and appointing a student representative for planetary health in the medical school.

Campus Sustainability	B

- In November 2021, the university's Medical Sciences Division declared climate change a health emergency, with awareness influencing decision-making and guidelines, though much is recommended over enforced. The institution committed to divest from fossil fuels and is consulting members to achieve biodiversity net gain and net zero carbon by 2035, improving upon their current target of a 50% reduction by 2030.
- **Recommendations**: We recommend that the medical school requires all events meet sustainability criteria, actively promoting the sustainability initiatives recommended by the central university and Environmental Sustainability Team. This should include consideration of recycling, waste management, reduced single use plastic, sustainable food options and improved energy efficiency programmes.

Statement of Purpose

Planetary health is human health.

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

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

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

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as "the health of human civilisation and the state of the natural systems on which it depends." For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional 'environmental health' examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of medical school education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term "planetary health" to satisfy the metric.

- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimises use of healthcare services.

- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:

    1. Describe how the environment and human health interact at different levels.

    2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.

    3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.

- **Medical School vs. Institution:** When "medical school" is specified in the report card, this only refers to curriculum and resources offered by the School of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments). In contrast, when "institution" is specified in the report card, we are referring to the university more

broadly. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is specifically targeted for medical students, can meet this metric.

- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions providers are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mould after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution.

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

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

Other considerations:

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

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

Planetary Health Curriculum

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

Curriculum: General

1.1. Did your 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 Final Honours School (FHS) projects in the 3rd year of the standard entry medicine (SEM) course provide scope for individuals to choose their own project, which can accommodate planetary health related topics.

In addition to this, Oxford offers 'Special Study Themes' (SST) for 4th year students which includes a 'Planetary Health and Sustainable Healthcare' theme. This theme started in January 2022, has been repeated annually and is to be offered in future years.

In 6th year (final year) there are Student Selected Modules (SSMs). There are opportunities from the Centre of Sustainable healthcare currently offers up to 6 places per rotation to join their Volunteer/ Sustainable Healthcare Placement programme. There is scope for some self-led work and group teaching on the core principles.

For the past 2 years, there is opportunity for 48 students (8 per rotation) to undertake the Anaesthesia SSM, which includes teaching on topics including environmental impact of surgical care and mitigation, impact of anaesthetic gases and mitigation, climate and health inequity, sustainable perioperative care, triple bottom line in practice.

Curriculum: Health Effects of Climate Change

1.2. 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.

A lecture on Planetary Health was given to 1st year SEM students and covered the effect of extreme heat caused by climate change on health risks. This lecture repeats annually, though it did not address the topic in sufficient depth due to time restraints. If this lecture is to be divided over 2 mornings in future, there should be enough time for the topic to be explored in depth.

Similarly, an introductory talk was given to 4th years on entry to clinical school which briefly touched upon the topic.

There are 4 slides dedicated to the relationship between extreme heat, health risks, and climate change in the sustainability teaching delivered as part of the 'Intro to Final Year' course.

This topic is discussed in depth in the elective 'Planetary Health and Sustainable Healthcare' Special Study Theme (SST) for 4th Year SEMs and the elective Centre for Sustainable Healthcare (CSH) special study module (SSM). In the SST, the effects of extreme heat on vulnerable populations was discussed, alongside an exploration of the urban heat island effect and ways in which vulnerable areas are responding to protect populations against extreme heat (e.g. the Ahmedabad early warning and heat action plan).

1.3. Does your <u>medical school</u> curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?

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

This topic is discussed in depth in the elective SST and Centre for Sustainable Healthcare SSM. In the SST, the rising incidence of extreme weather events as a result of climate change was discussed, alongside its impact on community infrastructure and healthcare. The mental health impact of extreme weather events on populations was also discussed, with examples given of the Australian Bushfires of 2019/2020 and flooding in the Democratic Republic of Congo in 2020.

As above, a lecture was given to 1st year SEM students which briefly covered this and is to be repeated annually. It was also briefly covered in an introductory talk to 4th years on entry to clinical school.

This topic was also covered in the 'Intro to Final Year' course including examples such as a flooded ambulance station and persistent mental health impacts

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

SEM pre-clinical: Lecturers of the second year Pathology course continued to be proactive in integrating global health into the curriculum. Climate change featured in the lecture on treatment of bacteria and antibiotic resistance. In partnership with the Liverpool School of Tropical Medicine, a lecture was given on the global burden of pneumococcal carriage.

GEM (Graduate Entry Medicine) pre-clinical: During the 'Infection and Immunology' block for the GEM Y1 course, a whole lecture was given to the year group. The lecture explored the influence of a changing climate on infectious disease, including Covid-19.

3rd year elective teaching: Final Honour School 'Infection' module had a growing focus on global health. In the 'emerging viruses' lecture, the changing patterns of disease vectors is considered and the novel threat it poses to the UK, amongst other countries, is discussed.

SEM Clinical: This topic is discussed in depth in the elective SST and Centre for Sustainable Healthcare SSM. In the SST, a full lecture is devoted to the effect of climate change and ecosystem collapse on infectious disease patterns. This includes the impact of habitat change on vector-borne diseases and the effect of increased rainfall on water-borne pathogens. Specific examples of malaria, dengue fever, and lyme disease are explored. The emergence of COVID-19 as a novel pathogen is also explored in the context of environmental change and infectious disease patterns, alongside the WHO manifesto for a healthy recovery from the pandemic.

1.5. 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. **(GEM)**
2	This topic was **briefly** covered in the **core** curriculum. **(SEM)**
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

SEM pre-clinical: In first-year medical sociology lectures, the global burden of disease attributable to air pollution was highlighted on a slide. In the second-year applied physiology and pharmacology course, a lecture on 'Respiratory Pathophysiology' was delivered, covering the contributions of air pollution to COPD and asthma pathophysiology. This lecture aimed to serve as an introduction to the topic with an aim for a more thorough coverage in clinical years

GEM pre-clinical: A dedicated public health session focusing on COPD, air pollution, and asthma is delivered to GEM Y1. This session discusses data which demonstrate the impact of air pollution on COPD.

SEM clinical: This topic is discussed in depth in the elective 'Planetary Health and Sustainable Healthcare' SST including a guest lecture. A guest lecturer from Imperial College London with extensive experience researching the impacts of air pollution on human health was invited to speak about their work, including an analysis of UK air pollution policy, the impacts of different types of air pollution and the impacts of air pollution at different stages of life.

1.6. 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:
The lead for the Cardiovascular System block for GEM Year timetabled a 1 hour lecture 'Effects of Climate Change on Cardiovascular Health', introduced last year.

This topic was covered in the 'Intro to Final Year' teaching (for both SEM and GEM) this year including links to resources on the physiology of this topic.

For SEM this topic is also discussed in a bit more detail as part of the elective 'Planetary Health and Sustainable Healthcare' SST with direction to more resources.

1.7. 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.

There was previously a lecture on this in the 5th year Psychiatry Course, however it was not possible to deliver it this year. The Psychiatry Course leads are reviewing the timetable for 24/25 and plan to explore the reintroduction of a lecture on this topic.

This topic is discussed in depth in the elective 'Planetary Health and Sustainable Healthcare' SST including a guest lecture. A guest lecturer from the Smith School of Enterprise and the Environment with dual research interests in psychiatry and sustainability was invited to speak about the mental health impacts of climate change. Their lecture covered the research literature surrounding climate

change and its effects on bipolar disorder, major depressive disorder, anxiety, PTSD, suicide, and general mental wellbeing (e.g. 'eco-anxiety').

This topic was covered in the 'Intro o Final Year' teaching for 6th year students this year.

1.8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?

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

SEM pre-clinical: In the first-year 'Introduction to Medical Sociology, material around this topic is discussed through the Ecosystems Health Model. Content addressed included: impact of green space on health inequalities (social class), impact of noise and air pollution on quality of life (outcomes of health care), as well as planetary diet, prevention & self-management.

GEM pre-clinical: This was briefly discussed in the Dr-Patient Relationship lecture. This was also covered in a new lecture given for the first time in 2021, 'Climate Change as a Public Health Crisis'.

SEM Clinical: This topic was covered in the 'Intro to Final Year' teaching for 6th year students this year with brief coverage of individual food and water security with much more in depth coverage of food systems.

This topic is also covered in depth in the elective 'Planetary Health and Sustainable Healthcare' SST in 4th year.

1.9. Does your <u>medical school</u> curriculum address the outsized impact of climate change on marginalised populations such as those with low SES, women, communities of 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:
SEM pre-clinical: This is briefly covered in the medical sociology course for the undergraduates.

GEM pre-clinical: This is briefly discussed in the 'Climate Change as a Public Health Crisis' lecture.

SEM Clinical: This topic was covered in the 'Intro to Final Year' teaching for 6th year students this year including the disproportional impact of heatwaves on marginalised populations and the impact of inadequate pollination on agricultural income in lower-income countries.
It was explored in depth in the elective 'Planetary Health and Sustainable Healthcare' SST for 4th years and mentioned in the CSH SSM for 6th years.

1.10. Does your <u>medical school</u> 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. **(GEM)**
1	This topic was covered in **elective** coursework. **(SEM)**
0	This topic was **not** covered.

SEM pre-clinical: Unequal regional health impacts of climate change continued to be covered in the medical sociology course. Nevertheless, these lectures still lack detail about unequal regional health impacts of climate globally. In the 'Changing patterns of disease lecture' a poll answered by students demonstrates concerns that climate change will be a major factor influencing patterns of disease in the future. While there is awareness of the increasing impact of climate change on health inequality globally, this is yet to enter the core curriculum.

GEM pre-clinical: In the graduate course one of the stated learning outcomes of the syllabus is to "examine the relationship between healthcare inequalities and climate change". The inequalities arising from climate change and disproportionate impact on countries in the Global South was briefly explored in the 'Climate Change as a Public Health Crisis' lecture.

SEM clinical: This topic is mentioned in the CSH SSM for 6th years and explored in depth in the 'Planetary Health and Sustainable Healthcare' SST for 4th years, including an analysis of the effects of extreme heat on Ahmedabad in India, and regional public health action to adapt (Heat Action Plan).

Clinical for both GEM & SEM: The Women's and Reproductive Health (WRH) course includes "Outline the impact of climate change, globalisation and migration on health particularly on women and the role that healthcare professionals can take in reducing this" as a learning objective.

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

1.11. 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. **(SEM)**
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered. **(GEM)**

SEM pre-clinical: Industry-related environment toxins continued to be taught in the 'Fertility and Infertility' lecture, but no improvements occurred over the past year.

SEM clinical: This topic was briefly mentioned in the elective Planetary Health and Sustainable Healthcare SST for 4th years and resources were provided for further learning.

GEM pre-clinical: This metric remains to be covered. Given that it is a condensed course, positive changes in the SEM do not map directly onto GEM.

Clinical for both GEM & SEM: This specific content is not currently covered in the Women's and Reproductive Health (WRH) rotation. The Women's and Reproductive Health (WRH) course includes "Outline the impact of climate change, globalisation and migration on health particularly on women and the role that healthcare professionals can take in reducing this" as a learning objective. There are resources provided including a talk by Professor Dame Lesley Regan titled 'Overview of the impact of climate change in pregnancy'.

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

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

The Community Based Medicine team are not able to add a session with local community groups due to significant timetable constraints. However, they have added discussions of local environmental issues and their health impacts to the core material covered during the Community Based Medicine course including: air quality in Oxfordshire and impact on health, travel problems around Oxford, impact on patient (mental health and wellbeing), burden of healthcare, prescribing inhalers and environmental impact, exercise for health/parkrun and deprescribing.

As part of the Community Based Medicine course, students complete a QI project or audit and sustainable healthcare themed. Examples that students have carried out in previous years include the environmental impact of inhalers and affecting change for the climate in a GP surgery are highlighted as examples in the session providing guidance on selecting a QI or audit topic. The course stopped using paper handouts and has also incorporated student feedback questions about how the course could further improve in terms of sustainability.

The elective SST available to 4th years in 'Planetary Health and Sustainable Healthcare' discusses air pollution alongside other human-caused environmental threats with examples including London and Oxford. Furthermore, students have the option to pursue individual projects on this topic if they wish.

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

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

This topic is emphasised in depth in the elective 'Planetary Health and Sustainable Healthcare' SST for 4th years including a talk by an indigenous lecturer who is Māori and in depth discussion about the talk and about how students can incorporate these values into their own careers. Recommendation to include this in the core curriculum as knowledge of the values of indigenous communities and the way they live in harmony with the Earth is vital for long term Planetary Health.

Extracurricular resources exist for students, for example via the Oxford Global Health society. An Indigenous Australian lecturer spoke on 'Striving for Indigenous intercultural student development through medical education' as part of the Global Health DPhil Discourse webinar series. Nevertheless, this metric remains to be formally introduced into the curriculum and core teaching of preclinical and clinical medicine.

1.14. 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:
SEM pre-clinical: This is covered in the first-year Medical Sociology course. This discusses the disproportionate impact of heat and pollution on marginalised communities and also the impact of climate change (particularly flooding) on older populations.

GEM: The topic is also explored in dedicated GEM Year 1 lectures on Gastroenterology/Climate change and Cardiology/Climate Change.

SEM clinical: This topic was also explored in depth in the 'Planetary Health and Sustainable Healthcare' SST by the Imperial guest lecturer who discussed air pollution and its effects on children and the elderly as vulnerable populations. Living in large cities and low socioeconomic status were also mentioned as risk factors for exposure to anthropogenic environmental toxins, with Tower Hamlets and Hackney in London used as examples of locations exposed to high quantities of air pollution.

Curriculum: Sustainability

1.15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

Score explanation:
GEM pre-clinical: In a lecture on obesity in the Public Health course for 1st years 'The Global Syndemic of climate change, obesity, and undernutrition' was discussed, including details of excess meat consumption being a common driver of the syndemic. This was followed by details of the Lancet Healthy, Sustainable diet as a common solution.

SEM: Plant-based diets are now mentioned in lectures. Lectures on nutrition are delivered to first and second years as part of Biochemistry, Medical Sociology and Applied Physiology and Pharmacology. These lectures mention the benefits of a reduction in meat consumption in relation to obesity and cancer risk, and mention the importance of consuming fruits, vegetables and whole grains as part of a varied diet. The lectures also include a brief discussion on the long-term health impacts of sustainable diets (i.e. plant-based diets) and their impacts on the planet.

Clinical: This topic was covered in the 'Intro to Final Year' teaching for 6th year students this year. This topic is discussed in depth in the elective 'Planetary Health and Sustainable Healthcare' SST, including an analysis of the carbon impacts of different foods, the health and environmental co-benefits of adopting sustainable diets, and behavioural techniques to help patients to alter their own diets.

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored **in depth** by the **core** curriculum
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

In the Public Health module of the Community Based Medicine block in Year 5 SEM/Year 3 GEM, information on the carbon footprint of the healthcare system has been added to the core online teaching material, including figures from the Greener NHS Plan and Sustainable Development Unit giving visual representation of the breakdown of the NHS' carbon footprint.

Clinical: This topic was covered in depth the 'Intro to Final Year' teaching for 6th year students this year. Examples of topics discussed included statistics and figures about the carbon footprint of healthcare on a global and national level. There was a detailed overview of the NHS Carbon Footprint by activity type as well as Carbon Hotspots for NHS Goods and Services. The teaching covered key relevant documents including the 'Greener NHS' Net Zero Commitment, Building a Greener OUH, Health and Care Act 2022, Net Zero supplier roadmap and Intercollegiate Green Theatre Checklist. Students were taught about the Principles of Sustainable Clinical Practice with case studies of low carbon alternatives such as the switch from Desflurane to Sevoflurane and dry powder inhalers.

Students learned about overprescribing and deprescribing was discussed as a method of reducing carbon emissions. There were also suggestions of how medical students can reduce the carbon footprint both on an individual level and as health professionals.

Furthermore, this topic is discussed in depth in the elective 'Planetary Health and Sustainable Healthcare' SST for 4th years, including a guest lecture. It is also covered in the elective CSH SSM in 6th year.

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

Score explanation: Insert explanation here.

1. *Briefly addressed in online compulsory teaching, and discussed as part of student placements in primary care and prescribing lectures part of the year 4 'Acute General Medicine' clinical placement. The Community Based Medicine course includes discussion of deprescribing.*
2. *During the Acute General Medicine module in Year 4 (SEM) and Year 2 (GEM), there are lectures delivered on therapeutics. Within this, there is a lecture dedicated to the environmental impact of over-prescribing. Additionally, de-prescribing and its co-benefits to patients and the environment is covered in Geriatrics teaching in Year 5 (SEM) and Year 3 (GEM).*
3. *Briefly addressed in online compulsory teaching and discussed as part of the Community Based Medicine Course. During GP placement in Year 4 students have a shadowing session with a social prescriber associated with their GP practice.*
4. *This is not explicitly covered in the core curriculum. This is covered in the elective elective 'Planetary Health and Sustainable Healthcare' SST for 4th years and in the elective Anaesthesia SSM for 6th years.*

5. *The contribution of anaesthetic gases is briefly covered in the Sustainability teaching as part of the Introduction to 4th year. This is covered in the elective elective 'Planetary Health and Sustainable Healthcare' SST for 4th years and in the elective Anaesthesia SSM for 6th years.*
6. *This is covered in the 5th year Community Based Medicine course, which discusses the difference in carbon footprint between dry powder inhalers and metered dose inhalers (MDIs) and the current contribution of MDIs to the healthcare's carbon footprint. This topic was covered in the 'Intro to Final Year' teaching for 6th year students this year.*
7. *The clinical skills laboratory is a teaching space that all students go through at various points in their training to learn skills such as cannulation and catheterisations. The Oxford Medical School* Clinical Skills team and Oxford medical students started the *Bleeding Green' project, which has significantly reduced the waste produced by the Clinical Skills laboratory and increased student awareness of waste production in healthcare and its associated costs. For more information about the project please visit this link. The 'Bleeding Green' project is mentioned in the Introduction to Clinical School teaching. This year in the 'Intro to Final Year' teaching there was a talk about hazardous waste disposal.*

Curriculum: Clinical Applications

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

This topic is discussed in depth in the elective 'Planetary Health and Sustainable Healthcare' SST, particularly around changing diets. There is discussion of how to educate patients on climate change and educational resources which may be helpful, alongside behavioural tools such as self-monitoring which have been shown to improve patient compliance with recommendations such as dietary change.

However, in order to integrate these conversations into daily clinical practice and widen the discussion to the whole year group, these strategies should be expanded into the core curriculum. The Communication Skills course leads are keen and open to introduce this during the current redesign of the curriculum.

1.19. 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.

Students are trained to take a full social history, which includes asking patients about exposures to environmental and occupational hazards as well as smoking. There is an Occupational History seminar in the 5th SEM Year (4th GEM year) which teaches on exploring environmental hazards that could be encountered in the workplace, but not an explicit environmental history. The occupational history leads are open to including more explicit environmental history teaching in their program.

Students must explicitly ask patients about smoking and occupation due to its potential relationship with certain conditions in order to prevent possible point deductions on practical OSCE exams. History taking is taught in a variety of places within the medical school curriculum including on clinical Wednesdays in the GEM course, the MedEd course in 4th year of the standard entry undergraduate course and in standalone introductory lectures at the beginning of clinical years.

Curriculum: Administrative Support for Planetary Health

1.20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?	
4	Yes, the medical school is currently in the process of making **major** improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making **minor** improvements to ESH/planetary health education.
0	No, there are **no** improvements to planetary health education in progress.

Since 2020, Oxford has held three faculty workshops on Education for Sustainable Healthcare. The first was to initiate teaching on Education for Sustainable Healthcare at the medical school and the subsequent workshops built on this, allowing discussion between students and faculty about how to integrate sustainable teaching within the medical school.

Following the second workshop the medical school made a major commitment to Education for Sustainable Healthcare, appointing an interim lead and then Lead for Education for Sustainable Healthcare. In addition, the medical sciences division declared that climate change is a health emergency in November 2021. The third workshop took place in March 2022. With the Lead for Education for Sustainable Healthcare having taken office, the medical school continues to make major changes to further implement ESH.

We are delighted that the University of Oxford has joined the Planetary Health Alliance, which represents a continued commitment to Planetary Health.

Planetary health content is now covered in the core curriculum in dedicated pre-clinical lectures, 4th year lectures as well as in final year as part of the 'Intro to Final Year' course.

Pre-clinical and clinical lecturers continue to be receptive to further integrate Planetary Health into their teaching.

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

There has been considerable effort over the past year to integrate planetary health and ESH topics longitudinally into the core curriculum, particularly in the SEM course. Oxford medical school has taken onboard the repeated conclusions from ESH workshops over the past few years that planetary health teaching must be given "early and often" to see results. This has been evidenced by new Planetary Health teaching now given in the 1st year of the SEM course, as well as to 4th years in the first year of their clinical course, and to final years in the 'Intro to Final Year' teaching.

Individual lecturers in the preclinical school have been very receptive to integrating planetary health topics into their lectures, particularly global health and infectious disease lectures, respiratory health lectures, and fertility lectures. This has boosted the score of the SEM course and helped to bring it in line with the GEM course which already had significant planetary health teaching.

Pre-clinical and clinical lecturers continue to be receptive to further integrate Planetary Health into their teaching.

For clinical teaching, we recommend core curriculum teaching on navigating communication with patients about the health effects of climate change as well as explicit teaching on environmental history taking. It would be very valuable to see more key aspects of the Planetary Health content covered in detail in the elective modules integrated as part of the core curriculum for Clinical School.

1.22. Does your <u>medical school</u> employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?	
1	**Yes,** the **medical school** has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	**No**, the **medical school** does **not** have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.

Dr SanYuMay Tun is the named faculty lead for Education for Sustainable Healthcare (ESH), and leads and co-ordinates ESH teaching through the medical school. Dr Tun has been in constant contact with the PHRC team and a great source of advice and support in implementing change within the medical school.

Section Total (62 out of 72) **SEM = 62**	**86.1%**

GEM = 62 **Average = 62**	

Back to Summary Page here

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

Interdisciplinary Research

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

2.1. 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.
There are several researchers within the Medical Sciences Division undertaking planetary health research, particularly within the Nuffield Department of Primary Care Health Sciences. *The LEAP (Livestock, Environment and People) project has several research outputs relating to food production, diet and health. Prof Susan Jebb is one of the directors, who has a primary research focus on sustainable diets and improving health. There is also a Sustainable Healthy Food Group led by Prof Peter Scarborough, who has a research focus on evaluating population approaches to increase the uptake of healthy, sustainable diets.* *The Interdisciplinary Research in Health Sciences (IRIHS) group conducts research into sustainable healthcare, and Prof Sara Shaw is one of the group leads, who has a research focus on technology-enabled care and sustainable health care.* *The Planetary Health Informatics (PHI) Lab group, led by Prof Sara Khalid, conducts research combining AI, satellite data, and real-world data to improve understanding of diseases, track climate impact on health, and address global health inequalities.* *There are also researchers outside the Medical Sciences Division who have a primary research focus on planetary health, including those within the Oxford Global Health Network and Oxford Climate Research Network.*	

2.2. 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.
There are several departments and institutes within the University of Oxford for interdisciplinary planetary health research. The Oxford Martin School is a research organisation working on solutions-focussed interdisciplinary research programmes to challenges across the areas of environment, health, society and economics, to improve the wellbeing of people across the planet, including climate change. The Oxford Environmental Institute conducts interdisciplinary research on processes of global environmental change including in climate, ecosystems, energy, food, water and health, and aids governments, business and communities to anticipate and respond to them.	

2.3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your medical school?	
3	Yes, there is a process in which community members impacted by climate and environmental injustice have **decision-making power** in the climate + environmental research agenda.
2	Yes, there is a process in which community members impacted by climate and environmental injustice **advise** the climate + environmental research agenda.
1	**No**, but there are **current efforts** to establish a process for community members to advise or make decisions on the research agenda.
0	There is **no** process, and **no** efforts to create such a process.
The Medical Sciences Division has a strong track record of Patient and Public Involvement (PPI) in research, for example Oxford Population Health has a Public Advisory Group and the LEAP (Livestock, Environment and People) project holds a variety of public engagement events throughout the year. However, unfortunately there are no established processes to enable the current PPI to directly involve communities disproportionately impacted by climate change and environmental injustice, but there is interest within the Medical Sciences Division to establish this.	

2.4. Does your institution have a planetary health website that centralises ongoing and past research related to health and the environment?	
3	There is an **easy-to-use, adequately comprehensive** website that **centralises** various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that **attempts to centralise** various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
1	The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment.

0	There is **no** website.

The University of Oxford Office of Sustainability website has a variety of resources, including about sustainable laboratories and food, carbon emissions, and biodiversity. Unfortunately it does not centralise resources specifically relating to planetary health, and while there is information about planetary health research, events, researchers and relevant funding across University of Oxford websites, there are no websites which centralise all of this.

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

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

A variety of conferences and symposiums relating to planetary health have been hosted at the University of Oxford.
The student-run Oxford Climate Society runs an 8-week course, the School of Climate Change (SoCC), which gives a holistic introduction to climate, including the underlying physics of climate change, climate law, economics and governance, and consists of lectures, Q&As, and a panel debate. The inaugural Vice-Chancellor's Colloquium is an 8-week interdisciplinary programme, and this year has a focus on Climate Change. The LEAP (Livestock, Environment and People) project is hosting a conference in April 2024. Green Templeton College runs a series of lectures on Planetary Health, convened by Dr SanYuMay Tun.

2.6. 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

The University of Oxford has been a member of Planetary Health Alliance (PHA) since 2023.

Section Total (13 out of 17)	**76.5%**

Back to Summary Page here

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

Community Outreach and Advocacy

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

3.1. Does your medical school partner with community organisations to promote planetary and environmental health?	
3	Yes, the **medical school** meaningfully partners with **multiple** community organisations to promote planetary and environmental health.
2	Yes, the **medical school** meaningfully partners with **one** community organisation to promote planetary and environmental health.
1	The **institution** partners with community organisations, but the medical school is not part of that partnership.
0	No, there is **no** such meaningful community partnership.
There are currently no formal relationships between community groups and Oxford Medical School. There are established relationships between Oxford University and environmental community groups including the Oxford Hub, Good Food Oxford and CAG Oxford.	

3.2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The **medical school** offers community-facing courses or events at least once every year.
2	The **medical school** offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The **institution** has offered community-facing courses or events, but the **medical school** was not involved in planning those courses or events.
0	The **institution/medical school** have not offered such community-facing courses or events.
There have been community-facing courses relating to planetary health held within the constituent colleges at the universities. For example, there is currently an ongoing flagship lecture series being held at Green Templeton College relating to planetary health. College members as well as university members and the wider public in Oxford are able to register to attend. This is not, however, formally affiliated with the medical school as it is confined to Green Templeton college. It is hoped that Oxford University will host similar events focused on planetary health during the University's 'Green Action Week' could potentially be implemented in the future.	

The Oxford Martin School hosted a collection of Planetary Health Experts in a group known as the 'Rockefeller Foundation Economic Council on Planetary Health.' They have produced publications discussing planetary health and held talks and events to bring awareness to the topic and, although the group are no longer active after completing their mandate in 2019, this information is still available via their website and youtube channel. The Oxford Martin School more widely also holds regular talks open to the public on sustainability and the environment, and publishes news articles relating to such topics such as their 'Future of Cooling' series of articles looking at the impacts of changing heat patterns on multiple factors including health.

The Oxford Climate Society also runs the 'School of Climate Change', an 8 week programme open to the public, which includes coverage of planetary health related topics.

3.3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?	
2	Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are **sometimes** included in communication updates.
0	Students **do not** receive communications about planetary health or sustainable healthcare.

There is currently no regular formal communication distributed across the university intending to increase awareness about planetary health. There was contact made with the medical sciences division about the potential of including a dedicated section for planetary health news or events but they stated that they don't currently have adequate capacity to implement such a section. There are occasional articles related to such issues on the university web page such as:

- *An overview of planetary health/sustainable healthcare related research currently ongoing in the medical sciences division, such as those affiliated with the department of population health.*
- *An official announcement from Oxford Medical School declaring a climate and health emergency.*

There is a Planetary Health Informatics Lab based at NDORMS, a group focused on using data science to assess the impacts of climate change on health. The PHI lab has its own social media platforms as well as having its events and work advertised by NDORMS, a research organisation affiliated with the Medical sciences Division at the University of Oxford. This information isn't distributed directly to students however and must be sought out so isn't necessarily received by 'all students.'

3.4. Does the institution or main affiliated hospital trust engage in professional education activities targeting individuals post graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?	
2	Yes, the **institution** or **main affiliated hospital trust** offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers

0	There are **no** such accessible courses for post-graduate providers

Oxford University Hospitals (OUH) do not offer any formal courses to educate professionals on planetary health. OUH offers the FELS programme, an optional lecture programme available to foundation students at OUH, which in previous versions has included a module on refugee healthcare and climate change and health however this year's edition has not included any related talks or events.

3.5. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?	
2	Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients.
1	**Some** affiliated hospitals have accessible educational materials for patients.
0	**No** affiliated medical centres have accessible educational materials for patients.

There are currently no affiliated centres with educational materials on environmental health exposures. There has been a discussion with advocacy groups within OUH such as Greener Practice Oxford about the creation of such resources and their distribution through certain primary care centres within Oxfordshire and so it is hoped such resources will potentially be available in the future.

3.6. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?	
2	Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients.
1	**Some** affiliated hospitals have accessible educational materials for patients.
0	**No** affiliated hospitals have accessible educational materials for patients.

There is currently no availability of resources relating to the health impacts of climate change within affiliated hospitals and primary care settings. The public health team at the Oxfordshire County Council are currently working on research on heat preparedness and related resources, which could potentially be used within OUH and primary care practices. Their work is not done in affiliation with the medical school however and is pending completion. This research is also currently restricted to heat preparedness and responses to changing temperatures within hospitals and doesn't include information on wider health impacts resulting from climate change e.g increase prevalence of certain communicable diseases.

There are groups within OUH that are interested in creating and distributing patient resources on health impacts of climate change such as Greener Practice Oxford. It is hoped that this will result in further improvement on this metric in the future.

Section Total (3 out of 14)	**21.4%**

Back to Summary Page here

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

Support for Student-Led Planetary Health Initiatives

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

4.1. Does your medical school or your institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the **medical school** or **institution** *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.
Whilst there is support and resources available for sustainability initiatives, which has resulted in the Green Impact Scheme, it is not part of the core curriculum and there are no grants set aside for this work. Quality improvement projects currently form part of the curriculum at clinical school but there is still no requirement to carry out a sustainability related project.	

4.2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The **institution** has a **specific** research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these **require student initiative** to seek these out and carry them out in their spare time.
0	There are **no opportunities** for students to engage in planetary health/sustainable healthcare research.
There are multiple opportunities for students to carry out research related to planetary health, such as the project undertaken in the Final Honors Scheme (FHS), primary care block in clinical school, and of course in the students free time. In addition to these the Planetary Health Informatics (PHI) team at the Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, offers both summer school opportunities and studentships at the post-graduate and postdoctoral level. The Oxford Martin school also offers projects in this area. Whilst these opportunities are available there is no specific research program or fellowship and students must direct themselves towards the opportunities to arrange them.	

4.3. Does the medical school have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.	
2	The **medical school** has a webpage with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a **medical school** webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
0	There is **no medical-school** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.
Whilst the medical school website does not have a section on planetary health, there are multiple larger institutional websites on planetary health. These include the webpage for the planetary health informatics (PHI) group at NDORMS, and The Rockefeller Foundation Economic Council on Planetary Health. Both these pages have information relating to projects that have been carried out, and that may be available. While they describe this information, these sites are not specific to the medical school, and are not integrated with each other so there is no specific webpage for students. There are plans for the medical school to apply for funding in the 2024-2025 budget cycle to redesign the website, during this a section on planetary health could be added.	

4.4. Does your medical school have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?	
2	Yes, there is a student organisation **with faculty support** at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organisation at my medical school dedicated to planetary health or sustainability in healthcare but it **lacks faculty support.**
0	No, there is **not** a student organisation at my institution dedicated to planetary health or sustainability in healthcare.
The medical school is affiliated with Medical Students for a Sustainable Future (MS4SF), a multi-national network of medical students which Oxford medical school is a part of. This organisation can be accessed via Facebook, and students looking for information on planetary health can view the aims of the group. These include hosting speaker events to address environmental and health issues, contacting research groups in this field to collaborate with students, and discussing how the climate crisis can be incorporated into the medical school syllabus. *Additionally, the Oxford Healthcare and Environment Society was set up by students in 2019. The Society is registered as such with Osler House, providing support, development, improvement and promotion of the academic and non-academic experience of clinical medical students at the University. This includes funding for societies that wish to apply for it, and has since merged with MS4SF.*	

Although MS4SF does no longer exist as a district society in Oxford, the combined groups as described aim to foster sustainable medical practice.

4.5. 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.
At present there is no student representative who can take part in the medical school's decision making process, and thus planetary health interests are not directly represented in this process. Liaising with the medical school has resulted in a member of the PHRC being invited to the medical school's next Joint Consultative Committee. Although this is not a permanent student representative for planetary health, it is a temporary means of discussing the best way to ensure both students and faculty maintain an awareness of the topic. Further collaboration with the medical school will hopefully result in the creation of a position for an elected student to represent sustainability interests at these meetings.	

4.6. 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 organise hiking, backpacking, kayaking, or other outings for students)
1. *The Oxford Martin School offers a programme on Food Sustainability, a project supported by WWF. However, this is only in the form of online 'toolkits' for students wanting to measure this impact and for farmers who wish to assess their sustainability practices. The medical school itself does not offer any practical projects of this kind.* 2. *As mentioned in 2.5, there have been several events at the university which raise awareness on the issues discussed above. Examples include the 8-week course run by the Oxford Climate*	

Society, and the lecture series on planetary health taking place at Green Templeton College, as organised by Dr SanYuMay Tun.

3. *In order to achieve the third category on the list above, the medical school was contacted about potentially incorporating this into the 5th year community health rotation, in the form of a rotation segment in 5th year where students can speak with local climate justice groups. However, the point was raised by medical school administrators that there is insufficient time in the term to add this to the course, but that if timetable changes allow for it then this can be included in future.*
4. *The University of Oxford Museum of Natural History, which works closely with the School of Geography and the Environment, is currently hosting an installation titled 'Fair Water?', highlighting water insecurity around the world and how this will be further exacerbated by the climate crisis. It aims to show how our water use can be equitable without causing harm to the environment.*
5. *The Oxfordshire County Council recommends volunteering with local wildlife groups to take part in conservation efforts and improve these habitats to combat the impact of climate change on these areas. These organisations include Oxford Conservation Volunteers, The Chestnut Fund, and Wild Oxfordshire.*
6. *Hike Oxfordshire is a friendly walking group for all ages which organises hikes in the countryside surrounding Oxford every Sunday.*

Section Total (10 out of 15)	**66.7%**

Back to Summary Page here

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

Campus Sustainability

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

5.1. Does your 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 Oxford has an institution-wide Environmental Sustainability team with 16 staff members which has set out an Environmental Sustainability Strategy that takes action in 10 priority areas and runs/supports sustainability schemes. The medical school has a part-time lead for Education for Sustainable Healthcare but no full-time staff responsible for medical school sustainability.	

5.2. 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 Environmental Sustainability Strategy set out by the University of Oxford was approved on 15th March 2021 and aims to reach net zero carbon emissions by 2035. *The Oxford University Hospitals group also aims to reach net zero carbon emissions by 2040 in their own sustainability report.*	

5.3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital) utilize renewable energy?	
3	Yes medical school buildings are **100%** powered by renewable energy
2	Medical school buildings source **>80%** of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source **>20%** of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source **<20%** of energy needs from off-site and/or on-site renewable energy.
Oxford University purchases 100% zero-carbon nuclear energy and has on-site renewable generation, including over 2000 solar panels combined heat and power (CHP) and ground source heat pumps. The University does use gas for heating buildings and the Environmental Sustainability team states that the solar panels source around 0.6% of the University's energy needs. These proportions also apply to medical school.	

5.4. Are sustainable building practices utilised for new and old buildings on the medical school campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?	
3	Yes, sustainable building practices are utilised for new buildings on the medical school campus and the **majority** of old buildings **have been retrofitted** to be more sustainable.
2	Sustainable building practices are utilised for new buildings on the medical school campus, but most old buildings have **not been retrofitted.**
1	Sustainable building practices are **inadequately or incompletely** implemented for new buildings.
0	Sustainability is **not considered** in the construction of new buildings.
The University Estates Service Sustainability Design Guide provides a framework to design teams project managers to minimise energy consumption of buildings, support biodiversity and reduce waste. All new projects in the last 5 years with a construction value of over £1M must follow the Passivhaus sustainable methodology. Several older buildings are also set to undergo retrofitting to improve energy efficiency, though most old buildings do not yet conform to the updated standards. A new sustainable design guide is also under development by the Environmental Sustainability team.	

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

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

Almost all students (97% based on a survey in 2018/19) and most staff (75%) travel to work and study via sustainable modes. The University of Oxford also provides 6 hours of cycle training to beginners to endorse cycling. Also, the University has recently decided to hold all undergraduate admission interviews online, eliminating emissions from students travelling to and from Oxford for interviews. The medical school also provides accommodation for hospital placement in different cities whilst only reimbursing students for one journey each way to discourage commuting. The Green Travel fund also awards grants/part-funding to sustainable transport projects across the University.

5.6. 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.

The University uses aerobic digestion recycling for food waste across all buildings with cafes and food spaces. There is also a University-wide conventional recycling program: the Dry Mixed Recycling which disposes of most recyclable materials. There are also designated waste streams in lab buildings for polypropylene and expanded polypropylene. Pipette tip box collection points are also set up at lab-based buildings for recycling. Details for common items for recycling can be found on the University's A-Z of recycling guide.

5.7. 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.

Oxford University's official Environmental Sustainability Strategy includes a sustainable food priority. The 'Building a Greener OUH 2022-2027' document from the Oxford University Hospital Trust commits to reducing food waste, amount of food packaging and 'miles travelled' by fresh produce by sourcing more fresh produce from local businesses where possible. The main contractor, Compass, follows certain initiatives to reduce waste, use local suppliers, promote vegetarianism and reduce use of single use plastic. However, this does not currently include meat free days or no red meat.

Osler house, the medical school building for clinical medical students, follows the following sustainability guidelines for events from Oxford University Event Venue, which include guidelines for food and beverages, although it does not offer food routinely. Osler House sometimes provides disposable cups and sometimes does not. There have been efforts to encourage students to use their own cups for the free tea and coffee machine in Osler House, however more clarity is needed on the policy. Most guidance is promoted instead of strictly enforced. The score for this section is therefore 2.

5.8. Does the medical school or institution apply sustainability criteria when making decisions about supply procurement?	
3	Yes, the medical school has **adequate** sustainability requirements for supply procurement **and** is **engaged** in efforts to increase sustainability of procurement.
2	There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The medical school is **engaged** in efforts to increase sustainability of procurement.
1	There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The medical school is **not engaged** in efforts to increase sustainability of procurement.
0	There are **no** sustainability guidelines for supply procurement.

Oxford University has a sustainability procurement strategy (2018-2022), which can be viewed here. Both the Laboratories Efficiency Assessment Framework (LEAF) and the preferred supplies list encourage sustainable procurement for laboratories and the clinical skills lab, reducing the Medical School's scope 3 emissions. However, in its current form, this strategy is simply encouraged and advised rather than strictly enforced. Overall, this section is therefore awarded a score of 2.

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

Osler House, the medical school society for clinical medicine, and the Medical School, follow the sustainability guidelines for events from Oxford University Event Venues. This guidance addresses issues such as sourcing food, managing waste, reducing energy consumption and reducing single use plastic. However, it should be noted that these are just guidelines and not requirements, so there may still be cases where not all policies are adhered to, so the score given is 1.

5.10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
2	Yes, the medical school has **programs** and **initiatives** to assist with making lab spaces more environmentally sustainable.
1	There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are **no** efforts at the medical school to make lab spaces more sustainable.
In preclinical teaching labs and medical labs where students do undergraduate projects, the Estates Directorate Environmental Sustainability works to make lab spaces more environmentally sustainable and improve their environmental efficiency. The Green Impact Scheme and Laboratories Efficiency Assessment Framework (LEAF) are used here, and have also recently been introduced to the Medical School's Clinical Skills lab, with recycling policies put in place where possible to reduce waste and encourage students to be conscious about their decisions regarding usage of materials, disposal and recycling. There is also funding in place to replace inefficient lab equipment. The score awarded here is 2.	

5.11. 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.
In April 2020, Oxford University declared its divestment from fossil fuels, and also committed to reinvesting in businesses that conform to the Oxford Martin principles (here) to request evidence of net zero business plans across Oxford's entire portfolio of investments. The Oxford University Endowment Management (OUEM) placed restrictions on direct investment in fossil fuels, with investments analysed for potential environmental and social risk to prevent poorly managed negative environmental and social outcomes, although some indirect investments may remain. *We acknowledge that this divestment is at institution level and is not true of all Oxford colleges. However, to maintain consistency for the PHRC we have kept all answers at institution level especially as the medical school is not linked with all colleges. For example, funding for student initiatives are consistently available at college level, but not institution level so we have not given credit for this in earlier questions where it may have been applicable.*	

Section Total (21 out of 32)	**65.6%**

Back to Summary Page here

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

Grading

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

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

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(62/72) x 100 = 86.1%	A
Interdisciplinary Research (17.5%)	(13/17) x 100 = 76.5%	B+
Community Outreach and Advocacy (17.5%)	(3/14) x 100 = 21.4%	D-
Support for Student-led Planetary Health Initiatives (17.5%)	(10/15) x 100= 66.7%	B
Campus Sustainability (17.5%)	(21/32) x 100 = 65.6%	B
Institutional Grade	**67.4%**	**B**

Report Card Trends

Section Overview
This graph demonstrates trends in overall and section grades for the years in which Oxford University Medical School has participated in the Planetary Health Report Card initiative.