Planetary Health Report Card (Medicine):

Oxford University Medical School

2022-2023 Contributing Team:
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Summary of Findings

Overall	B-

Curriculum	B

- The curriculum score has continued to increase from last year, reflecting further integration of planetary health themes throughout the preclinical and clinical courses. Thanks to persistent effort from students and preclinical lecturers, the standard-entry medicine (SEM) score has been brought in line with the graduate-entry (GEM) score this year. We would like to particularly thank the ESH lead Dr SanYuMay Tun for her work in this area, with her new sessions on Planetary Health boosting this score area.
- **Recommendations**: We recommend that the Primary Care department, which has inherited lots of the teaching time from the Public Health course in 5th year, ensures that ESH is well-integrated to prevent a drop in score next year. The psychiatry course in 5th year should also work to address the mental health effects of climate change in their teaching.

Interdisciplinary Research	B

- There remains a disconnect between Planetary Health (PH) researchers and the student body. Students are often unaware that PH research options are available (eg. for Final Honour Schools projects).
- **Recommendations**: We recommend that the medical school creates a centralised website for PH to help link students to PH researchers within the division and advertise funding opportunities. We also recommend the medical school joins the Planetary Health Alliance to encourage interorganisational research.

Community Outreach and Advocacy	D

- There has been interest from several local community groups in joining teaching sessions for the medical school. In addition, individual doctors and medical professionals within the trust are working to deliver post-graduate teaching on planetary health topics.
- **Recommendations**: We recommend that community groups, including local environmental groups, are invited to help deliver a workshop on how charities and community organisations can promote public health. This could be integrated into the Community Medicine rotation or Patient-Doctor course.

Support for Student-Led Initiatives	B-

- There has been little improvement in this section from last year. Opportunities could include teaching on or funding support for Sustainability QI projects.
- **Recommendations**: As for Interdisciplinary Research, we recommend the creation of a centralised webpage for planetary health within Oxford University Medical School.

Campus Sustainability	B

- In November 2021 the Medical Sciences Division officially declared that climate change is a health emergency. However, it has yet been made clear what concrete actions will be taken in light of the announcement. At the institution level a divestment from fossil fuel commitment has been made and they are currently running a member consultation aiming for biodiversity net gain and net zero carbon by 2035, to improve on their current target of a 50% reduction by 2030.
- **Recommendations**: We recommend that the medical school requires all events to abide by sustainability criteria, and would like to encourage the medical school to actively promote and take part in sustainability initiatives adopted by the central University of Oxford.

Statement of Purpose

Planetary health is human health.

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

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

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

Definitions & Other Considerations

Definitions:

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

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

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

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

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

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

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

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

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

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

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

Other considerations:

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

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

Planetary Health Curriculum

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

Curriculum: General

1. Did your medical school offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered **more than one** elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered **one** elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does **not** have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a **lecture** on planetary health.
0	No, the medical school has **not** offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.

The 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 component, which started in January 2022, was repeated this year and is to be offered in future years.

Finally, following 2 years of cancellation due to the COVID pandemic, Student Selected Modules (SSMs) in the final year of the course are restarting. Currently, the Centre for Sustainable Healthcare is offering a place for 1 student in 6th year to join an existing sustainability project with scope for some self-led work. As part of this programme, students have the opportunity to explore an area of ESH that interests them as well as having group teaching on the core principles.

Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?

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

A lecture on Planetary Health and Sustainable Healthcare was given to 1st year SEM students and covered the effect of extreme heat caused by climate change on health risks. This lecture is to be repeated 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

Last year, this topic was briefly covered in teaching to all final year Oxford medics in the 'Intro to Final Year' week which included two mornings of sustainable healthcare lectures. This was not repeated this year, but we have confirmation that this was an oversight in scheduling and it will be repeated annually starting from next year.

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).

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. It is due to be briefly covered in the 'Intro to Final Year' teaching due to restart next year.

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: The impact of climate change on patterns of infectious disease was covered in a global health session given to second year preclinical students as part of the pathology module in the first term. This lecture was based on pneumococcal disease in sub–Saharan Africa. Global health is part of the second-year core curriculum yet the pathology department is keen to further integrate global health into the curriculum by introducing a half or full day dedicated to the topic in the second term of second year.

GEM 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: The 'Infection' module offered in Final Honour School does not mention vector distribution and climate change. However, the module lead has discussed the potential for increased malaria and leishmaniasis in the teaching starting from next year.

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.

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 preclinical: In first-year medical sociology lectures, the global burden of disease attributable to air pollution was highlighted on a slide. Additionally, a new lecture on Respiratory Pathophysiology was delivered to preclinical students this year which briefly covered 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. 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.

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

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.

However, for SEM this topic is only discussed as part of the elective 'Planetary Health and Sustainable Healthcare' SST, and only very briefly. Overall, there is a major disparity between standard entry and graduate entry teaching of this topic.

This topic is due to be briefly covered in the 'Intro to Final Year' teaching due to restart next year.

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.

This is not currently covered in the core curriculum. The organiser of the psychiatry course intended to introduce a morning of teaching on climate change and mental health in 2021, however this was not delivered last academic year due to timetable restraints. It is unclear whether there are still plans to introduce teaching on this topic within the psychiatry course.

However, this topic is discussed in depth in the elective 'Planetary Health and Sustainable Healthcare' SST. 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 is due to be briefly covered in the 'Intro to Final Year' teaching due to restart next year.

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. (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: Material around this subject is covered in the Introduction to Medical Sociology, through discussing 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'. The lecture was delivered again this year.

Clinical: There were additional sessions to the whole Final year cohort where this was covered, and the elective 'Planetary Health and Sustainable Healthcare' SST in 4th year SEM covers these topics in depth.

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.

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.

Clinical Course: This topic is due to be briefly covered in the core curriculum 'Intro to Final Year' teaching due to restart next year. This topic is mentioned in the CSH SSM and explored in depth throughout the SST available to SEM 4th years.

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: The 'Medical Sociology' course was significantly updated in 2021. The unequal impacts of air pollution and the impacts of living in deprived areas are both explored. However, as the teaching primarily focuses on inequality within the context of the UK and fails to discuss global health inequality as it relates to climate change, we would say the content fails to merit 2 points for SEM.

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 and explored in depth in the SST available to SEM 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).

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

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

GEM pre-clinical: This is not currently covered in the core curriculum. There has been no improvement in this from last year.

SEM preclinical: In an improvement from last year, this topic is now briefly addressed. In a lecture on 'Fertility and Infertility' given in the first term of second year, a slide includes reference to the reproductive health effects of industry-related environmental toxins. Although this is not covered in depth, the relevant lecturer is keen to further integrate it into the curriculum. This is one of the few topics in the PHRC curriculum where the SEM course has more teaching than the GEM course.

Clinical teaching: This is not currently covered in the Women's and Reproductive Health (WRH) rotation. However, the WRH course course organiser and the GEM preclinical course is keen to introduce this next year.

SEM clinical: This was not discussed in the SST available to 4th years on Planetary Health and Sustainable Healthcare but was briefly mentioned and resources provided for further learning.

12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

There are discussions on integrating a teaching session with local community groups in the Community Medicine rotation of 5th year. This teaching session could provide an opportunity to learn about environmental threats to health in the university's surrounding community.

The elective SST available to 4th years in 'Planetary Health and Sustainable Healthcare' discusses air pollution alongside other human-caused environmental threats, but the majority of the discussions are London-centric. However research regarding Oxford air pollution has been briefly discussed. Discussions of local and regional environmental issues, such as Thames Water sewage leakage into Oxford rivers, would be welcome.

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

This topic is discussed in depth in the elective 'Planetary Health and Sustainable Healthcare' SST. A 10 minute recording of a talk which an indigenous lecturer presented at the AMEE symposium was discussed at length within the Oxford module, with space given for students to share their opinions on how they might carry forward 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.

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.

First year Medical Sociology lectures, which are part of the core curriculum for SEM, now cover the disproportionate impact of heat and pollution on marginalised communities and also the impact of climate change (particularly flooding) on older populations. This is a major improvement from last year, when the topic was not covered at all. This topic was explored in dedicated GEM Year 1 lectures on Gastroenterology/Climate change and Cardiology/Climate change.

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

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.

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: There has been major improvement in teaching of this topic this year. Plant-based diets are now explicitly mentioned in the curriculum and 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. As a change this year, 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.

Last year, this topic was extensively covered in teaching to all final year Oxford medics in the 'Intro to Final Year' week which included two mornings of sustainable healthcare lectures. This was not repeated this year, but we have confirmation that this was an oversight in scheduling and it will be repeated annually starting from next year. This included a set of slides explaining that nearly a third of all greenhouse gas emissions worldwide come from food production and went on to discuss the health and environmental co-benefits of reduced meat consumption, particularly red and processed meat.

There was no discussion of any specific diets or mention of a need for advocating for a solely plant-based diet specifically - it is possible that details of the Lancet Healthy, Sustainable diet could be included when this teaching is resumed next 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.

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. However, this is not an explicit learning outcome.

Last year, this topic was extensively covered in teaching to all final year Oxford medics in the 'Intro to Final Year' week which included two mornings of sustainable healthcare lectures. The second morning's focus was on sustainable healthcare and started with an overview of the healthcare system's carbon footprint. This was not repeated this year, and so points have been deducted, but we have confirmation that this was an oversight in scheduling and it will be repeated annually starting from next year.

Finally, this is also covered in depth in the elective CSH SSM and Planetary Health SST.

17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	
2	The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of **pharmaceuticals** and over-prescribing as a cause of climate health harm. Alternatively teaching on **deprescribing** where possible and its environmental and health co-benefits would fulfil this metric.
1	The health **and** environmental **co-benefits** of **non-pharmaceutical management** of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how can it be mitigated

1	The impact of **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anaesthesia 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)
	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.* 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 student placements in primary care.* 4. *This is not explicitly covered in the core curriculum.* 5. *This is not explicitly covered in the core curriculum.* 6. *During the community module in year 5 (SEM) and year 3 (GEM) there is an online module on COPD and asthma. Within that there is a section explaining 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.* 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. Over the last year the skills lab has been transformed by a student-faculty group by the 'Bleeding Green' project. It highlights the waste produced in healthcare including its cost through posters and also has drastically reduced its own carbon footprint by repackaging most items used, making students constantly aware of the waste produced. However, this is not included in a formal lecture/core curriculum.*

Curriculum: Clinical Applications

18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the **core** curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in **elective** coursework.
0	No, there are **not** strategies introduced for having conversations with patients about climate change
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. A potential opportunity could be in the Communication Skills sessions which occur through SEM Y4 and GEM Y2, in which there is already a session on Behavioural Change in patients. The course leads are open to including a scenario about discussing the environmental impact of different types of inhalers with patients and we are hoping this can be integrated next year.

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

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, which can hopefully be implemented from next year.

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

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 following ones to build 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. With the Lead for Education for Sustainable Healthcare having taken office, the medical school is currently in the process of making major changes to further implement ESH. The third workshop took place in March 2022.

There were also two new lectures in SEM Year 4 as a part of the Clinical School Public Health curriculum that now give an overview of the importance of Planetary Health.

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 on board 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 next year hopefully to the final years in their "Intro to Final year" teaching as well as an "F1 Survival Course" before graduation.

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.

We hope that with the reintroduction of planetary health lectures into the core curriculum for final years and further efforts by individual course leads throughout the course next year we will be able to reach maximum points for this area.

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 coordinates 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 (49.5 out of 72) **SEM = 48** **GEM = 51** **Average = 49.5**	**49.5**

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

Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
3	Yes, there are faculty members at the **medical school** who have a **primary r**esearch focus in planetary health **or** healthcare sustainability.
2	Yes, there are individual faculty members at the **medical school** who are conducting research **related** to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the **institution**, but none associated with the medical school.
0	No, there are **no** planetary health and/or healthcare sustainability researchers at the **institution** or **medical school** at this time.

There are researchers within the Medical Sciences Division undertaking planetary health research. For example the Primary Care department has research focused on sustainability in relation to food production and diet.

In October 2021, a new pan-Divisional Forum for Climate and Health was established to promote interdisciplinary research links in areas related to Planetary Health. Multiple researchers with interests in Planetary Health are involved in this forum. In particular, Peter Scarborough is a professor of population health, focused on population approaches for healthy, sustainable diets. Professor Mike Rayner is the Chair of Sustain, focusing on improving sustainable food practices to stay within environmental limits. Moreover, Susan Jebb and Rachel Pechey, both based at the Nuffield Department of Primary Care Health Sciences, have primary research focuses on sustainable diets and improving health. Finally, the Planetary Health Informatics (PHI) group is focused on using artificial intelligence and computational modelling to create solutions for planetary health problems. Clearly, there are many researchers and research groups with primary focuses on planetary health and/or healthcare sustainability.

There are also researchers outside the Medical School where sustainability and planetary health are the primary focus. For example, this includes researchers at the Environmental Change Institute, Smith School of Enterprise and the Environment, and School of Geography and the Environment.

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 multiple departments/organisations within the University of Oxford dedicated to interdisciplinary planetary health research. The Martin School, a research organisation aiming to improve the wellbeing of people across the planet, and planetary health, through finding answers to challenges in the areas of health, society, environment and economics. They previously commissioned a council to focus on economic and policy solutions for planetary health - The Rockefeller Foundation Economic Council on Planetary Health.

Oxford Environmental Change Institute is a centre for interdisciplinary research on the causes and impact of environmental change. Environmental research group Oxford (ERGO), the department for Health Environment and Development, and Oxford Networks for the Environment focus on areas related to planetary health, such as the effects of climate change in relation to communicable diseases and risks, to human populations, associated with biodiversity loss and climate change.

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.

Oxford has a strong track record of Public and Patient involvement regarding input into a research agenda in certain departments associated with the medical school and within the medical sciences division. Examples include the Nuffield Department of Primary Care Health Sciences and Oxford Biomedical Research Centre. However, these groups do not have any significant interaction with people disproportionately affected by climate change.

LEAP (Livestock, Environment and People) is an Oxford University-funded research group. Public engagement is an important facet of their research - link here - they hold various public engagement events throughout the year in order to promote awareness and exchange knowledge with members of the Oxford community.

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 Office of Sustainability website is comprehensive, though is lacking in specific resources related to planetary health or health and the environment. There are resources related to nutrition, and laboratory-related sustainability.	

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.
Medical Students at Green Templeton College organised a conference on the Future of Health in October 2022. This included talks on Planetary Health. *Oxford University's various departments hosted several conferences in the past year:* ● *Oxford's LEAP (Livestock, Environment and People) project hosted a conference on 25th January 2023. This is sponsored by the Wellcome Trust's 'Our Planet Our Health' initiative.* ● *The School of Climate Change held a session between October and December 2021, which involved participants from all over the world.* ● *Oxford Global held a Sustainability in Pharma and Healthcare Conference in September 2022* *Oxford Climate Society runs an eight week programme on a termly basis to 'bring together a diverse group of participants and provide them with a comprehensive education in the core issues underlying climate change, as well as the most promising solutions that have emerged across the world to address it'. They also host speakers on interdisciplinary topics related to climate change - link here.*	

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 is in the process of joining the Planetary Health Alliance and will be a member by next year. However, currently neither the medical school nor the University of Oxford are members of any planetary health or ESH organisations.	

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

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

Community Outreach and Advocacy

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

1. Does your medical school partner with community organisations to promote planetary and environmental health?	
3	Yes, the **medical school** meaningfully partners with **multiple** community organisations to promote planetary and environmental health.
2	Yes, the **medical school** meaningfully partners with **one** community organisation to promote planetary and environmental health.
1	The **institution** partners with community organisations, but the medical school is not part of that partnership.
0	No, there is **no** such meaningful community partnership.

Currently there are no official partnerships between the medical school and any community groups. Oxford University has established links with community groups in Oxford, including Oxford Hub and Good Food Oxford. However, the medical school has no direct partnership with any of these groups.

Alongside the medical school's lead for Education for Sustainable Healthcare (ESH), our team has established informal links with CAG Oxfordshire and Medact Oxford, with a view to planning future collaboration. CAG Oxfordshire is a network of more than 100 community action groups working across Oxfordshire, with the aim of making it a 'safer, fairer, greener, more sustainable place to live, work and visit.' Medact Oxford is a grassroots collective of health workers and students within Oxfordshire focused on social change, and are currently supporting a 'Health for a Green New Deal' initiative amongst other causes.

We recommend that local community groups are invited to speak to medical students as part of the Patient-Doctor or Community Based Medicine courses. This would provide the opportunity to explain their work; why it is important to the health of communities; and what help can be provided by medical students and health professionals to support their efforts. This could involve CAG Oxfordshire, Medact, the Earth Trust, and any other local community groups who express interest. Course leads have been contacted with this recommendation, and have committed to reviewing this area for the next academic year.

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.

To date, the medical school has not held any community-facing courses or events regarding planetary health. However, the Oxford Martin School offers regular events open to the community, several of which per month are dedicated to climate change/environment/sustainability. Recent speakers have explored topics including plastic pollution, solar technology for producing carbon-neutral fuels, and the relationship between biodiversity and food. Forthcoming events will be focused on environmental moral issues, preventing pandemics at the source, and sustainable food.

In addition, the Oxford Climate Society offers an 8-week virtual 'School of Climate Change' (now in its 11th edition), which is completely open to the public, requiring no previous experience, knowledge, or affiliation with the University of Oxford. Although there is currently no coverage of planetary health in the course, this could be a potential avenue for community facing education on planetary health.

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.

At this time, the medical school has no official communication stream dedicated to planetary health or sustainable healthcare. There have been occasional articles related to these issues posted on the Oxford University website, including:

1) A general overview of planetary health/sustainable healthcare-related research currently ongoing in the Oxford medical sciences division, such as investigations into sustainable and healthy diets at the Nuffield Department of Population Health

2) An official announcement regarding Oxford Medical School's declaration of a climate and health emergency

A proposal was discussed of having more related articles and information on the regular medical sciences division newsletter, or of this being delivered via a separate official communication stream from the medical school. However, it was decided that this would not be appropriate.

The editors overseeing the Osler House newsletter – a student-run communication stream that is shared with all medical students undertaking their clinical year studies (years 4 – 6) – have confirmed

that they are happy to dedicate space to these issues in their editions. This will be dependent on students sending in suggestions of relevant articles and information, to be included in the newsletter.

4. Does the institution or main affiliated hospital trust engage in professional education activities targeting individuals post-graduation, with the aim of ensuring that their knowledge and skills in planetary health remain up to date during their professional career?	
2	Yes, the **institution** or **main affiliated hospital trust** offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are **no** such accessible courses for post-graduate providers
The Oxford University Hospitals (OUH) Trust does not currently offer any formal courses dedicated to planetary health/sustainable healthcare. OUH does offer an optional lecture series to its foundation students called FELS, which explores some related topics, including refugee healthcare, and one session exploring climate change and health. *Individual doctors within the trust have expressed interest in delivering training on planetary health and wider determinants on a formal basis at OUH as part of post-graduate education, and so it is likely this score will further improve over the next year.*	

5. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about environmental health exposures?	
2	Yes, **all** affiliated hospitals have accessible educational materials for patients.
1	**Some** affiliated hospitals have accessible educational materials for patients.
0	**No** affiliated medical centres have accessible educational materials for patients.
There are no such resources available for patients at the moment.	

6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?	
2	Yes, **all** affiliated hospitals have accessible educational materials for patients.
1	**Some** affiliated hospitals have accessible educational materials for patients.
0	**No** affiliated hospitals have accessible educational materials for patients.
There are currently no educational materials available.	

Section Total (4 out of 14)	4

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

Support for Student-Led Planetary Health Initiatives

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

1. Does your medical school or your institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the **medical school** or **institution** *either* offers grants for students to enact sustainability initiatives/QI projects *or* sustainability QI projects are part of the core curriculum.
1	The **medical school** or **institution** encourages sustainability QI projects (to 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.
Quality Improvement projects are a compulsory part of the primary care block in the clinical years and SusQI projects are not compulsory but supported and increasingly so. The medical school has also supported other sustainability projects such as the Green Impact Scheme, which is currently underway in the clinical skills laboratory. However, there is no funding currently available for these projects.	

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.
Within the medical school course there are opportunities to undertake unfunded research projects related to planetary health/sustainable healthcare, for example through the student selected components at the Centre of Sustainable Healthcare, in the Final Honours Scheme (FHS) projects in 3rd year and in the sustainability Quality Improvement projects that can be undertaken in the community course in 5th year. Research is also encouraged throughout the course in students' free time and students are well supported to connect with mentors in areas of interest if that is something they want to do and there are plenty of potential mentors in this area within Oxford university. *There are no specific research programs or fellowships offered by the institution for students interested in doing planetary health / sustainable healthcare research. The Oxford Martin School offers*	

interdisciplinary programmes that intersect with areas with planetary health and sustainable healthcare research, but do not have planetary health or sustainable healthcare as their primary or specific focus.

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.
There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors. The issue has been raised with senior leadership and there are plans to apply for funding for a website redesign in the 2024-2025 budget cycle. Sections on diversity and inclusion, as well as sustainability, are major priorities in this project.	

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.
A student group called the Oxford Healthcare and Environment Society was set up in 2019. This is a registered society with Osler House, which provides support, development, improvement and promotion of the academic and non-academic experience of clinical medical students in the University of Oxford including funding to societies that apply for it. When approaching faculty we have also received support for our ideas thus far. *In 2021, Oxford Healthcare and Environment Society joined an international network of medical students to become Oxford Medical Students for a Sustainable Future (Oxford MS4SF).*	

5. Is there a student liaison representing sustainability interests who serves on a medical school 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.
There are no such student representatives at present.	

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)
Projects in organic agriculture and sustainable food systems are available through the School of Geography and the Environment (SoGE), including the Environmental Change Institute (ECI). *There have been many panel and speaker events related to planetary health within the university over the past year. Examples include a talk entitled 'Planetary Healthcare: caring for people and planet in a climate crisis', which was given as part of Meeting Minds Global, a conference for current Oxford students and alumni, as well as 'Governing Planetary Health in an Unequal World' by the Oxford Department of International Development as part of a series on 'Climate Change and the Challenges of Development'.* *No evidence was found of outreach events where students learn directly from members of local environmental justice communities.* *The Oxford Research Centre in the Humanities (TORCH) launched the Art Biodiversity Climate (ABC) Network in 2021. Throughout 2022 a series of online displays, hybrid symposiums, artists-in-residency and an exhibition were constructed in order to encourage interdisciplinary engagement on the 'climate crisis and its impact on human and non-human life'.*	

The university Environmental Sustainability team works with the Oxford Hub to support and encourage students to take part in volunteering projects with an environmental focus.

The Oxford University Expeditions Council offers funding up to £2000 for overseas expeditions to undergraduates and graduates. The University of Oxford Exploration Club provides support and advice to students interested in planning a university expedition. Individual colleges within the university also offer travel grants which can be used for wilderness or outdoor programmes.

Section Total (9 out of 15)	**9**

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

Campus Sustainability

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

1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is **at least one designated staff member** for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but **no specific staff member** in charge of medical school and/or hospital sustainability.
1	There are **no salaried sustainability staff,** but there is a sustainability task force or committee
0	There are **no** staff members **or** task force responsible for overseeing campus sustainability
At the institutional level, there is a very active Environmental Sustainability Team with 20 members of staff for Oxford University who issue an Environmental Sustainability Strategy and run initiatives at a university wide level as well as providing resources. However, there is no specific medical school staff member representative. The Oxford University Hospital Trust has a sustainability lead role, but they are not involved in the medical school or university decision making specifically (even though some hospital decisions may indirectly impact the student learning environment). Hence the score for this is a 2.	

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
	In March 2021, the University of Oxford approved a new Environmental Sustainability Strategy, aiming to achieve net zero carbon and biodiversity net gain by 2035. There is a laid out strategy

	to achieve this in the website and is broadly made up of 10 priority areas and 4 'enablers' (governance, funding, annual reporting and off-setting).

3. Do buildings/infrastructure used by the <u>medical school</u> for teaching (not including the hospital) utilize renewable energy?	
3	Yes medical school buildings are **100%** powered by renewable energy
2	Medical school buildings source **>80%** of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source **>20%** of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source **<20%** of energy needs from off-site and/or on-site renewable energy.
Oxford University purchases 100% renewable electricity (windpower) and is increasing on-site generation including over 2,000 solar panels, combined heat and power and ground source heat pumps – website <u>here</u>. However, heating is provided by natural gas boilers and the Environmental Sustainability Team states that currently the university is approximately 55% from both on and off site renewables.	

4. Are sustainable building practices utilised for new and old buildings on the <u>medical school</u> campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?	
3	Yes, sustainable building practices are utilised for new buildings on the medical school campus and the **majority** of old buildings **have been retrofitted** to be more sustainable.
2	Sustainable building practices are utilised for new buildings on the medical school campus, but most old buildings have **not been retrofitted.**
1	Sustainable building practices are **inadequately or incompletely** implemented for new buildings.
0	Sustainability is **not considered** in the construction of new buildings.
The University has an Environmental sustainability Design Guide which was adopted in 2017 and goes beyond legislative requirements for carbon and biodiversity. This design guide is currently being updated to set higher standards for carbon emissions, refurbishments and biodiversity. Any new university buildings (since 2017) at Oxford use the Passivhaus methodology to inform projects. There is Passivhaus certification. There is also a Sustainability Design Guide document and implementation of the university Carbon Management Strategy in all builds and refurbishments. Details can be found <u>here</u>. *However, a significant number of old buildings used for medical students are not yet conforming to a published rating system or sustainable building guideline.*	

5. Has the medical school implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
2	Yes, the medical school has implemented strategies to encourage and provide **environmentally-friendly transportation options** such as safe active transport, public transport, or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented **some** strategies to provide environmentally-friendly transportation options, but the options are **unsatisfactorily** accessible or advertised.
0	The medical school has **not** implemented strategies to encourage and provide environmentally-friendly transportation options.
At Oxford almost all students walk or cycle due to the city infrastructure. During hospital placements in different cities hospital accommodation is provided and students are only reimbursed for one journey each way to try to discourage commuting. In addition there is the Green Travel Fund which supports departments to encourage sustainable travel.	

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.
Overall, the medical school produces very little organic waste because most staff use different research buildings to purchase food and drink. Most of the spaces including Osler House, the medical school building for clinical medical students, have food waste anaerobic digestion and conventional recycling, therefore a score of 2 is awarded. There are also specialist recycling services provided through the University supplier of pipette tip boxes and expanded polystyrene packaging.	

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 new catering supplier is participating in a 'world-first circular, closed-loop, packaging system project. 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 Venues, which include guidelines for food and beverages. Osler House 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. The score for this section is therefore 2.

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) that can be viewed here. Both the Laboratories Efficiency Assessment Framework (LEAF) and the preferred supplies list encourage sustainable procurement for laboratories, reducing the Medical School's scope 3 emissions. However, in its current form, this strategy is simply encouraged rather than enforced. Overall, this section is therefore awarded a score of 2.

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 medical students, follows the following sustainability guidelines for events from Oxford University Event Venues, (https://www.venues.ox.ac.uk/going-green-with-your-events/).The score for this section is therefore 1.

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 the preclinical teaching labs, the work to assist making lab spaces more environmentally sustainable is carried out by the Estates Directorate Environmental Sustainability Team. This Team has visited the building several times to find opportunities to improve the environmental efficiency of the building and teaching labs.

Recently, initiatives including the Green Impact Scheme and Laboratories Efficiency Assessment Framework (LEAF) have also been introduced in the Medical School's Clinical Skills lab, with recycling policies put in place where possible. The members of the clinical skill lab have worked extremely hard alongside students to radically change the way the skills lab functions. This has reduced waste dramatically and also encourages students to be conscious about their decisions regarding their usage of materials, disposal of packaging and recycling.

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.

Oxford University announced divestment from fossil fuels in April 2020. The university has 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, but this is not at the stage yet to fulfil level 4.

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 (22 out of 32)	22

Back to summary page here

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

Grading

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

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

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

Planetary Health Grades for 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%)	(49.5/72) x 100 = 68.8%	B
Interdisciplinary Research (17.5%)	(12/17) x 100 = 70.6%	B
Community Outreach and Advocacy (17.5%)	(4/14) x 100 = 28.6%	D
Support for Student-led Planetary Health Initiatives (17.5%)	(9/15) x 100= 60.0%	B-
Campus Sustainability (17.5%)	(22/32) x 100 = 68.8%	B
Institutional Grade	**60.5%**	**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.