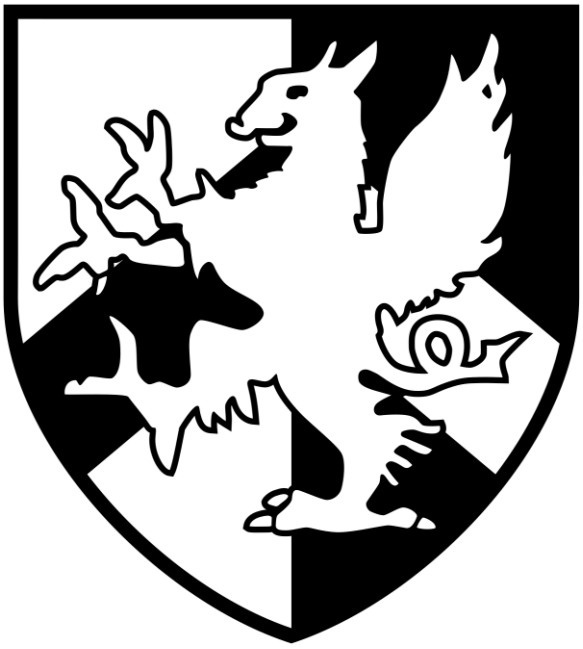
Planetary Health Report Card (Medicine):

Barts and the London School of Medicine and Dentistry



2023-2024 Contributing Team:

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Summary of Findings

Overall	B+

Curriculum	A

- Barts continues to incorporate planetary health into the curriculum well in both core and elective modules.
- **Recommendations:** Much of the way planetary health is delivered in the curriculum has remained the same since last year. A more longitudinal approach to teaching planetary health involving years 4 and 5 would help elevate Barts' curriculum, such as practical skills like history taking.

Interdisciplinary Research	B

- Both through the Wolfson Institute of Population Health and university-wide, there is significant input into planetary health research arising from the institution. The Environment and Health MDT tackles health issues arising due to climate change, and includes course units dedicated to planetary health research, demonstrating ongoing commitment to furthering understanding of both human and environmental health.
- **Recommendations**: To focus more on establishing formal communication channels for groups vulnerable to climate change, allowing for their direct input into the medical curriculum and relevant research opportunities. Multi-disciplinary approaches to global health, as demonstrated by the Law School's conferences in 2023, should be more readily available and promoted to medical students. The medical school's platform could be further elevated by joining the Planetary Health Alliance.

Community Outreach and Advocacy	B

- The medical school has established valuable partnerships with community organisations to further the cause of planetary and environmental health. These include conducting extensive research and spreading awareness about the health consequences of climate change for local residents. Hospitals under the Barts trust have taken substantial steps towards providing their staff with comprehensive education on sustainable healthcare practices and the significance of planetary health.
- **Recommendations**: Additional avenues for students to directly participate in community-based planetary health initiatives should be created. To address the health impacts of climate change, the medical school and its affiliated hospitals must provide accessible resources and educational materials for patients.

Support for Student-Led Initiatives	A

- The medical school provides avenues for involvement in planetary health projects through Student Selected Components and displays comprehensive information on the webpage for students to contact mentors and engage in relevant initiatives. Sustain@BL is a student society dedicated to promoting sustainability and planetary health; it receives robust support from faculty and doctors with similar agendas. The institution presents numerous opportunities for students to participate in co-curricular planetary health programs.
- **Recommendations:** More research and engagement opportunities should be made available to students to help broaden exposure to planetary health and sustainability initiatives for a larger population of students.

Campus Sustainability	C+

- Barts has made good progress to improve sustainability for campus buildings facilities, food procurement decisions and transport options. They also have comprehensive recycling schemes accessible to students.
- **Recommendations**: To work towards having a permanent, dedicated sustainability officer for the medical school. We recommend further initiatives to achieve complete fossil fuel divestment and devising a plan to achieve net zero by 2040.

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.
Score explanation: The medical school continues to offer students in first and second-year selective components with the primary focus being environment and planetary health through teaching about sustainable quality improvement projects. The curriculum focuses on a variety of topics such as global warming, the impact of climate change, extreme weather, air pollution as well as food security and disease patterns. Fourth-year students also benefit from a Student Selected Component (SSC) that examines the correlation between diabetes and sustainability, as well as a new SSC examining the interplay between cardiovascular disease and climate change. Furthermore, students are offered 2 SSCs in sustainable healthcare for first and second year students and an SSC on climate change and cardiovascular disease in the fourth year.	

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.

Score explanation:
During Public Health Week, there are a plethora of lectures that address core topics of planetary health such as environmental climate change injustice, food security and the implications of climate change on human health. In the third year, students are given a lecture titled "Climate Change and Health" during Public Health Week. This lecture addressed the impact of heatwaves, air pollution, water security, migration, mental health and infectious disease. The lecture was supported by data drawn from the 2022 heatwave.
In fourth year, the global health module features a variety of lectures that focus on the impact of climate change on human health. A lecture titled "Why Sustainable Healthcare" explores how extreme heat is triggered by climate change and causes heat-related mortality, wildfires, droughts, changes in physical activity and labour capacity. This is also discussed in the lectures "Global Health Introduction," "Health Equity." and "HIV and Community Engagement."

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

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

Score explanation:
During the year 3 Public Health Week, a lecture titled "Climate Change and Health" addresses the impact of extreme weather events including flooding, wildfires, and heatwaves on human health and the delivery of healthcare. Associated effects relating to extreme weather events including migration and food security are also explored. The lectures include infographics to illustrate mechanisms of extreme weather events and their effects to health, as well as drawing on data from the 2022 heatwave in Europe as an example of an extreme weather event.

1.4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?

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

Score explanation:
During the 3rd year lecture entitled 'Climate Change and Health' there is an infographic slide addressing the impact of climate change on infectious disease spread as well as another slide explaining the link between climate impacts, (such as flooding and storms) on incidence of Lyme disease and West Nile Virus. There is additionally a lecture in 3rd year regarding the impacts of infectious diseases

over time on population health and how these are linked to climate change processes. Impacts on migration are also explored through this.

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.
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:
In the second year, a lecture in the core curriculum titled "Obstructive Lung Diseases" covers topics such as occupational health and air pollution can be potential risk factors for asthma and COPD however it is not directly addressed how this pertains to climate change.

In third year, during the general practice community diagnosis week, a webinar that explores the impact of air pollution on respiratory diseases such as asthma and COPD. It also details greener alternatives for metered dose inhalers and the impact these inhalers have on pollution emissions.

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:
This topic is briefly mentioned in the core curriculum during the third year during general practice community diagnosis week, where there is a webinar on sustainability and social prescribing that describes the impact climate change has on cardiovascular health.

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.

Score explanation:
In the 3rd year lecture entitled 'Climate Change and Health' there are several slides addressing the impacts of climate change on mental health. It addresses climate dread and climate anxiety in the population, as well as linking outcomes of climate change on individuals (such as migration, job loss) with increased incidence of mental illness. The neuropsychological effects of pollutants are not mentioned in this lecture.

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.

Score explanation:
In 'Climate Change and Health', water security is addressed in relation to climate change and links this to increased water insecurity with rising global temperatures. The slides discuss the impacts of flooding on infectious diseases, the economy, infrastructure and more. This is further linked to food security and the effects this presents. In the Public Health week in year 3 there is also a lecture entitled 'Food Security and Health' which explores the impacts of climate change on food security in a more in depth fashion and how this can be seen in both urban areas (food deserts) as well as more rural developing nations. This has also been discussed in a first year problem based learning (PBL) scenario on the planetary health diet.

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 color, Indigenous communities, children, homeless populations, and older adults?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

Score explanation:
The Public Health lecture 'Food Security and Health' addresses the disproportionate impacts of food insecurity on those in developing countries as well as those in areas of lower socioeconomic attainment due to infrastructure. Within 'Climate Change and Health' disproportionate impacts of climate impacts on marginalised communities are discussed at every stage, highlighting how climate impacts are felt more greatly by those in the global south as well as indigenous communities. It also discusses the impacts of water insecurity on the economy and links this to increased poverty.

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.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

Score explanation:
Public health week covers a variety of topics that look at the global perspective of planetary health and climate change. It goes into detail on how some populations have a greater disadvantage and are at greater risk of negative health outcomes in the face of climate change. The effects on vulnerable populations and the issue of migration and climate change are also discussed.

In fourth year, the topic of unequal region health impacts is addressed in Global Health Week. Similarly, it looks at the impact of extreme weather events, and drought and how it leads to mass relocation. The direct impact of health is also discussed.

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.
1	This topic was covered in **elective** coursework.
0	This topic was **not** covered.

Score explanation:
This topic was covered in the first year in the human development module in a lecture titled "Fundamentals mechanisms in human health and puberty." This lecture discusses how pollutants can act as endocrine disrupting chemicals. However, it is not directly related to climate change.

In the fourth-year lecture "History taking in obstetrics and gynaecology," occupational and environmental toxin exposures are discussed in relation to their impacts on pregnancy and teratogenicity.

1.12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?	
3	This topic was explored **in depth** by the **core** curriculum.
2	This topic was **briefly** covered in the **core** curriculum.
1	This topic was covered in **elective** coursework.

0	This topic was **not** covered.

Score explanation:
A year two lecture in the human development module titled "Why do infants wheeze" addresses risk factors that are caused by humans and how this predisposes some patients to respiratory conditions. Also, in the first year, there are lectures that link the environment to health issues.
There have also been opportunities for students to be involved in student selected components (SSCs) that focus on the lack of green and blue space in the local area (Tower Hamlets) as well as the high pollution levels specifically in East London.
Additionally, fourth year Child Health lectures discuss pollution and environmental exposures as risk factors for preschool wheeze and other paediatric respiratory illnesses.

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

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

Score explanation:
At Barts this is discussed briefly in the third year Public Health Week lecture entitled 'Planetary Health' which mentions the importance of decolonising planetary health and centering indigenous perspectives on planetary health. This lecture included a video emphasising the importance of indigenous peoples as stewards of the planet and their knowledge of planetary health from a first hand perspective.

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:
The human development, cardiorespiratory, and human science and public health (HSPH) modules all address the outsized impact of anthropogenic environmental toxins for marginalised populations. For example, the "Obstructive lung diseases" lecture in the second year highlights how environmental interactions can cause asthma, discussing the impact of poor housing conditions and lower socioeconomic status, such as with homeless populations, migrants and refugees, and how these can lead to increased air pollution exposure as well as increasing severity of asthma attacks. This is also

further explored through lectures in years 1-3 which discuss the impact of the socioeconomic levels of specific populations and how this increases risk for diseases that are caused or exacerbated by pollutants and toxins.

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: The first-year module "Fundamentals of Medicine" looks at the feasibility and availability of a planetary diet and the impact a plant-based diet can have on the planet. In the third year, lectures cover public health and nutrition, including reducing meat consumption and the fortification of foods.	

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.
Score explanation: In the first and second years, the core curriculum does not cover this topic. However, there are SSCs available in first and second year which cover SusQI projects and sustainable healthcare. In the third year lecture entitled 'Climate Change and Health' the sources of carbon emissions by proportion within the NHS are discussed, alongside a graph demonstrating the projected impact of different strategies the NHS could implement on the overall NHS carbon footprint. In fourth year, the Global Health Week module covers carbon hotspots in the UK healthcare system and how to reduce the NHS' carbon footprint.This is also discussed in third year. A third year lecture on sustainability and social prescribing during general practice community diagnosis week discussed the carbon footprint of metered dose inhalers and how greener prescribing initiatives could be used to overcome this.	

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:

1. Co-benefits of avoiding over medicalisation, over investigation and over treatment have been discussed in lectures such as 'planetary health and your career as a doctor' and 'how do global and planetary health inspire new thinking of medicine and the medical curriculum.' Environmental and health co-benefits are also explored through social prescribing lectures in years 1 to 3, and this is highlighted especially in GP placement during the first year.
2. Impacts of over-prescribing are covered especially in the first and second years of the course. Topics such as the overprescription of antibiotics, and comparing the use of generic and branded drugs are covered in the module "Fundamentals of medicine ". The module "Brain and Behaviour" looks at other ways to treat mental health. During GP placement social prescribing and non-pharmacological management are explored extensively.
3. Social prescribing is heavily emphasised and covered extensively throughout the entire Barts MBBS programme. This is explored through GP placement in first and second year, and clinical communication skills workshops in years 3-5. Additional lectures for this take place during public health modules such as GP community diagnosis week in year three, human sciences and public health week in year two and global health week in year 4, where community engagement strategies are also explored. The second-year modules "Metabolism" and "Human Science and Public Health" cover non-pharmaceutical management of illnesses such as diabetes and PCOS.
4. The impacts of anaesthetics on the carbon footprint of the NHS is briefly discussed in the third year lecture "Climate Change and Health," with the suggestion of nitrous oxide capture and reuse to help overcome this.
5. In the second year, the impact of inhalers on healthcare footprint is explored. This is taken further in third year, with alternative options mentioned as well.

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the **core** curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in **elective** coursework.
0	No, there are **not** strategies introduced for having conversations with patients about climate change
Score explanation: How to discuss planetary health with patients is mentioned throughout the curriculum. Interactive activities such as a role-playing session look at how to communicate with patients about the impact that their behaviours can have on both their health and the environment. These include adapting diets to reduce meat consumption and heart disease and diabetes risk, and encouraging different modes of transport to travel less via car and promote active travel. These have been mainly incorporated into third and fourth year communication skills workshops.	

1.19. 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.
Score explanation: This is not specifically covered in the curriculum currently.	

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.
Score explanation: The Medical school has overall implemented central topics throughout the curriculum with regards to Planetary Health. There has been a clear drive to ensure that the importance of planetary health is highlighted throughout the curriculum, both in preclinical and clinical phases. There is now more focus on areas such as the health impacts of climate change, as well as ways in which the healthcare industry	

contributes to climate change processes. The curriculum also makes links between health equity, inequalities and climate change. There are SSCs teaching about the importance of Sustainable Quality Improvement Projects, and a new SSC for fourth year titled: "Cardiovascular Disease and Climate Change in the Undergraduate Medical Curriculum." There is significant support from multiple members of faculties, especially with the introduction of the new Environment and Health MDT. There are also ongoing discussions between the university's sustainability coordinator, the Barts and the London Students Association President and various senior faculty and leadership team members regarding reviewing the current curriculum with the aim to improve and implement further ESH across the curriculum.

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.

Score explanation:
Across all years, topics pertaining to Planetary Health are incorporated into the curriculum, both through core teachings and elective modules.
In the first year, students learn about the interplay between patient health and planetary health. Concepts such as the social determinants of health are explored in relation to this. Students also learn about the relationship between diet, health and the environment.
In second year, links are made between climate change and disease processes, for example respiratory disease and air pollution.
Third and fourth year look more closely at impacts of the health service, discussing the carbon footprint of the NHS and what contributes to it. A more global and public health perspective is taken to highlight the ways in which health and the environment are interconnected.
However, there are some key topics that are not yet included or have not gone into full depth, for example, ensuring that the impacts of climate change are explored in further detail in relation to cardiovascular disease, neurology or obstetrics and gynaecology. There is also scope for more to be included in fourth and fifth year of the medical degree, with greater focus on implications for clinical practice.

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.

Score explanation: There are multiple members working to incorporate planetary health and sustainable healthcare into the curriculum. There is currently a specific lead for Population Health and a lead for Global Health and Planetary Health in the Barts curriculum. However, there is no one specific staff member with the overall formal responsibility of embedding sustainable healthcare into the curriculum.

Section Total (59 out of 72)	**A**

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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.*

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.

Score explanation:
There are many faculty members who focus on research that encompasses planetary health themes. The Wolfson Institute of Population Health (WIPH) is composed of academics with particular focus on public and global health issues, with the Global Public Health Unit being especially relevant to planetary health research. One of the modules in this unit is entitled 'Planet and Place', and consists of ten academics with an array of areas of expertise pertaining to planetary health and climate change. These include areas such as the intrinsic interconnection between climate justice and reproductive rights, flooding and ill mental health, and infectious disease patterns. As part of this unit's cohort, one professor's work studying the effects of air pollution on paediatric respiratory development was accredited with influencing public policy and the conception of the Ultra Low Emission Zone (ULEZ).

Other areas of specialist research in the Wolfson Institute include food security and climate change, global health governance and the intrinsic interrelation between climate change and drug policy. Furthermore, as part of the medical school, there are academics engaged with increasing integration of sustainable practices into the medical curriculum.

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.

Score explanation:
As discussed above, the WIPH has particular emphasis on conducting planetary health and climate change-related research. Furthermore, in response to the complexity of issues exacerbating the global disease burden, the Environment and Health MDT was formed. This newly emergent MDT consists of an interdisciplinary group of over 150 academics and professionals aimed at understanding and holistically approaching these systemic issues through the lens of planetary health. This is done via a focus on four key themes: natural environment, microbial environment, built environment and psychosocial environment.

This coming March, the Environment and Health MDT will deliver a three-day course entitled 'Biomedical Horizons: Exploring the Interplay of Environment and Health', which will build on understanding and addressing ill health in relation to the established themes discussed previously.

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.

Score explanation:
At COP28, two of the delegates chosen to represent QMUL conducted a talk entitled 'Arts and Heritage as an Approach Based on the Needs of Communities in the Face of Change', which highlighted the necessity of centring indigenous voices when considering how best to address and mitigate effects of the climate crisis. However, there is no current discussion as to how this will influence the research agenda or curriculum at the medical school. As a result, there are existing informal efforts to promote indigenous voices in QMUL, but with no indication as to whether this is a path for integration into the medical curriculum yet

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.

Score explanation:
There is currently no website specifically designated for promoting research into human and environmental health. However, the Sustainability page of the Queen Mary website outlines the university's sustainability priorities, advertises upcoming events, and provides a link to all sustainability-related news occurring at the university, as well as ways in which students can become involved.

Additionally, the Queen Mary website has a page dedicated to the Wolfson Institute, which promotes news articles related to current and ongoing research into human and environmental health conducted at the university.

One recent example of research conducted is entitled 'Global Review of Sexual and Reproductive Health and Rights in Climate Commitments', which demonstrated how despite evidence on the negative health impacts of climate change on women and girl's reproductive rights, these issues are only incorporated into a third of countries' climate change action plans globally.

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.

Score explanation:
Our institution has hosted multiple conferences / symposiums on topics relating to planetary health. For example;

- As part of the QMUL School of Law, the Centre for Climate Crime and Climate Justice hosted a one-day conference in 2023 entitled 'Working for Climate Justice', which featured themes pertaining to planetary health, and emphasised the need for trade unions to form a collective response to challenges posed by the climate crisis, often caused or exacerbated by their employers.

- This group also hosted a conference earlier in 2023 entitled 'Criminalising Climate Defenders', which worked alongside multiple activist organisations to discuss suppression of environmental defenders in the UK.

In addition, the medical school itself hosted a planetary health-focused conference:

- During sustainability week in November 2023, the medical school hosted Eco Medics, who gave a workshop, 'Creating Impactful Change in the NHS,' aiming to inspire students on how they can improve sustainability in the medical profession

2.6. Is your <u>medical school</u> a member of a national or international planetary health or ESH organisation?	
1	Yes, the medical school is a member of a national or international planetary health **or** ESH organisation
0	No, the medical school is **not** a member of such an organisation
Score explanation: Barts is not one of the 340+ ascribed institutions to the PHA (Planetary Health Alliance).	

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

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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.*

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.

Score explanation:
The CHILL study, a 5-year research project focused on the impact of air pollution on primary school students, was conducted by the university. With over 9,200 students enrolled, the study included assessments of more than 1,300 children across primary and secondary schools in London and Luton. The data collection phase concluded in July 2023, and now the university is moving into the analysis phase, where they will evaluate the data and release the study results soon. The Centre of The Cell Team engaged with primary and secondary classes throughout the study, educating them on the science of air pollution and encouraging them to develop strategies to reduce it.

In 2021, QMUL joined the Net Zero Carbon Partnership Action Plan to achieve a net zero carbon borough by 2045 in partnership with Tower Hamlets Council, the Canary Wharf Group, and New City College. This partnership provides a platform for communication and engagement between the university and local communities to effect positive change in response to the climate emergency and carbon production. The university has already begun taking action, such as planting trees in the university and local areas to promote biodiversity, and hosting events and initiatives to raise awareness of the importance of responding to environmental challenges. On 9 November 2021, the university participated in a panel discussion with sixth-form students at New City College, engaging them in initiatives to tackle climate action within the borough.

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.

Score explanation:
Each November, the university convenes a week-long celebration of sustainability, meticulously organised by its student and faculty members. The festivities comprise a diverse range of engaging events, including volunteering opportunities, workshops, social gatherings, and enlightening seminars, all of which are accessible to students, faculty, and the wider public. Although the medical school is not involved in the planning, its students and staff are warmly invited and enthusiastically encouraged to participate.

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.

Score explanation:
Sustain@BL, the medical school's sustainability society, which regularly shares information about events through its mailing list, social media, and WhatsApp group chat. The Barts and the London Student Association run a student bulletin and newsletter with frequent updates on sustainability events and climate change news.
The university website features a comprehensive sustainability page, offering a wealth of information about ongoing research and events. The articles featured on this page are updated regularly and provide practical tips on how to reduce waste, and minimise electricity and gas consumption.

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

Score explanation:
The Barts Health Trust has a sustainability group named Green at Barts Health, consisting of various healthcare professionals who aim to support and challenge the trust in reducing carbon emissions and achieving sustainability goals. This voluntary group promotes positive behaviour change by organising events, webinars, and courses geared towards staff, patients, and the local community.

Regular meetings and training sessions are organised, such as the Sustainable Healthcare "Teach the Teachers" event held at the Royal London Hospital. During the event, staff discussed ways to introduce sustainable healthcare practices into their respective departments, facilitated discussions, and connected staff with colleagues who could help them achieve their goals.

Free webinars are frequently organised to discuss the Trust's green plan, upcoming events, and the journey towards building a greener future, including the carbon net zero goal. Additionally, there is a monthly journal club where members meet to discuss the evidence behind global sustainable healthcare practices and how they can be implemented within the trust and its departments.

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.

Score explanation:
The Royal London Hospital has launched a groundbreaking clinic dedicated to analysing children's exposure to harmful air pollution. Following a thorough investigation, a personalised report is produced for each child and their family, outlining practical steps to reduce exposure and monitoring progress over time. Patient information leaflets, available throughout the paediatric A&E department, provide comprehensive information on asthma and related conditions, as well as a detailed list of environmental exposures that may trigger them. The leaflets also direct families to londonair.org.uk, where they can access up-to-date information on air pollution levels in their local area.

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.

Score explanation:
The Barts Trust website offers public access to sections that cover sustainability, featuring informative blogs on past and present articles, as well as information on the effects of climate change on health and the trust's efforts to improve the environment. While affiliated hospitals may have some leaflets available in certain wards, no physical materials are currently widely available for all patients.

Section Total (10 out of 14)	B

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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.*

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.
Score explanation: The medical school offers opportunities for students to engage in sustainability QI projects. There is a student-selected component (SSC) as part of the curriculum, in which the medical school allocates time for students to explore subjects beyond the scope of the syllabus. An SSC on sustainability quality improvement is offered to first and second-year students. In addition, students in their fourth and fifth years can undertake an SSC on a topic related to Planetary Health; this SSC is an extended dissertation.	

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.
Score explanation: The institution offers opportunities for students to partake in research pertaining to planetary health; however, these are not specifically targeted towards medical students. An optional free module on sustainable development is available with EcoCampus; this module provides an overview of sustainability and environmental management. There are research opportunities for students interested in planetary health research; however, this requires student initiative to seek these out. Students interested in research are supported by doctors who are educated on planetary health opportunities.	

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.

Score explanation:
The faculty of medicine and dentistry section of the institution's webpage highlights a multi-disciplinary theme (MDT) in Environment and Health. The premise of this MDT is to promote cross-faculty initiatives to address health problems holistically. The faculty offers a short course and summer school that aim to provide students with a clearer understanding of the interplay between environmental exposures and human diseases. There are also two key workstreams, named "Breathed Environment" and "Impact of Climate Change on Health", which focus on exploring the effects of air pollution and climate change on health, respectively. In addition, there is an avenue for students to contact researchers to participate in a research workstream. The webpage includes a sign-up form, enabling students to join a network of researchers and academics in the field of environment and health; by signing up, students can be informed of any events and news related to the theme. Students can also subscribe to a quarterly e-newsletter, as well as regular events and research mailings. Furthermore, there is a seminar series highlighting key topics in the field of the environment and human health, available for students to view at their discretion.

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.

Score explanation:
Sustain@BL is a student organisation operating in the medical school, dedicated to planetary health and promoting sustainability in healthcare. This organisation is well-supported by doctors and the faculty sustainability lead.

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.

Score explanation:
There is a position for a Sustainability officer within the Barts and The London Students' Association. This position works closely with Sustain@BL and the medical school to improve the current sustainability practices. This officer is currently working to facilitate discussions with faculty regarding the integration of sustainable healthcare into the curriculum.

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)

Score explanation:

1. Students were also offered local volunteer opportunities, such as participating in allotment sessions to cultivate gardens and engage in tasks including bed turnovers. Furthermore, the students participated in the "Big Green Canal Clean", a local initiative to remove litter from the local canal. Students can also access volunteering opportunities through the Student's Union Volunteering Service.
2. The institution has orchestrated an array of co-curricular programs focused on planetary health, with additional activities around this topic currently being planned. During Sustainability Week, the QMUL sustainability lead organised a workshop with Eco-Medics, Creating Impactful Change in the NHS, which was tailored for medical students. This allowed students to express their perspectives on climate change and medicine whilst also providing insights into how students can adopt more responsible and sustainable practices as medical professionals.

3. Workshops have included “How to Give Your Course a Sustainability Power-Up” and “The Launch of Action for Sustainability in the Curriculum,” which highlighted initiatives by both staff and students to improve climate action. For the upcoming Green Week, the institution will invite local speakers engaging in discussions about planetary health and its relevance for the population the affiliated trust serves. Additionally, Sustain@BL will be promoting a series of clips pertaining to ocean sustainability and the NHS; these clips will feature insights from doctors addressing the issues the water systems in the UK are facing and the ongoing initiatives aimed at combating this.
4. Barts and The London Students Association runs several drag events during the year, and Planetary Health is a regular theme of one of the performers. Sustain@BL have organised film screening events, showcasing documentaries such as ‘Living the Change’, which are followed by further discussion regarding planetary health.
5. Sustain@BL is collaborating with Queen Mary University of London//Barts and The London Vegan and Vegetarian Society to foster a connection with the charity Food on our doorstep (FOOD) to enable students to partake in volunteering opportunities more easily. FOOD is a local charity committed to collecting and providing subsidised fresh fruit and vegetables to the members of the Tower Hamlets community in need. There are also opportunities for students to spend time volunteering at Stepney City Farm, getting involved in gardening and supporting the local community.
6. Barts and the London Alpine club regularly organise weekend trips to national parks across the UK and since its foundation in the 1930s had adopted and 21 implemented a ‘leave no trace’ principle. Sustain@Bl have organised Scavenger Hunts in collaboration with BioSoc to promote environmental and climate awareness.

Section Total (13 out of 15)	**A**

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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.*

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
Score explanation: There is an existing Sustainability Team which serves the entire university. They currently have 2 full-time staff members, and 2 part-time staff members. The current roles include: Director of Sustainability, Head of Sustainability, Sustainability and Energy Manager, Sustainability Coordinator and Sustainability Projects Assistant. Recently, a sustainability officer and sustainability and environment manager have also been recruited to the team. Barts also has a sustainability coordinator working on increasing sustainability initiatives at the medical school, including curriculum infusion.	

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
	Score explanation:

	Whilst the institution has a detailed Environmental Sustainability Action Plan, their aim is to achieve net-zero and decarbonisation by 2050, in line with the UK 2050 Net Zero target. They initially produced baseline carbon reduction targets to be achieved by 2018/19, and have pledged to increase these by 30% above the 2018/19 baseline over the next six years. Their plan is divided into three clear scopes: 1. directly controlled emissions, 2. emissions from grid electricity and 3. indirect emissions. For the 2022/23 year, scope 1 and 2 were achieved in their entirety, and scope 3 was fulfilled for business travel. In 2022, a Heat Decarbonisation Plan was introduced to help achieve net zero targets. To set this up, they received funding from the Low Carbon Skills Fund.

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.
Score explanation: A £2.46 million Saliz energy efficiency loan has been secured to reduce energy consumption across both the Whitechapel and Mile End campuses. At least 3 buildings owned by the university, including the library, are using photovoltaic (PV) cells as a source of renewable energy. These are currently producing 45000kwh of renewable energy. Green electricity tariffs used to be used by the university; however, this has since stopped due to controversy around their practices and alternatives are now being considered.	

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.
Score explanation: All new buildings and refurbishments follow London planning requirements and use sustainability rating systems, for example, the SKA rating or BREEAM. QMUL has an ISO 14001:2015 certified environmental management system in place.	

The university has been engaged in a number of energy reduction projects, especially focusing on their top 10 energy-consuming buildings as well as decarbonisation of the grid. This has led to a 34% reduction in indirect emissions from electricity production in the year 2022/23 compared to 2018/19.
The Garrod Building on the Whitechapel campus, which is the main building used by the medical school, has recently been refurbished, and its redesign has ensured greener, more sustainable materials were used. Additionally, careful consideration was made to ensure that heating and water facilities, including the plant system, were energy efficient and reduced waste.

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.

Score explanation:
Active travel through cycling has been promoted to students and made more accessible by providing secure cycle storage on the Mile End campus and Charterhouse Square campus. Additionally, cycle store facilities are available on the Whitechapel Campus and at the Robin Brook Centre. This has also been further facilitated by providing showering and changing facilities to staff and students.
The university also provides free workshops on bike maintenance and signposts students to local organisations providing free cycling lessons.
They have also published a Student Cycle Guide, discussing health and environmental benefits as well as providing a list of safe cycle routes.
Being in London also means easy and reliable access to public transport, including buses and the tube network.

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.

Score explanation:
The university recycles with the Bywaters Materials Recovery Facility.
There are many dry mixed recycling bins across all the university's campuses, including in campus cafes, lecture halls, libraries and classrooms. There are also recycling schemes for battery recycling, toner/printer cartridges and lightbulbs.

Campus cafes have recycling schemes for coffee cups.
The Students' Union also organises clothes banks, food banks, book swaps and the Reuse Fair.
Food waste is managed through the promotion of the 'Too Good to Go' app.
Food waste from the Curve restaurant on the Mile End Campus is collected to create biogas and liquid fertiliser.
Composting sites are available on campus and made use of, but they are not directly accessible to students.

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.

Score explanation:
There are a large number of meat-free options available across all campuses at all cafes, and all offer a "Meat Free Mondays" promotion, which gives a 20% discount on meat-free options. Water fountains are available across all sites to refill water bottles. Additionally, campus cafes offer a 20% discount if reusable cups are used for hot beverages.
There is also a Zero Waste Shop to encourage a more sustainable lifestyle amongst students. The idea is to bring your own containers to fill with your desired ingredients. This reduces the use of single-use plastics and packaging and encourages students only to take what they need as a way to reduce food waste.
Reusable packaging at campus food outlets is also being trialled to replace disposable packaging. For example, the cafe attached to the Perrin Lecture Theatre on the Whitechapel Campus only sells water in reusable bottles.
The Griff Inn, located in the Garrod Building on the Whitechapel Campus, also uses sustainable and ethical procurement of supplies.

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.

Score explanation:
The university has been a member of the Sustainable Restaurant Association since March 2022, committing to providing lower-carbon menus.
Food sold on campus is carbon labelled so customers are aware of their own carbon footprint and can make informed choices.
The university claims to 'work with local and regional suppliers to amalgamate and reduce our deliveries and purchasing fruit and vegetables deemed not 'pretty enough' for supermarket shelves'
9 of the university's 12 top suppliers and contractors currently have ISo 14001:2015 certificates.

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.

Score explanation:
The student union has passed a motion for students booking spaces at QMUL to incorporate sustainability as a "risk" in their annual risk assessments, but there are no current required guidelines for sustainability for hosting events.

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.

Score explanation:
The medical school uses the Laboratory Efficiency Assessment Framework (LEAF), which is designed to improve sustainability and efficiency of laboratory areas. The scheme uses an online toolkit that provides environmental actions that labs should undertake over the year that are easy to implement.
The university is also implementing changes to increase the energy efficiency of lab spaces, including LED lighting, low flow fittings on taps, motion sensor lights, secondary glazing, solar film and green roofs.

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.

Score explanation:
QMUL's investment policy states that they "aim to minimise the investment" in fossil fuels, using the MSCI definition of a 'fossil fuel company.'
In May 2016, QMUL committed to fully divest its endowment. There is an ongoing conversation between the university, the Sustainability Office and student sustainability groups regarding divestment.

Section Total (18 out of 32)	**C+**

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(61/72) x 100 = 82%	A
Interdisciplinary Research (17.5%)	(12/17) x 100 = 70.6%	B
Community Outreach and Advocacy (17.5%)	(10/14) x 100 = 71.4%	B
Support for Student-led Planetary Health Initiatives (17.5%)	(13/15) x 100= 86.7%	A
Campus Sustainability (17.5%)	(18/32) x 100 = 56.3%	C+
Institutional Grade	**(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = 74%**	**B+**

Report Card Trends

Section Overview
This graph demonstrates trends in overall and section grades for the years in which Barts and the London School of Medicine and Dentistry has participated in the Planetary Health Report Card initiative.