



Planetary Health Report Card (Medicine):

*Barts and the London School of
Medicine and Dentistry*



2022-2023 Contributing Team:

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Summary of Findings

Overall	B
<u>Curriculum</u>	A-
<ul style="list-style-type: none"> The medical school embeds planetary health into the curriculum well in both core and elective modules. This year there has been greater focus on climate change and healthcare sustainability in year three. Recommendations: The curriculum would benefit from more teaching on planetary health, healthcare sustainability and climate change in first and second year. This could be achieved by integrating this into lectures, or by introducing public/global health modules similar to those running in third and fourth year. 	
<u>Interdisciplinary Research</u>	B-
<ul style="list-style-type: none"> The medical school has the Wolfson Institute of Population Health that has faculty members whose research focuses on planetary health. The medical school has partook and hosted many conferences about planetary health and has big plans for future events. Recommendations: The medical school should create a website that is focussed on planetary health and show updated ongoing research that is being completed by the university and around the world. The medical school should aim to join the Planetary Health Alliance 	
<u>Community Outreach and Advocacy</u>	B
<ul style="list-style-type: none"> The medical school partners with community organisations to promote planetary and environmental health, conducting research and drawing attention to the health impacts of climate change for those in the local area. Hospitals within the Barts trust have made important steps towards having opportunities for education on sustainable healthcare and planetary health available for employees. Recommendations: More opportunities should be made available for students to be directly involved in working with communities for planetary health initiatives. The medical school and its affiliated hospitals should ensure accessible materials on climate change and health impacts are in place for patients. 	
<u>Support for Student-Led Initiatives</u>	B
<ul style="list-style-type: none"> Sustain@BL is the primary student-led initiative at Barts and the London. It receives good support and can liaise with faculty members in order to promote events as desired. However, it has not been a very active society this year, running only two main events so far. Various activities were run during Sustainability Week, including a Decarbonise the NHS talk on BL campus. BL students are also invited to join Queen Mary sustainability society events on the Mile End campus. There are very limited research and project opportunities for students in the medical school to get involved in planetary health and sustainable healthcare. While there is a sustainability board, the BL sustainability representative position remains vacant. Recommendations: Increased programs to empower students to engage in projects related to sustainability. More support, funding and encouragement for sustainability in healthcare focussed events. 	
<u>Campus Sustainability</u>	C
<ul style="list-style-type: none"> QMUL has placed goals to achieve a more sustainable campus, with initiatives to encourage plant based food choices, as well as sustainable forms of transport. There is little specific to the medical school. Recommendations: Work towards divestment in fossil fuels and creating an achievable net zero goal. It is necessary for BL to have its own Sustainability representative to coordinate with the wider University. 	

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 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 <u>medical school</u> 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.
<p><i>Score explanation:</i> The medical school offers student selective components in years 1 and 2, focusing on sustainable quality improvement projects and the theory behind how these could be carried out. The SSC allows focus on areas such as air pollution, extreme weather, food security, impact of climate change on disease patterns, and global warming. There is also an SSC in year four that focuses on the interrelation between diabetes and sustainability.</p>	

Curriculum: Health Effects of Climate Change

2. Does your <u>medical school</u> 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.
<p><i>Score explanation:</i></p>	

In year three public health week, lectures are given on planetary health and the health impacts of climate change. The lecture “climate change and health” covers areas including the impact of heatwaves, air pollution, water security, migration, mental health and infectious diseases. The lectures drew on data from the 2022 heat wave. Environmental and climate injustice are also discussed in a lecture delivered on planetary health.. A lecture on food security and health delivered during this week also covers food security in the context of climate change.

Year 4 Global Health module features a range of lectures focusing on the impacts of climate change on human health. For example, “Why Sustainable Healthcare?” discusses how exposure to climate change-related extreme heat can have detrimental impacts on human health - such as heat-related mortality, wildfires, droughts, and changes in physical activity and labour capacity.

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

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

Year 3 Public Health week includes a lecture called “climate change and health” where impacts of extreme weather, including heatwaves and flooding are discussed, using examples of the 2022 Pakistan floods and the effects of the 2022 heatwave in the UK. The effects of extreme weather on food and water security were also explored.

Year 4 Global Health includes a lecture called “Universal health care coverage, the climate and ecological crisis”, which describes a range of impacts on disease burden and access resulting from climate change and associated weather events, in relation to occupational injuries, migration, rising poverty and more. It also goes on to describe how these changes may negatively affect health care systems, encompassing lack of knowledge, damage to healthcare institutions and negative effects on health care workers.

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.
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2	This topic was briefly covered in the core curriculum.
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1	This topic was covered in elective coursework.
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0	This topic was not covered.
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Score explanation:

Two lectures are delivered during public health week in year 3 relating to climate change and health which discuss the impact of climate change on infectious diseases, including vector borne diseases. They discuss how more populations will be at increased risk of being exposed to infectious diseases due

to the changing climate, and covers the threat to marginalised and indigenous populations in particular. Extra reading material is also on how extreme weather events lead to increased spread of water and vector-borne diseases.

5. Does your medical school curriculum address the respiratory health effects of climate change and air pollution?

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

Score explanation:

The Year 2 core curriculum has a lecture called “Obstructive Lung Diseases”, which outlines how occupational health and air pollution are risk factors for asthma and COPD, but these risk factors are not directly stated in relation to climate change.

During the year three general practice community diagnosis week, a webinar is delivered on planetary health and climate change which discusses the impact of air pollution on respiratory diseases such as asthma and COPD. The talk also discusses the impact metered dose inhalers have on pollution emissions and what greener alternatives are available.

6. Does your medical school 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:

Whilst there are multiple lectures in the core curriculum that describe a range of adverse health effects resulting from climate change-associated extreme weather events, exploration of cardiovascular effects is covered only briefly in elective coursework. The only evidence of this in the core curriculum was a brief description of cardiovascular health impacts of climate change during a webinar on sustainability and social prescribing during year three’s general practice community diagnosis week.

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

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i> This is covered during a lecture on “climate change and health” in public health week in year 3, where mental health impacts such as anxiety, PTSD, depression and suicide are explored in relation to climate change. This is discussed in the context of all populations, as well as with a focus on the most vulnerable, such as those displaced by the effects of climate change.</p> <p>This is briefly covered in the Global and Planetary Health week in Year 4 where the lecture ‘First Do no harm: Why climate change matters to health’ comments on the direct impact climate change has on mental health but doesn’t explain the connections in depth.</p>	

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.
<p><i>Score explanation:</i> This was explored in depth during public health week in year three, during lectures such as “planetary health,” “climate change and health,” and “food security and health,” where factors such as extreme weather events and their impact to food security and nutrition as well as migration and infrastructure were discussed. Impact to economies and infectious disease incidence were also highlighted.</p> <p>This is covered in year 4 in the Public Health module in various lectures such as ‘Ultimate health care coverage the climate and ecological crisis’ and ‘Planetary Health: Safeguarding Human Health and the Environment in the Anthropocene’, where it explains the impact that the climate and ecological crisis has on human health. It describes the direct impacts extreme weather events such as heatwaves and sea level rise have on food supply causing undernutrition. The course highlights how the increased emergence of infectious diseases and increased air pollution results in a high mortality and morbidity</p>	

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.
<p><i>Score explanation:</i></p>	

This was explored in a year three lecture titled “planetary health” where the link between climate justice and gender justice was discussed. Environmental and climate injustice were also explored in relation to vulnerable and indigenous communities. The lecture also discussed the importance of decolonisation in planetary health and how this would be essential for making steps towards tackling climate change in a way that can benefit all populations.

This is covered in year 4 in both the public health module and the global and planetary health week. The public health module in year 4 mentions that climate change will undermine indigenous rights to health and there is a significant risk that policies adopted to address climate change, both mitigation and adaptation could exacerbate inequalities and further erode indigenous rights. In the public health week in year 4 a lecture called ‘what is health and how do we achieve it?’ explores the impact of climate change on vulnerable people mentioning race, gender and poverty inequalities. It gives the example of a study performed by Ray Bennett demonstrating that women of higher stature had more secure housing to protect them from flooding.

10. Does your medical school curriculum address the unequal regional health impacts of climate change globally?

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

Score explanation:

This is covered during year three public health week lectures “climate change and health” and planetary health, where a global perspective on the impacts of climate change is explored, explaining how some populations are at a greater disadvantage for negative health outcomes. The effects on vulnerable populations are discussed, as well as the issue of migration and climate change-related displacement and the impacts this has on people.

In year 4 it is covered in both the public health module and in the global and planetary health week. The impacts of climate change adversely affecting already disadvantaged populations and their health is highlighted. There are slides on the impact of extreme weather events such as drought causing forced migration which has direct impacts on the health of both the immigrants and the region of their relocation.

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

11. Does your medical school 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 is briefly covered in year 1 Human Development module in the lecture 'Fundamental Mechanisms in Human health and Puberty' mentioning that pollutants can act as endocrine disrupting chemicals but not specifically relating to climate change.

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

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

Score explanation:

In a Year 2 Lecture in the Human Development module ("Why do infants wheeze?") addresses the human-caused risk factors which predispose infants to certain respiratory conditions. In year 1, there are also instances of linking environment and health issues in Lectures. There is a student selected component (SSC) available for students to undertake in Years 1 and 2, which focuses on the lack of green and blue spaces in the local area (Tower Hamlets) as well as the high air pollution levels in London, as well as specifically to East London.

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

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

Score explanation:

Global health issues and local health promotion are referenced on various occasions in Medicine in Society (Year 1 and 2), as well as in the Human Science and Public Health module in year 2. There are no links of importance to indigenous systems. In the Global Health and Ethics module in year 4, the primary learning outcomes include: 1) comparing health systems and 2) the integration of Global health partnerships to combat neglected tropical diseases. These, however, do not have a specific focus on indigenous knowledge and value systems, and demonstrate a potential missed opportunity to integrate such teaching into the curriculum.

In a lecture titled 'What is Health and How do we achieve it?' (Global Health Module - Year 4) students are prompted to think about whether 'knowledge about adaptation is meaningful in different communities'. It is given as an example that elders from the Navajo work with scientists in the United States to use their traditional knowledge to complement and interpret data. This, again, however does

not highlight Indigenous knowledge as an essential component of planetary health solutions, but rather is mentioned briefly as an example.

14. Does your medical school 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:

These topics are touched on in the “Human development” module in Year 2, the cardiorespiratory modules in year 1-3 as well as the HSPH (Human Science and Public Health) module. An instance of this is seen in the “Obstructive Lung Diseases” lecture in Year 2, where it is highlighted that the cause of asthma involves environmental interactions, and linked air pollution to worse asthma episodes. It is not highlighted that this has an increased impact on marginalised populations.

Curriculum: Sustainability

15. Does your medical school 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:

There is a PBL Scenario in the Year 1 module “Fundamentals of Medicine” in which the feasibility and availability of a plant-based diet is mentioned, as well as learning objectives for the difference between eat well and a planetary diet, as well as how a planetary diet affects the planet. This is also covered in year three lectures on public health and nutrition and the fortification of foods.

16. Does your medical school 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.
<p><i>Score explanation:</i> Within the Year 1 and 2 core curriculum, there is nothing specifically covered on this topic. In the Student Selected component there is a “SusQI” course available. The first session titled ‘Why Sustainable Healthcare?’ in the Global Health Module in Year 4 addresses the “carbon hotspots” in the UK healthcare system and explores the role of medicines optimisation in reducing the NHS’s carbon footprint. A lecture on sustainability and social prescribing during general practice community diagnosis week in year three discussed the carbon footprint of metered dose inhalers and how greener prescribing could be used to overcome this.</p>	

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)
	<p><i>Score explanation:</i> These are reasons for the highlighted metrics above:</p> <ol style="list-style-type: none"> <i>The impact of inhalers on healthcare footprint is covered in the Cardiorespiratory module in Year 2 and in year 3 it is mentioned what alternatives to offer.</i> <i>The environmental impact of pharmaceuticals and over-prescribing are covered extensively in the “Fundamentals of Medicine” module and throughout the first 2 years of the course, including the over-prescribing of antibiotics and the differences of using generic vs branded drugs. In the “Brain and Behaviour” module, alternative treatments for treating mental health conditions are explored. In GP placements, social and non-pharmacological prescribing are explored.</i>

	<p>3. In the year 2 module “Metabolism”, the various managements for diabetes including non-pharmaceutical prescribing are touched on, as well as for PCOS and diabetes in the “Human development” module. The “Human science & Public Health” module in Year 2 also covers various types of social and psychological healthcare issues and management plans associated.</p> <p>4. The environmental impact of over-treatment is covered extensively during Year 4 Global health week. Especially in lectures titled ‘How do global and planetary health inspire new thinking of medicine and the medical curriculum’ and in ‘Planetary health and your career as a Doctor’.</p>
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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
<p><i>Score explanation:</i> Strategies to have conversations with patients about planetary health have been highlighted in the curriculum. A Year 3 role play session embedded within the core curriculum, piloted by Prof Graham Easton and Dr. Dason Evans, demonstrates how discussions can be had with patients about their impact on the environment and behaviour changes, such as weight loss, reducing meat consumption and driving less, which are beneficial to the patient and the planet.</p>	

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.
<p><i>Score explanation:</i> Planetary health remains an implicit part of history taking, as whilst the patient’s context and local environment is stressed to be of importance, this is not touched on specifically.</p>	

Curriculum: Administrative Support for Planetary Health

<p>20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?</p>

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.
<p><i>Score explanation:</i> The medical school has displayed a clear drive to implement the importance of planetary health. There are 3 student selected components (SSCs) within the curriculum on sustainable healthcare and SusQi (12/2020, 04/2021, 12/2021). These were led by Dr Anna Moore and Dr Florence Wedmore. There is additionally a Year 4 SSC on sustainability and Diabetes supervised by Prof Anita Berlin. Within the curriculum itself, Barts emphasises sustainable healthcare, such as during “Global Health” week. There are additional teachings relevant to planetary health, such as on air pollution by Dr Rohini Sabherwal and in year 3 within the GP community diagnosis module, in which there are teachings on climate and health by Dr Vidya Munesh Mistry and Dr Safiya Virji.</p>	

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.
<p><i>Score explanation:</i> Within the core curriculum, from year 1 of MBBS, the link between planetary health and the health of patients is highlighted. In later years, this link is further emphasised, especially in Year 4 during “Global Health” week, during which the importance of planetary health is heavily underlined. Nonetheless, some key topics (such as the healthcare carbon footprint) are not explicitly covered, and although there are many fantastic lectures dedicated to planetary health within certain modules (mostly Public Health and Global Health) the impacts of climate change on different body systems could also be integrated within those system lectures (e.g. cardiovascular, respiratory, paediatrics, obs & gynae, psychiatry etc) as more of a continuous thread.</p>	

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: Dr. Jon Bestwick is the lead for population health and Dr Megan Clinch leads Global health and planetary health in the Barts curriculum. The medical school are yet to assign an individual to oversee and undertake responsibility for the overall teaching of sustainability.

Section Total (58 out of 72)

58

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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 research 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: Most of the planetary health related research sits within the The Wolfson Institute of Population Health which was recently formed in August 2021. Within Wolfson Institute, the most relevant unit is the [Global Public Health Unit](#).

There are many faculty members who focus on research that encompasses planetary health themes, including:

Heather McMullen: recently conducting research into ‘intersection of sexual and reproductive rights and justice with climate change and environmental sustainability.’

Megan Clinch: working as a co-investigator on the UK climate resilience programme where she is working towards developing methods to help support communities to reflect on and meet the challenges of living with flooding caused by climate change within the UK

Doreen Montag: focusing on research in ‘Anthropology, global health, environmental governance, climate change, sustainable development, and public policy analysis, with a regional focus on the Amazon and Andes (Peru, Ecuador) and Mexico.’

Stephen Taylor: research centering on the geographies of biomedicine and global health considering political, legal, economic and historical structures that secure the health of some and expose others.

Jonathan Filippon: Research focusing on political economy of health and healthcare that includes health systems, health policy making and the effects of trade policies to healthcare

Andrew Harmer: Research interests that focus on climate policy and communicating climate breakdown to a public audience

Andreas Papamichail: research focusing on the interaction between health and security practices, health impact of conflict as well as global health governance

Vicky Bird: research into quality of life of people with chronic mental and physical health conditions as well as global approaches to be applied to community based mental health care.

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:

The Wolfson Institute of Population health has the Global Public health Unit that is an interdisciplinary team that focuses on understanding and acting on the social determinants of health in the global context. Planetary health is encompassed within the unit looking at the social determinants of climate adaptation/resilience, international cooperation on climate change, research with communities facing environmental change and sexual & reproductive rights. There is research being done on planetary health however, there is not a specific department dedicated to interdisciplinary planetary health research.

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: In November 2021, QMUL partnered with Tower Hamlets Council, the Canary Wharf Group and New City College to work towards achieving a net zero carbon borough by 2045 through the Net Zero Carbon Partnership Action Plan. The plan was agreed on by an alliance of housing, education, community and business organisations throughout the borough. This would allow the alliance to share information, guidance and tools amongst its members while raising awareness and engaging with communities across Tower Hamlets. When this is in action it will allow members of the public and disadvantaged communities to come forward with personal experiences and ideas or solutions to help build on research and policies to achieve the net zero carbon goal.

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.
<p><i>Score explanation:</i> There isn't a dedicated website for planetary health however, a sustainability website exists which details events run by the university to promote opportunities to be involved in volunteering for sustainable initiatives and raising awareness on climate change. It also collates news stories and current events relating to what the university has been involved in e.g. new research by faculty members or sustainability week. As well as this, the Wolfson Website also collates news and research articles around the university's research into climate change and health. Some examples include:</p> <ul style="list-style-type: none"> • https://www.qmul.ac.uk/media/news/2020/smd/queen-marys-action-on-salt-finds-healthy-plant-based-meals-are-actually-drowning-in-salt.html • https://www.qmul.ac.uk/media/news/2020/smd/new-study-into-air-pollution-exposure-in-african-children.html • https://www.qmul.ac.uk/media/news/2021/pr/queen-mary-climbs-47-places-in-sustainability-league-table.html • https://www.qmul.ac.uk/media/news/2021/smd/new-research-to-study-impact-of-air-pollution-on-childrens-brain-development-and-mental-health.html 	

5. Has your <u>institution</u> recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the medical school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>Score explanation:</i> The university hosted many events during its Sustainability week 2022; On Wednesday 19 October the Community Based Medical education team from Barts NHS Trust hosted a virtual panel discussion on 'Equity and Sustainable Healthcare' discussing various aspects including community initiatives aiming at delivering sustainable healthcare.</p>	

On Tuesday 18th October, a virtual monthly seminar series was started with ‘The environment & Health Multidisciplinary Research’ as its theme; set up by the Faculty of Medicine and Dentistry. It focussed on the topic of Air Pollution and Health with a talk from guest speaker Professor Stephen Holgate from the University of Southampton in a talk titled: “the time has come for health professionals to rise to the challenges of air pollution.”

The university also hosted a workshop that ran over 2 days held on June 13th and June 14th; tackling questions surrounding the harmful impacts inhaling a constant concentration of pollution has on health. This had guest speakers from various universities such as Dr Gary Fuller from Imperial College London and Professor Stefan Krause from Birmingham university. The first day covered the topic air pollution statistics and health; and the second day covered the topic of innovative applications of real-time sensor data to improve water quality and health. This workshop brought together leading researchers, medical experts and policy makers to re-think, re-shape and redesign policies surrounding water and air quality

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
<i>Score explanation:</i> The medical School is not a member of a national or international Planetary Health or ESH organisation, and there seem to be no plans to do so in the near future.	

Section Total (11 out of 17)

11

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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.
<p><i>Score explanation:</i></p> <p><i>Barts and the London SMD has been part of the CHILL (Children’s Health in London and Luton) study, assessing how air pollution affects their lungs. They enrolled over 9,200 primary school children from schools across London and Luton, following them up over time to monitor their lungs. The study has now developed to include the CHILL cognition study to assess the impact pollution has on brain development. Their work has helped to influence the introduction of the Ultra Low Emission Zone (ULEZ).</i></p> <p><i>In November 2021, QMUL partnered with Tower Hamlets Council, the Canary Wharf Group and New City College to work towards achieving a net zero carbon borough by 2045 through the Net Zero Carbon Partnership Action Plan. The plan was agreed on by an alliance of housing, education, community and business organisations throughout the borough. Putting this into action will give the institution a way to potentially allow members of the community to put forward ideas or solutions to influence and build on research to achieve this goal and lead to community-based decision making where climate and environment is concerned.</i></p>	

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.
<p><i>Score explanation:</i> The university holds a sustainability week, with some of its events open to the public e.g. talk on plastics and the environment, a biodiversity walk and seminars. However, the audiences are usually still majority academic.</p>	

3. Does your <u>medical school</u> 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.
<p><i>Score explanation:</i> The university's website includes a sustainability page, with news and regular updates about research or events taking place. Sustain@BL is the medical school's sustainability society, and they communicate information about events e.g. sustainability week, canal clean ups, and allotment planting volunteering opportunities via social media, their mailing list, and whatsapp group chat. The Barts and the London weekly roundup newsletter and student bulletin often contains pieces relating to sustainability or climate change.</p>	

4. Does the <u>institution</u> or <u>main affiliated hospital trust</u> 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
<p><i>Score explanation:</i> Green at Barts Health is the trust's group advocating for planetary and environmental health awareness, encouraging staff across the trust to get involved. They use social media platforms and their Whatsapp group to share regular updates about events or planned activities, as well as research opportunities and publications. An induction module for staff at the trust has been put together on sustainable healthcare and climate change</p>	

Sustainable healthcare “teach the teachers” event run by Green at Barts Health at the education academy at the Royal London Hospital, discussed sustainable quality improvement and how staff can help their departments work more sustainably.

Planetary health and sustainable healthcare journal club run by Green at Barts Health and open to staff across the trust

E-learning course on environmentally sustainable healthcare has been made available for staff

There are also plans to set up carbon literacy training sessions at hospitals in the Barts Health Trust.

5. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about environmental health exposures?

2 Yes, **all** affiliated hospitals have accessible educational materials for patients.

1 **Some** affiliated hospitals have accessible educational materials for patients.

0 **No** affiliated medical centres have accessible educational materials for patients.

Score explanation:

Pulmonary rehabilitation services at the Royal London Hospital delivers teaching on air pollution to COPD patients

Leaflets on display at the Royal London Hospital’s paediatric A&E regarding air pollution.

[Patient information leaflet](#) for children and young people with viral induced wheeze or asthma lists examples of environmental triggers/exposures including pollution and signposts to londonair.org.uk to see current air pollution levels in a local area

6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?

2 Yes, **all** affiliated hospitals have accessible educational materials for patients.

1 **Some** affiliated hospitals have accessible educational materials for patients.

0 **No** affiliated hospitals have accessible educational materials for patients.

Score explanation:

[Barts health trust website](#) has pages on sustainability, available to the public, which includes blogs from the Green at Barts Health group as well as information about health impacts of climate change and what the trust is doing to be more environmentally conscious. However, the affiliated hospitals themselves do not have physical materials available for patients regarding this.

Section Total (10 out of 14)

10

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Support for Student-Led Planetary Health Initiatives

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

1. Does your medical school or your institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the medical school or institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> 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:
 There are no specific grants aimed at students undertaking sustainability initiatives at Barts and The London.
 For the last two years, the medical school has run an optional SSC for sustainable quality improvement for students in their pre-clinical years, which was organised by Dr. Becky Gorrigan and Dr. Anna Moore. The aim of the SSC was to allow students to 1. Gain understanding of sustainable quality improvement methodology and sustainable healthcare 2. Understand the health impacts of climate change and ecological breakdown 3. Plan a sustainable quality improvement project. Students were given the chance to present their Sustainability QI project to staff, but were not able to implement their project ideas.
 There is no requirement to participate in this SSC.

Queen Mary University of London (the larger institute with whom the medical school has merged with), however, provides a 'Green Mary Sustainability Fund'. This fund aims to support staff and student-led environmental sustainability initiatives at the university in working towards a sustainable future. A total of £3,000 was available, with applicants for grants of up to £500. Using this fund, a team of 18 student and staff volunteers at the Institute of Dentistry organised a dental sustainability event. This was aimed to raise awareness of the environmental impact of dentistry and was the first of its kind.

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.
<p><i>Score explanation:</i> <i>Student selected components (SSCs) are elective modules each year in which students are given the opportunity to select a special study topic in something they are interested in. Students may either choose from a list offered by the university, or self-organise their SSC.</i> <i>In the pre-clinical years, the university offers an SSC on sustainable quality improvement projects to learn about planetary health. This is 1 option out of nearly 20 and takes place over 2 weeks in which students learn about the negative effects health care systems/industries have on population health. Fourth year medical students are required as part of SSC4 to explore an area of interest within medicine and complete either a literature review, audit or research project on a topic of choice. This year students were offered research on 1 topic related to planetary health out of 219 proposed titles: 'Cardiovascular disease and climate change in the undergraduate curriculum'.</i> <i>There is no requirement to participate in planetary health-related SSCs.</i> <i>There is also an option to do an intercalated degree or masters in Global Health at Barts and The London, which <u>can</u> involve an elective module in Planetary Health. However there is no funding or scholarships for this and this involves taking a year out of the MBBS medical program.</i></p>	

<p>3. Does the <u>medical school</u> have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.</p>	
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.
<p><i>Score explanation:</i> <i>The Barts and the London Students' Association webpage does not contain any planetary health or sustainable healthcare information, projects or mentors. However, it does contain a list of student society groups students may join, one of which includes Sustain@BL, a sustainability campaigning society. However, there is no specific information for students relating to specific projects or mentors on the Sustain@BL society page.</i> <i>Within the Barts and the London School of Medicine and Dentistry webpage, there is a link to the 'Wolfson Institute of Population Health' faculty site. This faculty has a link to their <u>Centre for Environmental and Preventive Medicine</u> which conducts "research and education in all areas of chronic disease epidemiology, medical screening and public health." Clicking on the <u>Centre for Public Health and Policy</u> link takes you to a page listing various research units, including a <u>Global Public Health Unit</u>. This page includes information including the overall aims of the unit, the names of team</i></p>	

members and unit lead, and ongoing research. However, this may include a variety of global health related projects, it is not specific to planetary health or sustainability projects.

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:

Barts and the London School of Medicine and Dentistry has a Sustain@BL society which is a student run society that aims to increase awareness of local and global environmental issues to promote a culture of sustainability at Barts and The London. Sustain@BL receives funding from Barts and the London student association through the societies fund and has received continued faculty support from Dr. Becky Gorrigan, Dr. Anna Moore and Dr. Florence Wedmore.

Queen Mary University of London (the larger institute with whom the medical school has merged with) has separate student organisations that engage students across both the QMUL and BLSA campuses. These are the Queen Mary Environmental Society and The Green Mary Group, which is led by the Sustainability Coordinator and Mile End Sustainability Officer.

These societies are more focused on sustainability and planetary health, less so on the impact of the healthcare system.

5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional 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:

Barts and the London Student Association elects a sustainability officer who is responsible for helping make the medical school more sustainable by organising events and training, running campaigns and raising awareness about issues and sustainable behaviours. They work with relevant staff members and the Executive Officers and co-chair the Sustainability Committee with the Sustainability Officer for Queen Mary university (which is the larger institute that the medical school is part of). The sustainability committee also has 2 representatives from the Medical school; one representing the Whitechapel campus and one representing West Smithfield.

However, no sustainability officer or representative has been elected for Barts and the London this year. The post is still open for candidates to put themselves forward.

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)
<p><i>Score explanation:</i></p> <p><i>Queen Mary sustainability groups engage medical students to be part of local environmental initiatives including tree planting and maintenance on Mile End campus, cleaning Regent's Canal, litter picking, clothes swaps and the Reuse Fair. Sustain@BL also has access to the shared Mile End Community Garden. Some BL students volunteer their time at Stepney City Farm, getting involved in gardening to support the local community.</i></p> <p><i>With funding from the "Green Mary Sustainability Fund" and support from Green at Barts Health a team of 18 student and staff volunteers at the Institute of Dentistry organised a dental sustainability event. This took place on Wednesday 8th June 2022 and aimed to raise awareness of the environmental impact of dentistry and was the first of its kind. A range of exhibitors attended from leading dental companies, allowing them to display various elements and initiatives, encouraging sustainable dental care. Undergraduate dental student volunteers hosting four educational stands on topics including the impact of travel and waste management. Staff members were encouraged to make personal pledges to reduce their environmental impact, thinking about changes that could be made within their departments to improve sustainability.</i></p> <p><i>As part of a Sustainability Week in October, a Decarbonise the NHS estate talk was run on the BL campus, alongside many other events open to both campuses.</i></p> <p><i>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. This year, Sustain@BL have organised two main events. These were a visit to the Wellcome Collection In the Air exhibition, and a sustainability themed Doctor Who watchalong event.</i></p> <p><i>The student's union offers volunteering opportunities within the environmental and community resilience space including a Wild Schools volunteer where student volunteers help prepare and deliver outdoor learning sessions to local primary schools.</i></p> <p><i>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.</i></p>	

Section Total (10 out of 15)	10
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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 <u>medical school</u> and/or <u>institution</u> 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
<p>Score explanation: <i>Queen Mary has a sustainability team which covers the entire University, which includes the medical school. The roles are Head of Sustainability, Sustainability and Energy Manager; Sustainability and Environment Manager; Sustainability Coordinator and Sustainability Officer. Two Assistant Facilities Managers are also responsible for the management of non-hazardous waste across the UK campuses, alongside a Health and Safety Advisor for clinical waste and Grounds and Gardens Supervisor. There is no specific staff member for management of medical school sustainability.</i></p> <p><i>Additionally, there is a sustainability committee made up of key internal stakeholders across the University, which meets at least 4 times a year. This committee is responsible for the coordination and governance in delivering the environmental objectives set by QMUL.</i></p> <p><i>The Environmental Sustainability Champion Group made up of staff who volunteered to support the university's sustainability agenda in their own departments, who meet 1-2 months and report into the Sustainability Committee. All staff have completed the IEMA Sustainability Skills for the Workforce course.</i></p> <p><i>QMUL also has a subcommittee of the Student Council known as the "Sustainability Board". This is made up of an elected group of students, including sustainability representatives for each of Barts and the London SMD, Mile End and West Smithfield campuses. Another member of QMUL's Sustainability team supervises the Mile End and Barts Sustainability Officers within the Sustainability board, and also acts as Secretary.</i></p>	

2. How ambitious is your <u>institution/medical school</u> plan to reduce its own carbon footprint?
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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
	<p>Score explanation: <i>There is a goal to reduce carbon emissions and achieve net zero, but only by 2050. There is also no plan set for achieving net neutrality. QMUL state that their “Environmental Sustainability Action Plan” is aligned with the UK’s 2050 carbon neutrality target, however have not identified that this is a goal themselves. They plan on doing more, and claim that this action plan is only a foundation for longer-term solutions to be planned in the next 2-3 years. Currently, there is a plan in place to reduce carbon emissions by 30% from a 2018/19 baseline.</i></p> <p>https://arcs.qmul.ac.uk/media/arcs/policyzone/Environmental-Policy.pdf</p> <p><i>There is also a Heat Decarbonisation Plan introduced in 2022, which aims to help achieve net zero, for which QMUL have received a grant from the Low Carbon Skills Fund. They aspire to become one of the UK’s most environmentally friendly Universities.</i></p>

3. Do buildings/infrastructure used by the <u>medical school</u> for teaching (not including the hospital) utilise renewable energy?	
3	Yes medical school buildings are 100% powered by renewable energy
2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.
	<p>Score explanation: <i>Across the UK campuses (including the Whitechapel Campus and the Medical School) green electricity tariffs are used, however no information was given whether this is renewable energy. [Unchanged]</i></p>

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.
<p><i>Score explanation:</i> <i>Some buildings on QMUL campus have been retrofitted, but none on the medical school campus.</i></p> <p><i>QMUL has committed to achieve “excellent” and “very good” ratings for all major new builds and refurbishment projects (respectively) through the Building Research Establishment Environmental Assessment Method (BREEAM) as per the environmental policy, with the Maths Building being short-listed for the BREEAM Awards 2021 following its refurbishment, and Empire House which attained a BREEAM Very Good Score. Additionally, they commit to monitor prospective refurbishment projects to aim towards their goal of 30% carbon reduction (over 6 years), as well as improve the DEC scores of existing buildings. They state that in the long term, they aim to integrate energy efficiency technologies into buildings, but not how.</i></p>	

5. Has the <u>medical school</u> implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-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.
<p><i>Score explanation: As the campuses are located in London, the ideal forms of transport are public transport, walking and cycling, QMUL campuses have bike parking and offer a student cycle guide, alongside offering a cycle to work scheme with significant cost reductions on bikes and accessories. QMUL also claims to commit to sustainable transport and travel to reduce the impact of student and staff transport on the environment. There are showering and changing facilities available on campuses, as well as an active staff and students cycling group to discuss topics such as cycle routes to university. Additionally, QMUL offers free bike maintenance and security marking sessions across campuses.</i></p> <p>https://www.qmul.ac.uk/about/sustainability/operations/sustainable-travel/ https://www.qmul.ac.uk/about/sustainability/environmental-management-system/transport-and-travel/</p>	

6. Does your <u>medical school</u> 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.
<p><i>Score explanation: There are mixed recycling bins on campus such as in dining areas, in hallways and near main entrances. The university itself does have compost scheme for garden and food waste, however this is not accessible to most students and the faculty. QMUL does aim to reduce food waste through other means, such as the “Too good to go” app.</i></p> <p>https://www.qmul.ac.uk/about/sustainability/operations/sustainable-food/ https://www.qmul.ac.uk/about/sustainability/operations/waste-and-recycling/</p>	

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 adequate sustainability 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.
<p><i>Score explanation: Across the campuses, there are a large number of meat-free options, all offering a “Meat-Free Mondays” promotion which applies a 20% discount on meat-free products. There is also a 20% discount offered on hot beverages when reusable cups are used, and water fountains available across campus.</i></p> <p><i>In addition to this, whilst not claiming to have achieved any of this, QMUL has committed to become a member of the Sustainable Restaurant Association (but have not further acknowledged this claim) to use local and seasonally available ingredients amongst other commitments found in the Sustainable Catering Policy.</i></p>	

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.
<p><i>Score explanation: QMUL includes environmental specifications into their procurement and commissioning processes, and encourages their suppliers and contractors to embed good environmental practices across their operations. 9 of their top-12 suppliers and contractors have ISO</i></p>	

14001:2015 certificates. Whilst there is a willingness to increase sustainable procurement, there is necessity for more substantial efforts.

<https://www.qmul.ac.uk/about/sustainability/operations/sustainable-procurement-and-commissioning/>

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. QMUL are also joining with Greengage solutions to improve sustainability at their events, but has not further confirmed if this has happened. [Unchanged]

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, which provides environmental actions which labs should undertake over the year, which are easy to implement.

<https://www.qmul.ac.uk/about/sustainability/get-involved/sustainable-laboratories-leaf/>

[Unchanged]

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.
<i>Score explanation: QMUL aim to minimise investment in fossil fuels, but only subject to there being no significant impact on financial risks and returns to support academic activities. In 2016 QMUL committed to fully divesting, however in 2017 changed this to specifically direct investment in companies that derive over 33% of their turnover from fossil fuel industries.</i>	

Section Total (16 out of 32)	16
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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 the Barts and the London School of Medicine

The following table presents the individual section grades and overall institutional grade for the 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%)	$(58/72) \times 100 = 80.6\%$	A-
Interdisciplinary Research (17.5%)	$(11/17) \times 100 = 64.7\%$	B-
Community Outreach and Advocacy (17.5%)	$(10/14) \times 100 = 71.4\%$	B
Support for Student-led Planetary Health Initiatives (17.5%)	$(10/15) \times 100 = 67\%$	B
Campus Sustainability (17.5%)	$(16/32) \times 100 = 50\%$	C
Institutional Grade	68.42%	B

Report Card Trends

Section Overview

This graph demonstrates trends in overall and section grades for the years in which Barts and the London SMD has participated in the Planetary Health Report Card initiative.

PHRC Trends for Barts and The London SMD

