



---

# **Planetary Health Report Card:** *Barts and The London Medical School*

---



**Barts and The London**  
**School of Medicine and Dentistry**

2021-2022 Contributing Team:

- Students: Parsa Nazari\*, Hamza Anwar, Madeleine Jones, Rosa Hughes, Lucy Warr, Laveinia Godfrey, Zahrah Khan, Nayana Jain, Amy Yi-Lin Ng, Alfred Ellis, Ler Tu Seah, Erina Hiyoshi, Leila Inabi
- Faculty Mentors: Dr. Anna Moore
- \*Primary Contact: Parsa Nazari, [p.nazari@smd19.qmul.ac.uk](mailto:p.nazari@smd19.qmul.ac.uk)

## Summary of Findings

Overall	B
<u>Curriculum</u>	B
<ul style="list-style-type: none"> <li>Barts and the London Medical School integrates teaching on planetary health (PH) into the curriculum to a relatively high degree, both in optional modules and within its core objectives. In year 4 students explore healthcare sustainability in great detail. New this year, students are taught how to have discussions with patients regarding their impact on the environment and the impact of the environment on them.</li> <li><b>Recommendations:</b> Whilst the curriculum has some significant strengths, students would still benefit from further exposure, particularly younger years who only encounter detail in optional modules. To address this, global health modules similar to that in the 4th year could be introduced longitudinally, for example by embedding a few PH related lectures into weeks where ethics and similar topics are taught during the degree.</li> </ul>	
<u>Interdisciplinary Research</u>	B
<ul style="list-style-type: none"> <li>Individuals connected to the Medical School do engage in research relating to climate change and its link with healthcare. Research conducted has acquired much recognition and also engages with the community at large. Much of this work, however, is undertaken separate to the medical school.</li> <li><b>Recommendation:</b> The Medical School should consider joining the Planetary Health Alliance or the Global Consortium on Climate and Health Education.</li> </ul>	
<u>Community Outreach and Advocacy</u>	B -
<ul style="list-style-type: none"> <li>The Medical School partners with many external organisations to understand the effects of climate change on health. The university hosts events to increase awareness of conservation of species. Unfortunately, opportunities for students to work with the community directly are limited except for primary care projects..</li> <li><b>Recommendations:</b> An increased collaboration effort with local community and sustainability groups.</li> </ul>	
<u>Support for Student-Led Initiatives</u>	B
<ul style="list-style-type: none"> <li>Sustain at BL is the largest student led initiative at Barts Medical School. It receives brilliant support and can liaise with faculty members in order to promote events as desired. Student-office positions for sustainability officers are available, and every year a number of students apply for this position. There is a lack of encouragement to increase the amount of initiatives and students need to seek out opportunities themselves.</li> <li><b>Recommendations:</b> Increased programs to empower students to engage in projects relating to sustainability.</li> </ul>	
<u>Campus Sustainability</u>	C +
<ul style="list-style-type: none"> <li>Barts Medical School fulfils common goals to improve campus sustainability such as encouraging responsible energy use and usage of recycling facilities. In addition to this there are multiple procedures in place to improve their carbon footprint in the university setting such as the Lab Efficiency Assessment Framework. However, there is little done in terms of pushing towards concrete emission goals.</li> <li><b>Recommendations:</b> Barts should establish a carbon neutrality goal with a clear, details plan to achieve this.</li> </ul>	

# Statement of Purpose

*Planetary health is human health.*

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

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

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

# Definitions & Other Considerations

## Definitions:

- **Planetary Health:** is described by the *Planetary Health Alliance* as “a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth’s natural systems on human health and all life on Earth”. 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.
- **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 (for example, undergraduate departments (USA), other related departments eg Public Health, Population Health departments). In contrast, when “institution” is specified in the report card, we are referring to the university more broadly. Any resource reasonably accessible by medical students, no matter where in the institution the

resource comes from or if it is specifically targeted for medical students, can meet this metric.

- **Environmental history (Metric 19 in curriculum section):** This is a series of questions providers are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mold after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution.
- **Elective:** The word "elective" refers to an optional course or lecture series that a medical student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.
- **Clerkship:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations or placements.

#### **Other considerations:**

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

#### **Literature Review of Metrics**

Added to our resources this 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*

<b>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?</b>	
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: There is an elective for sustainable quality improvement, offered for first and second years. This elective involved the students working to put forward theoretical sustainable quality improvement project ideas, and how they could potentially be carried out. As well as this elective for first to second years, there is a fourth year SSC focusing on the interrelation between diabetes and sustainability. Also, as another SSC4 component, fourth year students were offered research on four planetary health-orientated options, with these being 1. Vector-Borne diseases and climate change (statistical, spatial or systematic review analysis), 2. Microbiota, biodiversity and health, 3. Political economy of planetary health, 4. Climate change adaptation and mitigation policy analysis.</i></p>	

## *Curriculum: Health Effects of Climate Change*

<b>2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?</b>	
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: 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. The Year 3 Public Health lecture “Health system adaptation to climate change: a Peruvian case study” also outlines how anthropological climate change leads to extreme weather events and their consequent impacts on human health.</i></p>	

<b>3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?</b>	
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: 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.</i></p>	

<b>4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?</b>	
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: Year 3 Public Health lecture titled “Health system adaptation to climate change: Peruvian case study” outlines how changing weather patterns lead to increased prevalence of both chronic and infectious diseases, especially in more marginalised and indigenous communities. This lecture also includes reading material that describes how extreme weather events like heat waves and flooding can lead to loss of biodiversity, which has indirect impacts on mental health, but also how these weather events lead to increased spread of water and vector-borne diseases.</i></p>	

<b>5. Does your medical school curriculum address the respiratory health effects of climate change and air pollution?</b>	
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: Year 3 Global Health module features a lecture called “Corporate determinants of health: how industries damage health and what can be done about it”, which includes a brief description of how environmental degradation and air pollution have adverse effects on human health, especially in relation to NCDs (non-communicable diseases).</i></p> <p><i>Additionally, 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.</i></p>	

<b>6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?</b>	
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: 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, any</i></p>	



*exploration of cardiovascular effects is covered only briefly in elective coursework, and no evidence of these effects in the core curriculum.*

**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.

*Score explanation: 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.*

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

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

*Score explanation: 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.*

**9. Does your medical school curriculum address the outsized impact of climate change on marginalized 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.
<p><i>Score explanation: This is covered in year 4 in both the public health module and the global and planetary health week.</i></p> <p><i>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.</i></p> <p><i>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.</i></p>	

<b>10. Does your medical school curriculum address the unequal regional health impacts of climate change globally?</b>	
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: This is covered in depth in years 3 and 4; in year 3 a lecture called ‘social determination and planetary health’ explores the balance of biological, socioeconomic and ecological determinants of human health and the impact of humanity on planetary boundaries. It explains the different aspects of environmental and climate injustice and how some people and populations are at a higher risk of ill health and suffering</i></p> <p><i>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.</i></p>	

***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: This is mentioned in a lecture on air pollution and respiratory issues called 'Why do infants wheeze?' that is given in the Human Development module of Year 2, which addresses the human-caused risk factors that predispose infants to certain respiratory conditions. There are also lectures on the local environment and the specific health issues that result given in Year 1. In the Human Sciences and Public Health module of Year 2, there is a lecture on the 'Life Course Perspective on Public Health' which describes the role of interaction between environment and genes. However this is less focused on the environment in terms of planetary health, and does not focus on the university's surrounding area. The module also includes a lecture on 'The Epidemiological Approach', in which the first learning objective is to understand how epidemiology and clinical medicine are related. However there is again no specific link to human-caused environmental threats. 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 emphasize 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 (Years 1 and 2), as well as the Human Science and Public Health module in year 2. However there are no noted links to the importance of 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 marginalized populations such as those with low SES, women, communities of color, 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 issues are briefly suggested in various lectures in the Human development module of Year 2, the Cardiorespiratory modules of Year 1-3 as well as the HSPH (Human Science and Public Health) module. For example, in the 'Obstructive Lung Diseases' lecture (Cardiorespiratory module - Year 2), it is noted that the cause of asthma is a 'consequence of complex gene-environment interactions'. The lecture links the risk factors of a worsened episode of asthma to air pollution, however, does not suggest any links to the outsized effect on marginalised groups. There is no specific lecture on these issues, however global and national issues are mentioned in relation to growth and development and future health conditions, both historically and currently.*

**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 Problem Based Learning (PBL) scenario in the Fundamentals of Medicine module of Year 1 which mentions the feasibility and availability of a plant-based diet. The recommended learning objectives also include the difference between the eat well and planetary diet, as well as how the planetary diet benefits the planet. Nutrition is also covered in the Metabolism module of year 1 and 2, however there is no focus on the link to the planet. For example, in the 'Diet and Cardiovascular Disease' lecture (Metabolism - Year 2) the co-health benefits of certain plant-based foods are mentioned briefly - e.g. that flavonoids are beneficial in preventing myocardial infarction and stroke side effects, and that these are commonly found in fruit and vegetables such as apples, onions, and citrus fruit. It also references a DASH trial which shows that a high fruit/vegetable diet (together with low cholesterol and fat) lowers blood pressure. However neither of these were limited to a completely plant-based diet and did not address the environmental health benefits of such a diet.*

**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.

*Score explanation: There is nothing specific included in the Year 1 or 2 core curriculum. There is a 'Sustainable Quality Improvement' course available in the Student Selected Component of Year 1 and 2 in which students are encouraged to explore how the carbon footprint of the NHS may be reduced by undertaking SUSQIPs (Sustainable Quality Improvement Projects) - for example there is a talk about such a project in which dry powder inhalers were recommended against the use of CFC-containing metered-dose inhalers. 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. This session is core and hence the metric being awarded 2 points.*

**17. Does your medical school curriculum cover these components of sustainable clinical practice in the core curriculum? (1 point each)**

1	Waste production within the healthcare system and strategies for reducing waste in clinical activities, such as in the operating room
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
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 anaesthetic gas options with reduced greenhouse gas emissions
1	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 for obesity. This is commonly known as social prescribing in the UK.
1	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment

*Score explanation: Score 4.*

*At Barts and The London, the environmental impact of inhalers on healthcare footprint are covered in the Cardiorespiratory module in Year 2 and also in Year 3 as to what are on offer as alternatives.*

*At Barts and The London, this is extensively covered in the 'Fundamentals of Medicine' module and throughout year 1 and 2. Using a PBL format in 'Fundamentals of Medicine' module, over-prescribing of antibiotics and also the differences (or not) of generic and branded drugs are explored. In addition, alternative treatment for depression and other mild to moderate mental health conditions are covered in the 'Brain and Behaviour' module. Theme of over-diagnosis is delved into in GP placements students take part in from year 1, where social/ non-pharmacological prescribing are also explored.*

*This is covered in year 2 'Brain and Behaviour' module as part of management of mental health disorders. Also touched on in year 2 'Metabolism' module in various management of Type 2 diabetes. Also taking a PBL format, in the 'Human development' module in Year 2, the treatment for Type 2 diabetes and PCOS to be weight loss and exercise are all explored. The 'Human science & Public Health' module in Year 2 also covers various types of social and psychological healthcare issues and management plans associated.*

*These topics are 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'.*

### **Curriculum: Clinical Applications**

#### **18. In training for patient encounters, does your medical school's curriculum introduce strategies to have conversations with patients about the health effects of climate change?**

2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change

*Score explanation: At Barts and the London, in training for patient encounters there are numerous strategies implemented. In particular motivational interviewing as a way to support patients in changing health behaviours; students learn about this in Year 3 role play session. Prof. Graham Easton and Dr. Dason Evans from Barts have piloted a session in Year 3 about planetary health including how to have a discussion with patients about the impact they can have on the environment, and behaviour changes such as weight loss, eating less meat and driving less which can be both beneficial for them as a patient, but also for the planet. They are planning on adding these to Year 3 sessions from 2022. As these are embedded in the core curriculum this has scored a 2.*

#### **19. In training for patient encounters, does your medical school's curriculum introduce strategies for taking an environmental history or exposure history?**

2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.

*Score explanation: At Barts and The London, especially through the 'Medicine in society (Medsoc)' component which is part of the curriculum in the pre-clinical years (Year 1 and 2) provides the opportunity implicitly, to be curious about and trying to understand the patient within their context as a whole. Whilst planetary health may be implicit rather than explicit within this, the importance of*

*embedding patient's context and local environment so early in the curriculum is evident through Medsoc and the extensive training in 'Clinical communications skills' module in Year 3 where there are intense History taking sessions where students explore not only the presenting complaint but the patient's life-style as a whole including social history (smoking, occupation, diet, etc.).*

*At Barts the curriculum is indulged in PBL and CBL style learning, in order to develop problem solving skills based on realistic scenario allowing students to think of the patient as a whole rather than just clinical findings. Again, developing skills to think of the patient as a whole, rather than just 'signs and symptoms'.*

*However, as defined previously 'Environmental history' also includes not only place of residence over the lifecourse, occupational history, but also food and water sources, which is not highlighted at Barts and may only be covered in very limited situations. Which can be improved upon in the future. Thus a score of 1 is given here.*

### **Curriculum: Administrative Support for Planetary Health**

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

4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.

*Score explanation: At Barts and the London, there is an explicit drive to implement widespread recognition of the importance of planetary health. Where some are introduced as part of a selection of student selected component (SSC) within the curriculum. There are three SSCs on sustainable healthcare and SusQi (december 2020, April 2021 and December 2021). These are led by Dr. Anna Moore and Dr. Florence Wedmore. Furthermore, there is also a Year 4 SSC on sustainability and diabetes supervised by Prof. Anita Berlin. At Barts, sustainable healthcare is also well emphasized in the curriculum too for example, as mentioned above, in Year 4 core teaching there is a week dedicated to Global and Planetary health, led by Megan Clinch. Outside the week, there are still teachings relevant to planetary health being delivered within the core curriculum such as in Year 4 there is teaching on health equity with focus on air pollution led by Dr. Rohini Sabherwal and also in year 3 within the GP community diagnosis (GPCD) module, there are teaching on climate and health lead by Dr Vidya Munesh Mistry and Dr Safiya Virji in January 2022.*

*As evident in the explanation this medical school has a well established planetary health interest and is constantly improving Education for Sustainable Healthcare (ESH), the curriculum is regularly being updated thus given a score of 4 here.*



**21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core 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: At Barts and The London, as described above, within the core curriculum from the beginning of the MBBS course (Year 1), the curriculum allows students to appreciate the link between planetary health and the health of patients. The link between the two elements becomes more evident and emphasized in later years, especially in Year 4 during Global health week which intensely highlights the importance of planetary health. However, as some topics such as the impact of anaesthetic gases on the healthcare carbon footprint are not explicitly covered hence, the score of 4 is given here. Planetary health concerns are evidently a recurring theme which is covered in all years, but as it is not as explicit as it could be, for this component a score of 4 is given.*

**22. Does your medical school 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: Score 0:  
At Barts, Dr. Jon Bestwick is the lead for population health and Dr. Megan Clinch leads the Global health and planetary health in the curriculum. But the medical school is yet to have an individual who oversees and is responsible for the overall teaching of sustainability at this medical school. Thus, a score of 0 is given here.*

<b>Section Total (x out of 69)</b>	<b>50</b>
------------------------------------	-----------

Back to Summary Page [here](#)

# 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 emphasized.

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 School of Medicine who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine 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.
<p><i>Score explanation:</i> Most of the planetary health related research sits within the The Wolfson Institute of Population Health which was recently formed in August 2021, merging the former Wolfson Institute of Preventive Medicine (founded in 1991) and the Institute of Population Health Sciences (founded in 2019). Within Wolfson Institute, the most relevant unit is the <a href="#">Global Public Health Unit</a>.</p> <p>There are many faculty members who focus on research that encompasses planetary health themes, including:</p> <p>Heather McMullen: recently conducting research into ‘intersection of sexual and reproductive rights and justice with climate change and environmental sustainability.’</p> <p>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</p> <p>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.’</p> <p>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.</p> <p>Jonathan Filippou: Research focusing on political economy of health and healthcare that includes health systems, health policy making and the effects of trade policies to healthcare</p>	

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:* There is no department or institute explicitly dedicated for interdisciplinary planetary health research, however, QMUL has its own [Global Health Unit](#) which focuses on understanding the ‘social determinants of health in a global context’. They are an interdisciplinary team, taking into consideration multiple factors such as medicine, sociology, politics, economics and many more. As well as this, the Wolfson Institute is responsible for much of the planetary health research occurring at Barts/QMUL. There is also an occupational health department who focuses on environmental exposures such as chemicals and pollutants, however this is not related to planetary health. There have also been recent attempts to form a QMUL Planetary Health research group, though this has not yet been completed.

**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.
<p><i>Score explanation:</i> In November 2021, QMUL partnered with Tower Hamlets Council, the Canary Wharf Group and New City College to work towards <a href="#">achieving a net zero carbon borough</a> 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.</p>	

<b>4. Does your institution have a planetary health website that centralizes ongoing and past research related to health and the environment?</b>	
3	There is an easy-to-use, adequately comprehensive website that centralizes 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 centralize 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> QMUL does not have a centralised website, but a <a href="#">sustainability website</a> 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"> <li>• <a href="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/queen-marys-action-on-salt-finds-healthy-plant-based-meals-are-actually-drowning-in-salt.html</a></li> <li>• <a href="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/2020/smd/new-study-into-air-pollution-exposure-in-african-children.html</a></li> <li>• <a href="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/pr/queen-mary-climbs-47-places-in-sustainability-league-table.html</a></li> <li>• <a href="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">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</a></li> </ul>	

<b>5. Has your institution recently hosted a conference or symposium on topics related to planetary health?</b>
---

4	Yes, the <b>medical school</b> 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> QMUL hosted an <a href="#">event on sustainable healthcare</a> as part of their Sustainability Week on Wed 20th October 2021. This was run by academics from the Community Based Medical Education team in the centre for Medical Education.</p> <p>There was also a <a href="#">workshop</a> on 22nd November 2021, which was joint with National Polytechnic Institute (IPN) of Mexico City. This workshop focused on a smart air pollution forecasting system which would enable better monitoring and better forecasting of local pollution levels.</p>	

<b>6. Is your medical school a member of a national or international planetary health or ESH organisation?</b>	
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
<p><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.</p>	

<b>Section Total (11 out of 17)</b>	<b>11</b>
-------------------------------------	-----------

Back to summary page [here](#)

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

## Community Outreach and Advocacy

***Section Overview:*** *This section evaluates medical school engagement in community outreach and advocacy efforts associated with planetary health. Researching and teaching planetary health is necessary but not sufficient. It is critical that institutions also directly engage with communities most affected by environmental health harms. Although climate change is a problem largely created by those with power and resources, its impacts fall disproportionately on under-resourced populations and communities of color. 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.*

<b>1. Does your medical school partner with community organisations to promote planetary and environmental health?</b>	
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: Barts SMD partners with local schools to find out whether reducing air pollution from traffic is good for children’s health recruiting over 3,300 primary school pupils across London and Luton to take part from 85 schools. They will be followed up in 3 years to monitor how their lungs and brains develop. In addition, during the first year, the school has conducted a “Pollution Solution” workshop to over 9500 children as well to educate them about how air pollution can affect our health. For more details check <a href="https://www.qmul.ac.uk/chill/schools/">https://www.qmul.ac.uk/chill/schools/</a>.</i></p>	

<b>2. Does your medical school offer community-facing courses or events regarding planetary health?</b>	
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 medical school has not offered such community-facing courses or events.
<p><i>Score explanation: QMULs Eizaguirre Lab has a turtle conservation project which has had a great impact on public engagement as they engage with diverse audiences to explain the research. The university also created the 'festival of communities' in collaboration with local community groups and 16 organisations to provide a space where individuals can share experiences and it is known that environmental-themed stalls are present. For more details about the festival of communities check <a href="http://www.qmul.ac.uk/festival/">www.qmul.ac.uk/festival/</a>.</i></p>	

<b>3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?</b>	
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 regularly receive communications about planetary health or sustainable healthcare.
<p><i>The QMUL staff/student bulletin features plenty of items relating to sustainability with efforts being taken to feature one sustainability piece every week.</i></p> <p><i>Barts SMD has a sustainable society where they promote and educate our students regularly about local and global issues. They hold events such as plant potting, talks about climate change and encourage students to try vegan food. For more information: <a href="https://www.instagram.com/sustainatbl/">https://www.instagram.com/sustainatbl/</a>.</i></p>	

<b>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?</b>	
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></p>	

On the 8th of December 2021, the team held an all-staff webinar (students welcomed as well) talking about sustainability moving towards greener medicines, greener transport, greener buildings and greener energy consumption. More can be found here:

<https://www.bartshealth.nhs.uk/news/healthier-planet-healthier-people-11966>

In preparation for COP26, Queen Mary held a series of activities, events and presentations emphasising the impact of climate change and its challenges over the “Sustainability Week” from 18th to the 22nd of October. To name a few of the events – there was an opening of a Zero Waste Shop on campus which featured very minimal to zero packing, encouraging customers to purchase their own containers as well as try vegan snacks, tree planting activities, talks from the Head of Sustainability on how to start change, research showcases on turning paper waste into energy etc. For more information: <https://www.qmul.ac.uk/about/sustainability/sustainability-week-2021/>.

Green at Barts Health also has been active on their social media to spread awareness on how to better improve planetary and environmental health in the trusts. Some of these platforms include the main Whatsapp Group with over 160 members where they share regular updates on sustainable activities they have launched in their respective hospitals (for example the distribution of reusable masks) and an Instagram, Twitter and website page with updates and publications on environmental health.

<https://bartshealth-nhs.libguides.com/GreenatBartsHealth>

**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: The Barts Trust Hospitals do not have any accessible information about climate change and health impacts on their website. The reception at Royal London does not have any information regarding climate change and health impacts for patients. However, in the Royal London Paediatric A&E there are leaflets on display regarding air pollution.*

**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: The Barts Trust Hospitals do not have any accessible information about climate change and health impacts on their website. The reception at Royal London does not have any information regarding climate change and health impacts for patients.*

**Section Total (9 out of 14)**

**9**

Back to summary page [here](#)

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

*From 2020, Barts SMD has included a new Student Selected Component (SSC) revolving around sustainability, climate change and health to pre-clinical medical students. Over the 2 weeks, students are educated on the detrimental effects of climate change on public health and are taught to create Quality Improvement (QI) projects on reducing the healthcare sector carbon footprint.*

# 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.*

<b>1. Does your institution offer support for medical students interested in enacting a sustainability initiative/QI project?</b>	
2	Yes, the 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 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, the institution does not 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. Since last year, the medical school has run an optional SSC for sustainable quality improvement, 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. 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.*

<b>2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?</b>	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.

*Score explanation: There is an opportunity in second year to choose an SSC (self selected component) on sustainable quality improvement projects and learn about planetary health. This is one option out of nearly 20 and takes place over 2 week in which students learn about the negative effects health care systems/industries have on population health. There is also an option to do an intercalated degree in Global Health at Barts and The London, however there is no funding or scholarships for this and this involves taking a year out of the MBBS medical program.*

*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 four topics related to planetary health including 1. Vector-Borne diseases and climate change (statistical, spatial or systematic review analysis), 2. Microbiota, biodiversity and health, 3. Political economy of planetary health, 4. Climate change adaptation and mitigation policy analysis.*

**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: Within the Barts and the London School of Medicine and Dentistry website, there is a link to the 'Wolfson Institute of Population Health' faculty site. This faculty has a link to their Centre for Environmental and Preventive Medicine which conducts "research and education in all areas of chronic disease epidemiology, medical screening and public health." However the link does not work so does not contain relevant, up to date information on projects and research that is being undertaken and lacks details of potential mentors.*

**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.
<p><i>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. There is also an Environmental Society that aims to make Queen Mary University (the larger institute which the medical school is part of) more sustainable. There is also a sustainability board, composed of students which represent students on sustainability and environmental issues within the Students’ Union and across the University. These societies are more focused on sustainability and planetary health, less so on the impact of the healthcare system. 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.</i></p>	

<b>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 practises?</b>	
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.
<p><i>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.</i></p>	

<b>6. In the past year, has the institution had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)</b>	
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.

0	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 organize hiking, backpacking, kayaking, or other outings for students)

*Score explanation: Sustain@BL has access to the shared Mile End Community Garden and regular gardening events are held throughout the year, allowing students to develop their skills. Topics relating to sustainability and Planetary health are also discussed during these events. 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 has also held a movie screening followed by a debate around bee farming and its environmental impact. 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. Queen Mary sustainability group has invited medical students to be part of local environmental initiatives including tree planting on Mile End campus and cleaning Regent's Canal. 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.*

<b>Section Total (10 out of 15)</b>	<b>10</b>
-------------------------------------	-----------

Back to summary page [here](#)

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

# Campus Sustainability

***Section Overview:*** *This section evaluates the support and engagement in sustainability initiatives by the medical school and/or institution. The healthcare industry is a major contributor to greenhouse gas emissions as well as pollution that harms local, regional, and global ecosystems. While healthcare is, by nature, a resource-intensive endeavor, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinizing 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 minimizing environmental impact.*

1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff, but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation: Queen Mary's Sustainability Team consists of 4 full-time equivalent staff who cover all aspects of sustainability across the University, including the medical school. The roles consist of a <a href="#">Head of Sustainability</a>, <a href="#">Sustainability and Energy Manager</a>, <a href="#">Sustainability and Environment Manager</a>, <a href="#">Sustainability Coordinator</a> and <a href="#">Sustainability Officer</a>. As well as these core staff there are also two <a href="#">Assistant Facilities Managers</a> responsible for management of non-hazardous waste across the UK campuses, a <a href="#">Health and Safety Advisor</a> (responsible for clinical waste) and a <a href="#">Grounds and Gardens Supervisor</a> (currently vacant position). No specific staff member is responsible for management of the sustainability of the medical school.</i></p> <p><i>There is a separate Sustainability Committee made up of key internal stakeholders across the University. The committee is responsible for the coordination and governance in delivering Queen Mary's environmental objectives. They meet at least 4 times a year.</i></p> <p><i>There is also an Environmental Sustainability Champion Group made up of staff who have completed the IEMA Sustainability Skills for the Workforce Course and who support the university's sustainability agenda on a voluntary basis within their own departments. They meet every 1-2 months and report into the Sustainability Committee.</i></p>	

*QMUL's student union also has a Sustainability Board which is a subcommittee of and reports into the Student Council, it consists of an elected group of students who sit on the board on a voluntary basis, it includes a sustainability representative devoted to Barts and The London (the medical school), Mile End and West Smithfield campuses respectively. One of the members of QMUL's Sustainability Team supervises the Mile End and Barts Sustainability Officers within the Sustainability Board and acts as Secretary in Board meetings.*

**2. How ambitious is your medical school/institution's plan to reduce its own carbon footprint?**

4	The institution has a stated goal of carbon neutrality by 2030 or earlier and the medical school / institution has a well-defined and adequate plan in place to achieve this goal.
3	Yes, there is a stated carbon neutrality goal by at least 2040 and the medical school/institution has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal by at least 2040, but the medical school/institution has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.

*Score explanation: QMUL's Environmental Sustainability Action Plan (ESAP) 2020-23 sets a net-zero carbon emissions target of 2050, with the aim of reaching a 30% carbon reduction within 6 years (from a baseline of 2018/19)\*. This target applies to all aspects of their UK operations including the medical school. QM aims to be able to set its net-zero target to a much earlier date through a more ambitious strategy it aims to develop over the next 3 years. The plan by which the current 2050 target will be achieved is set out in the ESAP 2020-23, it involves 13 target areas each with qualitative objectives, KPIs and estimations of the resources required. The ESAP can be accessed here [Queen-Mary-Environmental-Sustainability-Action-Plan-2020-23.pdf \(qmul.ac.uk\)](https://www.qmul.ac.uk/ESAP2020-23/Queen-Mary-Environmental-Sustainability-Action-Plan-2020-23.pdf).*

*\*It is important to note that the baseline value for carbon emissions in 2018/19 is reported inconsistently in the ESAP, with one stated value of 25,942 tCO<sub>2</sub>e and another of 26,371 tCO<sub>2</sub>e.*

*QMULSU's Sustainability Board believe that the net-zero target set out in the ESAP can and should be achieved at an earlier date and within their own Environmental Policy outline a number of areas that they will target, however the policy does not currently explain how reduction in emissions can be achieved in all of these areas. The Board is in the process of developing their strategy including setting a more ambitious net-zero target and establishing the ways in which this can be achieved.*

**3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital)**

<b>utilize renewable energy?</b>	
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><i>Score explanation: All electricity across the UK campuses (including the medical school) are on green electricity tariffs, the Sustainability Team did not respond to requests for further information as to what proportion of the energy supplied through those tariffs is renewable. There is also a photo-voltaic panel on the roof of the Mile End Library and another due to be installed on the roof of the Queens' Building (neither on the medical school campus). The electricity generated from the Mile End Library panels was quoted by the Sustainability Team as being 10,270kWh per year. Despite multiple requests the Sustainability Team did not clarify what proportion of total energy requirements are met by renewable energy nor what the reliance on non-renewable energy is.</i></p>	

<b>4. Are sustainable building practises 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?</b>	
3	Yes, sustainable building practises 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 practises are utilised for new buildings on the medical school campus, but most old buildings have not been retrofitted.
1	Sustainable building practises are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.
<p><i>Score explanation: All of the QMUL buildings have up to date Display Energy Certificates (DEC) and all recent major refurbishments undergo SKA (an environmental assessment method) and Building Research Establishment Environmental Assessment Method (BREEAM). Of note are QM's Department W building which achieved an SKA Gold rating, the Maths Building which was short-listed for the BREEAM Awards 2021 following its refurbishment, and Empire House which attained a BREEAM Very Good Score. The Sustainability Team did not respond to requests for information about the overall SKA and BREEAM ratings across all of the new buildings across the campuses (rather than just those of note) nor did they clarify what proportion of older buildings across the university have been retrofitted to be more sustainable.</i></p>	



**5. Has the medical school implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?**

2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.

*Score explanation: The campus location is not amenable to unsustainable forms of transportation by default and as such, most students travel to university by using public transport, walking or cycling. Furthermore, the campus has good biking infrastructure such as bicycle parking. Furthermore, the university offers a student cycle guide and offers a cycle to work scheme that offers significant savings on the cost of bikes and accessories. Additionally, the university has clearly set out sustainable transport and travel commitments aiming to reduce the impact that the travel of students and staff has on the environment*

**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 medical school does have a conventional recycling program accessible to students and staff, with mixed recycling bins placed near dining tables, in hallways outside of labs, and near main entrances to the buildings. Whilst the university does compost its garden waste and its compostable food waste, catering staff are tasked with the disposal of this food waste into appropriate bins and this program is not directly accessible to most students and faculty.*

**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.
<i>Score explanation: The medical school has very adequate sustainability requirements for food and beverages and adhere to a Sustainable Food and Catering Policy when making decisions about the campus food and beverage selections. This includes meat and fish restrictions, local sourcing of seasonal vegetables and other efforts to maximise sustainability with regards to food and beverages.</i>	

<b>8. Does the medical school or associated institution apply sustainability criteria when making decisions about supply procurement?</b>	
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.
<i>Score explanation: The medical school has outlined a sustainable supply procurement policy; however, the guidelines are generally vague and in some parts optional/only “encourage” sustainable supply procurement. However, the guidelines do show a willingness to engage in efforts to increase sustainability of procurement.</i>	

<b>9. Are there sustainability requirements or guidelines for events hosted at the medical school?</b>	
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: Queen Mary students union passed a motion for students booking spaces at Queen Mary to incorporate sustainability as a 'risk; on the annual risk assessments. However, due to other covid measures it is not enforced this academic year. In terms of commercial events Queen Mary are joining with Greengage Solutions to improve sustainability at their events.*

**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 Laboratory Efficiency Assessment Framework is a certification scheme designed to improve sustainability and efficiency of laboratory areas. The scheme includes an online toolkit which provides a list of easy to implement environmental actions that a lab should carry out over the year. There is a progression through the criteria which is subdivided into bronze, silver and gold.*

**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	No, 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: In 2016 Queen Mary University committed to fully divest its endowment from fossil fuel companies. However, in 2017 there was an update to this and the University's investment is instead restricted to exclude direct investment in companies that derive over 33% of their turnover from fossil fuel industries.*

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
<b>Planetary Health Curriculum (30%)</b>	$(50 / 69) \times 100 = 72\%$	B
<b>Interdisciplinary Research (17.5%)</b>	$(11 / 17) \times 100 = 65\%$	B
<b>Community Outreach and Advocacy (17.5%)</b>	$(9 / 14) \times 100 = 64\%$	B-
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	$(10 / 15) \times 100 = 67\%$	B
<b>Campus Sustainability (17.5%)</b>	$(17 / 31) \times 100 = 55\%$	C+
<b>Institutional Grade</b>	<b>66%</b>	<b>B</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.

### Planetary Health Report Card Trends for Barts and the London SMD

