



Planetary Health Report Card:

Queen Mary University of London



2020-2021 Contributing Team:

- Students: Hamza Anwar, Hannah Mohammad, Molly Salter, Vishal Chahwala, and Siraj Yasser Abualnaja
- Faculty Mentor: Dr. Anna Moore
- Primary Contact: Siraj Yasser Abualnaja, s.y.abualnaja@se15.qmul.ac.uk

Summary of Findings

Curriculum	B
<ul style="list-style-type: none"> Throughout Barts Medical School, the curriculum does well in integrating certain aspects into the core and optional curriculum. Curriculum makes an excellent effort to try to include and be aware of the local communities. The Global Health module in Year 4 is where Barts Medical Students are exposed to the majority of the topics relating to climate change and planetary. This is the only area in the curriculum where module content changes and adapts yearly. Prior to Year 4, students are not as exposed to climate change and planetary health, especially during PBL sessions and examinations. It was difficult to assess the extent to which Barts Medical students are exposed to climate change and planetary health in the clinical setting as there is great discrepancy between the trusts associated with the medical school. 	
Interdisciplinary Research	C
<ul style="list-style-type: none"> A number of faculty members are currently conducting research on planetary health and healthcare sustainability. It is important to also note that this research not only looks at its impacts nationally, but globally too. However, while there are a lot of initiatives for promoting planetary health, these initiatives do not make the connection between planetary health and its impact in a clinical setting (particularly for local communities). There is research being conducted within the community by the associated trusts (i.e., Barts NHS Trust), but it is separate to the medical school. Barts should consider joining the Planetary health Alliance or the Global Consortium on Climate and Health Education. 	
Community Outreach and Advocacy	C
<ul style="list-style-type: none"> Barts Medical School does an excellent job with working with local communities (especially schools in Luton) that aim to promote planetary and environmental health. QMUL staff and student bulletin often features items relating to sustainability with a new piece every week. Implementing the sustainability bulletin in a clinical setting has not been successfully executed. Furthermore, there seems to be a lack of communication between the medical school and QMUL with projects involving the community. 	
Support for Student-Led Initiatives -	C+
<ul style="list-style-type: none"> There is great support from the medical school for student-led initiatives. Notably, Sustain at BL is a society solely dedicated to ensuring Barts Medical School can prioritise sustainability and planetary health in their culture and beyond. Student-office positions for sustainability officers are available, and every year a number of students apply for this position. Unfortunately, collaboration for student led initiatives between Barts Medical School and QMUL is unsatisfactory. Student-led societies in both institutes operate separately. 	
Sustainability	B-
<ul style="list-style-type: none"> Overall, Barts Medical School has started to make impressive plans and initiatives to try and establish a more sustainable outcome. From the Environmental Management System to the Laboratory Efficiency Assessment Framework, there is a constant drive to ensure that this goal is achieved. QMUL student union has also made some efforts in diversifying the university's portfolio investments into fossil-fuel companies. Currently, there are no sustainable guidelines for medical school events, and a green tariff was only introduced in October 2020. We expect this time next year for the sustainability score to be at a higher grade. 	

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance defines planetary health as “a field focused on characterizing the human health impacts of human-caused disruptions of Earth's natural systems.” 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 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.

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 change. Therefore, it is critical that medical students are trained to understand the health effects of climate change, as well as planetary health more broadly. Topics like the changing geography of vector-borne diseases, the health consequences of air pollution, environmental health inequities, and disaster response principles must be part of every medical school's core curriculum.

Curriculum: General

1. Did your medical school offer elective courses 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> This score was given because last academic year there were no electives given for planetary/sustainable health specifically. In year 4, there are SSCs that partially cover planetary health. Important note, this academic year and SSC dedicated to planetary health was added for year 2.</p>	

Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme temperature health risks and climate change, as well as the socioeconomic/racial disparities in extreme heat exposure?	
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> It is very briefly covered in the year 4 “General Global Health” section of the Global Health and Ethics module led by Professor David Mc Coy. At most, only a few slides were</p>	

dedicated to this topic. It is not covered in-depth, but it is a requirement for all students to revise and make note of.

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.
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: As stated in the previous question, this topic is covered in Year 4 “Global Health and Ethics” module. In addition to the “General Global Health” section, it is mentioned in the “Health Systems including the NHS” and “Health Inequalities” in the same module. However, the extent to which it is covered is not adequate. Climate change with regards to an individual’s health and/or healthcare system, especially in the NHS, should be taken seriously.

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

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

Score explanation: This is offered as a Student-Selected Component (SSC) in year 4 only. While infectious disease is covered, its relationship to climate change is not. Therefore, a score of 1 rather than 2 is given. Students are encouraged to self-direct their own SSC, but it is not a requirement. Therefore, it is only optionally taught in year 4.

5. Does your medical school curriculum address the cardiorespiratory health effects of climate change, including 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.
<i>Score explanation:</i> In the cardiorespiratory module in year 2 and year 3, health effects of climate change (especially air pollution) is briefly covered. These modules further expand on how air pollution leads to and/or exacerbates asthma and COPD.	

6. 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.
<i>Score explanation:</i> Currently, there is no evidence that the medical school addresses mental health and neuropsychological effects on environmental degradation and climate change, unless it is a self-organised SSC.	

7. 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.
<i>Score explanation:</i> In Year 4, it is addressed in the “Global Health and Ethics” module. Similar to previous questions with the same score, only a few slides throughout the module address this particular relationship.	

8. 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, 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> While the medical school extensively addresses how a lower socio-economics status impacts one's health in marginalised populations, it only briefly looks at the impact of climate change on marginalized populations in the Year 4 module "Global Health and Ethics." Students are encouraged to address this as a self-organised SSC project throughout medical school.</p>	

9. Does your medical school curriculum address the unequal 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.
<p><i>Score explanation:</i> In years 3 and 4, unequal impacts of climate change are heavily discussed. From lectures to seminars, the medical school, alongside Green at Barts Health, take initiative and raise awareness on the unequal health impacts of climate change globally.</p>	

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

10. 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.
<p><i>Score explanation:</i> This is covered briefly in different modules across different years. In the Human Development modules in Years 1, 2, and 4 the effects of the industry-related environmental toxins on reproductive health are usually mentioned throughout lectures and seminars.</p>	

11. 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: The medical school and its associated Trusts are strong advocates for looking at human-caused environmental threats to the surrounding community. For example, as we are based in East-London, where a large proportion of the population is Bangladeshi, TB is taught extensively in our core curriculum, in seminars, and on clinical placements.

12. Does your medical school curriculum address the unique climate and environmental health challenges that have impacted and are impacting Indigenous communities?

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: Throughout the medical school curriculum, students are continuously reminded of the importance of catering to the needs of the Bangladeshi community. Their history in the East End is engrained into the medical school curriculum and clinical placements. The MRC and Professor Van Heel and his team established East London Genes and Health and are constantly making breakthroughs for the South Asian community as a whole.

13. 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, 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: In the “Global Health and Ethics” module, the “Social Policy” section and throughout the cardiorespiratory modules in Year 1, 2, and 3, the impact of how the socio-economic levels of certain populations are usually at higher risk for diseases and conditions that are caused or exacerbated by higher levels of pollutants and toxic waste are covered. For example, people who come from lower socio-economic backgrounds tend to have higher rates of respiratory conditions because of poorer living conditions, pollutant exposures, and toxic exposures.

Curriculum: Sustainability

14. 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.

Note: For example, in nutrition lectures that discuss the health benefits of a plant based diet.

Score explanation: Lectures and seminars cover this aspect. A notable example is in the metabolism modules in Year 1 and 2, where Dr. Jean Marie Delande covers how different diets influence the progression of diseases.

15. Does your medical school curriculum highlight the waste generated by the healthcare system and identify ways to advocate for and implement sustainable best practices in health care?

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 difficult to score simply because each Trust that the medical school is affiliated with will cover this differently. Generally speaking however, students are taught how to properly dispose of clinical waste and taught to not waste medical resources. The NHS has certain regulations that ensure that Trusts do not needlessly waste clinical resources.

Curriculum: Clinical Applications

16. 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
<p><i>Score explanation:</i> The exposure of this will depend on the clinical placement that the student is at. Certain strategies in several primary care settings will encourage this conversation; however, it is not integrated into the core curriculum.</p>	

17. 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.
<p><i>Score explanation:</i> Throughout our clinical placements, students are encouraged to ask about environmental history (under the social history portion of clerking new patients). Students should ask these questions only if they believe that it directly influences patient care. For example, environmental history should be asked if a patient is presenting with a chronic, productive, cough.</p>	

Curriculum: Administrative Support for Planetary Health

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

Score explanation: The core curriculum for years 1 to 5 are under a yearly review. While the Year 4 Global Health module is continuously changing and adapting as the field itself evolves, the rest of the core curriculum seldom changes.

19. 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: Topics for sustainable healthcare topics are covered briefly in standalone lectures in the Year 4 “Global Health and Ethics” module. There is a need for it to be discussed in seminars, workshops, and beyond.

20. Bonus: Does your medical school have a program that offers incentives for faculty/departments to develop new planetary health/ESH courses and/or incorporate planetary health/ESH into existing courses?

1*	Yes, the medical school has an incentive program.
0	No, the medical school does not have an incentive program.

Score explanation: Currently there is no incentive. If the GMC outlines it in the graduate objectives, certain medical schools may opt to include it to make them stand-out from other schools. However, there are very few areas in the medical school where incentivisation is given.

Section Total (38 out of 58)

38

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?	
4	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health and healthcare sustainability.
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in a 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> There are at least 5 faculty members whose primary research focus is on planetary health or associated topics: <u>Doreen Montag</u>: Concentrates on environmental governance, climate change and sustainable development focusing on Amazon and Andes – lead of the Planetary Health module for MSc Global Public Health and Policy. <u>Heather McMullen</u>: Research in sexual and reproductive rights and health in climate change. <u>Andrew Harmer</u>: Climate Change policy and communicating climate breakdown to a public audience. <u>Megan Clinch</u>: Impacts of environmental change on culture and health, especially looking at floods in Yorkshire. <u>David McCoy</u>: Current research assessing the environmental impacts of breast feeding, formula milk and the dairy industry</p>	

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.
<p><i>Score Explanation:</i> There is an Occupational Health Department that focuses on environmental exposures (such as “chemicals, fumes, dusts, vapours, mists, nanotechnology, gases and biological agents” and exposure to vibration and mitigating asthma and rhinitis). There is no relation to planetary health.</p>	

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> The Blizzard Institute at Bart’s encourages public engagement, and the Global Health Group has developed a My Asthma at School initiative for children to better manage their asthma. The CHILL (Children’s Health in London and Luton) study “aims to see if reducing air pollution from traffic improves children’s health, in a multi-year study backed by educational workshops for primary children in London and Luton” (also see Community Outreach section). This involves engagement with local children in the community and assesses the importance of air pollution on health; however, the community doesn’t have a say in the agenda. Barts Health NHS Trust encourages patients to become involved with research, but this is separate from the Medical School.</p>	

4. Does your institution have a planetary health website, or a website centralizing various campus resources related to health and the environment?	
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.

Score Explanation: [Queen Mary Sustainability website](#) highlights the Green Mary initiatives and volunteering opportunities, training opportunities for staff and students, as well as highlighting past and future events.

5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the institution has hosted more than one conference or symposium on topics related to planetary health in the past year, including at least one on climate change.
3	Yes, the institution has hosted one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.

Score Explanation:
 2018 = Round Table Discussion: Food Security and Ecological Global Health. 2020 = Global Health Week - Heather McMullen lead a 'teach-out' with a panel of birth-strikers and students from the Friday's for Future campaign



6. Has your institution or medical school joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?

2	Yes, the medical school has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education.
1	Yes, the institution has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education, but the medical school specifically has not.
0	No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.

Score Explanation: No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education. From our understanding, there is no intention or plan to do so.

Section Total (9 out of 19)

9

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.

- Barts and QMUL have applied to get COP27 observer accreditation—they have not yet heard back because it has been delayed by Covid-19
- Planning to get involved in the UK Health Alliance on Climate Change

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.*

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation:</i> 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. For more details check www.qmul.ac.uk/chill/.</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 medical school has not offered such community-facing courses or events.
<p><i>Score explanation:</i> QMULs Eizaguirre Lab has a turtle conservation project which has had a great impact in public engagement as they engage with diverse audiences to explain research. The university also created the ‘festival of communities’ in collaboration with local community groups and</p>	

organizations 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 www.qmul.ac.uk/festival/.

3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?

2	Yes, all students regularly receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are sometimes included in communication updates.
0	Students do not regularly receive communications about planetary health or sustainable healthcare.

Score explanation: The QMUL staff/student bulletin features plenty of items relating to sustainability with efforts being taken to feature one sustainability piece every week.

4. Do hospitals affiliated with your medical school 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 centers have accessible educational materials for patients.

Score explanation: The Barts Trust Hospitals and Roy do not have any accessible information about environmental health exposures on their website. The reception at Royal London does not have any information regarding environmental health exposures for patients.

5. Do hospitals affiliated with your medical school 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 (6 out of 12)	6
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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 institution offer support for medical students interested in enacting a sustainability initiative?	
2	Yes, the institution offers grants available to medical students for students to enact sustainability initiatives.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available.
0	No, the institution does not offer opportunities or support for sustainability initiatives.
<p><i>Score explanation:</i> There are no specific grants aimed at students undertaking sustainability initiatives at Bart's and the London. This year the medical school offered first- and second-year students a student selected component (SSC) in 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.</p>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
3*	The institution offers an explicit paid fellowship for medical students to do research related to planetary health and/or sustainable healthcare.
2	The institution offers paid research opportunities for students and planetary health/sustainable healthcare projects would be considered eligible.
1	There are unfunded research opportunities for students to perform research related to planetary health/sustainable healthcare.
0	There are no opportunities for students to receive funding for planetary health/sustainable healthcare research.
<p><i>Score explanation:</i> 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</p>	

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: There is no specific web page within the Barts and the London website relating to sustainability. There is a webpage within the wider Queen Mary [network](#);, however, within this web page there are no details related to Barts and the London’s sustainability involvement.

4. Does your medical school have funded, 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 funded student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support and/or funding.
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.

Score explanation: Sustain@BL is a registered student society that aims to increase awareness of local and global environmental issues to promote a culture of sustainability at Barts and The London and empower students to make sustainable lifestyle choices. The society receives funding from Barts and the London student association through the societies fund and this year has received faculty support from Dr. Becky Gorrigan, Dr. Anna Moore and Dr. Florence Wedmore.

5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional decision-making council to advocate for sustainability best practices?

1	Yes, there is a student representative that serves on a medical school or institutional decision-making council.
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 their own campaigns and raising awareness about issues and sustainable behaviours. They work closely with relevant staff members and the Executive Officers and will get to co-chair the Sustainability Committee with the Sustainability Officer for Queen Mary university.

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)

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 organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.

Score explanation: ·

- The student society Sustain@BL has led events on planetary health aimed at medical students including on environmental justice and racism. 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 planting an orchard on the 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

implemented a 'leave no trace' principle (due to covid-19 trips have not occurred this past year)

Section Total (8 out of 14)	8
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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:</i> There are multiple full-time staff dedicated to campus sustainability, though there is no member of staff specifically responsible for medical school sustainability. The Queen Mary Students' Union (QMSU) has two elected sustainability officers including one representing students from Barts and The London.</p> <p>https://www.qmul.ac.uk/about/sustainability/sustainability-at-qmul/meet-the-team/</p>	

2. Does your medical school and/or institution have a stated goal of carbon neutrality by 2050?	
4*	The medical school is already carbon neutral.
3	Yes, there is a stated carbon neutrality goal and the medical school has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal, but the medical school 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: Queen Mary has adopted a six-year 30% carbon reduction target against their 2018/19 baseline which was 25,942 tCO₂e. There is a long term aim to achieve carbon neutrality by 2050 with a plan to be developed on or before July 2025.
<https://www.qmul.ac.uk/media/qmul/about/sustainability/documents/Queen-Mary-Environmental-Sustainability-Action-Plan-October-2020.pdf> Page 1, 5-6

3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital) utilize renewable energy?

3*	Yes medical school buildings are 100% powered by renewable energy
2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.

Score explanation: Queen Mary began sourcing 5% of electricity from a green tariff with Ecotricity from October 2020. There is a long-term ambition to procure all energy from a green tariff although no deadline has been stated.

4. Are sustainable building practices utilized for new and old buildings on the medical school campus, with design and construction of new buildings and remodeling of old buildings conforming to a published rating system or sustainable building code/guideline?

3	Yes, sustainable building practices are utilized 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 utilized for new buildings on the medical school campus, but most old buildings have not been retrofitted.
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.

Score explanation: Queen Mary aims to achieve ‘Excellent’ ratings from the Building Research Establishment Environmental Assessment Method (BREEAM) for all major new builds and ‘Very Good’ ratings for refurbishment projects. There is a refurbishment project due to be completed in mid-2021 that will cut energy use on the Whitechapel campus by 25%. However, as of January 2021, most buildings have Display Energy Certificate (DEC) scores of C or below.

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.
<p><i>Score explanation:</i> Most Barts and the London students walk, cycle or use public transport. There are no car parking facilities on the Whitechapel campus and the 45 spaces on the Charterhouse Square campus are available only to staff. The Whitechapel and Charterhouse Square campuses have 280 and 110 cycle parking spaces respectively as well as several onsite bike pumps. Queen Mary holds free bike maintenance and security marking sessions across and has published a Student Cycle Guide. The QMSU has an annual Cycle Week and there is an active Barts and The London Cycling Club.</p>	

6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/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:</i> Queen Mary generated 1588 tonnes of waste during the 2018/19 academic year of which 33% was recyclable and aims to increase this number to 50% by 2030. Queen Mary became a zero waste to landfill university in 2017 so non-recyclable waste was incinerated to generate electricity for over for 160,000 London homes. In addition to a conventional recycling program, students are able to recycle a variety of other items such as batteries, furniture and electronics. Although food waste and waste oil produced by commercial kitchens is collected and recycled into biofuel for London taxis, this is not accessible to students.</p>	

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections?	
3	Yes, the medical school has adequate sustainability requirements for food and beverages 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:</i> Queen Mary ensures that all major catering and food suppliers have a certified Environmental Management System (EMS), only uses fish from sustainable sources (as defined the Marine Conservation Society) and that meat, dairy and egg products are produced to high environmental, ethical and animal welfare standards. Queen Mary is also committed to increasing the proportion of plant-based meals, buying fair-trade certified products and using local, seasonally available ingredients as standard. Food waste and waste oil from commercial kitchens is collected and recycled into biofuels for London taxis. QMSU has published a map of the 22 water fountains on campus to reduce single-use plastic waste. Using the Too Good to Go application, Queen Mary and QMSU outlets saved 797 meals from going to waste in 2018/19 and there are numerous other student-led initiatives that reduce food waste by donating extra food to places such as Hackney Winter Night Shelter, Bow Foodbank and Whitechapel Mission.</p> <p>https://www.qmul.ac.uk/about/sustainability/estates-and-operations/sustainable-food/ https://www.qmul.ac.uk/media/qmul/about/sustainability/documents/Queen-Mary-Sustainable-Catering-Policy-2021.pdf</p>	

8. Does the medical school or associated 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:</i> Queen Mary has a sustainable procurement policy but this does not yet include specific criteria to assess environmental sustainability, climate change adaptation and energy efficiency. The university is engaged in efforts to resolve this as a sustainable procurement guideline is currently being developed.</p>	

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.
<i>Score explanation:</i> There are currently no sustainability guidelines for medical school 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.
<i>Score explanation:</i> Queen Mary has recently implemented the Laboratory Efficiency Assessment Framework (LEAF) in order to improve the sustainability and efficiency of laboratory areas. Students and staff can participate and receive bronze, silver or gold certification.	

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.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized 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:</i> The current policy in regards to fossil fuels is that Queen Mary excludes direct investment in companies that derive over 33% of their turnover from fossil fuel industries. QMSU is lobbying the university to completely divest from fossil fuels and reinvest at least 10% of the divested funds in renewable solutions and tackling social injustice. QMSU has approved this motion but the university has not yet implemented this policy.	

Section Total (18 out of 29)	18
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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.

[QMSU Green Charter](#)

Grading

Section Overview

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

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

Planetary Health Grades for 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. 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.

Section	Raw Score	Grade
Planetary Health Curriculum (30%)	38 / 58 = 66%	B
Interdisciplinary Research (17.5%)	9 / 19 = 47%	C
Community Outreach and Advocacy (17.5%)	6 / 12 = 50%	C
Support for Student-led Planetary Health Initiatives (17.5%)	8 / 14 = 57%	C+
Campus Sustainability (17.5%)	18 / 29 = 62%	B-
Institutional Grade	57.6%	C+

