



Planetary Health Report Card (Medicine): *Queen's University Belfast*



**QUEEN'S
UNIVERSITY
BELFAST**

2022-2023 Contributing Team:

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Summary of Findings

Overall	B+
<u>Curriculum</u>	B+
<ul style="list-style-type: none"> Queen’s University Belfast focuses on planetary health content in its new C25 curriculum, integrating longitudinally into core lectures, tutorials and case-based discussion. Recommendations: Continue to integrate planetary health and climate change into the core C25 curriculum through lectures, tutorials and cases. Content could be covered in greater depth in lectures and we recommend that the university ensures that projects such as the mandatory SusQI SSC and Carbon Literacy programme are brought to fruition. 	
<u>Interdisciplinary Research</u>	B+
<ul style="list-style-type: none"> Queen’s University Belfast has a large number of researchers engaged with research into planetary health research and healthcare sustainability, some through SECA. The university has also hosted a number of planetary health events in the last year. Recommendations: The university should continue to support faculty members who have a primary research focus on planetary health, and should try to involve members of the community when making decisions on research agendas. 	
<u>Community Outreach and Advocacy</u>	B
<ul style="list-style-type: none"> Queen’s University Belfast has improved their score in this metric from last year, and continues to partner with community organisations to provide planetary health-related events. Recommendations: The medical school would benefit from ongoing integration with community organisations and working with local hospital trusts to provide more information for patients on environmental health exposures and the effects of climate change on health. 	
<u>Support for Student-Led Initiatives</u>	A
<ul style="list-style-type: none"> Queen’s University Belfast offers a large array of opportunities for student-led initiatives in planetary health and environmentalism, and provides a great deal of support for students wishing to get involved. Recommendations: The medical school is slowly directing more resources towards support for student-led initiatives, and we encourage them to update their website to include information on planetary health initiatives and prioritise grants for planetary health-related research. 	
<u>Campus Sustainability</u>	C+
<ul style="list-style-type: none"> Queen’s University Belfast has prioritised sustainability through building practices, transportation options, recycling, food and beverage selections, procurement and lab spaces. Recommendations: The university is still lacking in terms of its commitment to carbon reduction and neutrality, renewable energy and divestment from fossil fuels. We hope that the new Net Zero strategy will tackle these issues and improve transparency and publicly-available information. 	

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance describes planetary health as “a solutions-oriented, transdisciplinary field and social movement focused on analysing and addressing the impacts of human disruptions to Earth’s natural systems on human health and all life on Earth.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, 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 colour, older adults sensitive to health threats, and individuals in low-resource settings), these issues are inherently ones of equity and justice.

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

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as “the health of human civilisation and the state of the natural systems on which it depends.” For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional ‘environmental health’ examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of medical school education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term “planetary health” to satisfy the metric.
- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimises use of healthcare services.
- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:
 1. Describe how the environment and human health interact at different levels.
 2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
 3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.
- **Medical School vs. Institution:** When “medical school” is specified in the report card, this only refers to curriculum and resources offered by the School of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments)). In contrast, when “institution” is specified in the report card, we are referring to the university more

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

- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions providers are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mold after flooding. Key components include place of residence over the life course, 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. Paediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations or placements.

Other considerations:

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

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

Planetary Health Curriculum

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

Curriculum: General

1. Did your <u>medical school</u> offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>Score explanation:</i> Medical students at QUB choose to study various 'Student Selected Components' (SSCs) in Years 1-3. Of the SSCs offered, there are currently a number that focus on education for sustainable healthcare or planetary health. These are;</p> <ul style="list-style-type: none"> ● 'Global Health: Concepts, Trends and Priorities' ● 'Global Child Health' ● 'Global Cancer Trends' ● 'Medics in Primary Schools' ● 'Pandemic Management' <p>As part of the Year 2 course, around one-third of medical students undertake the 'Medics in Primary School' module. This unit involves medical students teaching about health and medicine in local schools. Planetary health was added as a suggested lesson for the 2021/22 cohort, and continues to be taught by our medical students in a number of local primary schools.</p> <p>It has also been discussed that beginning in 2024 all Year 5 medical students will be obliged to undertake a SusQI project. SusQI was an SSC that was run the past two years with the goal of educating students on the range of factors that can affect healthcare quality and sustainability. It</p>	

allowed them to consider aspects locally that may need change in order to improve quality or sustainability. The proposed mandatory Year 5 SusQI would require students to work in small groups on an identified project with an NHS supervisor. The project would last 4 months and finish with an assessment in the form of a poster presentation.

Recommendations: Continue to offer these SSCs and continue with the plan to make SusQI a mandatory project for Year 5 medical students.

Curriculum: Health Effects of Climate Change

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

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

Score explanation:

The Year 2 lecture by Professor O’Donovan, “Climate, Health and Sustainable Healthcare” contains infographics that show increasing temperatures and extreme heat due to climate change have both direct and indirect effects on the health of the population. It shows that extreme heat can cause heat related illness and death, and cardiovascular failure. This topic was mentioned numerous times throughout the slides, along with many other examples of how climate change impacts health, but was not the primary focus of the lecture.

Recommendations: Continue to integrate this topic longitudinally into the curriculum.

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:

In the Year 2 lecture “Climate, Health and Sustainable Healthcare” by Professor O’Donovan, there is discussion about the effect of climate change on the health of the general population. Infographics show that extreme weather events such as storms, drought and flooding have a direct impact on the

health of individuals. Similar to the previous metric, this topic was mentioned numerous times throughout the slides, along with many other examples of how climate change impacts health, but was not the primary focus of the lecture.

Recommendations: Continue to integrate this topic longitudinally into the curriculum.

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:

The Year 1 SSC “Global Health: Concepts, Trends & Priorities” is partly focused on how global health is at risk from climate change the rise of antimicrobial resistance. However, it is unclear if this elective course bridges the gap between climate change and changing patterns of infectious disease.

In Year 1, the overview lecture for Case 2 delivered by Professor O’Donovan refers to the UN’s Sustainable Development Goals and to emerging infectious diseases that could be linked to climate change. In a Year 2 lecture on water and sanitation, also delivered by Professor O’Donovan, similar points are made.

Dr Ciaran O’Gorman also covers this topic in his lecture titled “Organisms and Infections”. The UN’s Sustainable Development Goals are also discussed in terms of global health, but the link between climate change and infectious diseases is not covered in depth.

In Year 2 a lecture titled “Climate, Health and Sustainable Healthcare” states that an indirect effect of climate change is a change in the spread of infectious and vector-borne diseases. An infographic on another slide adds to the previous statement, linking changing temperature with changing vector ecology and then furthermore listing specific examples of changes in vectors such as malaria, dengue and West Nile virus. This specific impact of climate change, like all others in the lecture, is reiterated multiple times throughout the lecture slides.

Recommendations: The medical school should continue to integrate this topic longitudinally into the C25 curriculum as it is rolled out across the course.

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

3	This topic was explored in depth by the core curriculum.
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2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i></p> <p>In the C25 curriculum, the health effects of climate change on the respiratory system are emphasised at many points throughout the course in a longitudinal nature: as learning objectives to be discussed, both through case-based learning and through tutorials.</p> <p>In Year 1 Cases 6 and 7 are based on respiratory issues, and there are opportunities for students to research how air pollution would affect the chances of developing these diseases. Case 6 discusses asthma and respiratory disease and specifically includes the learning outcome “Describe global and local burden of respiratory diseases, and related risk factors including indoor and outdoor air pollution, and smoking”.</p> <p>In a Year 1 Lecture titled “The Social Determinants of Health” the UN’s Sustainability goals are mentioned but the direct impact of climate change on respiratory health is not explicitly stated.</p> <p>In Year 2 a lecture titled “Climate, Health and Sustainable Healthcare” contains infographics relating an increase in respiratory health problems to climate change through an increase in ground level ozone, particulate pollution and pollen allergenicity. It also includes an example case of an 18-year-old with asthma and how their management could be altered to reduce carbon intensity.</p> <p><i>Recommendations:</i> The medical school should continue to integrate this topic longitudinally into the C25 curriculum as it is rolled out across the course.</p>	

6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i></p> <p>In a Year 1 Lecture titled “The Social Determinants of Health” by Dr Corrigan the UN’s Sustainability goals are mentioned but the direct impact of climate change on cardiovascular health is not explicitly stated.</p> <p>In Year 2 a lecture titled “Climate, Health and Sustainable Healthcare” contains infographics relating an increase in cardiovascular health problems to climate change through an increase in extreme heat and air pollution.</p>	

Recommendations: The medical school should continue to integrate this topic longitudinally into the C25 curriculum as it is rolled out across the course.

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:

In Year 1 of C25 curriculum, there is a lecture and a tutorial both entitled “Social Determinants of Health” delivered by Dr Mairead Corrigan which discusses the importance of green spaces to improve physical and psychological health. However, the focus is on the benefit of the environment on people's health and not specifically how it may be affected by environmental degradation.

Professor O’Donovan’s lecture “Climate, Health and Sustainable Healthcare” discusses green prescribing, and the importance of nature as prevention and treatment. However, again the focus is on the benefit of green spaces on people’s health, not on how environmental degradation affects health.

Recommendations: Continue to integrate this topic longitudinally into the curriculum. Put more focus on the negative effect of environmental degradation on mental health than the benefit of green spaces.

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 has been incorporated longitudinally in the C25 curriculum, in tutorials and case-based learning (CBL). Social determinants of health are discussed as learning intentions in CBL cases, meaning students are encouraged to think about the multitude of factors that may affect a person’s health, including whether or not they have access to healthy food and safe water.

In Year 1, Case 3 is themed around dietary anaemia with the learning intention “Consider factors influencing dietary choice, including availability, sustainability and cultural aspects”. This allows students to explore this idea in more depth.

Water and food security is discussed in Year 2 of the C25 curriculum in public health lectures “Climate, Health and Sustainable Healthcare” and “Water Sanitation and Hygiene” delivered by Professor O’Donovan. The former discusses the impact of food and water supply on malnutrition and diarrheal disease, the latter discusses the importance of water security to health and in relation to diarrheal disease.

Recommendations: Continue to integrate this topic longitudinally into the curriculum.

9. Does your medical school curriculum address the outsized impact of climate change on marginalised populations such as those with low SES, women, communities of colour, Indigenous communities, children, homeless populations, and older adults?

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

Score explanation:

In Dr Corrigan’s lecture and tutorial on “Social Determinants of Health” the health benefits of green spaces is discussed, and it is mentioned how green spaces are unequally spread, with more affluent areas having better access than poorer areas. However, the impact of climate change is not directly mentioned.

The SSC “Global Health: Concepts, Trends and Priorities” run by Dr McShane & Dr Jenkins is offered in Year 1 of the C25 curriculum. This discusses the topic of decolonising global health, it explores the historic discrimination of marginalised groups, western views of global health and how global health needs to be understood from the perspective of those affected. The SSC discusses global health, climate change and marginalised groups throughout.

The lecture “Climate, Health and Sustainable Healthcare” delivered by Professor O’Donovan in Year 2 includes content outlining the groups of people most affected by climate change. It discusses MAPA (most affected people and areas) as those who are most affected by climate change, and the disproportionate effects of climate change globally. Those areas least responsible for climate change are often those most affected.

Recommendations: Continue to integrate this topic longitudinally into the curriculum. Although this topic is covered in numerous lectures and tutorials, we feel that it could be discussed in greater detail within these. Perhaps in a tutorial or case-based learning session students could be encouraged to focus on one marginalised population of their choosing and gather information on how climate change affects this group of people.

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

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

Score explanation:

The lecture “Climate, Health and Sustainable Healthcare” delivered by Professor O’Donovan in Year 2 includes content outlining the groups of people most affected by climate change. It discusses MAPA (most affected people and areas) as those who are most affected by climate change, and the disproportionate effects of climate change globally. Those areas least responsible for climate change are often those most affected.

In Dr Corrigan’s lecture and accompanying tutorial on “Social Determinants of Health” the health benefits of green spaces is discussed, and it is mentioned how green spaces are unequally spread, with more affluent areas having better access than poorer areas. The impact of climate change is not directly mentioned.

The SSC “Global Health: Concepts, Trends and Priorities” run by Dr McShane & Dr Jenkins is offered in Year 1. This discusses the topic of decolonising global health, it explores the historic discrimination of marginalised groups, western views of global health and how global health needs to be understood from the perspective of those affected. The SSC discusses global health, climate change and marginalised groups throughout.

Recommendations: Continue to integrate this topic longitudinally into the curriculum. Similar to the previous metric, we feel that although this is covered in the curriculum medical students could be given the opportunity (e.g. in a tutorial/case-based learning session) to explore the unequal health impacts of climate change in more detail.

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:

In Year 4 of the C19 curriculum, the teaching content in the Obstetrics and Gynaecology block includes the lecture “Congenital Abnormalities: Screening”. This lecture states environmental exposure to certain chemicals, pesticides, medications, alcohol and radiation can increase the risk of abnormalities in a foetus.

In the C25 curriculum there is a case (Case 14) that discusses the effects of industry-related toxins on health. The case follows a couple having trouble with infertility. The reproductive history reveals that the male partner works in a chemical factory. This then relates to the learning intention “Consider social and environmental factors which impact fertility”, allowing students to research this topic in more depth. Case 1 also includes the learning intention “Consider social and environmental factors which impact maternal behaviours and health”, allowing students to research environmental factors (e.g. industrial pollution) that may affect maternal/reproductive health.

The lecture “Social Determinants of Health” by Dr Corrigan touches on health inequalities across someone's lifetime. This allows students to study how certain factors (e.g. environmental pollution) can disproportionately affect different people in society. This includes how prenatal life course stages can be affected with implications for later life.

Recommendations: Continue to integrate this topic longitudinally into the curriculum. Perhaps this topic could be integrated into the Obstetrics and Gynaecology module or an SSC focusing on obstetric medicine or gynaecology.

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:

The public health tutorial “SusQI” focuses on sustainability and quality improvement in the healthcare system. By specifically discussing the impact of the healthcare system on Northern Ireland's carbon footprint, the students are shown human-caused environmental threats to their surrounding area. In this tutorial students are also encouraged to think about their own carbon footprint, and how they can contribute to a more sustainable healthcare system as future healthcare professionals.

The lecture “Climate, Health and Sustainable Healthcare” also discusses the effect of climate change on the health of the population, and specifically the healthcare systems contributions to climate change. It discusses how this topic is relevant to everyone as everyone will be affected. It allows students to think about how they as healthcare professionals can incorporate sustainability into their future careers.

QUB Estates, in collaboration with DAERA and Keep Northern Ireland Beautiful, established an accredited Carbon Literacy Project. The training is designed to offer students an awareness of climate

change science, and the impacts that climate has on our everyday actions, whilst also building confidence, knowledge, skills and motivations to empower individuals and organisations to play a crucial role in responding to the climate crisis. In 2022/23, Carbon Literacy Training was delivered to over 250 students and 34 staff members. This is not specific to the medical school, as it is available to all students at the university. However, plans are currently in place to include a carbon literacy training session into the mandatory Year 2 Development Weeks later this year. More information about the programme can be found [here](#):

Recommendations: Continue to integrate this topic longitudinally into the curriculum. A way for this to be integrated into the core curriculum is making the Carbon Literacy course mandatory.

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

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

Score explanation:

No evidence.

A recommendation was given to focus on the effect on minority ethnic groups in NI, the Irish travelling community, immigrants, the homeless etc as this is more relevant to Northern Ireland.

Recommendations: We appreciate that indigeneity can be a contentious issue, and that the knowledge and culture of Ireland’s “indigenous” population was almost lost as a result of centuries of colonial powers. However, the inhabitants of this island are now starting to recognise and deal with the impacts of colonisation, and this offers an opportunity for relearning and reconnection. Planetary health, and healthcare in general, are an important aspect of this, and we encourage the medical school to explore the benefits of decolonisation on the health of our population. We understand that this would be a lengthy and ongoing process, so in the meantime we encourage the medical school to focus on the effects of climate change to minority ethnic groups in NI; the Irish travelling community, immigrants, homeless people etc. by incorporating this into public health lectures, or longitudinally in CBL learning outcomes or tutorials.

14. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous populations, and older adults?

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

Score explanation:
The lecture “Social Determinants of Health ” and its accompanying tutorial discusses health inequities. It provides an opportunity for students to understand the determinants of health that affect those with a lower socioeconomic status. The increase in exposure to anthropogenic toxins can be explored, for example, the lack of green spaces in lower income communities can contribute to a decrease in air quality for inhabitants.

In Year 1, Case 7 discusses a case of asbestos exposure. The patient is a retired factory worker suffering from respiratory problems, it is also disclosed that her husband died of asbestosis. It allows the students to investigate the effect of asbestos in Belfast and those affected were tradespeople and those working on the shipyard.

Recommendations: Continue to incorporate this longitudinally into the curriculum, through CBL and tutorials. This could be included in the lecture “Climate, Health and Sustainable Healthcare” as it already introduces MAPA (Most Affected People and Areas)

Curriculum: Sustainability

15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation:
In Year 1 of the course both lecture and group tutorial content include mention of the nutritional aspects of vegan diets. There is scope for discussion of the environmental benefits of a plant-based diet – but this is not among the core learning objectives for these sessions which centre on the “nutritional adequacy” and “health concerns” of a vegan diet.

Recommendations: The environmental benefits of a plant-based diet should become a compulsory learning outcome in this tutorial. There is scope to include this longitudinally in other aspects of the curriculum where nutrition is discussed, such as, in the GP and “Ageing and Health” modules in Years 4 & 5 of the course.

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:

Professor O’Donovan delivers lectures to all Year 2 students entitled “Climate, Health and Sustainable Healthcare” and a tutorial on “Sustainable Healthcare” which explain what a carbon footprint is and explore the impact of health care provision on climate change and carbon emissions in detail. It also discusses how the health service could be altered to reduce carbon intensity.

The Year 2 public health tutorial “SusQI” focuses on sustainability and quality improvement in the healthcare system. By specifically discussing the impact of the healthcare system on Northern Ireland’s carbon footprint, the students are shown human-caused environmental threats to their surrounding area. In this tutorial students are also encouraged to think about their own carbon footprint, and how they can contribute to a more sustainable healthcare system as future healthcare professionals. It includes the learning outcome “Describe what a carbon footprint is and consider the carbon footprint of the healthcare sector”.

Additionally, one of the cases used in the Year 3 course this year lists “Consider the carbon footprint of healthcare, particularly regarding alternative gases and waste” among the desirable learning outcomes.

There are also plans currently in place to include a carbon literacy training session into the mandatory Year 2 Development Weeks. This session is being organised by QUB Estates, in collaboration with DAERA and Keep Northern Ireland Beautiful.

Recommendations: Continue to integrate this topic longitudinally into the curriculum.

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

2 The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment

2 **The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfil this metric.**

1 **The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social**

	group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)

Score explanation:

Professor O'Donovan's lectures to Year 2 students entitled "Climate, Health and Sustainable Healthcare" and "Water Sanitation and Hygiene" address most of these topics.

1. The impact of pharmaceuticals is discussed in the "Climate, Health and Sustainable Healthcare" lecture, including the fact pharmaceuticals contribute to over 12% of the carbon footprint of the health sector, and that antibiotics are found in the majority of over 700 river sites globally.
2. The benefits of non-pharmacological management of health conditions are also discussed in this lecture. For example, smoking cessation and avoiding environmental exposures in the management of asthma or a low fat/sugar diet and regular exercise in the management of diabetes. In addition, the importance of disease prevention, public health measures, patient education/self-care and low-carbon alternatives are also discussed.
3. The "Climate, Health and Sustainable Healthcare" lecture provides statistics on the carbon footprint of anaesthetic gases, and discusses low-carbon alternatives. Additionally, the learning outcome for one of the cases in the Year 3 of the course include "Consider the carbon footprint of healthcare, particularly regarding alternative gases and waste". This encourages students to assess the environmental impact of both surgical healthcare and anaesthetic gases.
4. The "Climate, Health and Sustainable Healthcare" includes an infographic on the carbon footprint of different inhalers, such as the ventolin evohaler and ventolin accuhaler. The presentation also includes papers which discuss the environmental impact of different inhalers and more environmentally-friendly options. A later slide discusses a case of an individual with asthma, and mentions low-carbon inhalers and inhaler recycling as methods to reduce the environmental impact of managing asthma.
5. Professor O'Donovan's lecture discusses the impact of waste within healthcare, providing statistics such as the fact that 2% of global plastic production is for medical use, and this increases by approximately 6% every year. The negative impacts of single-use plastics and the need for a more sustainable approach are also included in the lecture.

Recommendations: *There are a number of obvious places in the curriculum where these topics could be integrated. For example, inhalers are already discussed as part of the Year 4 Healthcare of Children module so further exploration of their environmental impact could be added there.*

Students in Year 4 undertake a placement in Anaesthetics, which could allow students to expand their knowledge of the environmental impact of anaesthetic gases through further discussion. Students in Year 4 study Ageing and Health, which includes a lecture on polypharmacy and deprescribing. The environmental impact of over-prescribing could be discussed in this module. We encourage the medical school to incorporate these small changes into the core curriculum, especially with the expansion of the C25 curriculum.

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 present there is no discussion of strategies to initiate conversations with patients about the health effects of climate change within the core curriculum.

Recommendations: We propose that this topic could be introduced as part of communication skills training or integrated into case histories in clinical skills teaching examples. There is teaching on social prescribing offered to medical students, so perhaps this topic could be included in this session.

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:

Clinical skills teaching provided to medical students in all year groups includes emphasis on the importance of a thorough social and environmental history. Material provided to all students via the Medical Education Portal highlights the need to consider living conditions, occupational exposure, migration/travel and environmental exposure when taking a history – especially in relation to respiratory conditions.

***Recommendations:** The importance of a thorough social history, including environmental and exposure risks, should continue to be emphasised. This topic could also be introduced as part of communication skills training or integrated into case histories in clinical skills teaching examples, and should continue to be reinforced in clinical years. Asbestosis is highlighted in social history taking, due to its importance in industrial populations in Belfast. However, other aspects of social history taking, such as housing conditions, heat sources and access to green spaces should also be emphasised. Similar to the previous metric, this could be incorporated into teaching on social prescribing.*

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:

The medical school at QUB continues to roll out its new C25 Curriculum across all years of the course. The theme of ‘Global and Population Health’ is one of the four central themes in this curriculum and includes the sub-themes of ‘Social Accountability & Sustainable Healthcare’, ‘Global Health’ and ‘Public & Population Health’.

The medical school faculty continue to engage positively with the students, including those involved in producing the PHRC, and have taken onboard several recommendations from previous report cards to improve the integration of planetary health into the core curriculum. Through the establishment of the Sustainable Healthcare Development Group, which includes the QUB PHRC team members and staff from the medical school and Estates Directorate, the implementation of planetary health into the medical curriculum is becoming more attainable.

***Recommendations:** Although the new C25 curriculum places a large focus on global health, it is important for the medical school to continue to integrate planetary health as part of this theme, and to do so in a longitudinal fashion. For the C25 curriculum, we have only been able to reflect and evaluate on areas of the curriculum which have been taught so far (Years 1-3). We hope that as the C25 curriculum is fully implemented, the metric above will continue to be achieved as planetary health is further integrated into the medical school’s curriculum, and that the medical school will continue to evaluate and review the planetary health curriculum. We also look forward to the integration of sustainable development goals into all courses at Queen’s, and to the integration of the PHRC findings into the other courses in the School of Medicine, Dentistry and Biomedical Sciences at QUB.*

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 present the medical school at QUB is in the process of rolling out its new C25 curriculum across the course. The first students to experience the full duration of the new curriculum are the current Year 3 students who enrolled in the academic year 2020/21. One of the four central themes of this new curriculum is “Global and population health”. As a direct consequence, content relating to planetary health and sustainable healthcare is well integrated into the first two years of the new curriculum in the form of lectures and case-based tutorials and is now included in Year 3.

Within cases, must consider the possible global and population health implications of the scenario, guided by prompts. However, planetary health and healthcare sustainability-focused learning objectives are not the main focus. Students can choose to explore planetary health, but this would not fulfil the compulsory learning objectives for the cases, and so, students not interested in the topic may not choose to investigate the planetary health implications.

In Year 2 lecture “Climate, Health and Sustainable Healthcare” and tutorial, “SusQI” help to directly incorporate planetary health into the core curriculum and cement the learning, which can then be built upon longitudinally through further cases and tutorials in the course.

As the new curriculum is expanded to all five years of the course it is anticipated that longitudinal integration of these topics with core learning material will continue to improve.

Although we have awarded the medical school a 6 for this metric due to their ongoing hard work and dedication to integrating planetary health into the core curriculum, we would like to acknowledge that the integration is not yet perfect. We would particularly encourage the introduction of direct connections between pre-existing material and planetary health, which we feel should be relatively easy to implement. We also look forward to the further integration of planetary health into the core curriculum of clinical years as the C25 curriculum is established.

Recommendations: Although the new C25 curriculum places a large focus on global health, it is important for the medical school to continue to integrate planetary health as part of this theme, and to do so in a longitudinal fashion. For the C25 curriculum, we have only been able to reflect and evaluate on areas of the curriculum which have been taught so far (Years 1-3). We hope that as the C25 curriculum is fully implemented, the metric above will continue to be achieved as planetary health is further integrated into the medical school’s curriculum, and that the medical school will continue to evaluate and review the planetary health curriculum.

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:

Professor Diarmuid O'Donovan is the academic lead for the "Global and Population Health" theme of the C25 curriculum, which includes sub-themes such as "Social Accountability" and "Sustainable Healthcare". Dr Vivian Crawford is the deputy academic lead for this theme. In addition to their work integrating into the C25 curriculum as it is rolled out across all five years of the medical school course, Professor O'Donovan and Dr Crawford regularly meet with the PHRC group at QUB and have been strong advocates for student involvement in the integration of planetary health content into the curriculum.

Recommendations: We hope that as the C25 curriculum is fully implemented, the metric above will continue to be achieved as planetary health is further integrated into the medical school's curriculum, and that the medical school will continue to evaluate and review the planetary health curriculum.

Section Total (57 out of 72)

79%

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Interdisciplinary Research

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

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

Score explanation:
 Research outputs at QUB can be searched through the PURE online portal <https://pure.qub.ac.uk/>

The search term “planetary health” returns 181 pieces of research, along with the profiles of 8 researchers. Refining the search to the Centre of Public Health at QUB shows that Dr Leandro Garcia and Dr Ruth Hunter have produced research directly related to planetary health.

<https://pure.qub.ac.uk/en/searchAll/advanced/?searchByRadioGroup=PartOfNameOrTitle&searchBy=PartOfNameOrTitle&allThese=planetary+health&exactPhrase=centre+for+public+health&or=&minus=&family=everything&doSearch=Search&slowScroll=true&resultFamilyTabToSelect=>

Dr Garcia is currently the principal investigator on the following research output;

- “A vision of healthy urban design for NCD prevention”. This project is in collaboration with the University of Melbourne and is running from 2020 to 2023. The Project is funded by UKRI and NHMRC and is focused on researching how non-communicable diseases (NCD) and urban designs are linked.

Dr Garcia has also been principal investigator on the following research output;

- “Developing system-oriented interventions to reduce car dependency for improved population health in Belfast”. This project ran from 2020 – 2022, with funding from the MRC. It aimed to

reduced car dependency in Belfast under the following research pillars; 1) understanding the multiple layers that shape car dependency in Belfast; 2) synthesising evidence and knowledge of what has worked in other cities; 3) developing a shared vision and co-ordinate innovative actions with stakeholders to reduce car use in Belfast.

<https://pure.qub.ac.uk/en/persons/leandro-garcia>

<https://pure.qub.ac.uk/en/persons/leandro-garcia/publications/>

Dr Hunter is a director of the GroundsWell team who are researching and improving green and blue space provision in urban areas. The research is a partnership between QUB, the University of Edinburgh, and the University of Liverpool. The research group has also run townhall meetings in Belfast focusing on the climate crisis. The research being produced by the team is linked to the following “Work Packages” (UGBS =urban green and blue spaces);

- Work package 1: Development of a system-oriented conceptual framework for shared understanding and transformations of UGBS
- Work package 2: Informing and simulating system-based UGBS transformations using agent-based modelling
- Work package 3: Community innovation, co-production and citizen science for UGBS interventions
- Work package 4: Developing a dynamic data repository for pioneer cities to evidence system-wide benefits of UGBS interventions
- Work package 5: Economic evaluation innovation for capturing UGBS system-wide benefits
- Work package 6: Political and decision-making contexts of UGBS for health actions and co-benefits
- Work package 7: Embedding and evaluating impact
- Cross-cutting theme: Health inequalities

<https://www.qub.ac.uk/sites/groundswell/>

<https://www.qub.ac.uk/sites/groundswell/AboutGroundswell/#work-package-2-informing-and-simulating-system-based-ugbs-transformations-using-agent-based-modelling-1526565-2>

<https://www.qub.ac.uk/sites/groundswell/Newsandevents/ESRCFestivalofSocialScienceeventinBelfast.html>

Dr Hunter has also recently been part of various research outputs with a planetary health focus including;

- “City planning policies to support health and sustainability: an international comparison of policy indicators for 25 cities” Lowe, M., Adlakha, D., Sallis, J.F., Salvo, D., Cerin, E., Moudon, A.V., Higgs, C., Hinckson, E., Arundel, J., Boeing, G. and Liu, S., 2022. City planning policies to support health and sustainability: an international comparison of policy indicators for 25 cities. *The Lancet Global Health*, 10(6), pp.e882-e894.

- “Creating healthy and sustainable cities: what gets measured, gets done” Giles-Corti, B., Moudon, A. V., Lowe, M., Adlakha, D., Cerin, E., Boeing, G., Higgs, C., Arundel, J., Liu, S., Hinckson, E., Salvo, D., Adams, M., Badland, H., Florindo, A., Gebel, K., Hunter, R. F., Mitas, J., Oyeyemi, A., Puig-Ribera, A., ... Sallis, J. (2022). Creating healthy and sustainable cities: what gets measured, gets done. *The Lancet Global Health*, 10(6), e782-e785.
- “Healthy active ageing can help urban populations be more resilient to changing environments” Hunter, R. F., & Avila-Palencia, I. (2022). Healthy active ageing can help urban populations be more resilient to changing environments. *Journal of Physical Activity and Health*, 19(10), 646-647.

A full list of recent outputs by Dr Hunter can be found at <https://pure.qub.ac.uk/en/persons/ruth-hunter/publications/>

Dr Hunter and Professor Bernadette McGuinness are both principal investigators for the Supportive Environments for Physical and Social Activity, Health Aging and Cognitive Health project (SPACE). SPACE research is focused on how urban environmental factors can influence cognitive health, including if urban living can be linked to dementia. The research is a collaboration between the UKRI and QUB, with a team made up of researchers from QUB School of Medicine, Dentistry and Biomedical Sciences including from the QUB Centre for Public Health.

<https://www.qub.ac.uk/sites/space/>

Research produced by Professor Jayne Woodside, who is also part of the Centre for Public Health, also has a planetary health and sustainability focus from the perspective of nutrition. For example, an abstract from The European Federation of Food Science and Technology has been produced by researchers, including Professor Woodside. This abstract summarises work by the Sus-Health Project which is an interdisciplinary project focused on encouraging food systems which are sustainable and healthy for consumers. The project also receives funding from the UKRI’s ‘Transforming UK food systems’ programme. This abstract has also been published under the “Sus-Health. Sustainable and Healthy diets for all” research project which is working towards the 2nd UN’s sustainable development goal (Zero Hunger).

Transformative change towards more sustainable and healthy diets for all – An outline of the Sus-Health project” Grigoriadis, V., Ojo, M., Areal, F., Brereton, P., Collins, O., Hutchinson, W. G., McCarthy, D., Raley, M., Smyth, B., Vlajic, J., Woodside, J., & Frewer, L. (Accepted/In press). Transformative change towards more sustainable and healthy diets for all – An outline of the Sus-Health project. Abstract from 36th EFFoST International Conference 2022, Dublin, Ireland.

<https://www.ukri.org/opportunity/transforming-uk-food-systems-for-health-and-environment/>

<https://www.fffost.org/default.aspx>

<https://pure.qub.ac.uk/en/projects/sus-health-sustainable-and-healthy-diets-for-all>

<https://pure.qub.ac.uk/en/persons/jayne-woodside/projects/>

Recommendations: The university should continue to support researchers undertaking projects with a focus in planetary health or healthcare sustainability.

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?

3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	There is an Occupational and Environmental Health department , but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.

Score explanation:

The Centre of Sustainability, Equality and Climate Action (SECA) is currently working to produce new research across the university related to environmental and social issues. SECA's research objectives are centred around specific pillars including sustainability, equality, and climate action, and their website specifically mentions the goal of interdisciplinary work towards the UN's 17 sustainable development goals. SECA has 4 key objectives;

1. To determine the main root causes of the climate and biodiversity crises and discover where the knowledge gaps to help formulate effective, inclusive and democratic sustainability solutions exist.
2. To find the obstacles from a systemic perspective to a transition towards a low carbon, regenerative and less unequal economy and society, identifying where these obstacles are most acute and finding out why.
3. To establish the most effective interdisciplinary methods of working towards addressing different dimensions of the planetary crisis and 'living sustainably'.
4. To identify the role of the university, both as a local anchor institution within Belfast / Northern Ireland and as part of the global academic community at this time of crisis and transformative opportunity.

<https://www.qub.ac.uk/research-centres/SECA/AboutUs/>

In the wider university at QUB there is an Estates Directorate, which has specific goals for the university to achieve 'Net Zero' status. They also have produced sustainability strategies, with the UN's Sustainable Development Goals at the centre of these plans.

<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/>

Recommendations: Continuing support for SECA should be a priority for QUB as this will allow for the development of research focused at addressing socio-ecological challenges.

3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your medical school?

3	Yes, there is a process in which community members impacted by climate and environmental injustice have decision-making power in the climate + environmental research agenda.
2	Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda.
1	No , but there are current efforts to establish a process for community members to advise or make decisions on the research agenda.
0	There is no process, and no efforts to create such a process.

Score explanation:

As discussed in the QUB 2021/22 PHRC report, there are procedures that require the impact of research on the public and/or patients to be disclosed. This is part of the application process for researchers to receive grants from the UKRI. This is referred to as the Public and Patient Involvement ([PPI](#)). However, there are currently no requirements for individuals from communities disproportionately affected to be involved in decision making around research in the medical school.

Recommendations: It should be a priority for QUB to introduce processes which assess which communities may be impacted by climate change and environmental injustice. SECA could facilitate the creation of such processes, as it aims to bring together various pieces of sustainability research from across the university.

4. Does your institution have a planetary health website that centralises ongoing and past research related to health and the environment?

3	There is an easy-to-use, adequately comprehensive website that centralises various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that attempts to centralise various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
1	The institution has an Office of Sustainability website that includes some resources related to health and the environment.
0	There is no website.

Score explanation:

QUB has a specific sustainability website to centralise any sustainability news and highlight any research ongoing within the university. The website also highlights how the university is working towards the UNs sustainable development goals, and it is regularly updated with events including the sustainability forum which encourages collaboration of researchers at QUB. Unfortunately, the sustainability webpage lacks a search engine to see past, current, and future research at QUB relating to planetary health. However, QUB has the PURE research search engine which can be used to find planetary health research produced by researchers at QUB.

<https://www.qub.ac.uk/about/sustainability/research/>

<https://www.qub.ac.uk/about/sustainability/>

<https://pure.qub.ac.uk/>

The Centre of Sustainability, Equality and Climate Action (SECA) at QUB works to encourage collaboration on social, economic, and environmental issues. The SECA website doesn't show specific pieces of ongoing or previous research, but links to the SECA website are now placed under the research tab on the QUB website.

<https://www.qub.ac.uk/research-centres/SECA/>

<https://www.qub.ac.uk/about/sustainability/research/>

The QUB Estates department website does have a dedicated section for programmes related to improving sustainability within the university. However, this website is focused on physical changes occurring in the university to reach Net Zero status rather than highlighting planetary health research produced by QUB.

<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/>

Recommendations: Maintaining and developing the Sustainability website should be a priority for the university. The SECA website should have links to ongoing research at QUB. However, the role of SECA in sustainability research is made clearer by the QUB sustainability website linking to SECA under a research tab.

5. Has your **institution** recently hosted a conference or symposium on topics related to planetary health?

4	Yes, the medical school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.

Score explanation:

QUB recently hosted the “Public and Planetary Health Summit” from 9th – 13th January 2023. The summit was run as a virtual winter school, involving talks on planetary health and how humans have perturbed many of earth's natural systems. Talks were given by many speakers, including researchers and staff who have previously given planetary health-focused talks such as Professor Diarmuid O'Donovan and Professor Hunter.

<https://www.qub.ac.uk/International/International-students/Studyabroad/winter-school-2023/>

SECA have also hosted many events in the last year, including events during COP26. Recent events have focused on planetary health in terms of politics, sustainability resource matching, and environmental human rights.

<https://www.qub.ac.uk/research-centres/SECA/EventsMedia/>

A “Climate Emergency Department” event is being hosted within the Medical School at QUB as part of the Northern Ireland Science Festival. The festival aims to bring together various speakers, scientific debate, talks, theatres, comedy, music, and films to highlight how climate change could impact Northern Ireland in the future. The “Climate Emergency Department” event is set to simulate what healthcare may look like in 2035 at the Royal Victoria hospital in Belfast and what issues doctors may face in delivering care as a result of climate change, including flooding, increased rates of infectious disease, and higher temperatures.

<https://nisciencefestival.com/events/climate-emergency-department>

Other talks of interest at QUB include one from Lise McGreevy who is a newly appointed visual artist at QUB. They recently delivered a talk on “An artist’s view on climate change.” The talk is part of the Queen’s Centre for Sustainability, Equality and Climate Action’s public lecture series “What is to be done? Responding to our multiple crises.”

<https://www.qub.ac.uk/News/Allnews/2022/QueensappointsfirstArtistinResidenceforSustainabilityEqualityandClim.html>

Recommendations: We would like to continue to encourage the School of Medicine to host more conferences or symposiums on topics related to planetary health.

6. Is your medical school a member of a national or international planetary health or ESH organisation?

1	Yes, the medical school is a member of a national or international planetary health or ESH organisation
0	No, the medical school is not a member of such an organisation

Score explanation:

The QUB School of Medicine, Dentistry and Biomedical Sciences continues to be part of the Global Consortium on Climate and Health Education following recommendations of the 2020-2021 PHRC report.

<https://www.publichealth.columbia.edu/research/global-consortium-climate-and-health-education/list-gcche-member-institutions>

QUB is still part of the Alliance for Sustainability Leadership in Education. climate group which was mentioned in the 2021/22 PHRC report.

https://www.eauc.org.uk/our_educational_members

Recommendations: We encourage the university to continue to prioritise collaboration with national and international planetary health organisations.

Section Total (13 out of 17)	76%
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Community Outreach and Advocacy

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

1. Does your **medical school** partner with community organisations to promote planetary and environmental health?

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

Score explanation:

As part of the Year 2 course, around one-third of medical students undertake the ‘Medics in Primary School’ module. This unit involves medical students teaching about health and medicine in local schools. Planetary health was added as a suggested lesson for the 2021/22 cohort, and continues to be taught by our medical students in a number of local primary schools.

The Centre for Public Health, part of the medical school, works with the ‘Groundswell Project’ to provide community events and information to the public. The Groundswell Project is a team of researchers, local communities, implementers and policymakers that focus on understanding and promoting the importance of urban green and blue places and how they can be improved.

<https://www.qub.ac.uk/sites/groundswell/AboutGroundswell/>

The medical school had previously been part of the ‘Great Science Share’, but this year they do not appear to be taking part.

In addition, the university also offers the ‘Queen’s Widening Participation Partnership’ for local schools, with some sessions being provided by the medical school. However, there are no sessions currently related to planetary health. <https://www.qub.ac.uk/directorates/sgc/wpu/>

Recommendations: *The medical school should continue its partnership with local primary schools and encourage medical students to include lessons on planetary health. However, the medical school would benefit from establishing partnerships with other community organisations. Perhaps offering*

accreditation for medical students working with organisations focused on promoting planetary health and environmental protection would encourage students to engage with these groups.

2. Does your medical school offer community-facing courses or events regarding planetary health?

3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The institution/medical school have not offered such community-facing courses or events.

Score explanation:

The QUB Winter School 2023, open to all students, alumni and the general public, was entitled “Public and Planetary Health Summit”. It was held in January 2023 and included a number of talks from staff within the Centre for Public Health – part of the medical school. These seminars focused on planetary health and how it relates to healthcare delivery and our society. Some examples include “What is Planetary Health?”, “How can healthcare become more environmentally sustainable?” and “Championing green and blue spaces for public and planetary health”.

<https://www.qub.ac.uk/International/International-students/Studyabroad/winter-school-2023/>

The PHRC team in QUB is hosting an event entitled “Climate Emergency Department” in the medical school, as part of the NI Science Festival in February 2023, focused on the effects of climate change on healthcare. This event involves multiple roleplay scenarios and was aimed at children and young adults in the community who could attend the event for free. This event was initially supposed to run last year but was postponed due to ongoing COVID-19 restrictions.

<https://nisciencefestival.com/events/climate-emergency-department>

The School of Biological Sciences also hosted an event as part of the NI Science Festival entitled “Biology Showcase”, which focused on the importance of biodiversity and the need to protect it. However, the medical school was not directly involved in these events.

<https://nisciencefestival.com/events/queens-biology-showcase-2>

Recommendations: The medical school should continue to organise a number of planetary health events, and particularly those which occur annually and are aimed at a community audience. In addition, we believe that the medical school could collaborate with other university departments, such as the Centre For Sustainability, Equality And Climate Action, to organise events.

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

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

Score explanation:

The School of Medicine, Dentistry and Biomedical Education and the Centre for Medical Education regularly send emails to all students in the school. Sometimes these contain information about planetary health or events on climate action. However, there is not regular coverage of planetary health or sustainable healthcare. Staff from the Centre for Medical Education have stated that they would be happy to email a link to a page dedicated to sustainable healthcare to all students on a regular basis, however, such a page does not currently exist. We hope that the possibility of appointing a sustainability champion within the medical school in future could enable such a webpage to be created.

We would like to note that QUB has a Sustainability website. This acts as a centralised resource for all sustainability news and opportunities across the university, and as such, sustainability information is now much more accessible for all students. This year they also launched the ‘QUB Sustainability Forum’, which is hosted on a monthly basis and provides updates of any sustainability projects or initiatives within the university. However, these updates are not emailed to all students.

<https://www.qub.ac.uk/about/sustainability/>

Recommendations: The QUB PHRC group appreciates that the medical school has vast quantities of information to disseminate to students already, and the introduction of a specific planetary health update communication may open the floodgates and lead to bombardment of medical students. However, if possible, a page dedicated to planetary health and/or sustainable healthcare on the medical school’s website or QUB Sustainability website should be created. This page could provide updates and articles on planetary health initiatives within the medical school/university, blog posts from healthcare students or output from researchers, and would be updated on a regular basis (for example, twice per semester). A link to this page could then be sent to all students within the school on a regular basis, rather than including all of the information in the email itself, as this may overwhelm students. We feel that the appointment of a sustainability champion within the school would greatly help in the creation and maintenance of such a web page.

4. Does the institution or main affiliated hospital trust engage in professional education activities targeting individuals post-graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?

2	Yes, the institution or main affiliated hospital trust offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the institution or main affiliated hospital trust offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers

0	There are no such accessible courses for post-graduate providers
<p><i>Score explanation:</i></p> <p>QUB offers both an MPH in Public Health and an MPH in Global Health and postgraduate taught degrees. These courses focus heavily on the determinants of global health and global health development. https://www.qub.ac.uk/courses/postgraduate-taught/global-health-mph, https://www.qub.ac.uk/courses/postgraduate-taught/public-health-mph</p> <p>The QUB Winter School 2023, open to all students, alumni and the general public, was entitled “Public and Planetary Health Summit”. It was held in January 2023 and included a number of talks from staff within the Centre for Public Health – part of the medical school. These seminars focused on planetary health and how it relates to healthcare delivery and our society. Some examples include “What is Planetary Health?”, “How can healthcare become more environmentally sustainable?” and “Championing green and blue spaces for public and planetary health”. https://www.qub.ac.uk/International/International-students/Studyabroad/winter-school-2023/</p> <p>The university’s Centre for Sustainability, Equality and Climate Action (SECA) has also hosted a number of conferences, events and talks focused on sustainability and planetary health. These have included “Environmental Human Rights – From Nicaragua to NI”, “Human rights and climate change” and most recently “Resource scarcity and degrowth: a postcolonial perspective”.</p> <p><i>Recommendations: Offering more CPD courses, run over a few days, may attract a wider audience that do not want to commit to an MPH. Additionally, hospital trusts could be more involved in promoting and organising educational activities for healthcare professionals already working in the trust that may not be aware of those occurring in the university.</i></p>	

5. Does your <u>medical school</u> or its primary <u>affiliated hospital</u> 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.
<p><i>Score explanation:</i></p> <p>It is difficult to fully assess what is accessible in each of the hospital trusts considering the width and breadth of departments. However, based on the online resources on the Belfast Trust websites there is some information available to patients on environmental exposures. In particular, the Belfast Trust offers advice on “Healthy Living”, including sun exposure, smoking cessation and a healthier diet. However, there is no educational materials on other environmental hazards such as toxins or pesticides. https://belfasttrust.hscni.net/healthy-living/</p> <p><i>Recommendations: We understand and appreciate that whilst QUB works in partnership with all five of the hospital trusts in Northern Ireland, it does not have a large say in what educational resources are</i></p>	

available to patients. However, if the resources were to be improved, they should include information on other environmental exposures such as pesticides and pollutants.

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:

As with the previous metric, it is difficult to fully analyse what information is accessible to patients across all five hospital trusts. However, we could find no evidence of any online resources focusing on climate change and its health impacts to date. We believe that this is partly a cultural issue in NI, where there is limited clinician-patient discussion on climate change. The changes to climate change reporting in public bodies in NI, required from next year, should hopefully encourage hospital trusts to provide more information to the public.

Recommendations: Once again, we acknowledge that QUB has little say in what materials are available to patients. However, information on the health impacts of climate change could be made available online, along with the resources already provided on other aspects of healthy living. In addition, certain areas of healthcare (such as primary care) could provide brochures and leaflets to patients that inform them of the impacts of climate change on their health and the healthcare system

Section Total (10 out of 14)

71%

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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 <u>medical school</u> or your <u>institution</u> offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the medical school or institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school or institution encourages sustainability QI projects (to fulfil clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, neither the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.

Score explanation:

The Queen’s Green Fund is available for staff and students, empowering them to create and deliver projects within their area that benefit the environment, university and local communities. Each successful project is able to apply for a maximum of £1,500 with an overall fund budget of £20,000. Since 2019, 47 projects have received funding. Previous successful project have included: Elms Village Allotment, where QUB Student Accommodation received £1,500 to establish a community garden space; Tackling Period Project, run by Archaeology and Paleocology student Tara from the School of Natural and Built Environment to implement plastic free sanitary products across key locations on campus; and the Maths and Physics Sky Garden, where staff and students within the School of Mathematics and Physics received £1,500 to create both a wildlife home and wellbeing space for the school. This year, a member of the QUB PHRC team received £300 to host a number of ‘Sustainable Cooking Classes’ for students living in university accommodation. These classes focused on reducing food waste, incorporating plant-based meals into our diets and supporting local businesses that are making positive choices for the planet. More information about the Fund and successful products can be found on the Estates Website:

<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/QueensGreenFund/>

The Queen’s Sustainability Action Programme aims to inspire, equip and support students to bring about positive action for both climate and biodiversity. By joining the programme, students can gain knowledge and skills in multiple topics by taking part in a range of workshops including Carbon Literacy and Sustainable Development Goals training. The aim of the workshops is to provide students with the skills and confidence to create solutions to a Sustainable Development Goal challenge which can be implemented within the Queen’s community. Successful pitches will receive up to £1,500 in Green Funding to implement the idea. More information can be found here:

<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/StudentProgrammesandInitiatives/>

The medical school has offered an elective course in Sustainability and Quality Improvement (SusQI), led by Dr Vivienne Crawford, for the past few years. The module aims to facilitate an understanding of the range of factors that can affect healthcare quality and sustainability including political, economic, ethical beliefs and behaviours. Dr Crawford, alongside Professor Diarmuid O’Donovan and Dr Rick Plumb, are currently in the process of expanding the SusQI SSC into a final year module as part of the core C25 curriculum. Students will work in small groups on an identified SusQI project with an NHS supervisor for approximately four months, with the aim for students to experience the complete PDSA cycle. At the end of the project, students will be able to participate in a poster presentation to present their results. Students will have the opportunity to design their own projects or be assigned to existing projects. The module is developing well with QUB staff currently in discussion with Sub-Deans and QI staff in each of the Trusts to work out the logistics of the project.

Recommendations: Continue developing the SusQI SSC module and advertise it to students so that they have an acute awareness of the role SusQI has in medicine. Advertise wider funds available such as the Green Fund for medical students who wish to enact their own QI projects related to sustainability. Explore potential avenues for investment for other SusQI projects within the School which could be utilised by students.

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?

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

Score explanation:

Public Health and Global Health are two popular intercalating options for QUB medical students. The university offers postgraduate taught Masters of Public Health (MPH) in Public Health and Global Health. Both courses provide aspects of Planetary Health and provide an opportunity for students to carry out research relating to the topic for their dissertation. There is the potential for medical students to receive prizes and grants for their work. There is the option for medical students to undertake a PhD as an intercalated degree, but currently no opportunities in planetary health are being advertised.

<https://www.qub.ac.uk/schools/mdbs/Study/IntercalatedDegrees/IntercalatedMasters/>

The Centre for Public Health offered three summer studentships in 2022 related to planetary health. Professor Diarmuid O’Donovan supervised a project entitled “Sustainable Healthcare in Northern Ireland” during which their student helped contribute to mapping sustainable healthcare activities

across the health sector in Northern Ireland. The project aimed to identify service providers and managers and link them with relevant climate action and sustainable healthcare groups to help further developments in sustainable healthcare and contribute to informing future research questions. Dr Leandro Garcia and Prof Ruth Hunter supervised two summer studentships this year; “Evidence synthesis on supportive environments for physical and social activity, health ageing and cognitive health” and “Evidence synthesis on how better urban natural environments for all can improve population health”. Both projects enabled students to join a multidisciplinary team investigating how access, use and design of urban natural environments can be optimised to improve population health. More information about research projects can be found here or by contacting the supervisors directly: <https://www.qub.ac.uk/research-centres/CentreforPublicHealth/News/SummerStudentships2022-Deadline500pmFriday11thMarch2022-NowClosed.html>

Supervisors for Summer Studentships, as of January 2023, are in the process of deciding projects and securing funding. Catherine McKeown (Centre Manager for Centre of Medical Education, SMDBS) aims to have at least one Studentship relating to sustainable healthcare on offer annually.

In 2021, QUB launched the Engaged Research Seed Fund. One of the funding streams of this is specifically for the UN Sustainable Development Goal, aiming to assist colleagues and partners working on addressing and delivering the UN SDGs. Initiatives applying to this stream must specify how their engagement processes will address at least two of the SDGs and must include SDG 17. Funding up to £5000 is available per project through this scheme. This fund is advertised through the wider university, and if interested, students must apply to this scheme independently. <https://www.qub.ac.uk/Research/Our-research/Engaged-Research/>

Recommendations: Encourage research institutes to continue investing in student-led research, advertising the availability of funds including the Engaged Research Seed Fund to further involve and encourage students to engage in planetary health and environmental research.

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 web page 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:

QUB has a centralised sustainability website for all sustainability news across the university, including information on Strategy 2030, events, staff and student initiatives, procurement and the university’s commitment to net-zero and the UN SDGs. The website is regularly updated, with suggestions from QUB staff and students taken onboard to improve the accessibility of the site. The webpage contains information of events held within the last year or two, and a list of upcoming events at the university or that the university is involved in. Current initiatives including the Green Fund are also advertised on the website. The site can be accessed here: <https://www.qub.ac.uk/about/sustainability/>

The sustainability website is linked to the online platform “Green at Queen’s”, a regular E-zine published by the Estates team. This resource provides information, news and updates on all things related to the environment and climate action. Although not specific to the medical school, staff and students can sign up to the E-zine individually to get the latest updates:

<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/GreenatQueensE-Zine/>

The main shortfall of the sustainability website is that it doesn’t contain specific information related to planetary health or sustainable healthcare initiatives and contact information for potential mentors. Information about research opportunities is located on the specific webpages for the Schools or Faculties these projects are related to. However, on the website for Centre for Sustainability, Equality and Climate Action (SECA), a contact page is included with biopics for individual researchers and their contact information included. SECA also includes a webpage on opportunities for researchers and predominately PhD students at queens, including conferences and presentations, although this is often not updated or misses some relevant events advertised by other Schools or Faculties:

<https://www.qub.ac.uk/research-centres/SECA/>

Additionally, users can search for researchers in specific areas or by the different SDGs by using the Pure research portal: <https://pure.qub.ac.uk/en/>. This is useful in finding current researchers in these areas at the university, but doesn’t include current research opportunities e.g., PhDs related to planetary health available at QUB. Prospective students can search for these opportunities via webpages specific for the school that they are interested in working in.

Recommendations: Encourage the School of Medicine, Dentistry & Biomedical Science to create a specific Sustainability/Sustainable Healthcare webpage which highlights to students the specific measures the School is taking – in terms of policy, education, research and incentives – to improve sustainability within the School and combat the climate crisis. Additionally, encourage the Estates Directorate to create a section on their Sustainability website which discusses current research and research opportunities undertaken by researchers at Queen’s which target the different SDGs.

4. Does your medical school have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?

2

Yes, there is a student organisation with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.

1	Yes, there is a student organisation at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support .
0	No, there is not a student organisation at my institution dedicated to planetary health or sustainability in healthcare.

Score explanation:

The QUB PHRC group is part of the Sustainable Healthcare Development Group within the School of Medicine, Dentistry and Biomedical Sciences. Students from medicine, faculty from the school including staff involved with the Centre for Public Health postgraduate degrees, and members from the Estates team sit within this group. This committee is dedicated to the implementation of sustainable healthcare into the medical school curriculum. However, this group is not registered within the wider university.

A Sustainability Forum was set up this year and involves staff and students across the university. This forum has approximately three informal meetings each semester and a Microsoft Teams channel where members can discuss interesting projects and network across the university. The forum was set up by the Estates Team, including Head of Sustainability Sara Lynch and Associate Chancellor of Sustainability and Social Projects Professor Michael Alcorn. Although advertised to just staff, students involved in sustainability projects from various schools including SMDBS, School of Chemistry and Chemical Engineering, School of Natural and Built Environment and School of Electronics, Electrical Engineering and Computer Science are members of this forum.

<https://www.qub.ac.uk/about/sustainability/>

The SU has over a dozen active societies which campaign and work on environmental, ethical, sustainable and social justice issues, including the Queen's Climate Action Network. Students for Global Health (SfGH) is a registered medical society with the SU. It is a national student network and registered charity tackling global and local health inequalities through education advocacy and community action. The society received all its funding through the SU and doesn't receive any additional support from the medical school, which is standard for all the medical societies at Queen's. Although the society encompasses and branches into planetary health and sustainability within healthcare, they are not solely dedicated towards it, and unfortunately the society has been dormant for academic year 2022-23.

<https://home.q-su.org/clubssocieties/sfgh/>

Recommendations: Encourage the School of Medicine, Dentistry and Biomedical Science to formally recognise the Sustainable Healthcare Group as a formal department group within the School to ensure that it sits within the wider university framework and is recognised across the university. Encourage students with an interest in planetary health and sustainable healthcare to revitalise the SfGH branch at Queen's for the next academic year.

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

1	Yes, there is a student representative that serves on a medical school or institutional decision-making council/committee.
0	No, there is no such student representative.

Score explanation:

The Student's Union has a number of part-time student officers who are currently studying at QUB. One of these roles is an Officer for Environmental & Ethical Trading. Alongside the full time student officers, the Officer for Environmental & Ethical Trading sits on both the Management Board and Executive Management Committee.

Queen's Sustainability Board is co-chaired by Professor Michael Alcorn (Dean of Internalisation and Associate Chancellor of Sustainability & one of two University Academic Leads for Sustainability) and Sara Lynch (Head of Sustainability, Estates Directorate). This board includes staff nominees, professional services nominees, trade union representatives and student representatives and together they are responsible for overseeing and monitoring the university's Strategy 2023 commitments to embrace the SDGs across university activities. For anonymity, these students' names and schools are not advertised on the Sustainability website - <https://www.qub.ac.uk/about/sustainability/contact/>

Estates have a Sustainability Champion Network with staff and student members from across the university. These champions lead positive change for sustainability in their schools and faculty, supporting the work carried out by the wider Estates Team. Many members are staff, including administrative and technical staff, rather than academic staff and students.

<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/StaffProgrammesandInitiatives/>

The School of Medicine, Dentistry and Biomedical Science have devised a job plan for a sustainability staff champion with the hopes of posting the job application after getting final approval from senior staff. This role would be open to academic and professional candidates and the successful applicant would be responsible for creating and implementing sustainable practices within the faculty. There had been discussion of creating a similar student version of the role, but this is not being taken further currently to focus on assigning the staff role within the School to see how the scheme works.

Although we are not implementing on a council-level, the members of the Queen's PHRC group are members of the Sustainable Healthcare Development Group within the School of Medicine, Dentistry and Biomedical Science. Through our work on the report card and the working group, we have implemented changes at a School, Faculty and wider University level based on the recommendations devised from the previous report cards.

Recommendations: Follow-up with the School of Medicine, Dentistry and Biomedical Science on the creation of a Sustainability Champion and encourage the development of similar roles across the university. Encourage the Student's Union to focus more on their environmental activism, highlighting the collaboration required between them and the central university whilst adopting a Net Zero Strategy and the importance of student activism in enacting environmental change.

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 organise hiking, backpacking, kayaking, or other outings for students)

Score explanation:

1. The SU organises several volunteer programmes including Handy Helpers, which enables students to get involved with one-off volunteering opportunities within the local community. Opportunities include community gardening, litter picking, and offer training related to the environment, such as Environmental and Waste awareness:
<https://qubsu.org/VolunteerSU/Opportunities/HandyHelpers/>. Sustainability at Queen’s has a number of initiatives staff and students can get involved with. As part of the “One Million Trees for Belfast” initiative, staff and students at queens have planted 500 native saplings at Malone Playing Fields. The Green at Queen’s Allotment idea was created by students in partnership with The Conservation Volunteers back in 2019. Students living in BT9 Elms Village can get involved with growing on and maintaining the allotment, whilst also attending informative workshops and implementing composting on site. The Widening Participation team organised a “Sewing and Growing” event in December 2022. A local shop owner attended to run a “Make do and Mend” sewing workshop within DASA and hosted a “Grow your Own” workshop to teach attendees to grow window box herbs.
2. On the 4th November 2021, the School of Biological Sciences hosted an event called “Learning to Embed Sustainability in our Modules”. Dr Alison Calvert and Dr Kieran Higgins were involved in the Learning Design and ESD Bootcamp delivered by UNESCO, which aimed to embed the SDGs and Education through Sustainable Development (ESD) through transformative pedagogies and active learning methods into a module of their choice. The event involved the researchers discussing their findings from the course and discussing if/how this methodology could be rolled out across QUB. The 2022 Gibson Lecture was held on the 26th October 2022 and was delivered by Dr Owen Brennan, executive chairman of the Devenish Group. The lecture was entitled “One Health from Soil to Society: Providing Sustainable Agriculture and Human Health Solutions. The Devinish Strategy “One Health

from Soil to Society” aims to optimise nutrient utilisation in soil, plant, animal, environmental and human health. The research group together with Teagasc have produced the world’s first calculation of on farm carbon sequestration by trees and hedges an important step towards carbon neutral farming:

<https://www.qub.ac.uk/schools/SchoolofBiologicalSciences/Events/2022GibsonLecture.html>.

The Institute for Global Health × School of Biological Sciences hosted the inaugural lecture of a prof John Gilliland OBE entitled “Carbon Farming: A farmer’s perspective of the journey towards Net Zero”, on the 17th May 2022. Prof Gilliland discussed the case for an innovative, public private, carbon framework partnership in delivering net zero carbon farming:

<https://www.qub.ac.uk/schools/SchoolofBiologicalSciences/Events/InauguralLectureofProfessorJohnGillilandOBE.html>.

As part of a Community Renewal Fund award in the School of Chemistry and Chemical Engineering, the Green Innovation Academy, partnered with Venture Folk, offered three days of free innovation training focused on Net-Zero. The programme was available for NI residents and for companies or community organisations registered and operating in Northern Ireland - [Http://go.qub.ac.uk/movetozero](http://go.qub.ac.uk/movetozero). From 9th to 13th January 2023 QUB hosted a Winter School called “Public and Planetary Health Summit”. The online summit was designed to stimulate thinking and accelerate key debate on how human health and the health of the planet are inextricably linked. The event had a series of thought-provoking talks from leading academics, alongside representatives from the World Health Organisation, and the Northern Ireland Human Rights Commission. More information about the summit can be accessed here: <https://www.qub.ac.uk/events/whats-on/listing/publicandplanetaryhealthsummitwinterschool2023.html>.

On Monday 30th January 2023, an ideas forum workshop “Collaborating for a Just Transition to a Low Carbon Society” was held. This was the first of two workshops aiming to promote interdisciplinary research on the theme. As part of European Week for Waste Reduction, the QUB Sustainability Team × Belfast City Council hosted a panel discussion allowing staff, students and the community to join key leaders in the fashion and sustainable textile industry to discuss the topic “Does Fashion have to Cost the earth?” <https://events.humanitix.com/panel-discussion-does-fashion-have-to-cost-the-earth>.

3. On 14th March 2022, SECA hosted a discussion entitled “Environmental Human Rights – From Nicaragua to NI”. The event explores human and environmental rights in Nicaragua, NI and around the world and looked at what it means to stand up against such unsustainable exploitation. <https://www.qub.ac.uk/research-centres/SECA/EventsMedia/EnvironmentalHumanRightsFromNicaraguatoNI.html>. On 29th July 2022, SECA hosted a half-day workshop for academics, trade unionists and activists to consider the theme “The Planetary Emergency and the Politics of Resistance”. <https://www.qub.ac.uk/research-centres/SECA/EventsMedia/ThePlanetaryEmergencyandthePoliticsofResistance.html>. As part of their Eco-events series, Dr Ross Mittiga examined the distinctive features of disobedience in the climate movement and its contribution to preventing future catastrophe at the event “Disobedience in a Climate of Necessity” on the 7th November 2022: <https://www.qub.ac.uk/social-charter/sustainability/-events/>. SECA hosted several Eco-events in 2022. On the 22nd November 2022, Emmet Thornton gave a talk based on the forthcoming documentary “Hot Éire Rising” that captures climate action across the island of Ireland in the lead up to COP26. On 6th December 2022, Alyson Kilpatrick, Chief Commissioner of the Northern Ireland Human Rights Commission presented the human rights impacts of climate change: <https://www.qub.ac.uk/social-charter/sustainability/-events/>.

4. The Alleyway Transformation Project works with local resident groups to transform unused spaces in South Belfast into vital community spaces with seating and planting, QUB volunteers have transformed two alleyways – Miracle Way and Caledonia Alley – by tidying, painting and planting in these alleys, creating murals that reflect local community spirit. On the 20th November 2022, the Open Botanic Festival was held. One of the busiest streets in Belfast, Botanic Avenue, was made car-free for an afternoon of family friendly festival exploring the possibility of the road being pedestrianised in the future. A number of groups were involved in the event, including QUB, Belfast City Council, and numerous local businesses who set up kiosks and hosted activities including music, workshops, food, health and community stalls. <https://www.businessfirstonline.co.uk/other-articles/botanic-avenue-to-be-pedestrianised-for-open-botanic-community-festival/>. After being postponed last year due to COVID, the QUB PHRC group is organising to run a community outreach cultural event called “Climate Emergency Department” to take place during the annual NI Science Festival. The event is for the public but mostly targeted at school children to get them to think about working as a healthcare professional in the future in NI through roleplay-based simulations.
5. In association with SU Volunteer and Community Engagement, the Sustainability team hosted a community lottery pick up as part of European Week for Waste Reduction. The Autumn Community Clean-up took place in the Holylands and Stranmillis and 13 bags of waste were collected: <https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/SustainabilityCampaignsandEvents/#d.en.1576893>. The SU advertises a number of local volunteering opportunities including those related to the environment and sustainability. Belfast Hills has various opportunities available for students including conservation on Mondays and Wildflower and Tree Nursery tasks on Tuesdays. There is also the bi-monthly Belfast Hills Society which is specifically for students and young people and hosts activities including tree and hedge plaintiff, wildflower meadow creation and management, invasive species mapping and wildlife surveys. <https://belfasthills.org/get-involved/volunteer/>. Other local groups that students can get involved with include the RSPB, the largest nature conservation charity in the UK, and Belfast WOW (Window on Wildlife), a visitor centre in Belfast Harbour. The reserve is currently undergoing a project called “Community Spaces” which aims to better connect the reserve to its local community. Various volunteer roles are available including practical reserve work and leading or supporting events: <https://qubsu.org/VolunteerSU/Opportunities/LocalOpportunities/>
6. The QUB Scout Network is an SU-registered society who organises several wilderness and outdoor programmes that follow Leave No Trace principles. Members are invited to a few wilderness-based activities throughout the year including kayaking and hiking, and the group also volunteer within the local community: <https://home.q-su.org/clubssocieties/scoutnetwork/>. Queen’s Climate Action Network also hosts wilderness events for their members, including forage walks and litter pickups. Information about their events can be found through their Instagram page: www.instagram.com/q.c.a.n

Recommendations: Encourage QUB to keep up its dedication to environmental and climate action events and encourage further advertisement of such events to students across the University through the sustainability website and School-specific webpages/noticeboards.

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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 endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising every aspect of how our systems operate, from where we source our energy, to how we build our infrastructure, to what companies we invest in. Our medical schools, clinics, and hospitals must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimising environmental impact.*

1. Does your <u>medical school</u> and/or <u>institution</u> have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff , but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation:</i></p> <p>The University Estates Directorates employs several staff responsible for various aspects of sustainability within the university, including the delivery of a range of operational policy issues regarding sustainability, e.g. energy/carbon management, sustainable travel, waste management and engagement. The current Head of Sustainability, Sarah Lynch, now attends the Sustainable Healthcare Development Group meetings alongside the QUB PHRC team and faculty staff from the medical school, and is involved with regular discussions with both the students and staff from the school. https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/ https://www.qub.ac.uk/about/sustainability/contact/</p> <p>Queen’s has a university-wide sustainability champion network. This is a mixture of staff members appointed by their school/directorate as well as volunteers. The champion's aim is to promote good environmental behaviours and embed sustainability culture in their working environment, implement projects, host information events and ensure engagement in QUB’s wider sustainability programmes. They are mainly administrative and technical staff, though this role has been hindered by Covid-19. https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/StaffProgrammesandInitiatives/</p> <p>Some schools across the university, including the School of Medicine, have been exploring appointing a more specific and paid role as a School Sustainability Champion. The aim is to eventually establish a “sustainability champion” framework to implement across the various faculties of QUB, this role will be different to sustainability champions in other faculties that are working as advocates, and instead will include; keeping and up-to-date sustainability page within the medical portal, meeting with the</p>	

senior management team (SMT) and helping to feed down changes to create a centralised sustainability network across the School of Medicine, Dentistry and Biomedical Sciences which can then liaise with other departments in the university. This role will have a different name so as to not cause confusion with the already established sustainability champion's network.

Recommendations: We implore QUB to support the implementation of the new Sustainability role within the School of Medicine, Dentistry and Biomedical Sciences.

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

5	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2030
3	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2040
1	The institution/medical school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate
0	The institution/medical school does not meet any of the requirements listed above

Score explanation:

In QUB's 2010-2021 Carbon Emission Plan, the university set a goal of 21% reduction in Carbon emissions by 2020, in comparison to a base year of 2008. The university achieved this goal with a 25% reduction in emissions.

On 1st November 2021 QUB declared a climate emergency and set an aim to reach Carbon net zero as soon as possible, investing in a Sustainability Action Plan to do so. The plan will be based on 'The Green New Deal' proposed by the QUBSU Climate Action Group. This deal has proposed an aim of reaching Carbon neutrality by 2030, providing QUB with a target to aim towards.

https://qubsu.org/media/Media,1020140,smxx.pdf?fbclid=IwAR051CgyFAHihWUWpELg8Q0Map1e_4obYLx71D9FcC54sJVTQjzqOYRHGuE

Queen's have been working with ARUP consultants on a new University Climate Strategy to set an ambitious net-zero emissions target, with the hope to define a Net Zero date by early 2023. The current Queen's goal is in line with the national plan of reaching net zero by 2050.

<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/OurSustainabilityStrategy/>

<https://www.qub.ac.uk/about/sustainability/net-zero/>

Recommendations: We support the university's climate strategy and would like the plan released to be transparent and feasible with evidence and proof of how they aim to achieve their, soon to be released, Net Zero goal.

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

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

Score explanation:

The QUB Sustainability webpage states that 100% of imported electricity is sourced from renewable energy providers. However, buildings around campus still rely on gas for heating, so there are still non-renewable energy sources used by the university. Following enquiry from the PHRC team, the Estates Directorate team kindly updated the Sustainability webpage to clarify that within the Health Sciences campus (which includes the medical school), 42% of the total energy consumed is sourced from renewable energy providers.

<https://www.qub.ac.uk/about/sustainability/campus-activities/>

The publicly-available information also states that in a typical year, the university will use “in the region of 80,000 MWh of natural gas and 20,000 MWh of electricity”, and that “over half of the electricity consumed by the university is generated on site using low carbon technology” (combined heat and power plants). Queen’s also states that it uses 100% low carbon energy sources but does not give a figure for the proportion of their energy from renewable sources.

<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/EnergyandCarbonManagement/>

<https://www.qub.ac.uk/about/sustainability/campus-activities/>

Recommendations: Queen’s currently sources 100% of its electricity from renewable sources, and we hope that this continues. The university should aim to decrease its dependency on gas and other non-renewable energy sources, divest from fossil fuels and further incorporate renewable energy into its infrastructure. We also thank the Estates Directorate for providing additional clarification at our request, but we encourage them to provide more publicly-available information on QUB’s energy sourcing and other issues around sustainability.

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

3	Yes, sustainable building practices are utilised for new buildings on the medical school campus and the majority of old buildings have been retrofitted to be more sustainable.
2	Sustainable building practices are utilised for new buildings on the medical school campus, but most old buildings have not been retrofitted .
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.

0	Sustainability is not considered in the construction of new buildings.
<p><i>Score explanation:</i></p> <p>Sustainability is integrated across the design and construction of our university estate. All projects greater in value than £1 million are designed to a Building Research Establishment Environmental Assessment Method (BREEAM) Excellent standard, whilst refurbishments achieve a BREEAM Very Good rating. There are 13 buildings on QUB campus which have received a BREEAM rating of Excellent and Very Good. The new Student Centre and the Business school at Riddel Hall have both been constructed to these standards. The new School of Biology Building will also be heated by geothermal heat pumps. In the last 10 years, QUB have implemented over 100 energy efficiency projects across the estates, including improving insulation, replacement of lighting with LED's, installation of PIR lighting etc. Almost all buildings across the estate will have benefitted in some way from these projects.</p> <p>Currently Queens are creating their own bespoke net-zero carbon principles and requirements, that goes above the BREEAM criteria, across all their design and construction specifications in line with the forthcoming net-zero strategy, to be released in 2023.</p> <p><i>Recommendations:</i> We encourage the university to continue to utilise sustainable building practices, both in the development of new buildings, and in retrofitting old buildings. We recommend the implementation of a transparent sustainability rating system or building code.</p>	

5. Has the <u>medical school</u> implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<p><i>Score explanation:</i></p> <p>In 2015-2020 the university made a travel plan which detailed the University's strategy for increasing the uptake of sustainable means to transportation across the university from students to staff. In February 2020 a travel survey was undertaken, which would have been used to make the next 5-year plan, however, the COVID-19 pandemic stalled this process (the last published travel survey is 2018). Since the halt Covid-19 put on the travel survey, a 2022 Student and Staff Travel Survey has been completed. The data from this survey hasn't been completely analysed yet, though the preliminary data is being used to guide university policy, especially in accordance with QUB's Net Zero strategy (discussed in question 2 of this section).</p>	

The university has encouraged active travel options throughout the student community using a range of various initiatives. Some of which include;

- Sheffield cycle stands at most builds with showering facilities.
- QUB Bike Hub which caters to staff and students selling refurbished bikes at discounted rates and offering a range of servicing options.

There has also been proposed plans, by the Open Botanic project, to design a new bike lane on botanic avenue, one of the main streets adjacent to the university, connecting it with Belfast City Centre.

<https://www.qub.ac.uk/home/media/Media,1214461.smxx.pdf>

Public transport is encouraged throughout the university, which uses its links with Translink (the local public transport company) to provide reduced rate student fares (up to 33% off bus and rail) with a YLink card. Translink also provides a scheduled service from a location near the Student's Union and the Queen's Electronics, Communications, and Information Technology (ECIT), a site off the university's Campus. Similarly to this the Faculty of Medicine, Health and Life Sciences provides a routine shuttle bus (free to staff and students) which connects the school with the Royal Victoria Hospital.

Queen's also run a "Care Share Club" to enable staff and students to find a potential car share arrangement to try to minimise the number of cars driven to and from the university campus. Like the Travel Scheme, during the pandemic this scheme was halted but is now operational again.

<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/SustainableTravel/#travel-cards-917353-3>

Recommendations: Queen's should continue to help provide and promote sustainable travel options and should push higher bodies for infrastructural changes around the surrounding university campus to promote more sustainable travel (e.g., more bike lanes).

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:

There is a university-wide strategy to reduce the amount of waste going to landfill, and as a result, 85% of the University's waste is diverted from landfill. As a result, all buildings across the campus have bins for the recycling of items including batteries, books, cardboard, metal, paper, plastics, and glass. Additionally, all organic waste generated from gardening and food waste from student accommodation and university catering outlets is directed to composting. However, there are no food waste bins

accessible to students in the majority of university buildings. The team has raised the issue of food compost bins with the Estates Directorate, and have been assured that this issue is being reviewed with the aim of implementing bins across campus.

<https://www.qub.ac.uk/about/sustainability/campus-activities/>

<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/WasteandRecycling/>

Recommendations: We recommend that the university prioritises the introduction of food compost bins to all major university buildings, and continues to reduce the amount of waste going to landfill.

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.

Score explanation:

The medical school itself does not have a direct role in campus food and beverage selections. There are a number of campus-wide initiatives involving both the university and the private companies who run campus catering outlets to source food sustainably. There is university-wide guidance on sourcing produce that is both local and seasonal. Campus Food & Drink have also established a ‘Plastic Reduction Project Group’ in collaboration with the Estates Environmental Team with the goal of reducing single use plastic consumption across campus catering outlets. Although there are no meat-free days, the campus catering outlets provide a large number of meat-free options daily, which is a huge improvement in the past number of years, especially considering NI’s farming culture and meat-reliant diets. <https://www.qub.ac.uk/sites/campus-food-drink/Sustainability/>

Recommendations: We recommend that the university introduces more sustainable food choice initiatives in campus catering outlets, and continues to support local and seasonal choices, and to reduce plastic packaging across campus catering outlets.

8. Does the medical school or institution apply sustainability criteria when making decisions about supply procurement?

3	Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.
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2	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is engaged in efforts to increase sustainability of procurement.
1	There are sustainability guidelines for supply procurement, but they are insufficient or optional . The medical school is not engaged in efforts to increase sustainability of procurement.
0	There are no sustainability guidelines for supply procurement.

Score explanation:

The university as an institution has a “Supply Chain Code of Conduct” endorsed by the University operating board. It references the UN’s Sustainable Development Goals and within the code one subsection is “environmental compliance”. Within this section it states that suppliers should “avoid, if possible, causing environmental damage” and to “identify opportunities to develop/innovate more environmentally friendly products/service solutions”. Although the code emphasises the importance of environmental compliance the changes to provide a more sustainable supply procurement are still optional and there are no compulsory requirements to achieve a higher dedication to sustainable practices above what national environmental laws and regulations require.

The procurement team also encourages suppliers to register with NETpositive – a tool designed to assist suppliers create sustainability action plans for their own businesses.

<https://www.qub.ac.uk/directorates/FinanceDirectorate/visitors/procurement/>

Recommendations: We recommend that QUB “Supply Chain Code of Conduct” is changed so that “environmental compliance” is mandatory in procurement, rather than just a suggestion.

9. Are there sustainability requirements or guidelines for events hosted at the medical school?

2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required .
0	There are no sustainability guidelines for medical school events.

Score explanation:

Any medical school events catered for by Campus Food and Drink will incorporate their sustainability initiatives. Larger events at QUB, such as conferences, are managed by the Events Team, who have achieved a Green Meetings Gold Award. However, there are no formal guidelines within the medical school governing the sustainability of events. We appreciate that this is partly because medical school events can often be informal society events held outside or normal office hours and can be held across several buildings.

<https://www.qub.ac.uk/sites/campus-food-drink/FileStore/Filetoupload,967613,en.pdf>

<https://www.qub.ac.uk/News/Allnews/2022/Queens-celebrates-green-credentials.html>

Recommendations: We would encourage the medical school to distribute sustainability guidelines to the medical societies, to be followed at their informal events. We would also encourage the medical school to make these guidelines transparent, and to implement them across the School of Medicine, Dentistry and Biomedical Sciences – who share several spaces across the university.

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:

Score explanation: Research labs within the School of Medicine, Dentistry and Biomedical Sciences are committed to the LEAF (Laboratory Efficiency Assessment Framework) pilot certification programme. A number of other schools across the university have also committed to this initiative. This framework proposes a set of actions which aims to make labs more aware of their sustainability – relating to waste, travel, energy, water, procurement and research quality – which must be achieved to be awarded a bronze, silver or gold certification. In 2021/22, 12 labs received bronze accreditation. The objective aim for 2022/23 is for 33% of all labs to achieve bronze accreditation and 100% by 2024/25. <https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/LaboratoryEfficiencyAssessmentFrameworkLEAF/>
<https://www.qub.ac.uk/directorates/EstatesDirectorate/Services/SustainabilityatQueens/Filestore/Filetoupload,1172149,en.pdf>

Recommendations: We hope that, following the pilot of this scheme, the LEAF programme will be established in all lab spaces across the university.

11. Does your institution's endowment portfolio investments include fossil-fuel companies?

4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	The institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest, but currently still has fossil fuel investments.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organised advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.

Score explanation:

Queen's first public action towards divesting from fossil fuels was in May 2017 when it announced intentions to divest from fossil fuel extraction and production companies by 2025 – ushered and pushed by a two year long “Fossil Free QUB” campaign led by the QUBSU Climate Action Group.

Queen's latest “Responsible Investment Policy” was approved on 15th December 2020. Within the policy “Environmental, Social and Corporate Governance (ESG)” factors and “Responsible Investment” are described as being important factors in investment decision making.

In ‘Section 4.3 – Investment Decisions’, the policy states, “the University has instructed its fund manager to take account of ESG considerations” and “seek to transfer its indirect investments into funds which exclude companies involved in the extraction and production of fossil fuels by 2025”. The policy is left open with soft edges and doesn't enforce complete divestment from fossil fuels to be made by 2025.

In ‘Section 4.2 – Responsible Ownership’, the policy states that QUB expects its fund manager to “act in a way that reduces and, ideally, eliminates corporate behaviour leading to environmental degradation [and] climate change”. Queen's has put the divestment policy at the discretion of their fund manager, BlackRock Investment Management.

<https://www.qub.ac.uk/directorates/FinanceDirectorate/visitors/FileStore-Visitors/ResponsibleInvestmentPolicy/Filetoupload,1011043,en.pdf>

Queen's “Strategy 2030” states they will have “a commitment to disinvestment from fossil fuels”, however no tangible strategy has been put in place to achieve these goals of complete divestment from fossil fuel companies.

<https://www.qub.ac.uk/about/strategy/>

In January 2021, Blackrock outlined its clear commitment to achieving ‘Net Zero’ carbon emissions by 2050.

Recommendations: We implore QUB to urgently divest completely from fossil fuels and to reinvest into renewable energy companies or renewable energy campus initiatives. The university should work with BlackRock Investment Management to create a responsible and transparent investment strategy.

Section Total (19 out of 32)

59%

Back to summary page [here](#)

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 Queen's University Belfast School of Medicine

The following table presents the individual section grades and overall institutional grade for the Queen's University Belfast School of Medicine on this medical-school-specific Planetary Health Report Card.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(57/72) \times 100 = 79\%$	B+
Interdisciplinary Research (17.5%)	$(13/17) \times 100 = 76\%$	B+
Community Outreach and Advocacy (17.5%)	$(10/14) \times 100 = 71\%$	B
Support for Student-led Planetary Health Initiatives (17.5%)	$(14/15) \times 100 = 93\%$	A
Campus Sustainability (17.5%)	$(19/32) \times 100 = 59\%$	C+
Institutional Grade	76%	B+

Report Card Trends

Section Overview

This graph demonstrates trends in overall and section grades for the years in which Queen's University Belfast has participated in the Planetary Health Report Card initiative.

Planetary Health Report Card Trends for Queen's University Belfast

