Planetary Health Report Card (Medicine) 2026:

Queen's University Belfast

2025-2026 Contributing Team:

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Summary of Findings

Overall Grade	A-

Curriculum	A-

- Queen's University Belfast centers their teaching around Global and Population health, Clinical Science and Practice, and Achieving Good Medical Practice (GCAT) themes. Sustainable healthcare falls under the "Global and Population Health" parameter which is first introduced as early as years 1and 2. Key concepts that are touched upon in these years are the relationship between climate change and various health conditions, the healthcare systems role in the climate crisis, as well as the unequal climate burden placed on countries globally. Queens also offers various electives that students can undertake that offer further discussion and learning on global health and sustainability. Finally, students in their final year of medical school are encouraged to undertake a SusQI project which promotes collaboration between students and hospital staff to engage in sustainability and quality improvement projects.
- **Recommendations**: The university should continue to integrate many of the metrics longitudinally in the curriculum. A large proportion of learning around climate change occurs in the first two years of the curriculum. However, opportunities arise in pre-existing lectures to include discussion related to sustainable healthcare as sustainability themes can be inferred but are rarely explicitly stated. Students should also be encouraged to consider sustainability when making learning outcomes for CBL cases whenever possible and appropriate.

Interdisciplinary Research	A

- Queen's University of Belfast continues to produce research on planetary health and sustainability, supported by the Centre for Sustainability, Equality and Climate Action (SECA). The university involves community members impacted by climate and environmental injustice in advising the climate and environmental research agenda, and the SECA hosts regular events related to planetary health.
- **Recommendations**: The University should continue to incorporate communities impacted by climate injustice. The university should continue to support and expand SECA's website and interdisciplinary research, particularly with the School of Medicine to further planetary health and consciousness in the school of medicine.

Community Outreach and Advocacy	B+

- Queen's University of Belfast has continued to make progressive strides towards community engagement and outreach, through a host of interactive events and cross-sector cooperation. We particularly welcome events from recent years becoming seemingly annual fixtures within the institution's calendar, such as the REACH Festival and the Sustainability Fair. Partnerships with other organisations also bolstered this outreach, with the Bike Week 2025 showcasing collaborations with Translink, Belfast City Council, Sustrans, amongst others. Efforts have been made to ensure such events and collaborations allow opportunities for local community members to engage with the institution's work.
- **Recommendation:** The institution should continue to host engaging community events, ensuring that these are not one-time but annual or regular fixtures. The institution should also make a greater effort to advertise these events to the public to allow for greater community engagement; some of the work that is being done, though open to the public, may be perceived to be largely student-facing. It is also strongly recommended that the institution encourage and facilitate greater planetary health awareness from their partner hospital trusts; it would be great to see more patient-centred and accessible educational material on the health impacts of climate change.

Support for Student-Led Initiatives	A

- Queen's University Belfast demonstrates strong institutional support for student-led sustainability, providing funding for many interdisciplinary, sustainable development projects. By including Sustainable Quality Improvement (SusQI) projects, relevant SSCs and intercalated degrees (e.g. MPH and Global Health) in the Medicine curriculum, students have various opportunities to engage in sustainability healthcare research and education. Structures including the Sustainability Committee and working groups within the university ensure student representation in the Net Zero by 2040 plan. Active student groups such as the Sustainable Healthcare Development Group and Environmental Action Student Association also provide meaningful platforms for student leadership and engagement.
- **Recommendations:** Strengthening consistent funding and cross-faculty collaboration would further enhance student-led innovation, and help accelerate progress regarding the Net Zero 2040 goal and broader sustainability commitments.

Campus Sustainability	B

- Queen's University Belfast has continued to make significant strides towards becoming a more sustainable campus and continues to build on existing initiatives of sustainability aimed at achieving the goal of Net Neutrality by 2040. This commitment is particularly exemplified by the implementation of sustainability practices across laboratory spaces, building design and maintenance, sustainability of procurement, and transportation systems in place.
- **Recommendations**: While notable progress continues to be made, further actions must be taken to improve campus wide sustainability. Recommended actions include developing comprehensive sustainability guidelines for events, divestment from fossil fuels, utilisation of renewable energy across campus, and appointing a designated staff member for coordinating and improving sustainability within the medical school and healthcare system.

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance describes planetary health as "a solutions-oriented, transdisciplinary field and social movement focused on analysing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth." This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanisation, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment, and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change "the greatest threat to global health in the 21st century," many health professional 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 health professional training. It is imperative that we hold our institutions accountable for educating health professional 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 health professional schools, we have created a Planetary Health Report Card that students internationally can use to grade and compare their institutions on an annual basis. This student-driven initiative aims to compare health professional 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) 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 health professional 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/Department vs. Institution:** When "Medical school" is specified in the report card, this only refers to curriculum and resources offered by the School/department 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 including all of its campuses. 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 (Curriculum Section):** This is a series of questions students are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mould after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution. Please be as specific as possible when providing evidence for this metric.

- **Elective:** The word "elective" refers to an optional course or lecture series that a 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.

- **Core Curriculum:** This refers to the taught material that is delivered to the entire cohort of students in one year.

- **Clerkship / Outreach:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations, outreach or placements. This is a relatively short (approximately 4-8 weeks) period of study and patient-centred clinical experience that takes place as part of the undergraduate programme.

- **Clinical rotation:** This is a term used to refer to placements that students go on (e.g., ophthalmology, surgery, cardiology).

- **Physiotherapy vs Physical Therapy:** For the purposes of this report card these terms are considered interchangeable. However, physiotherapy will be used primarily.

- **Community organisations:** For most institutions, there are existing groups that are not directly affiliated with the university and exist as a product of what the community the institution exists in cares about or needs. These specific community organisations relevant to this report include those that are focused around some aspect of climate and health preservation. These community organisations can include but are not limited to local mutual aid initiatives, underserved-resource distribution groups, clean-up and nature conservation groups, community gardeners, and other environmental-related organisations. If your institution does not have access to local volunteerships with community groups, please report any community organisations your institution or school has collaborated with.

- **Climate justice:** The idea that certain population groups and geographical locations which are disproportionately more impacted by climate change are already economically and socially disadvantaged. This double vulnerability sits alongside pre-existing social justice concerns and should therefore shift policy and practice to mitigate the inequitable effects of the climate crisis.

- **Extractivisim:** The removal of natural resources typically in large quantities. Within anthropology this term is often used in the context of colonialism to refer to

the historic seizing of natural resources, a practice which has developed business models tied to ecological degradation and loss of biodiversity.

- **Global South:** Nations that often have less economic and industrial development and are typically in the southern hemisphere. These nations have been found to be disproportionately impacted by the climate crisis.

- **Low socioeconomic status (SES):** An individual or geographical area that across a variety of socioeconomic factors (e.g., income, education, race/ethnicity) is considered vulnerable. This vulnerability has been correlated to more adverse health outcomes often as a consequence of encountering more barriers in accessing and receiving healthcare.

- **Low and Middle-Income Countries (LMIC):** Countries that have lower degrees of economic affluence.

- **Anthropogenic:** Created through human activity

- **Marginalized communities:** Groups excluded from mainstream economic, educational, social, and/or cultural experiences due to race, gender identity, sexual orientation, age, physical ability, language, and/or immigration status (Sevelius et al., 2020).

Scoring Matrix

- Elective coursework (1 point): This score applies to material that is actively selected by the students such as a module choice, or additional lecture series. By implication, only a given proportion of the cohort will receive this taught material.
- Brief coverage in the core curriculum (2 points): This score applies where a topic is covered only briefly in a core curriculum session. This implies that the entire cohort receives the same material. At minimum brief inclusion would qualify as inclusion in a single lecture slide in a single year.
- In depth coverage in the core curriculum (3 points): This score applies where a topic is taught in significant detail or where a topic is repeatedly brought up in different years. This might look like several dedicated lecture slides, or inclusion of the same topic in different lectures and teaching formats.

Other considerations:

- If there are more than one “tracks” at your institution 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). Where possible please indicate the proportion of students that are on each track. Updated in 2025, a complete literature review by metric is available for the 2024/25 Medicine Report Card Template. This largely translates across disciplines although we are hoping to expand this process across all of our covered disciplines. A link to the 2025 literature review by metric is available here.

Planetary Health Curriculum

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

Curriculum: General

1.1. Did your medical school offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
Yes, the medical school has offered **more than one** elective whose primary focus is ESH/planetary health in the past year. (3 points)	
Yes, the medical school has offered **one** elective whose primary focus is ESH/planetary health in the past year. (2 points)	
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. (1 point)	
No, the medical school has **not** offered any electives on planetary health or electives that include ESH/planetary health topics in the past year. (0 points)	
Score Assigned:	**3**
Score explanation: Medical Students in years 1, 2 and 3 are encouraged to choose and rank student selected components (SSC) from a list provided from the school. Medical students undertake a SusQI project in their final year. Students work in groups and are encouraged to find supervisors within NHS trusts and identify areas of improvement from a quality improvement and sustainability viewpoint. The goal of the 18-week project is to reflect on how their local hospitals can be improved by introducing audits or quality improvement initiatives that attempt to improve the carbon footprint of hospitals. *Recommendations:* *Continue to develop across the curriculum. Consider introducing discussions on sustainability in SSC's that are not directly related to planetary and global health.*	

Curriculum: Health Effects of Climate Change

1.2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**3**

Score explanation:

The year 1 lecture "Social Determinants of Health" first introduces the topic of climate change and heat related illness on the slide titled "Impact of climate change on human health". The slides include statistics on the estimated additional deaths caused by factors including heat stress. Students are encouraged to begin thinking about how climate change can affect health early in the curriculum.

The Year 2 lecture "Climate and Health Sustainable Healthcare" includes multiple infographics summarizing the impacts of climate change on human health. The first infographic discusses how extreme heat can be associated with health related illness and increased rates of cardiovascular disease. Another infographic outlines the relationship between direct effects such as heatwaves and indirect effects such as changes in land usage and ecological change. These effects alter social dynamics such as public health infrastructure, age, and health status ultimately creating negative health impacts such as malnutrition, cardiovascular disease and infectious disease to name a few.

The lecture also provides a local perspective by adding slides related to heatwaves in Northern Ireland and the rest of the UK alongside its effects on the water supply. Multiple slides corroborate this message by discussing the relationship between rising greenhouse gas levels, higher temperatures and health risks such as malnutrition, the spread of infectious diseases, and injury as well.

Finally the lecture includes discussion on the Belfast Heat Pack which was established by the local council to educate citizens on why cities are more vulnerable to health, how this can change due to climate change and how citizens can adjust to rising temperatures.

The Year 2 Lecture on "Water and Sanitation" includes slides on the relationship between warm weather and the increase in algal blooms and increases in waterborne illnesses. The lecture also begins with a slide summarizing the relationship between climate action, water sanitations and improved health and wellbeing.

Recommendations:

Continue to integrate the topic longitudinally.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**3**

Score explanation:

The year 1 lecture “Social Determinants of Health” includes slides outlining the relationship between rising temperatures, extreme weather events, rising sea levels and increased CO2 levels. The slide outlines how the aforementioned factors contribute to individual health problems such as infectious disease, respiratory disease and mental health disturbances. Discussion is also made about how areas with weak healthcare infrastructure are the least able to cope with climate change.

The Year 2 lecture “Climate and Health Sustainable Healthcare” includes slides outlining the relationship between extreme weather events such as droughts, storms, floods and heatwaves and its effect on water quality and pollution. These factors influence social dynamics such as public health infrastructure, ultimately affecting individual health by increasing the risk of conditions such as injuries, malnutrition, mental illness etc.

The same lecture includes slides discussing a report made by the Intergovernmental Panel on Climate Change. This report outlines the impact of climate change on human health as well as the adaptations various sectors, including healthcare, may have to make to circumvent these effects. The lecture also reinforces the idea that extreme weather events are more likely to affect countries with weaker healthcare systems.

Recommendation:

Continue to integrate the topic longitudinally across the curriculum.

1.4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**3**

Score explanation:

The year 1 lecture “Social Determinants of Health” first introduces the impact of climate change on infectious disease using an infographic summarizing how various climate change processes such as rising temperatures, extreme weather events and CO2 levels impact human health in different ways. One of such ways is the increase in diarrheal diseases as a result of changes to water and food

supply. Additionally changes to vector ecology will increase the risk of diseases such as malaria, dengue, lyme disease, and chikungunya etc.

The year 2 lecture “Water and Sanitation” further discusses the increased risk of vector born illnesses in relation to poor water sanitation. The same lecture outlines the relationship between poor water sanitations and climate changes.

The year 2 lecture on “Climate Change and Healthcare” has various slides outlining the effect of climate change on vector borne disease, one of the factors propagating this is the loss of biodiversity, ecosystem collapse and rising temperature increasing the propagation of pest species. This is discussed in another slide that discusses how changes to crop production, increased sewage production and flooding also relate to the transmission of infectious and vector borne diseases. The lecture also includes slides outlining adaptation strategies and climate change interventions that can be made such as rainwater management and improved water/sanitation to improve public health outcomes including the reduction in infectious disease.

Recommendations:

Continue to integrate the metric across the curriculum. Queen’s provides various lectures on infectious diseases throughout the 5 years, these lectures provide the opportunity to restate the role of climate change in the spread of infectious diseases.

1.5. Does your medical school curriculum address the respiratory health effects of climate change and air pollution?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**3**

Score explanation:

The Year 1 lecture “Social determinants of health” introduces students to climate change and its effect on respiratory health using an infographic that outlines how rising temperatures and extreme weather events may lead to an increase in allergens and air pollution leading to conditions such as respiratory allergies and asthma.

Year 1 case based learning includes a case involving a patient with respiratory symptoms and a diagnosis of asthma. The case encourages students to identify differential diagnoses for chronic breathlessness as well as the risk factors for respiratory disease including outdoor air pollution and smoking.

The Year 2 Lecture on “Climate, Health and Sustainable Healthcare” has multiple slides outlining the role of air pollution on respiratory illnesses. The lecture identifies climate change as a factor that directly impacts respiratory health through increased levels of pollen, pollutants and dust ultimately resulting in increased rates of asthma exacerbation and allergic reactions. Another slide

includes an infographic, produced by the BMJ, that provides examples of interventions that people can make such as improving home insulation, reducing solid fuels, and encouraging the use of low emission vehicles. One outcome of these interventions as stated by the infographic includes the reduction in respiratory disease.

One discussion of note during the lecture includes a case discussion related to an 18 year old with asthma. Stitches are encouraged to think about the interplay between disease prevention behaviours such as smoking cessation, identifying local causes of air pollution and low carbon swaps such as using an inhaler with a lower carbon footprint or encouraging inhaler recycling. All this would be done in conjunction with lean pathways such as remote consultations and self care methods such as a personalised asthma plan to reduce the need for increased inhaler use and hospital admissions.

Recommendations:

Continue to integrate the topic longitudinally, an opportunity to reiterate the concept in small group teaching includes the physiology lab in year 1 which used to include discussion about inhalers. This tutorial is a good opportunity to discuss the importance of green prescribing and the nature of various propellants used in inhalers.

1.6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**2**

Score explanation:

Queen's University Belfast's C25 medical curriculum includes several lectures that address the health effects of climate change. Although cardiovascular health is not always explicitly referenced, the curriculum nonetheless highlights relevant pathways through which climate change impacts health.

Year 1

In Year One, the Social Determinants of Health lecture references the United Nations' Sustainable Development Goals, situating health within a broader social and environmental context. While the direct impact of climate change on cardiovascular health is not explicitly discussed in the lecture, the accompanying tutorial demonstrates a clear link between climate change and cardiovascular outcomes, particularly through increased heat-related morbidity and mortality.
The lecture also introduces the social model of health, which emphasises the influence of environmental factors on health and wellbeing. However, despite this framework being highly relevant to cardiovascular disease, cardiovascular health is not explicitly addressed within this context.

Year 2

In Year Two, the Stress and Health lecture—particularly the section on stress and physical health—focuses on cardiovascular disease and highlights that physical and lifestyle factors account for approximately 50% of the variance in new cases of heart disease. Although climate change is not directly mentioned, it can be inferred that lifestyle factors are significantly influenced by environmental conditions, which are increasingly affected by climate change.
Additionally, the Climate, Health and Sustainable Healthcare lecture directly addresses the relationship between climate change and health, reinforcing the importance of environmental sustainability within healthcare systems. However, explicit links to cardiovascular health could be strengthened within this content.

Recommendations:

Explicitly integrating cardiovascular health into climate-related teaching as cardiovascular diseases are one of the leading causes of death worldwide

1.7. Does your <u>medical school</u> curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**2**

Score explanation:

Queen's University Belfast's C25 medical curriculum includes several lectures that address the health effects of climate change. Although neurophysiology is minimally addressed and mental health is not always explicitly linked to climate change, the curriculum nonetheless highlights relevant pathways through which climate change impacts health.

Year 1

In Year 1, the lecture and tutorial entitled Social Determinants of Health discuss the importance of green and blue spaces in improving physical and psychological health. The overall focus, however, is on the beneficial effects of the environment on people's health, rather than on how health may be adversely affected by environmental degradation. The accompanying tutorial highlights the link between climate change and poor mental health more explicitly, with discussion of the climate crisis as a trigger for mental illnesses such as depression and anxiety. It also explores climate change as a cause of displacement, financial stress and increased violence, all of which can contribute to poorer mental health outcomes.

Year 2

In Year 2, the lecture Climate, Health and Sustainable Healthcare discusses green prescribing and the importance of nature in both prevention and treatment. Again, the emphasis is placed on the

positive health benefits of green spaces, rather than on the negative impacts of environmental degradation on mental health.

The Year 2 session Sustainability in Healthcare explores the relationship between the climate crisis and the healthcare sector. This teaching was adapted for medical students from Carbon Literacy training originally developed by the local organisation Keep Northern Ireland Beautiful. The session encourages students to consider sustainability-related health conditions and identifies mental health conditions as one such example; however, the specific mental health and neuropsychological effects of environmental degradation are not explored in depth.

The Year 2 lecture on disability discusses the impact of neurological disabilities on individuals and introduces the concept of health as a dynamic balance of physical, mental, social and existential wellbeing, shaped by an individual's ability to adapt to conditions of life and the environment. While the environmental component is acknowledged within this definition, the lecture does not explicitly explore how environmental factors—such as climate change, pollution or environmental degradation—may influence the development, progression or lived experience of neurological disability.

Recommendation

While teaching on this topic is appropriately integrated longitudinally across the curriculum, greater emphasis should be placed on the negative mental health and neuropsychological effects of environmental degradation and climate change, rather than focusing predominantly on the benefits of green spaces.

1.8. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**3**

Score explanation:

Queen's University Belfast's C25 medical curriculum includes several lectures and case-based learning sessions that address the relationship between health, individual patient food and water security, ecosystem health and climate change health effects of climate change.

Year 1

The Social Determinants of Health lecture highlights how individuals live within local community environments shaped by factors such as the local economy, the built environment, natural environments and surrounding communities. On a broader scale, these determinants are influenced

by the global ecosystem, including climate stability and biodiversity. The interaction between these local and global factors ultimately shapes an individual's overall health and wellbeing.

The lecture also outlines the increasing impact of climate change as a social determinant of health. An accompanying infographic demonstrates how rising temperatures, extreme weather events, increased CO_2 levels and rising sea levels affect water and food security, vector ecology and air pollution. These environmental changes are subsequently linked to a range of health outcomes, including forced migration, mental health impacts and cardiovascular disease.

In addition, case-based learning (CBL) sessions include a case focused on dietary anaemia, with the learning intention "Consider factors influencing dietary choice, including availability, sustainability and cultural aspects." This allows students to explore in greater depth the relationship between nutrition, sustainability and environmental factors.

Year 2

Similar concepts are revisited in the Year 2 lecture Climate, Health and Sustainable Healthcare, alongside discussion of the World Health Organization's Sustainable Development Goals. This lecture explores the balance between social foundations and basic human necessities such as housing, water, food and energy. It highlights how shortfalls in these essentials can lead to social instability, while overconsumption—particularly of food and energy—can contribute to environmental damage, including chemical pollution, biodiversity loss, air pollution and land conversion.

The lecture also incorporates a systems-based web diagram illustrating the interconnectedness of climate change, ecological and biodiversity loss, freshwater depletion and their combined impacts on human health. Furthermore, the relationship between individual health, public health, global health, One Health and planetary health is outlined, encouraging students to consider their role in health at both individual and population levels.

Water and food security are further addressed in Year 2 public health lectures, including Climate, Health and Sustainable Healthcare and Water, Sanitation and Hygiene. These sessions examine the impact of food and water supply on malnutrition and diarrhoeal disease, as well as the importance of water security for population health. The Social Determinants of Health tutorial also highlights rising water temperatures and water contamination as contributors to increased food-borne disease, reinforcing the concept that health is shaped by multiple environmental and social factors.

The Year 2 tutorial Sustainability in Healthcare further explores the relationship between the climate crisis and the healthcare sector. This teaching was adapted for medical students from Carbon Literacy training originally developed by the local organisation Keep Northern Ireland Beautiful. The session encourages discussion of sustainability-related health conditions and identifies societal stressors as contributing factors to adverse health outcomes.

Environmental and social determinants of health are also incorporated longitudinally throughout the C25 curriculum via tutorials and case-based learning. Social determinants are included as explicit learning intentions within CBL cases, prompting students to consider the wide range of factors influencing health, including access to safe water and nutritious food.

Recommendation

Continue to integrate the relationship between environmental change and health longitudinally throughout the curriculum.

1.9. 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?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**3**

Score explanation:

Queen's University Belfast's C25 medical curriculum includes lectures that address the outsized impact of climate change on marginalised populations.

Year 1

In Year 1, the lecture on Social Determinants of Health introduces students to how health is shaped by social, economic, and environmental factors. The environment is highlighted as a key determinant of health, with reference to the Black Report, which demonstrates a clear social gradient in health outcomes, including higher rates of chronic disease—particularly respiratory disease—among more deprived populations. The lecture also explores global health inequities, showing that people living in the most deprived neighbourhoods have lower life expectancy.

The concept of life course theory is also introduced in Year 1, emphasising the importance of early-life conditions and early intervention in shaping long-term health. Sustainable communities and places are identified as a core factor within this theory, reinforcing the role of environmental quality, housing, and living conditions in lifelong health. The lecture draws on World Health Organization recommendations, which stress the importance of improving social determinants of health through healthy standards of living and flourishing living environments.

Year 2

In Year 2, these principles are built upon in the lecture Climate Change and Sustainable Healthcare, which focuses on who is at risk of climate change–related health effects. Using infographics, the lecture identifies groups at higher risk, including people living in poverty; women, children, and older adults; individuals with chronic health conditions; outdoor workers; homeless populations; frequent travellers; and those living in coastal, island, or densely populated urban areas, particularly in countries with weaker healthcare systems. While these groups are disproportionately affected, the lecture emphasises that climate change will ultimately affect everyone.

The Year 2 lecture also introduces the concept of MAPA (Most Affected People and Areas), highlighting that marginalised populations are often the most affected by climate change despite contributing least to global carbon emissions. This reinforces the link between climate change, social injustice, and health inequities, and demonstrates clear vertical integration from Year 1 concepts of social gradients and environmental determinants of health.

Recommendation:

Continue to integrate the topic longitudinally throughout the curriculum.

1.10. Does your medical school curriculum address the unequal regional health impacts of climate change globally?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**3**

Score explanation:

The Year 1 lecture titled "Social Determinants of Health" introduces the concept of social conditions that influence an individual's ability to maintain good health. This lecture has a slide dedicated to discussing the impact of climate change on marginalized communities. The lecture comments on how indirect health impacts of climate change disproportionately affect marginalized communities such as communities of people of colour or low socioeconomic status who often live in environments with more polluted air. Additionally, the lecture highlights how developing countries with weak health infrastructure will struggle to prepare for and respond to climate change.

The Year 2 lecture titled "Climate Change and Sustainable Healthcare" further explores the unequal regional impacts of climate change globally. This lecture introduces MAPA (most affected people and areas) which refers to areas that were colonized and historically marginalized. This lecture discusses how MAPA are those least responsible for the climate emergency, but are most heavily impacted by its consequences. This idea is illustrated through the use of infographics where a geographical heatmap is used to highlight how developing regions, notably South America, Africa and South Asia, have the highest mortality rates related to climate change. On the other hand, a different heatmap highlights how countries in North America and Asia are the greatest contributors for carbon emissions. These visuals emphasize how developing countries are disproportionately affected by climate change despite developed countries producing the most emissions contributing to climate change. Another visual describing those at risk of climate change also reiterates the higher risk in countries with weak health systems due to the inability to prepare and respond to climate change.

Recommendations:

Continue to integrate the topic longitudinally across the curriculum.

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

1.11. Does your medical school curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides, microplastics)?
This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3

Score explanation:

CBL Case 14 in the Year 2 curriculum features a couple who is struggling to conceive. This case highlights that the husband works at a chemical factory, hinting at occupational chemical exposure that may have impacted his fertility. A learning objective for this case is “Consider the social and environmental factors which impact fertility" which encourages students to research the impact of environmental factors in reproductive health, with a focus on male reproductive health.

The Year 4 lectures titled “Preconception care” and “Antenatal care/screening/risk assessment” highlights the importance of enquiring about occupational exposure when taking histories from women who are planning to conceive.

The Year 4 Lecture titled “Causes, investigations and treatment of the infertile male” explores environmental substances that mimic female estrogens and discusses the increased exposure to these substances in a day-to-day environment. This lecture discusses the potential impact of these substances and other environmental toxins on male and female infertility.

Recommendations:
Continue to integrate the topic longitudinally across the curriculum.

1.12. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university’s surrounding community?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**3**

Score explanation:

The Year 1 Lecture on the “Social Determinants of Health” discusses upstream and downstream factors that influence one’s health and the relationship between people and the natural environment. Upstream factors such as improved community health is important to alleviate some of the pressure put on the healthcare system from individual health concerns.

The Year 2 Lecture “Climate Change and Sustainable Healthcare” offers real life examples of climate events specific to Northern Ireland such as increasing summer heat waves leading to record water usage. Record water usage was associated with diminishing supply, leading to water companies requesting locals to reduce water consumption as much as possible. The lecture also compares the temperature in the UK and Ireland over the years to highlight the increase in

temperature over the past 2 decades. Another climate event presented during the lecture includes increased and unprecedented tropical storm force winds in Northern Ireland this past year. The same lecture also addresses main climate risks for Northern Ireland from the UK climate change risk assessment (CCRA3) and the Northern Ireland Climate Change Adaptation Programme (NICCAP2). These risks include high temperatures, flooding, water quality, food safety, and extreme weather events.

The Year 2 Lecture "Water, Sanitation, and Hygiene" further outlines the increase in Northern Ireland's demand for water in recent years due to increasing global temperatures, felt especially in the summer months. The same lecture emphasizes the One Health model of health which emphasizes the relationship between the ecosystem, animals, and humans; the slides include an onion diagram that outlines how the individual is affected by their surroundings including climate change, land, air, water and the natural environment. The lecture also discusses increasing cases of pathogens such as E.coli, discussion around the increase of cases in the UK includes conversations around contamination of the environment, food, and water.

A Year 2 session called "Sustainability in Healthcare" discusses human environmental impact and the effects of climate change specific to Northern Ireland. This teaching was adapted from Carbon Literacy training originally developed by local organisation KeepNorthernIreland Beautiful and has been adapted for medical students.

Recommendations:

Continue to integrate the topic longitudinally across the curriculum.

1.13. To what extent does your <u>medical school</u> emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**2**

Score explanation:

Queen's University Belfast has introduced a new public health lecture to the Year 1 curriculum titled "Introduction to Health Systems". This lecture introduces the topic of traditional medicine, briefly discussing formal traditions, folk medicine and healing, internalised treatments and healing, plant medicine which was historically used by Celts.

Recommendations:

Continue to integrate the topic longitudinally across the curriculum. Consider exploring the relevance of traditional medicine to modern medicine and how it can contribute to more sustainable healthcare.

1.14. Does your <u>medical school</u> curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous populations, and older adults?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**2**

Score explanation:

The Year 2 lecture titled "Climate Change and Sustainable Healthcare" discusses human contributions, specifically contributions by the healthcare sector, towards climate change. It explains how the healthcare sector's carbon footprint has caused outdoor pollution which kills 4.2 million people worldwide, contributes to 2% of global plastic production and contributes to antibiotics found in 65% of 711 river sites worldwide. While the lecture does not explicitly discuss the impact of these anthropogenic environmental toxins on marginalized communities, it highlights disproportionate effects on marginalized communities in the context of climate change. This includes highlighting women, children, the elderly, those who live in poverty, those who are chronically ill and those living with weak healthcare systems as populations who are at high risk of climate change.

Recommendations:

More focus on anthropogenic environmental toxins specifically, including examples and discussion on the effects of these toxins on the general population and marginalised communities.

Curriculum: Sustainability

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

Score explanation:

In Year 1 of the C25 curriculum at Queen's University Belfast, a nutrition lecture briefly introduces the health co-benefits of a plant-based (vegan) diet. The session explains that some individuals choose vegan diets for a range of reasons, including environmental concerns. It clearly defines what constitutes a vegan diet and outlines how a well-planned, balanced vegan diet can support

health across all ages and life stages, while emphasising that appropriate education and planning are essential to ensure adequacy.

The lecture also discusses potential nutritional deficiencies, such as vitamin B12 deficiency, that may arise if a vegan diet is poorly planned, and highlights strategies to prevent these. More broadly, it highlights the importance of diet in terms of public health by emphasising that poor diet is a major contributor to global mortality.

Recommendation:

While the curriculum introduces plant-based diets within early nutrition teaching, coverage of the environmental and health co-benefits remains limited. This content could be strengthened by allocating dedicated teaching time, clearly linking diet to sustainability and planetary health and using real-word statistics to show the environmental impact of different food choices. While it's important to discuss the potential nutrient deficiencies, this could be better balanced with a clearer focus on the health and environmental upsides of well-planned plant-based or sustainable diets.

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**3**

Score explanation:

The C25 curriculum directly addresses the carbon footprint of healthcare systems through both teaching and applied learning

In Year 1, students can choose the SSC Planetary Health: Change Impacts on Health and Equity, which introduces sustainability and planetary health concepts early in the curriculum. This SSC offers potential research topics such as "Climate Change Effects on Healthcare Facilities and Health Systems" and "Greener NHS – How the NHS Can Become Net Zero Carbon by 2040," allowing students to explore the intersection of climate change, health, and equity.

In Year 2, students receive a lecture on Climate and Health: Sustainable Healthcare, which examines how the health sector contributes to climate change and opportunities for action. It breaks down the main source of healthcare emissions (particularly medicines, medical equipment, anaesthetic gases and metered-dose inhalers. It also introduces the principals of sustainable healthcare, including prevention, patient self-care, lean- service delivery and low-carbon alternatives. Clinical examples, such as sustainable diabetic management and inhaler choice for asthma are used to link theory to practice.
This is supported by a tutorial on Sustainable Healthcare and Sustainable Quality Improvement (SusQI), introducing what a carbon footprint is and why it matters in medicine. An interactive activity asks students to compare the carbon impact of common healthcare activities (e.g. inhalers,

anaesthetic gases, outpatient and inpatient care) with everyday items, helping to contextualise healthcare emissions.

In final year, students complete a SusQI project, working with NHS supervisors to design audits or quality improvement initiatives aiming to reduce carbon footprints to address healthcare's carbon footprint.

Recommendation:

Continue to integrate sustainable healthcare teaching throughout medical school. However, greater emphasis could be placed on embedding these concepts into clinical placements by encouraging students to consider the carbon impact during ward-based teaching, prescribing decisions or MDT discussions

1.17. Does your medical school curriculum cover these components of sustainable clinical practice in the core curriculum? (points for each)	**Score**
The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment (2 points)	0
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. (2 points) .	0
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 point)	1
Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how can it be mitigated. (1 point)	0
The impact of **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anaestheisa's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions. (1 point)	1
The impact of **inhalers** on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers. (1 point)	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) (1 point)	1

Score explanation:

The C25 curriculum covers sustainable clinical practice mostly at a systems and principles level, with some specific topics included in named lectures and tutorials. In Year 2, the lecture Climate and Health: Sustainable Healthcare introduces prevention, patient self-care, and sustainable disease management, highlighting the health and environmental benefits of non-drug approaches and social prescribing—for example, through sustainable diabetes management (1 point). The same lecture also covers the environmental impact of anaesthetic gases and lower-impact alternatives (1 point), and compares the carbon footprint of metered-dose versus dry-powder inhalers (1 point). Concepts

of lean service delivery and resource efficiency are addressed in this lecture and supported by the Sustainable Healthcare and Sustainable Quality Improvement (SusQI) tutorial, which explores ways to reduce waste in clinical settings (1 point). However, the curriculum doesn't explicitly cover the benefits of avoiding over-medicalisation or over-investigation, the environmental impact of pharmaceuticals or over-prescribing, deprescribing, or the environmental impact of surgical healthcare, resulting in 0 points for these areas.

Recommendations:

To address these gaps, the curriculum could include dedicated lectures on over-medicalisation, over-prescribing, and surgical sustainability in lectures; integrating sustainability discussions into ward-based teaching, prescribing decisions, and MDT case reviews; and including sustainability-focused questions in assessments to reinforce these concepts.

Curriculum: Clinical Applications

1.18. 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?

Yes, there are strategies introduced for having conversations with patients about climate change in the **core** curriculum. (2 points)

Yes, there are strategies introduced for having conversations with patients about climate change in **elective** coursework. (1 point)

No, there are **no** strategies introduced for having conversations with patients about climate change. (0 points)

Score Assigned:	**0**

Score explanation:

Although the C25 curriculum provides a strong foundation in sustainable healthcare and highlights the links between climate change and health, there is currently no formal training on strategies for discussing climate-health issues directly with patients. This represents a potential area for development in preparing students for conversations with patients. While concepts such as sustainable care planning, reducing the carbon footprints of treatment and promoting low-carbon alternatives are taught, explicit strategies for communicating these changes to patients are not included as a learning objective.

Recommendations:
Students would benefit from structured opportunities to practice discussing sustainable care with patients, such as through role-play exercises or simulations. Examples of patient encounters could include choosing low-carbon inhalers, promoting non-pharmacological interventions or planning treatments with lower environmental impacts. Additionally, communication strategies should be made an explicit learning objective in lectures or tutorials to ensure students can confidently translate their knowledge of sustainable healthcare into patient conversations

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

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

Score Assigned:	**2**

Score explanation:

Queen's university's medical course provides an in-depth focus on environmental histories as part of the social history format assessed in OSCEs. The environmental history is most developed in respiratory history teaching in which exposure history, occupational risk and contact history are detailed. The history taking documents explain the importance of animal exposure, proximity to roads/traffic, second hand exposure to harmful substances and access to green spaces.

Environmental history is a key feature in the year one tutorial and lecture Social Determinants of Health, integrating the biopsychosocial model at an early stage and highlighting the importance of green/blue spaces and living environment ie. heating/damp. In a further CBL case, there is a desirable learning outcome, "Describe the cause and usual clinical course of occupational lung diseases, particularly asbestosis," and specialist learning outcome of, "describing occupations past and present which may involve asbestos exposure." The case centres around secondary exposure to asbestos in the wife of a former shipyard worker from cleaning his work clothes.

Environmental exposure is again discussed in the third year CBL case of an intentional drug overdose. There are desirable learning outcomes on the social determinants of health and social prescribing and how it can benefit the patient's mental health - taking into account their home environment and access to green space, embedded in the biopsychosocial model.

Recommendations:

The respiratory history format taught is particularly well written in regards to environmental history and should be expanded in the other history skills formats for other systems. The CBL case in year one of the retired dockworker's wife is particularly well written, being culturally significant to the industries of Belfast - asbestosis being common amongst former shipyard workers and cigarette factory employees. Aspects such as heating/condition of the home could be further expanded upon in other cases and across the wider curriculum.

Curriculum: Administrative Support for Planetary Health

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

Score Assigned:	2

Score explanation:

The medical school has continued the development of the online "MedPortal" system in which lectures, OSCE guides and other resources are mapped according to specialty, year and theme. This year the Sustainable Healthcare webpage has been added to the "Core Topics" section, this includes links to planetary health resources, QUB programmes and initiatives and groups such as the SHDG and Green at Queen's.

85% of CBL cases have "G-theme" learning outcomes with the rest in development for the end of the academic year.

The medical school regularly meets with members of the sustainable healthcare development group each semester, this provides a forum to discuss the improvements that have been made and their effectiveness and further progress - using the PHRC metrics to help build upon.

The School of Medicine, Dentistry and Biomedical Science (SMBDS) has appointed two academic leads in response to the climate emergency. Their role encompasses developing and implementing the SMDBS local sustainability action plan and ensuring it meets the requirements of the Concordat for the Environmental Sustainability of Research and Innovation Practice which QUB recently signed up to. They have established a working group to contribute to the local sustainability action plan and to develop a strategy to progress the UK research and Innovation ES Concordat. The roles work in close connection with the QUB sustainability Office and Estates Team.

Recommendations:

Whilst the development of the online MedPortal links and webpage for sustainable healthcare are positive, the page itself lacks substance from our lectures and tutorials as some other sections have - a list of planetary health lectures and tutorials would work well for those seeking to recap their learning. Although this page is new and feedback will help improve its utility.

The medical school has just finished the roll out of the C25 curriculum including the GCAT themes of which the "G" theme is Global and Population Health. As a result of this major five year curriculum project, changing from the old C19 to the new C25 curriculum there are less changes in comparison this year.

We welcome the school's action on the climate crisis with the development of new roles to help develop education for sustainable healthcare and research.

1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> curriculum?
Planetary health/ESH topics are **well integrated** into the core medical school curriculum. (6 points)
Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum. (4 points)
Planetary health/ESH is not integrated and is primarily addressed in **(a) standalone lecture(s).** (2 points)
There is **minimal/no** education for sustainable healthcare. (0 points)

Score Assigned:	**6**

Score explanation:

The format of the C25 curriculum and its constituent spiral curriculum "GCAT Themes" which run throughout the 5 year course effectively integrate planetary health and education for sustainable healthcare topics effectively. The "G theme" of Global and Population health comprises "Public and Population Health, Social determinants of health and Global Health" among others.

These are integrated throughout CBL cases as learning outcomes across years. This remains during the transition to clinical year cases with learning outcomes such as "Consider the carbon footprint of healthcare, particularly regarding alternative gases and waste" and "Apply sustainability in quality improvement (SusQI) and the triple bottom line to decisions regarding escalation of care." Although many ESH/"G-theme" outcomes remain as special interest there has been a shift to more becoming desirable learning outcomes as ranked in the case overview notes.

There are dedicated lectures mostly within the pre-clinical years which introduce concepts such as Global Health and One Health. Examples include the year two lecture "Climate, Health and Sustainable Healthcare," and the year one lecture "Social Determinants of Health."

In year five there is a "SusQI" project in which students complete a project in which small groups of students are given a supervisor and develop a solution to a sustainability problem, developing their audit skills using the PDSA cycle.

There are also student-selected components for a chance to explore an interest in planetary outside of the core curriculum, such as the year one SSC "Planetary Health – climate change impacts on health and equity."

Recommendations:

There continues to be a need for a higher priority of Global and Population Health theme learning outcomes in CBL cases - most still come under desirable or special interest as opposed to essential. We commend the 85% of CBL cases with integrated "G-Theme," learning outcomes and look forward to the completion of these in this academic year.
More work can be done to develop the new "Sustainability page" on the medportal to better signpost the ESH content taught by year - like how specialty lectures are listed together under their respective portal areas. However, we commend the central focus that ESH topics hold in the core curriculum with the spiral GCAT model.

1.22. Does your <u>medical school</u> employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?	
Yes, the **medical school** has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (1 point)	
No, the **medical school** does **not** have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (0 points)	
Score Assigned:	**1**

Score explanation:

For the "G Theme - Global and Population Health" of the spiral GCAT themes of the C25 curriculum the medical school has appointed a Lead and Deputy Lead. The incoming Lead has previously worked as Deputy Lead, and brings experience as a member of the Medical School's Council – Education for Sustainable Healthcare Alliance, helping to review the MLA content map in regards to sustainable healthcare.

Recommendation:

The Sustainable Healthcare Development Group congratulates both on their new roles. We would like to thank them for their collaboration with the group and their much valued work.

1.23. Does your health professional curriculum include teaching on civic engagement/advocacy to address the environmental and structural determinants of health?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	**2**

Score explanation:
The second year lecture, "Climate, Health and Sustainable Healthcare," explores in depth the link between the structural determinants of health and the climate crisis and provides a range of global health strategies in both policies and practical adaptations on the ground. Despite containing slides detailing the COP26 "Special Report on Climate Change and Health," explaining the need to "mobilise and support the health community on climate action," the language on methods of health activism for civic advocacy remains vague.

The year one lecture "Introduction to Health Systems," again details the environmental and structural determinants of health thoroughly as outlined in the sustainable development goals. Again action on a patient level of health promotion and sustainability awareness is good, however there remains a lack of coverage of the role of healthcare workers and doctors in ways of engaging in civil advocacy on the policy level.

Recommendations:

Whilst the message of the professional duty of the doctor to engage in civic advocacy to promote change in environmental and structural determinants of health is present throughout the years, there remains the opportunity to discuss examples of civic action, the section of the year one lecture "Introduction to Health Systems" can be easily adapted and expanded.

Section Total (60 out of 75)	**80%**

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Interdisciplinary Research

Section Overview: ***This section evaluates the quality and quantity of interdisciplinary planetary health research at the 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, institutions should fund research studying the health effects of climate change and anthropogenic environmental toxins. This obligation is particularly strong because the public and policymakers are more attentive to climate change when its implications for human health are emphasised.*

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your institution?	
Yes, there are faculty members at the **institution** who have a **primary** research focus in planetary health **or** sustainable healthcare/vetcare. (3 points)	
Yes, there are individual faculty members at the **institution** who are conducting research **related** to planetary health or healthcare sustainability, OR are part of a national/international sustainability working group, but it is not their primary research focus. (2 points)	
There are sustainability researchers at the **institution**, but not specifically associated with healthcare/vetcare. (1 point)	
No, there are **no** planetary health and/or sustainability researchers at the **institution** at this time. (0 points)	
Score Assigned:	**3**

Score explanation:

We used PURE, the QUB research portal, to find two professors that were involved in planetary health research and the School of Medicine, Dentistry and Biomedical Science (MDBS) and Queen's Centre for Public Health (CPH). The sustainable healthcare development goals (SDGs): 3, Good Health and Wellbeing; 10, Reducing Inequality; 11, Sustainable Cities and Communities, and 13, Climate Action were mentioned across publications they, and other researchers, were involved in. Some recent publications and ongoing projects are given below.

One QUB professor, linked with MDBS and CPH, is one of the principal investigators of SPACE 'Supportive Environments for Physical and Social Activity, Healthy Ageing and Cognitive Health'. SPACE is focused on how urban design impacts on brain health and dementia and relates to SDGs 3,10,11 and 13. The project obtains funding from a number of sources including NIH, the ISCF (Industrial Strategy Challenge Fund) and Innovate UK. This professor has been involved in 'Co-design of a regional geoportal to support research, policy, education, and practice on environment and health in Northern Ireland'. This relates to SDG 11 and is part of the SPACE project.

Two QUB professors are involved with the GroundsWell project. This project investigates how to improve health and wellbeing through Urban Green and Blue Spaces and contributes towards SDGs 3, 10, 11 and 13. It is funded by the UK Prevention Research Partnership (UK PRP).

One of these professors was the first author on 'Future-proofing cities against negative city mobility and public health impacts of impending natural hazards: a system dynamics modelling study'. This study investigated mortality in possible infectious disease outbreaks and extreme weather events in cities whilst increasing active travel. It relates to SDGs 3 and 13.

Recommendations:

QUB should prioritise healthcare sustainability research along with the planetary healthcare research already undertaken.

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?	
There is **at least one** dedicated department or institute for interdisciplinary planetary health research. (3 points)	
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. (2 points)	
There is an **Occupational and Environmental Health department**, but no interdisciplinary department or institute for planetary health research. (1 point)	
There is **no** dedicated department or institute. (0 points)	
Score Assigned:	**3**

Score explanation:

Queen's University Belfast (QUB) hosts the Centre for Sustainability, Equality and Climate Action (SECA), a university-wide interdisciplinary research centre that advances principles consistent with planetary health. Over the past year, SECA has delivered multiple activities demonstrating interdisciplinary engagement across health, environment, society, and policy:

- On 12 February 2025, SECA hosted "Love Our Planet and Our Neighbours", a public panel connecting climate action, sustainability, social justice, and community wellbeing, featuring speakers from government, civil society, and academia.
- On 20 February 2025, SECA contributed to the Real-World Challenge: Climate Change Event, where students from multiple disciplines collaborated with industry experts and QUB faculty to propose practical solutions to climate and sustainability issues.
- SECA also continues to run sustainability workshops for secondary students in partnership with QUB units and co-host events on Human Rights and the UN Sustainable Development Goals, demonstrating active translation of research into education, policy, and community engagement.

These activities illustrate that SECA goes beyond traditional environmental or occupational health domains, integrating climate, equity, social, and health dimensions, and provides QUB with a dedicated, interdisciplinary hub for planetary health research.

Recommendation:

QUB should continue to support and expand SECA's interdisciplinary research and educational initiatives, particularly by strengthening formal links with the School of Medicine, Dentistry and Biomedical Sciences to further embed plenary health within medical research and training. SECA's website should be updated and have hyperlinks to all their relevant events.

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

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. (3 points)

Yes, there is a process in which community members impacted by climate and environmental injustice **advise** the climate + environmental research agenda. (2 points)

No, but there are **current efforts** to establish a process for community members to advise or make decisions on the research agenda. (1 point)

There is **no** process, and **no** efforts to create such a process. (0 points)

Score Assigned:	2

Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate and environmental research agenda. Through the development of interdisciplinary strategies, researchers at Queen's University Belfast are working to integrate environmental sustainability and climate change with social equity. This work encompasses many principles including economics, ethical factors and ecology, to ensure a fair and inclusive research agenda. There have already been projects started including "Community-Owned Renewable Energy", which involved investigating the potential for community-led renewable energy projects as a means of energy production. Through many of these projects the researchers have engaged directly with community groups to agree on strategies. Queen's researchers have worked with populations which may be considered marginalised, so that policies involving sustainability and climate adaptation are inclusive to all. They have worked with populations across many backgrounds including class, race and gender.

https://www.qub.ac.uk/Research/case-studies/tackling-climate-injustice.html

Tackling Climate Injustice and Inequality | Research | Queen's University Belfast

Recommendation:
While there is a process in which individuals impacted by climate and environmental injustice can advise the research, it is not one in which they have decision making power. The community input is valued and incorporated, however the current process utilised does not grant formal decision making power. It is recommended that the university continue to prioritise the integration of such input and allow the impacted communities to participate directly in research priorities.

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

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. (3 points)
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. (2 points)
The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment. (1 point)
There is **no** website. (0 points)

Score Assigned:	**2**

Score explanation:

The Sustainability section on the QUB website is very easy to navigate to and contains links to sustainability research, events and key staff. The sustainability research section is equally easy to find under the research banner at the top of the page. Funding opportunities are not easily located on this page, however it is straightforward to navigate to the 'Find a PhD' page. Inputting 'sustainability', 'sustainable', 'planetary health', 'climate' and even some of the staff involved in planetary health research into the search bar did not yield a relevant funded PhD opportunity.

Recommendation:
QUB should provide an easier way of accessing PhDs related to sustainability, and provide more funding for this research.

2.5. Has your institution recently hosted a conference or symposium on topics related to planetary health?
Yes, the **institution** has hosted at least one conference or symposium on topics related to planetary health in the past year. (4 points)
Yes, the **institution** has hosted at least one conference or symposium on topics related to sustainable healthcare/vetcare in the past year. (3 points)
Yes, the **institution** has hosted a conference on topics related to planetary health / sustainable healthcare/vetcare in the past three years. (2 points)
The **institution** has not hosted any conferences directly, but they have provided financial support for a local planetary health event. (1 point)
No, the **institution** has not hosted a conference on topics related to planetary health in the past three years. (0 points)

Score Assigned:	**4**

Score explanation:

Queen's University Belfast (QUB) has hosted multiple conferences and symposiums related to planetary health and sustainability over the past year, demonstrating active engagement in interdisciplinary knowledge sharing. Notable events include:

- The Sustainability Healthcare Development Group (SHDG) continues to host the "Climate Emergency Department" as part of the NI Science Festival targeted for children to explore the health impacts of global warming.
- The continuation of the "Reach '25 Festival" which showcases the role of arts, creativity and culture in exploring sustainability and climate issues.
- QUB's Annual Sustainable Construction Conference brings together academics, students, industry professionals and government representatives to explore sustainability and climate-related design and practise. In 2025, the conference was titled "Refurb Renaissance: Prioritising the Re-use of Buildings in Transition to a Net Zero Future," focusing on re-use and retrofit as part of the net zero transition the university is making.

Recommendation:

As suggested last year, we recommend the medical school hosts a conference on topics relevant to planetary health and increase awareness of and improve access to the recording of the previous Public and Planetary Health Conference to make it easily accessible for all.

2.6. Is your institution a member of a national or international planetary health or ESH/ESV organisation?	
Yes, the institution is a member of a national or international planetary health **or** ESH/ESV organisation. (1 point)	
No, the institution is **not** a member of such an organisation. (0 points)	
Score Assigned:	1

Following completion and recommendation of the 2020-2021 PHRC report card, The Queen's University Belfast School of Medicine, Dentistry and Biomedical science is a member of the Global Consortium on Climate and Health Education.

https://www.publichealth.columbia.edu/research/programs/global-consortium-climate-health-education/global-member-network

"Beacon Site" status has also been granted to The School of Medicine, Dentistry and Biomedical Sciences at Queen's University Belfast by the Centre for Sustainable Healthcare, following recognition of integrating sustainability into our teaching and practices. This is a national charity, which strives to develop resources to support the NHS, with an aim to reach net zero carbon, as well as other sustainability targets.

https://sustainablehealthcare.org.uk/what-we-do/programmes/sustainability-in-quality-improvement-susqi/susqi-beacon-site/

Recommendation: Queen's maintains membership with the Global Consortium on Climate. We recommend they strengthen their impact though rejoining the Alliance for Sustainability Leadership in Education climate group, which the university was once a part of to continue to engage with sustainability health networks.

Section Total (15 out of 17)	**88.2%**

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Community Outreach and Advocacy

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

3.1. Does your institution partner with community organisations to promote planetary and health?	
Yes, the **institution** meaningfully partners with **multiple** community organisations to promote planetary and environmental health. (3 points)	
Yes, the **institution** meaningfully partners with **one** community organisation to promote planetary and environmental health. (2 points)	
The **institution** does not partner with community organisations, but participates in community focused events relating to planetary health. (1 point)	
No, there is **no** such meaningful community partnership. (0 points)	
Score Assigned:	**3**

Score explanation:
The medical school incorporates planetary health into various students selected component (SSC) modules. An example of this is the SSC for Year 1 students being delivered this year titled "Planetary Health: Climate change impacts on health and equity." During Year 2, around one-third of medical students undertake the 'Medics in Primary Schools' module. This module involves medical students teaching local primary school pupils about health and medicine. Planetary health was added as a new optional topic to be covered by students in the 2021/22 cohort.

2024 was the medical school's first delivery of the final year SusQI projects. Since then, some of the 52 participating groups produced educational resources for both patients and healthcare professionals based on sustainability and planetary health.

The sustainability team and the community engagement team at QUB continues to host sustainability focused activities and events. In November 2025, they once again organised "The Big Autumn Clean Up" by partnering with volunteers to improve shared urban spaces by keeping litter off the streets and green spaces.

The university itself held three major sustainability events in collaboration with local organisations: QUB held its first Sustainable Construction Conference, which explored the reduction of carbon in buildings. The construction conference was organised in partnership with South West College, Belfast City Council, Feilden Clegg Bradley Studios and HOK.

The university once again hosted the Arts and Sustainability festival called "REACH '25". This festival expands on the one hosted a year prior (REACH '24) by inviting more collaborators and

hosting a variety of workshops and activities across the 4 days. This was done through collaboration between Queen's Sustainability team, the Naughton Gallery, Queen's Film Theatre, the Seamus Heaney Centre, the MediaLab and a range of academic experts across Queen's and within the region.

Bike Week 2025 was a series of events aligned with the national Bike Week campaign to promote active and sustainable travel. This week's events were delivered in collaboration with external organisations including Translink, Belfast City Council, Sustrans and local cycling groups. Bike Week featured community-facing activities such as bike maintenance workshops, cycle confidence sessions and active travel information stalls. These events highlighted the benefits of cycling for planetary health, alongside improvements in physical health and mental wellbeing.

There were several major sustainability events held at QUB in collaboration with local organisations. The QUB Sustainability Fair brought together a diverse range of community and third-sector partners. These include: Keep Northern Ireland Beautiful, The Conservation Volunteers, Belfast City Council, NI Resource Network, Volunteer SU and the QUB sustainability team. This creates opportunities for students and members of the public to engage directly with organisations working at the intersection of environmental sustainability and community wellbeing.

Queen's also actively collaborated with community partners during European Week for Waste Reduction 2025. This week included hosting repair cafés, upcycling workshops and sustainable consumption events. These activities were delivered alongside external community organisations such as Belfast Repair Café volunteers, Make It Fab, and Freedom Cycles. This week centred on promoting circular economy principles by learning new skills and incorporating active travel.

In addition, QUB supported long term environmental initiatives such as Wildflower Alley. This was developed in partnership with local residents, community groups and students. This project aims to enhance urban biodiversity, improve air quality and create healthier shared spaces that benefit both planetary and human health.

Recommendations:

We commend the university's continued active involvement in community outreach to local charities and organisations regarding sustainability. However, more involvement from the medical school is recommended. The medical school could partner with local patient advocacy groups/charities to highlight the importance of planetary health and environmental risk factors to patient health.

Furthermore, QUB could strengthen evaluation and impact measurement of its community partnerships. This could include introducing routine data collection on participation, accessibility and health co-benefits (e.g. increased active travel uptake, improved wellbeing or environmental literacy). It could allow the University to demonstrate measurable outcomes and guide future improvements. This would also enable opportunities to create longer term, reciprocal partnerships with community organisations rather than primarily event-based collaboration

3.2. Does your institution offer community-facing courses or events regarding planetary health?

The **institution** offers community-facing courses or events at least once every year. (3 points)

The **institution** offers courses or events open to the community at least once per year, but they are not primarily created for a community audience. (2 points)
The **institution** has promoted community-facing courses or events, but was not involved in planning those courses or events. (1 point)
The **institution** has not offered such community-facing courses or events. (0 points)

Score Assigned:	**3**

Score explanation:

The Queen's annual Student Summit this year featured a sustainable focus. The 'Sustainability Student Summit 2026' provides an opportunity to speak with individuals working at various cross-sector organisations including Belfast City Council, the Department of Infrastructure and Queen's University. This event allowed for discussion on topics such as travel, housing, food, nature and education. Though aimed towards students, tickets for this event were free and available online. In the future, phrasing of advertising could make this event more appealing to other community members. (https://www.healthcarelibrary.qub.ac.uk/events/whats-on/listing/sustainabilitystudentsummit2026.html)

The institution also facilitated the STAND: Global Solidarity Festival in January of this year. STAND is a national, non-profit organisation working across the higher education sector in Ireland to provide global citizenship education. This event provided students with an opportunity to learn more about the relevance of sustainability and the Sustainable Development Goals (SDGs), as well as outlining opportunities to get involved in sustainability with the Student's Union and local charities. This event was free to attend and, without student-specific advertising, appeared open to community members (https://www.healthcarelibrary.qub.ac.uk/events/whats-on/listing/standfestivalglobalsolidarityfair.html)

The university once again hosted its Arts and Sustainability Festival, titled 'REACH 25' this year. This involved a number of events, with one hosted by academics at the medical school focusing on Art as Medicine. (https://www.qub.ac.uk/about/sustainability/Reach25/Reach25PanelArtasMedicine.html)

Recommendations:

Though some events are well sign-posted, the university should work on ensuring all events that cater for the community are clearly marked as such to ensure engagement with their efforts.

3.3. Does your institution have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?
Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare. (2 points)
Yes, planetary health and/or sustainable healthcare topics are regularly included in communication updates to **some courses**. (1 point)

Students **do not** receive communications about planetary health or sustainable healthcare. (0 points)	
Score Assigned:	**1**

Score explanation:

Medical students regularly receive email correspondence from the Centre for Medical Education (CME) and the School of Medicine, Dentistry and Biomedical Science. These communications seldom include information relating to planetary health and sustainable healthcare. Since the 2025 report card, a sustainable healthcare page has been added to the Medical Education Portal (https://www.med.qub.ac.uk/Portal/core/sustainablehealthcare.aspx) which includes information about sustainability events, climate action and how sustainability is integrated into the curriculum e.g. SusQI, SSCs and the GCAT themes that underpin CBL.

QUB utilises a range of communications outlets, such as their sustainability account 'Green at Queen's' (https://www.qub.ac.uk/events-at-queens/GreenatQueens/) , to promote news about sustainability on campus. This offers students an accessible way to keep up to date with planetary health and sustainability information. 'Green at Queens' has accounts on Twitter, Facebook and Instagram, giving students opportunities to access their information on a range of platforms. Through 'Green at Queens' the university is also offering carbon literacy training from February-April which is facilitated both online and in person. Their link tree also creates direct access to information about sustainable travel, volunteering opportunities and events like the 'Sustainability Student Summit 2026', 'Belfast Annual Reach Art and Sustainability Festival' and the 'Climate Chatty Café'. In March 2025, a new monthly podcast called 'The Ripple Effect' (https://www.qub.ac.uk/about/sustainability/the-ripple-effect/) was launched as part of the University's commitment to achieving Net Zero by 2040. Its aim is to highlight sustainability initiatives on campus. Furthermore, we note the consolidated bank of information that is available via the QUB Sustainability website.

Recommendations:

CME could notify students about updates to the sustainability page on the 'Medical Education Portal' and advertise 'The Ripple Effect' podcast through broadreach societies like 'Queens Radio'.

3.4. Does the institution or main affiliated hospital trust engage in professional education activities targeting individuals post-graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?
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. (2 points)
Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers. (1 point)
There are **no** such accessible courses for post-graduate providers. (0 points)

Score Assigned:	**2**

Score explanation:

QUB offers multiple postgraduate taught courses, focusing on planetary health and sustainable healthcare. One of these is the MPH (Masters in Public Health) which is an internationally recognised qualification, equipping students with the knowledge and skills to pursue a career in public health or health-related leadership roles. There are two specialist pathways: MPH core pathway and MPH global pathway and this course is also open for medical and dentistry students to intercalate in.

There are also several MSc courses available at QUB, encompassing sustainability and climate change topics such as Climate Change, Leadership for Sustainable Development, Leadership for Sustainability Rural Development, Sustainable Energy Systems with Management, Ecological Management and Conservation Biology. Some of these courses are also available as a PGDip such as Climate Change and Sustainable Energy Systems with Management.
Furthermore, QUB collaborates with SEDA (Staff and Education Development Association), to provide an accredited course called Education for Sustainable Development (ESD). This course is open to module coordinators or programme directors and aligns with the Queen's 2030 Strategy.
QUB also offers Future-Ready Awards that are open to undergraduate and postgraduate students, specifically the SOS-UK SDG Curriculum Mapping EPS , Belfast Hills Partnership - Practical Environmental Conservation , Carbon Literacy Training , Planetary Health Champions: Driving Sustainability in Healthcare , Residential Life Sustainability Programme .

Recommendations:

QUB's affiliated hospital trusts could become more involved in organising sustainability education activities. Even if there are events like this that are being held, when searching on the trusts' websites, there are no results, indicating that the Trusts have to better promote these events in order to raise attention and spotlight these initiatives. Collaboration between the university and hospital trusts could allow trust employees to undertake CPD courses offered by the university itself.

3.5. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?	
Yes, the **institution** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)	
Some affiliated hospitals have accessible educational materials for patients. (1 point)	
No affiliated medical centres have accessible educational materials for patients. (0 points)	
Score Assigned:	**2**

Score explanation:

The university provides information regarding environmental health exposures through its Healthcare Library

(https://libguides.qub.ac.uk/healthcarelibrary/medicinebulletins/environmentandhealth). Though this is a rich trove of up-to-date information, access to these articles may not be accessible to members of the public without institutional journal access, and such articles may not be written in a patient friendly way.

The Northern Trust provided information on the impact of sun exposure on skin cancer risk, however this information had to be searched for and could be more accessible (https://www.northerntrust.hscni.net/services/cancer-services/cancer-types/skin-cancer/).

The Southern Trust was leading in its provision of environmental health exposure resources through the 'Your Health' section of their website (https://southerntrust.hscni.net/your-health/health-improvement/). Information on the excess alcohol risks and the benefits of healthy eating were useful, but their information on cancer screening was particularly accessible and educational; not only did this resource identify sun exposure as an environmental risk factor, but it provided tools on calculating the UV level of the day (https://southerntrust.hscni.net/your-health/health-improvement/471-2/). Though more resources could be added on a wider range of environmental exposures, the Southern Trust provides accessible and informative patient resources that can help to set a standard for other Trusts and teaching hospitals.

The Western Trust also provided very good examples of educational information on environmental exposures for patients. In particular, it provided a number of articles on the risks of high UV exposure; one article provided educational quotes from a doctor within the trust, whilst another provided practical tips on sunscreen use (https://westerntrust.hscni.net/altnagelvin-doctor-urges-the-public-to-protect-themselves-against-harmful-uv-exposure-as-cases-of-skin-cancer-are-on-the-rise/, https://*westerntrust.hscni.net/how-to-choose-and-use-sunscreen/*).

The Belfast Trust provided information on care in the sun *(https://belfasttrust.hscni.net/healthy-living/care-in-the-sun/), as did the South Eastern Trust (https://setrust.hscni.net/noleens-story-stay-safe-in-the-sun-as-temperatures-and-skin-cancer-cases-rise/).*

Recommendations:

More could be done to create clear links between these exposures and our changing climate. Furthermore, we would recommend that a broader range of environmental exposures be covered within each trust's 'Healthy Living' (or equivalent) pages.

3.6. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?	
Yes, the **institution** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)	
Some affiliated hospitals have accessible educational materials for patients. (1 point)	
No affiliated hospitals have accessible educational materials for patients. (0 points)	
Score Assigned:	**0**

Score explanation:

No information on the health impacts of climate change could be clearly identified on any of the Trust websites. Additionally, the institution did not have clear patient-centred resources on this matter either.

Recommendations:

More needs to be done to provide educational resources for patients on how our changing climate may impact their health.

Section Total (11 out of 14)	**78.6%**

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Support for Student-Led Planetary Health Initiatives

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

4.1. Does your institution offer support for students interested in enacting a sustainability initiative/QI project?	
Yes, the **institution** *either* offers grants for students to enact sustainability initiatives/QI projects *or* sustainability QI projects are part of the core curriculum. (2 points)	
The **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. (1 point)	
No, the institution does not offer opportunities or support for sustainability initiatives or QI projects. (0 points)	
Score Assigned:	**2**

Score explanation:

Queen's University Belfast supports student-led initiatives through their 'Green Fund', an annual grant scheme that offers financial support for students and staff alike to create and engage in sustainability projects. Grants up to £2,000 are provided to the best proposals, with a total of 93 projects funded by the fund since 2019. The projects should aim to be interdisciplinary, promote environmental awareness across campus and the broader QUB community, and align with the university's commitment to becoming a leader in sustainability and net-zero by 2040. Additionally this year, applicants for the fund are being asked to include the Sustainable Development Goals that align with the aims of their project. Examples of past projects include Queen's Grounds and Gardening Team's enhancing biodiversity project and water-saving initiatives - such as using waterless condensers in chemistry labs.

As part of the Medicine final year curriculum (C25) at QUB, students undertake a mandatory Sustainable Quality Improvement (SusQI) project. This involves small groups of students working closely with an NHS supervisor on a project aiming to maximise health benefits while minimising environmental and social impact. A complete data collection and PDSA cycle is carried out over the course of 18 weeks. Projects have previously focused on areas such as replacing single-use plastics with re-usable equipment (e.g. surgical gowns) and reducing energy use where possible in operating theatres, e.g. reduce the amount of equipment being left on overnight if possible.

Recommendation:

Queen's University should continue to finance students' projects on planetary health and sustainability matters through the 'Green Fund', ensuring sustained and accessible funding for interdisciplinary projects across all faculties. Consideration should be given to increasing the number of funded projects and providing further structured mentorship to students while undergoing such projects. Queen's could further maximise the long-term impact of these initiatives by sharing the projects with the best outcomes across different departments and even with external

partners such as the NHS. This would support and strengthen QUB's position as a leader in planetary health education.
The university should also continue the SusQI project as a core part of the final year curriculum, and explore opportunities to extend SusQI principles into earlier years of the medical curriculum and across other health-related programmes - promoting longitudinal engagement with sustainability and quality improvement amongst students.

4.2. Does your <u>institution</u> offer opportunities for students to do research related to planetary health and/or sustainable healthcare/vetcare?

The **institution** has a **specific** research program or fellowship for students interested in doing planetary health/sustainable healthcare/vetcare research. (2 points)

There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these **require student initiative** to seek them out and carry them out in their spare time. (1 point)

There are **no opportunities** for students to engage in planetary health/sustainable healthcare research. (0 points)

Score Assigned:	**1**

Score explanation:

Queen's School of Medicine, Dentistry and Biomedical Sciences run summer studentship programmes which entail 6-8 week long research projects for students. Historically, the Centre of Public Health in particular has offered studentships which included planetary health and sustainability components, such as the "Sustainable diets: consumers' attitudes, beliefs and current practices" project in 2024. There is no regular, guaranteed studentship in sustainable healthcare or global health however, and so the inclusion of environmental aspects depends on specific projects themselves each summer and student initiative to contact research supervisors and arrange for such aspects to be included.

Student Selected Components (SSCs) give medical students the chance to engage in research and learn about a particular area of study that interests them. The 'Global Health: Concepts, Trends and Priorities' has been an SSC choice offered to first year medical students for the past few years. The 'Environmental Hazards Effects on Cancer' SSC did not continue this year for first years however, and there were no SSC options involving environmental/sustainability matters offered to second years this year either.

The intercalated Masters of Public Health and Masters of Global Health are masters programmes available to 3rd and 4th year medical and dental studies. These degrees run for 1 year full-time and include elements of sustainable healthcare and planetary health in their coursework and dissertations. Queen's also offer postgraduate Masters programmes relevant to planetary health and sustainability, such as a Masters in Global Health. Outside of the medical school, Queen's offers MSc Leadership for Sustainable Development and MSc Climate Change. These programmes involve sustainability research and offer the opportunity to develop interdisciplinary skills that can help bridge sustainability with healthcare.

Queen's also offers "Planetary Health Champions: Driving Sustainability in Healthcare", an activity that engages healthcare profession students in workshops, independent study and a project on global health, sustainability and decarbonisation in healthcare practice. This gives students the chance to learn how sustainability principles can be embedded in healthcare.

Recommendation:

We recommend that at least one SSC option with a clear focus on global health or sustainable healthcare practices should be offered to each year group annually. Additionally, summer studentships schemes within the School of Medicine, Dentistry and Biomedical Sciences should similarly prioritise planetary health research. Expanding initiatives such as the Planetary Health Champions programme and creating ways for students to undergo supervised research projects would further strengthen research capacity and student engagement in these areas.

4.3. Does the institution have a webpage where students can find specific information related to planetary health and/or sustainable healthcare/vetcare activities and mentors within the institution? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.

The institution has a webpage with specific information related to planetary health or sustainable healthcare/vetcare that includes up-to-date information on relevant initiatives and contact information of potential mentors. (2 points)	
There is an institution webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the institution, but it lacks key information. (1 point)	
There is **no institution** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors. (0 points)	
Score Assigned:	**2**

Score explanation:
The main Queen's University website has links to Sustainability, Sustainability Research and Strategy 2030 (which includes QUB's goal to transition to a carbon zero society by 2040) webpages. These pages provide up-to-date information on the latest news regarding sustainability and environmental matters across campus.
The Sustainable Research page outlines Queen's commitment to carry out environmentally responsible research practices, as a signatory to the 'UKRI Concordat for Environmental Sustainability of Research and Innovation Practice'.

There is a dedicated Sustainable Healthcare subpage available on the Queen's medical school's 'MedPortal' website, which further details how Global and Population health themes are embedded longitudinally across the curriculum under the overarching GCAT themes. The Sustainable Healthcare page also includes direct links to relevant educational and research opportunities including SSCs, SusQI, Summer Studentships and masters and intercalated degrees in public and global health webpages. The Sustainable Healthcare page also references institutional groups such as the Sustainable Healthcare Development Group at Queen's and the link to the Planetary Health Report Card.

Collectively, these webpages allow students to access information on current initiatives, past and ongoing projects, and routes to engage with global health and sustainability-focused activity within the institution.

Recommendation:
Queen's University should continue to develop and regularly update the webpages mentioned above and strengthening links between the central university sustainability webpages and school-specific pages would help boost awareness of and engagement with planetary health activities across the university. Creating more sustainability subpages for other healthcare and allied health courses, similar to the Medical School's Sustainable Healthcare page, providing information on relevant teaching content, research opportunities, student projects, and contact details for academic and clinical mentors could promote interdisciplinary involvement and support Queen's ambition to become a leader in sustainability and planetary health education.

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

Yes, there is a student organisation **with faculty support** at my institution dedicated to planetary health or sustainability in healthcare. (2 points)

Yes, there is a student organisation at my institution dedicated to planetary health or sustainability in healthcare but it **lacks faculty support.** (1 point)

No, there is **not** a student organisation at my institution dedicated to planetary health or sustainability in healthcare. (0 points)

Score Assigned:	**2**

Score explanation:

The Sustainable Healthcare Development Group:

The Sustainable Healthcare Development Group (SHDG) is a working group of students, academics from across The School of Medicine, Dentistry and Biomedical Science, researchers, the Estates team and the Faculty Pro-vice-Chancellor. This cohort group was originally established to complete the PHRC, but have since expanded its focus to foster and promote sustainability and climate action within healthcare- related degrees. The cohort of students is primarily medical based, but has had students from other healthcare professions join over their existing years. SDHG meets monthly, has more than doubled in student membership in the past year and engages regularly with faculty leadership. The Group also collaborates with other student societies and sustainability initiatives, including planned joint events on greener clinical practice and sustainability in healthcare.

Environmental Action Student Association

The Environmental Action Student Association is a democratically elected, student-led network that supports co-curricular engagement in environmental and sustainability action across the University. The Association provides opportunities for students to collaborate on environmental initiatives, raise awareness of sustainability issues, and contribute to campaigns and activities that

promote environmental responsibility within the campus community. As a developing student group, it offers an accessible platform for students to engage in sustainability outside the formal curriculum.

Recommendation:

Continue to support and formalise the Sustainable Healthcare Development Group through sustained faculty engagement, while broadening interdisciplinary and inter-professional student involvement and strengthening links with other societies and other campus sustainability initiatives.

4.5. Is there a student liaison representing sustainability interests who serves on a department or institutional decision-making council to advocate for curriculum reform and/or sustainability best practices?	
Yes, there is a student representative who serves on a department or institutional decision-making council/committee. (1 point)	
No, there is no such student representative. (0 points)	
Score Assigned:	**1**

Score explanation:

Sustainability Committee

The Sustainability Committee oversees and monitors QUB'S 2040 Net Zero commitments and integration of the Sustainable Development Goals across University Activity. It meets quarterly and includes 7 academic staff nominees, 19 professional service nominees, 1 trade union representative and 2 student representatives, which ensures formal student input at the institutional governance level.

Working under the committee, Students participate in two further working groups:

The Campus Decarbonisation Working Group, which is responsible for monitoring emissions associated with energy, heat, water and travel against the Net Zero 2040 target, and identifying decarbonisation programmes and initiatives associated with energy efficiency and travel in line with the principles of the Net Zero 2040 Plan.

The Sustainability Engagement and Communications Working Group, which focuses on development and delivery of a staff and student engagement strategy to support the delivery of the University's Net Zero and wider sustainability ambitions. The development of a net-zero plan, engagement and communication plan which will provide a 'Pathway to Sustainability'.

Sustainability Student Representatives

The Sustainability Student Representative scheme allows students to champion sustainability within their individual schools and also act as a bridge of communication between students and

staff. They also get the opportunity to contribute to university-wide campaigns, workshops, and insight sessions. Representatives can also help advance Queen's sustainability priorities, including Net Zero 2040 and the education for the Sustainable Development Strategy.

Recommendation:

Build on the strong existing student representation in sustainability governance by further supporting clear pathways for student input into curriculum reform and healthcare-related sustainability initiatives, and by strengthening communication between student representatives and academic and senior leadership

4.6. 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)	**Score**
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)	1

Score explanation:

Sustainable foods and agriculture

- The Elm's BT9 Allotment is a long running green fund supported project which aims to get both students and staff to understand where their food comes from whilst increasing biodiversity, supporting mental wellbeing and mindfulness. This project is facilitated by the residential Life team at BT9 and the Conservation Volunteers and runs weekly garden club sessions, allowing students to grow and harvest their own food storing it in the onsite kitchen**.**
- Friends of the Field is another green fund supported community allotment and urban agriculture project where students can work alongside local residents and Belfast City Council as part of the EU UPSURGE project. Students get hands-on experience planting, harvesting, and helping with biodiversity monitoring. The project supports sustainable food systems, with plans to share produce locally and link with QUB's cost of living initiative student food bank "The Pantry"

Panels, speaker series, or similar events

- The QUB SU Sustainability Fair brought together University teams, student societies, and external organisations to showcase sustainability initiatives and opportunities for involvement
- "Exploring the Future of Our Planet" was a climate focused talk and panel discussion hosted by the QUB Institute for Global Food Security in partnership with the Coalition of Aid and Development Agencies in NI. It provided students the opportunity to engage directly with experts on planetary health, climate justice, and sustainable development.
- The Annual Student Sustainability Summit is held every January at QUB to bring students together to discuss and advocate for positive sustainability change within the university and the wider community. At the summit students are invited to raise concerns on everyday sustainability issues with the university, Belfast City Council, and other stakeholders.
- In February 2025, QUB Careers & Employability hosted the 'Real-World Challenge: Climate Change' event in partnership with PwC, where students engaged with industry experts and external speakers in interdisciplinary team discussions to review how industry leaders can tackle climate change.
- QUB hosts regular Climate Chatty Cafés which are short 30 minute interactive discussion events for students and the wider university community focusing on climate and sustainability issues

Art as Medicine Panel Discussion

- This panel event enabled students to learn directly from local community and arts organisations working with populations affected by social and environmental stressors. The discussion explored social prescribing and the role of creative practice in addressing mental and physical health impacts linked to wider environmental pressures, and highlighted how health professionals can partner with community organisations to build resilience and reduce health inequalities.

Cultural arts events, installations or performances

- The 2025 REACH festival At QUB was an art festival collaboration with the UN SDSN that aimed to showcase the interface of arts and sustainability to highlight the emerging climate emergency, and provide sustainable solutions via various art mediums. As well as art exhibitions and performances, talks from people who are leading the way in the path of merging art and sustainability. A highlight of the event was a panel discussion titled "Art as Medicine," hosted by a medical student and former president of SDHG, which explored *the* role of social prescribing and the arts in promoting health and wellbeing in the context of planetary change.
- The Students from the Sustainable Healthcare Development Group have run a "Climate Emergency Department" as part of the NI Science Festival for the past 3 years and are running it again in 2026. This event is an interactive simulation scenarios, run in multiple sessions, hosted by QUB InterSim and is designed to inspire the youth (and potentially future healthcare workers to be) to think about the impact climate change has on our health and the healthcare system

Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.

- During the European Week for Waste Reduction, QUB hosted a range of sustainability-focused events including carbon literacy training, cookery classes, and reuse and repair workshops. These initiatives promoted waste reduction and sustainable consumption, contributing to reduced environmental pollution and supporting long-term public health benefits through prevention focused action.
- The SU group Handy Helpers provides accessible volunteering opportunities focused on sustainability and the upkeep of the local Queen's community area. These activities encourage community engagement while supporting environmental maintenance, contributing to healthier living environments.
- QUB also partners in several community projects including the "One Million Tree project by Belfast City Council", which aims to plant one million trees in Belfast by 2035. "UPSURGE" is another project of note. The UPSURGE project looks at growing food on contaminated land in an aim to look at fast forwarding nature based solutions for cities. This initiative involves collaboration between QUB, local authorities, and community groups such as Friends of the Field, supporting urban food growing, soil remediation, and sustainable local food systems. These community-level interventions contribute to environmental protection and long-term public health resilience.

Wilderness and outdoor programmes

- The Find Your Movement 2025 initiative encouraged students and staff to engage in a range of accessible physical activities over a ten-week period, with a focus on promoting regular participation in movement that suited individual preferences. Activities such as gardening and running provided opportunities for engagement with outdoor and green spaces, supporting both physical health and mental wellbeing.·
- Organised trips for students living at the Elms BT9 accommodation included community cycling around Belfast, forest park visits, and trips to nature reserves**.** These experiences give students hands-on outdoor engagement**,** exposure to natural habitats, and opportunities to learn about local biodiversity.
- There are several Clubs and Societies registered with the Students' Union which focus on wilderness and outdoor programmes. This includes the Mountaineering Club, Caving Club, Scout Network and QUB Climate Action Network & the Queens University Wilderness and Expedition Medicine Society. Further information about these Societies can be found on the QUBSU Website.

Recommendation:

Build on the institution's strong range of co-curricular planetary health initiatives by continuing to promote these opportunities widely across the student body and strengthening visibility of community-based and healthcare-relevant engagement to maximise student participation and impact.

Section Total (14 out of 15)	**93.3%**

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Campus Sustainability

Section Overview: ***This section evaluates the support and engagement in sustainability initiatives by the 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 institutions, clinics, and hospitals must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimising environmental impact.*

5.1. Does your institution have an Office of Sustainability?	
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. (3 points)	
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 hospital sustainability. (2 points)	
There are **no salaried sustainability staff,** but there is a sustainability task force or committee. (1 point)	
There are **no** staff members **or** task force responsible for overseeing campus sustainability. (0 points)	
Score Assigned:	**2**

Score explanation:

The university currently operates a Board of Sustainability responsible for overseeing the 2040 Net Zero Plan. The Board comprises seven academic staff nominees, nineteen professional services nominees, one trade union representative, and two student representatives. Sustainability Governance also oversees the development and implementation of several working groups aligned with the Net Zero Plan, including the Campus Decarbonisation Working Group, the Sustainability Engagement and Communications Working Group, and the Sustainable Use of Goods and Services Working Group.

The proposed unpaid “Sustainability Champion” role remains at an early stage of development. Once implemented, this role is intended to serve as a point of contact for staff on environmental matters and to provide feedback on the implementation of sustainability initiatives. At present, there is no designated role specific to the hospital or the School of Medicine, Dentistry and Biomedical Sciences.

Recommendation:

We recommend initiating the Sustainability Champion programme and encouraging the university to establish a dedicated, paid sustainability position within the Health Sciences School.

5.2. How ambitious is your institution's plan to reduce its own carbon footprint?	
The institution has a **written and approved plan** to achieve carbon neutrality by **2030** (5 points)	
The institution has a **written and approved plan** to achieve carbon neutrality by **2040** (3 points)	
The institution has a stated goal of carbon neutrality by **2040** but has **not created a plan** to reach that goal or the **plan is inadequate** (1 point)	
The institution does **not** meet any of the requirements listed above (0 points)	
Score Assigned:	**3**

Score explanation:

In June 2023, Queen's University Belfast published its Net Zero Plan, outlining a commitment to achieve net zero greenhouse gas emissions by 2040, using the 2018–2019 baseline of 105,430 tonnes of carbon dioxide equivalent. The university has also set an interim target of a 45% emissions reduction by 2030, in alignment with Northern Ireland's climate goals. The Net Zero Plan addresses direct emissions from owned or controlled sources, indirect emissions from purchased energy generation, and other indirect emissions arising from university activities.

Since the publication of the Carbon Management Plan in 2010, the university has achieved a 21% reduction in emissions and diverted 94% of waste from landfill. Notably, the Net Zero Plan exceeds the ambition of the UK Climate Change Act 2008, which targets net zero emissions by 2050. To meet its goals, the university intends to reduce overall energy consumption, improve the efficiency of clean energy use, increase reliance on renewable energy sources, and offset remaining emissions through carbon sequestration initiatives.

Recommendations:

While the Net Zero Plan acknowledges several factors beyond the university's direct control—including campus infrastructure constraints, reliance on the Northern Ireland electricity grid, energy security risks, government policy, and the fact that approximately 80% of emissions originate outside the institution's direct control—the limitations are not clearly defined. We recommend that the university more explicitly identify which factors fall outside its control and develop clear strategies to mitigate or compensate for these external influences.

5.3. Do buildings/infrastructure used by the institution for teaching (not including the hospital) utilize renewable energy?
Yes, institution buildings are **100%** powered by renewable energy. (3 points)
Institution buildings source **>80%** of energy needs from off-site and/or on-site renewable energy. (2 points)
Institution buildings source **>20%** of energy needs from off-site and/or on-site renewable energy. (1 point)

Institution buildings source **<20%** of energy needs from off-site and/or on-site renewable energy. (0 points)

Score Assigned:	1

Score explanation:

All electricity purchased by the university is sourced from renewable energy through a contract with the Central Government Procurement Department. This renewable electricity accounts for 44% of the university's total energy requirements, including those of the Health Sciences Campus. However, there is no publicly available breakdown of renewable energy usage by individual departments.

In addition to procuring renewable electricity from the Northern Ireland National Grid, the university generates heat and electricity on site. The contract for metered electricity stipulates that the supplier must provide 100% renewable electricity and certify its origin through either the European Union Guarantees of Origin (GoOs) scheme or the UK Renewable Energy Guarantees of Origin (REGO) scheme.

The Net Zero Plan includes commitments to expand on-site renewable energy generation, particularly through the installation of solar panels, alongside continued procurement of renewable electricity. If fully implemented, these measures would significantly contribute to reducing energy consumption and increasing clean energy generation. Feasibility studies for solar panel installations are currently underway across the campus, with planned installations at Whitla Hall and the Mathematics and Physics Teaching Centre. However, publicly accessible information regarding the progress and timelines of these installations remains limited.

Recommendation:

We recommend that the university improve the transparency and accessibility of information relating to electricity procurement and provide clearer, more detailed public updates on its solar panel installation targets and progress.

5.4. Are sustainable building practices utilised for new and old buildings on the institution's campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?
Yes, sustainable building practices are utilised for new buildings on the institution's campus and the **majority** of old buildings **have been retrofitted** to be more sustainable. (3 points)
Sustainable building practices are utilised for new buildings on the institution's campus, but most old buildings have **not been retrofitted.** (2 points)
Sustainable building practices are **inadequately or incompletely** implemented for new buildings. (1 point)
Sustainability is **not considered** in the construction of new buildings. (0 points)

Score Assigned:	**3**

Score explanation:

Queen's University Belfast adheres to BREEAM Excellent standards in addition to its own internal criteria, which exceed the requirements set by BREEAM. The university has also adopted more ambitious building guidelines, including the use of Passivhaus standards for all new buildings with a value exceeding £1 million. For projects above this threshold, the EnerPHit Passivhaus standard is applied alongside a Whole Life Carbon Assessment, in line with the target of less than 500 $kgCO_2e/m^2$. Retrofit and refurbishment projects valued at under £1 million continue to aim for SKA Gold certification.

In April 2024, Belfast City Council granted planning permission for Northern Ireland's first Passivhaus student accommodation. This development will incorporate high-performance insulation, a blue roof, mechanical ventilation, triple glazing, airtight building fabric, and 100% renewable energy for heating and hot water. Additionally, the new BRCD Institute for Research Excellence in Advanced Clinical Healthcare will achieve BREEAM Excellent certification and incorporate smart meters, air source heat pumps, swift boxes, and electric vehicle charging points.

Where possible, the university prioritises retrofitting and reusing existing buildings, including upgrades to temperature and lighting controls and the installation of double and triple-glazed windows. For laboratory and research buildings constructed prior to 1990, refurbishments will include mineral wool insulation, LED lighting, and improved window glazing as required. Alongside the widespread use of LED lighting, the university continues to prioritise daylighting to reduce volatile organic compound exposure and overall energy demand.

Recommendations:

We recommend that the university continues its comprehensive and forward-looking approach to construction and refurbishment and commend its adoption of Passivhaus principles and commitment to maintaining BREEAM Excellent standards. We also encourage the university to provide public updates on the construction process and the greenhouse gas emissions associated with the development of the Passivhaus building.

5.5. Has the institution implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
Yes, the institution has implemented strategies to encourage and provide **environmentally-friendly transportation options** such as safe active transport, public transport, or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default. (2 points)	
The institution has implemented **some** strategies to provide environmentally-friendly transportation options, but the options are **unsatisfactorily** accessible or advertised. (1 point)	
The institution has **not** implemented strategies to encourage and provide environmentally-friendly transportation options. (0 points)	
Score Assigned:	**2**

Score explanation:

Queen's University Belfast has put in place a strong and effective plan to encourage sustainable travel. The University's Travel Plan for 2023–2028 has a clear goal: to cut carbon emissions from commuting by 25% by 2028. To achieve this, the University supports walking and cycling through the QUB Bike Hub, the Cycle Plus staff bike scheme, and free bike repair events. For those using public transport, students get a 50% discount with the yLink card, and staff can get an interest-free loan for travel passes. The University also runs a car-sharing service called Liftshare and is installing more electric vehicle charging points on campus.The University also works closely with local partners to improve travel in Belfast. It has joined projects like the Open Botanic Project to create better walking and cycling routes, and it holds events like the "Transforming Travel Through Partnership" panel with Belfast City Council and Translink. Other practical measures include a free shuttle bus between hospital campuses and clear guidance for staff on sustainable business travel.

Recommendations:

To make the travel plan even stronger, the University should share more detailed results from its travel surveys to show the impact of its work. It should also make showers available to students who cycle or walk to campus, not just staff. Continuing to support projects that improve local walking and cycling routes will help, as will running regular events like Bike Weeks to keep the University community engaged

5.6. Does your institution have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?	
Yes, the institution has **both** compost **and** recycling programs accessible to students and faculty. (2 points)	
The institution has **either** recycling **or** compost programs accessible to students and faculty, but not both. (1 point)	
There is **no** compost or recycling program at the institution. (0 points)	
Score Assigned:	2

Score explanation:

Queen's University Belfast has established both organic (compost) and conventional recycling programs in alignment with its Net Zero 2040 strategy. The institution operates a dedicated food waste composting stream for its catering outlets, campus accommodations, and dining facilities. A comprehensive conventional recycling system is also in place across campus for materials including paper, plastics, glass, and metals, with specialized streams for laboratory waste. These core programs are supported by additional initiatives to minimize waste, such as the Laboratory Efficiency Assessment Framework (LEAF), an equipment Repair Fund, a reusable cup program for events, and the Warp It internal reuse platform for furniture and supplies.

Recommendation:

A score of 2 is warranted as the university has instituted and maintains both a functional composting system for university-generated food waste and a ubiquitous conventional recycling program. The existence of these two operational systems fulfills the criteria for the maximum score, which is based on institutional provision, notwithstanding variations in point-of-access convenience for composting across all buildings.

5.7. Does the institution apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?

Yes, the institution has a**dequate s**ustainability requirements for food and beverages, including meat-free days or no red-meat, and **is engaged** in efforts to increase food and beverage sustainability. (3 points)	
There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution **is engaged** in efforts to increase food and beverage sustainability. (2 points)	
There are sustainability guidelines for food and beverages, but they are **insufficient or optional.** The institution is **not** engaged in efforts to increase food and beverage sustainability. (1 point)	
There are **no** sustainability guidelines for food and beverages. (0 points)	
Score Assigned:	**2**

Score explanation:

Queen's University Belfast has a formal Sustainable Food Policy which provides a robust framework for making sustainable food and beverage decisions across campus. The policy commits to sourcing local and seasonal produce, supporting the Northern Ireland economy, and adhering to ethical standards such as Fairtrade. Campus Food and Drink implements this policy by partnering with local suppliers for fruit, vegetables, meat, seafood, and baked goods, and by being a Fairtrade-certified University. Significant efforts have been made to reduce plastic waste, notably through the '2GoCup' reusable cup scheme, which has prevented thousands of single-use cups from entering the waste stream. The policy also includes commitments to promote plant-based menus and enhance animal welfare. However, while a wide variety of meat-free options are available daily, there is no institution-wide mandate for meat-free or reduced red-meat days. The Net Zero Plan acknowledges the need to reduce the carbon impact of purchased goods and services, including food, but specific on-campus dietary targets are not yet detailed.

Recommendation:

To advance to a score of 3, the university should enhance its policy with clear, measurable actions that actively promote low-carbon food choices and reduce waste. Key strategies should include implementing educational campaigns on sustainable diets and introducing initiatives such as promotional meat-free days or a formal program to reduce red meat offerings in campus outlets, supported by clear communication. Concurrently, the successful 2GoCup reusable cup scheme should be implemented across all cafeterias, with a specific focus on high-traffic areas like the Medical School buildings, to systematically eliminate single-use cup waste. These combined actions would demonstrate the "adequate requirements" and institution-wide engagement necessary for the highest score.

5.8. Does the institution apply sustainability criteria when making decisions about supply procurement?

Yes, the institution has **adequate** sustainability requirements for supply procurement **and** is **engaged** in efforts to increase sustainability of procurement. (3 points)	
There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The institution is **engaged** in efforts to increase sustainability of procurement. (2 points)	
There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The institution is **not engaged** in efforts to increase sustainability of procurement. (1 point)	
There are **no** sustainability guidelines for supply procurement. (0 points)	
Score Assigned:	**3**

Score explanation:

Queen's continues to use the "Supply Chain Code of Conduct" . The University continues to aim to follow the United Nations Sustainable Development Goals (SDGs) which is focused on global achieving sustainability. This code was endorsed by the university in 2021. Within the document it states "Those engaged on University work, whether as suppliers or sub-contractors, are expected to comply with the Code as well as the standards of their own professional bodies" and says suppliers are expected to "Conduct their business in accordance with local and national environmental laws, regulations, and directives of the countries they are working in, manufacturing in or trading with, as applicable and adhere to the University's Environmental Policy Statement." This includes promoting use of environmentally friendly technology, and ensuring waste is disposed of in an environmentally responsible way.

The university also says that the suppliers should register with the free Supplier Engagement HE Tool to create an actionable sustainability plan.

The Net Zero Plan includes buying patterns under scope 3, and suppliers are expected to actively create a sustainability plan that includes the Net Zero actions within these scopes and make meaningful targets, and be prepared to share these.

Recommendations:

The university should continue their work in enforcing the Supply Chain Code of Conduct, and work to increase sustainability. Additionally, they should take more steps to ensure that the suppliers are publishing their sustainability criteria.

5.9. Are there sustainability requirements or guidelines for events hosted at the institution?	
Every event hosted at the institution **must** abide by sustainability criteria. (2 points)	
The institution **strongly recommends or incentivizes** sustainability measures, but they are **not required.** (1 point)	
There are **no** sustainability guidelines for institution events. (0 points)	
Score Assigned:	**1**
Score explanation: The university Campus Food and Drinks Team works with the aim of sustainability. All events catered by them follow sustainable practices including donating any saveable food left over to the community pantry, locally sourcing food from the island of Ireland, as well as being Fairtrade Certified. The Conference and Events Team have received Green Meetings Gold Standard,which is accredited by Green Tourism. They provide information on eco friendly wellbeing, travel, catering and merchandise. This is all optional and not enforced. Additionally, events run by student societies at Queen's are not under any obligation to engage in any sustainable practices. *Recommendations:* *The Events Team is making great strides towards Net Zero, we encourage greater enforcement of these options as well as having student societies engage in green practices or be given information on ways their events could be greener. It is hard to monitor out of hours events by Student Societies, even on campus buildings, but perhaps having information/guidelines when booking a space that ensures they have been informed about practices they could undertake to prevent waste.*	

5.10. Does your institution have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
Yes, the institution has **programs** and **initiatives** to assist with making lab spaces more environmentally sustainable. (2 points)	
There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives. (1 point)	
There are **no** efforts at the institution to make lab spaces more sustainable. (0 points)	
Score Assigned:	**2**

Score explanation:

Queen's continues its use of the Laboratory Efficiency Assessment Framework (LEAF) program. The program, launched at QUB in 2021, is used as a metric for schools to monitor their sustainable practices. Labs are peer audited and assessed for waste management, procurement, efficiency, and chemical management.The program also has grant applications for energy efficient equipment funding for labs to access funding if they explain how their research is helping the QUB Net Zero plan. The Queen's LEAF Sustainability Champion Award continues to recognise individuals who helped labs in the program and aided in sustainable practices.

At QUB a total of 73 labs are accredited by LEAF. This is an increase of over double from the 68 labs involved in 2024.

QUB remains a member of the Irish Green Labs Network. This allows labs to participate in conversations targeting negative impacts of their lab activities, and specific climate action targets for energy, plastic, chemistry, and waste. The participation aims to help labs align with the United Nations Sustainable Development Goals.

As the LEAF labs scheme only covers "wet" labs, QUB has joined the Green DiSC pilot which assesses the practice of computer labs, and provides information for computational researchers to better understand the environmental impact they may be having on the planet. NI High Performance Computing (HPC) Centre has also become accredited with a Bronze award for its sustainability. This means that sustainable practices embedded via the Green DiSC Programme are used throughout research projects utilising the NI High Performance Computing facilities.

Recommendations:

QUB is recommended to continue their amazing work with the LEAF program, and to encourage more participation from computer labs via the DiSC pilot as well as encourage all labs at the university to participate.

5.11. Does your institution's endowment portfolio investments include fossil-fuel companies?	
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. (4 points)	
The institution is **entirely divested** from fossil fuels. (3 points)	
The institution has **partially divested** from fossil fuel companies **or** has made a **commitment to fully divest**, but **currently** still has fossil fuel investments. (2 points)	
The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organised advocacy** for divestment. (1 point)	
Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that. (0 points)	
Score Assigned:	**2**

Score explanation:

The university remains invested in fossil fuels, though it is actively trying to divest according to the Responsible Investment Policy Statement (last updated March 2024), which is up for review in March of 2026.

Under the 2024 update they state a commitment to exclude companies involved in fossil fuels, and a goal of having no involvement in fossil fuel companies by 2025.
It states that its fund manager and bankers are expected to be signatories to the United Nations Principles for Responsible Investment, and be incorporating Environmental, Social, and Corporate Governance issues into their decisions and votes on behalf of QUB.
In the statement, QUB says it expects it managers to act in a way that *"**ideally** eliminates, corporate behaviour leading to:*

- *Environmental degradation*
- *Climate change*
- *Support for war or loss of life*
- *Human rights violations*
- *The institutionalisation of poverty through discriminatory market practices*
- *Racial or sexual discrimination*
- *Practices contributing to ill health*
- *The exploitation of workers*
- *The giving or receiving of bribes.*

Consistent with this, the University expects its fund managers to avoid investment in companies with significant revenue derived from:

- *Controversial weapons;*
- *Tobacco production or distribution;*
- *Fossil fuel extraction or production* "

However, the statement then says that it recognises that "it is not practicable" to have no involvement with companies engaged in the aforementioned practices and behaviors in relation to index securities. This seems to completely undermine the stated practices and companies to avoid. It does say that it hopes to review investment in said companies and divest if an alternative index arises that will not cause any detriment to investment returns.

The university states in the policy it is committed to exclude companies involved with fossil fuels by 2025.When contacting the sustainability programme it was made clear this had not happened.

Recommendations:
The university remains invested in fossil fuels, and should continue its efforts to divest. During the update of the document set for 2026, QUB should consider if there are more realistic timelines that would allow them to actually divest, particularly from index related securities, that are involved with not only fossil fuels but a range of activities QUB has stated it does not want aligned with.

Section Total (23 out of 32)	**71.9%**

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Grading

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

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

**Within each grade bracket, a score in the top 5% (_5 to_9%), receives a "+", and a score in the bottom 5% (_0-_4%) receives a "--". For example, a percentage score of 78% would be a B+.*

Planetary Health Grades for the 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 Planetary Health Report Card.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(60/75) x 100 = 80.00%	A-
Interdisciplinary Research (17.5%)	(15/17) x 100 = 88.2%	A
Community Outreach and Advocacy (17.5%)	(11/14) x 100 = 78.6%	B+
Support for Student-led Planetary Health Initiatives (17.5%)	(14/15) x 100= 93.3%	A
Campus Sustainability (17.5%)	(23/32) x 100 = 71.9%	B
Institutional Grade	**= 82.1%**	**A-**

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.