



Planetary Health Report Card (Medicine): *University of Galway*



2023-2024 Contributing Team:

- Students: Hannah Mosnier*, Esmeralda Cecilie Pérez, Elyse Guettier, Caleb Morin, Samantha Nalliah, Alfredi Mulihano, Farhan Iqbal, Karieshinie Peiris, Orla Kistmacher, Sorcha Commins, Adam Nevin, Shane O'Halloran, Muaaz Bin Ejaz
- Faculty Mentors: Prof. Dearbháile Morris, Dr. Georgios Miliotis
- *Primary Contact: Hannah Mosnier, h.mosnier1@universityofgalway.ie

Summary of Findings

Overall	C -
<u>Curriculum</u>	D
<ul style="list-style-type: none"> University of Galway has made positive changes in the current and planned renewed curriculum. There has been an increased emphasis on planetary health, particularly in the ‘Global Health’ module in year 3, where a comprehensive guest lecture in this module covered many planetary health aspects. The curriculum review process has highlighted sustainability and planetary health as focus areas of the new curriculum. Recommendations: We recommend that the curriculum review process retain the positive changes already made, but work to integrate planetary health principles evenly and consistently through all years and modules – in particular how these relate to outsized communities and in clinical practice. We expect the score to improve once concrete planetary health learning outcomes and materials have been developed. 	
<u>Interdisciplinary Research</u>	B
<ul style="list-style-type: none"> University of Galway has research groups engaged in planetary health research, such as the Centre for One Health. The school of medicine also has a summer research programme which allows students to choose from a list of projects available. Unfortunately, few of the projects are related to planetary health. Recommendations: We recommend that the summer research programme collaborate with the Centre for One Health to provide projects related to planetary health, climate change, and sustainability. 	
<u>Community Outreach and Advocacy</u>	F
<ul style="list-style-type: none"> University of Galway has few community outreach initiatives and events relating to planetary health. These include an annual conference hosted by The Centre for One Health, sustainability events hosted by University Hospital Galway, and sustainability activities hosted by multiple student societies. However, the School of Medicine is not directly involved in any of these initiatives or events. Recommendations: We recommend that the School of Medicine partner with initiatives already present in the hospital and university community. The school could also arrange their own community outreach events on planetary health, and develop easily accessible patient information on the topic. 	
<u>Support for Student-Led Initiatives</u>	B -
<ul style="list-style-type: none"> Student members of the Irish Doctors for the Environment and the Irish Global Health Network student society are working to increase planetary health focus at the University of Galway, with faculty and administrative support. One of these students serves as a representative on the Medical Curriculum Review Steering Group, which oversees the ongoing curriculum redevelopment process. Recommendations: Although we greatly appreciate the support already received within the School of Medicine, we recommend the school become active partners to student-led initiatives, by providing a planetary health primary contact person in the School of Medicine with whom the students could liaise. 	
<u>Campus Sustainability</u>	C
<ul style="list-style-type: none"> University of Galway is making great progress to make the campus more sustainable. The School of Medicine is aligned with this development through the university-wide Sustainability Strategy 2021-2025. Recommendations: The School of Medicine is part of the university’s Sustainability Strategy, but there is no accessible strategy for how the School of Medicine will work to meet these goals. We recommend making a Sustainability Strategy specifically for the School of Medicine and collaborate with the hospitals. 	

Statement of Purpose

Planetary health is human health.

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

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

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

Definitions & Other Considerations

Definitions:

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

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

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

Other considerations:

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

Added to our resources in 2022, the Planetary Health Report Card [Literature Review by Metric](#) collates the evidence behind each of the metrics in the Planetary Health Report Card. It serves as a collection of references for further learning and a resource for those advocating for increased planetary health engagement at their institutions.

Planetary Health Curriculum

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

Curriculum: General

1.1. Did your <u>medical school</u> offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>Score explanation: Currently there are no optional electives and/or assignments available to students in order to learn more about Planetary Health or get involved in Planetary Health issues.</i></p>	

Curriculum: Health Effects of Climate Change

1.2. Does your <u>medical school</u> curriculum address the relationship between extreme heat, health risks, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: In the current University of Galway's medical curriculum within the module 'Global Health' module in 3MB a guest lecture titled 'Climate Change & Travel: Rising Health Impacts in a Warming World' discusses the rise in global temperature in recent years and the impact of rising heat on 'the traveller'.</i></p> <p><i>It also contains a diagrammatic slide detailing the impact of climate change on human health in relation to severe weather, extreme heat, forced migration, water quality, changing disease patterns and</i></p>	

malnutrition. Covered in detail in this lecture are the following: forced migration, vector-borne disease, and the impact of rising sea temperatures on scombroid toxicity.

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

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

Score explanation: In the current University of Galway's medical curriculum within the module 'global Health' module in 3MB a guest lecture titled 'Climate Change & Travel: Rising Health Impacts in a Warming World' includes a diagram mentioning the impact of severe weather due to climate change and its impact on injuries, death and mental health impact.

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

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

Score explanation: In University of Galway's 'Global Health' module given in 3MB, a lecture on 'Vector Borne Disease', the impact of climate change on the global distribution of arthropod territory, and subsequent disease transmission is covered briefly. There is a single slide discussing rise in dengue cases outside of traditional territory, particularly in Europe and northern Mexico. It also mentions the likelihood of transmission in these areas. i.e. environmental conditions are favourable for arthropod reproduction and virus replication.

An additional guest lecture titled 'Climate Change & Travel: Rising Health Impacts in a Warming World' has several slides covering the changing territory of vector-borne disease and the variables that are responsible for this; the examples of the Aedes mosquito dengue, as well as anopheles and malaria are used. This lecture also mentions the changing migratory pattern of birds and the projected impact this may have on the West Nile and Usutu viruses.

Zoonotic diseases and the impact of environmental change are also mentioned in two lectures in a separate module 'Health and disease' in 3MB.

1.5. Does your medical school curriculum address the respiratory health effects of climate change

and air pollution?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: In University of Galway's 'Global Health' module given in 3MB, a guest lecture on 'Climate Change & Travel: Rising Health Impacts in a Warming World' has a single diagrammatic slide mentioning the effects of air pollution on asthma, with another mentioning the effect of pollution on respiratory disease. This was a guest lecture and not part of the core curriculum therefore this metric was given a score of 1.</i></p>	

1.6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: In University of Galway's 'Global Health' module given in 3MB, a guest lecture on 'Climate Change & Travel: Rising Health Impacts in a Warming World' has a single diagrammatic slide mentioning the effects of extreme heat on 'heat-related illness and cardiovascular failure'. However little detail is provided. Another slide in the same lecture mentions briefly the increased risk of heat stroke on the traveller. A poster presentation by students to their fellow classmates focused on the physical and psychological effects of heat waves, which mentions the impact of rising heat on the cardiovascular system. This was a guest lecture and not part of the core curriculum therefore this metric was given a score of 1.</i></p>	

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

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

Score explanation: In University of Galway's 'Global Health' module given in 3MB, a guest lecture on 'Climate Change & Travel: Rising Health Impacts in a Warming World' has a single diagrammatic slide mentioning the effects of severe weather on mental health. Subsequent slides discuss the changing patterns of population displacement associated with climate change, food and water insecurity, and political upheaval; however little is mentioned regarding the mental health or neuropsychiatric impact of this on patients. In a poster presentation delivered by students to their peers in the same module, the group chose to focus on the mental health impacts of heat waves.

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

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

Score explanation: In University of Galway's 'Global Health' module given in 3MB, a guest lecture on 'Climate Change & Travel: Rising Health Impacts in a Warming World' discusses impact of climate change; namely food and water insecurity and extreme weather on population migration and displacement. Several facts and informatics are given regarding the 'Growing Climate Refugee Crisis', including the global migrant population, the number due to climate change, those displaced due to natural disaster and predicted numbers for 2050. The UN climate change refugee map is also provided.

In a poster presentation delivered by students to their peers, the topic of waste water and health was covered. Completing this poster presentation was part of the core 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 color, Indigenous communities, children, homeless populations, and older adults?

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

Score explanation: In University of Galway's 'Global Health' module given in 3MB, a guest lecture on 'Climate Change & Travel: Rising Health Impacts in a Warming World' the topic of climate refugees and impact of climate change on refugee health and neglected tropical diseases is covered in 4 slides - however the impact on other marginalised groups is not covered. This was a guest lecture and not part of the core curriculum therefore this metric was given a score of 1.

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

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

Score explanation: In University of Galway's 'Global Health' module given in 3MB, a guest lecture on 'Climate Change & Travel: Rising Health Impacts in a Warming World' there is a single sentence mentioning the impact of climate change neglected tropical diseases and vulnerable geographical regions, but as this was only mentioned in passing, it does not warrant a score of 2.

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)?

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

Score explanation: Toxins has been mentioned briefly throughout the University of Galway's medical curriculum in the context of patient-centred care, where it is important to take into account a patient's occupation and surrounding environment (i.e. the effect of pesticide use on the health of Irish farmers). However, the effect of pesticides or other industry-related environmental toxins on the general population is not discussed. As there is no specific teaching or mention of toxin effect on reproductive health, a score of 0 has been given.

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

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

1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation: The current University of Galway's medical curriculum does not address important human-caused environmental threats that are relevant to the university's surrounding community.</i>	

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?	
3	Indigenous knowledge and value systems are integrated throughout the medical school's planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework.
0	This topic was not covered.
<i>Score explanation: The current University of Galway's medical curriculum does not emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions.</i>	

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?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation: The current University of Galway's medical curriculum does not address the outsized impact of anthropogenic environmental toxins on marginalised populations.</i>	

Curriculum: Sustainability

1.15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored in depth by the core curriculum.

2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: The current University of Galway's medical curriculum does not address the environmental and health co-benefits of a plant-based diet. In the global health module in 3MB one of the mandatory poster project topics was 'Vegan diets' where the cardiovascular health benefits of a plant-based diet was discussed, however the planetary benefits was not mentioned.</i></p>	

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored in depth by the core curriculum
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: Carbon Footprint was briefly covered in an insulin prescribing lecture. The importance of prescribing using glass vials rather than plastic vials was emphasised in this lecture and plastic vials were discouraged due to their larger carbon footprint; however it was only verbally in one lecture delivered to a portion of final year students, and as such is not consistently delivered as part of the curriculum.</i></p>	

1.17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	
2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfil this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.

1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
	<i>Score explanation: Some of these principles have been covered in teaching from a patient and economical perspective, but the environmental co-benefits have not been mentioned in the core curriculum. The sustainability co-benefits have been mentioned by physicians to individual students on placement; however they were not covered in the core curriculum.</i>

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
<i>Score explanation: The current University of Galway's medical curriculum does not introduce strategies to have conversations with patients about the health effects of climate change.</i>	

1.19. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.
<i>Score explanation: The University of Galway's core medical curriculum includes strategies for taking an environmental history in terms of asking patients about their social history (i.e. occupational, environmental, etc) and personal lifestyle features (i.e. home accommodation, nutrition, travel history, etc).</i>	

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?	
4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.

2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.
<p><i>Score explanation: The University of Galway school of medicine is currently in the middle of an extensive curriculum review and redevelopment process. Sustainability is a core value of the curriculum development and planetary health is emphasised as one of the new additions to the medical curriculum - however there are no concrete plans or materials developed yet, and as such it does not warrant a score of 4 points.</i></p>	

1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> curriculum?	
6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s) .
0	There is minimal/no education for sustainable healthcare.
<p><i>Score explanation: There are some planetary health/ESH topics appropriately integrated into the core medical curriculum, primarily in the 3MB modules “Global Health & Development” and “Health & Disease”. However, the topics regarding ESH were not well integrated into the 1st, 2nd, 4th or final year curriculum.</i></p>	

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?	
1	Yes , the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	No , the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.
<p><i>Score explanation: The University of Galway College of Medicine, Nursing, and Health Sciences does not 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.</i></p>	

Section Total (21 out of 72)	29.17%
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Are there additional curriculum resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Interdisciplinary Research

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

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <u>medical school</u> ?	
3	Yes, there are faculty members at the medical school who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the medical school who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution , but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation: The Centre for One Health places sustaining human health, animal health and environmental health at the centre of public policy through research (as well as teaching and advocacy). They have a focus on human health, animal health, microbiology, infectious diseases, agriculture, environmental policy, social marketing and behavioural change from within and outside the university. There are multiple researchers involved with the School of Medicine who are engaged in planetary health research and healthcare sustainability research.</i></p>	

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your <u>institution</u> ?	
3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	There is an Occupational and Environmental Health department , but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.
<p><i>Score explanation: The Centre for One Health places sustaining human health, animal health and environmental health at the centre of public policy through research (as well as teaching and advocacy). Their focus is on human health, animal health, microbiology, infectious diseases,</i></p>	

agriculture, environmental policy, social marketing and behavioural change from within and outside the university.

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 medical school?

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

Score explanation: No, we are not aware of any process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at the University of Galway medical school. There are also no known efforts to create such a process at the moment.

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

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

Score explanation: <http://www.nuigalway.ie/sustainability/> is the most comprehensive sustainability website of the University of Galway. There are many good resources and information on the page, but it inadequately covers the topics of planetary health and effects of climate change on human health. There is no information on planetary health leaders, little information of events and no collaboration with the School of Medicine. <https://www.nuigalway.ie/ryaninstitute/researchcentresandclusters/coh/> is the One Health website of the University of Galway. It outlines the various research opportunities related to planetary health members of staff are undertaking, and ways for students to get involved, hence it attempts to centralise campus resources related to health and the environment. However, it is not easily accessible to students and lacks comprehensiveness regarding direct links between health and climate change.

2.5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the medical school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>Score explanation: The Centre for One Health hosted their annual conference on October 13th, 2023, titled 'One Health and the SDGs'. The aim of the conference was to communicate the "One-Health" concept and highlight the interactions between human health, animal health, and the environment in the context of the United Nations sustainability goals. There were themed research sessions on infectious disease & zoonoses, antimicrobial resistance, emerging pollutants, and people, nature, and the environment.</i></p>	

2.6. Is your medical school a member of a national or international planetary health or ESH organisation?	
1	Yes, the medical school is a member of a national or international planetary health or ESH organisation
0	No, the medical school is not a member of such an organisation
<p><i>Score explanation: No they are not members of any such organisation.</i></p>	

Section Total (12 out of 17)	70.59%
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Are there additional research resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Community Outreach and Advocacy

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

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

Score explanation: The University of Galway continues to collaborate with the Smarter Travel Charter, promoting sustainable commuting methods like walking, cycling, and car-sharing. It has continued its partnership with the Terryland Forest Park project to transform Terryland Forest, Ireland's largest urban forest, into a leading outdoor laboratory and classroom for the benefit of schools and third level education. Moreover, the University's Student Pantry Society, established in 2022, continues to work with the Clonmany community centre in Donegal and FoodCloud (National social enterprise) to redistribute surplus supermarket food to campus students.

Furthermore, the University of Galway partners with Junior Achievement Ireland (JAI). JAI targets 60,000 primary and secondary school students to motivate and inspire young students to value education. The JAI program includes education on strategies to maintain and improve planetary health, particularly in 4th and 5th years, though this is an ancillary focus. The University has also collaborated with Barna Recycling to use some campus food waste as fertiliser. On a similar note, the University of Galway also endorses the "Use Your Mug" initiative started by Galway City Council in collaboration with 2GoCup in an attempt to minimise single-use coffee cups and promote environmental sustainability. Finally, in June 2023, Sligo University Hospital, a partner of the medical school, collaborated with Sligo Leader and the Organic Centre for a year-long garden project as part of its Green Campus Programme. The initiative involves garden work to enhance outdoor spaces, improve biodiversity on the hospital grounds, and improve walkability.

Though the University of Galway has a plethora of partnerships with community programs promoting planetary health, the School of Medicine itself is not directly involved with these partnerships.

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

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

Score explanation: There were no community focused planetary health courses or events held by the medical school. However, the University of Galway's Centre for One Health Research hosted its annual conference on October 13th, 2023. The conference featured themed research sessions on topics such as nature, environmental health, and emerging pollutants. The medical school was not directly involved in planning this event.

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

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

Score explanation: Sustainable healthcare topics/updates are rarely communicated by the School of Medicine or Student Union Weekly Email. However, the Student Union Weekly Email regularly includes communication including "Climate Crew" meetings and upcoming events. Examples of these events are the climate strike in October 2023 and the "GOAL Mile" in December 2023. Climate crew is an environmental forum for the University of Galway Students' Union. The GOAL Mile is a fundraising walk/run event active in 14 countries, helping those affected by conflict, disease, and climate change. Notably, none of these communications are overseen by or are directly affiliated with the School of Medicine. Thus, the scoring for this section is 0.

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?

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

0	There are no such accessible courses for post-graduate providers
<p><i>Score explanation: In 2020, the Anaesthetic Department at the University Hospital Galway, which is affiliated with the University of Galway School of Medicine, hosted a Sustainability day. This session was approved for 4 CPD points. However, it is unclear whether this session is ongoing. We attempted to find more information regarding this metric but were unsuccessful. There were no other professional education programs regarding planetary health.</i></p>	

3.5. Does your <u>medical school</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about environmental health exposures?	
2	Yes, the medical school or all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centres have accessible educational materials for patients.
<p><i>Score explanation: The HSE has contactable environmental health offices for each hospital group, however, there are no accessible educational materials on environmental health exposures. As such, this is insufficient for 1 point scoring.</i></p>	

3.6. Does your <u>medical school</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about the health impacts of climate change?	
2	Yes, the medical school or all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.
<p><i>Score explanation: No easily accessible materials available.</i></p>	

Section Total (2 out of 14)	14.29%
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Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

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

Score explanation: Interested students can apply for the University of Galway Student Sustainability Leadership Award, which is awarded to two students every summer, comprising an 8-week scholarship (June-July) with the NUI Galway Community and University Sustainability Partnership (CUSP) team. The goal of the award is to contribute to campus engagement of the United Nations (UN) Sustainable Development Goals (SDG) and develop the next generation of students into innovative leaders that champion sustainability. This award is open to all students at University of Galway, including medical students.

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

Score explanation: The University of Galway School of Medicine has an Undergraduate Summer Research Programme, where medical students conduct funded research in areas that interest them, and are invited to present their works at the Annual Research Day. There have still not been any research projects directly linked to planetary health or the health effects of climate change. Still, the school is open to facilitate research in this area, provided students wish to do so. Outside of the research programmes run by the School of Medicine, faculty have provided time, insight and guided students to sources of support for initiatives on these topics.

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

2	The medical school has a webpage with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a medical school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
0	There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.

Score explanation: There is no medical-school specific webpage. However, there are web pages belonging to research centres such as the Centre for One Health and the Centre for Climate and Air Pollution Studies, which conduct research on the interactions between environment, climate change and health. The web pages belonging to the research centres can be found on the main university webpage, but there is no webpage dedicated to planetary health mentors or projects specifically, and there is no direct linkage and publicization of this on the medical school website.

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

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

Score explanation: Despite not being a student society, the Irish Doctors for the Environment (IDE) have student members at university of Galway. In the past, these students have been involved in arranging a planetary health information session for students and staff, as well as being invited to deliver a guest lecture in the 3MB 'Global Health' module and partake in the curriculum review process. These events received support from staff and the Medical student society at University of Galway. Despite these positive events, dedicated and engaged contact with the school of medicine is lacking, and mainly based on individual lecturer interest.

More recently, the Irish Global Health Network Society is a newly formed student society focused on raising awareness and engaging the campus in understanding the global determinants of health, along with the challenges in health brought about by climate change. They publicise events from the Irish Global Health Network, a non-profit organisation that champions global health equity and advocates for improved health of low-income underprivileged populations. They also host bake-sales for

humanitarian aid organisations such as Doctors Without Borders. Efforts to establish faculty contact and support with this society is ongoing.

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

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

Score explanation: The school of medicine Curriculum Review Steering Group was formed in November 2021. It aims to review and renew the medical curricula at University of Galway over a 2 year process. The group involves students, faculty and administration representatives. A University of Galway student member of the Irish Doctors for the Environment (IDE) was invited to join the curriculum review process in response to calls for improved planetary health teaching from the University of Galway IDE students. The student member focuses on incorporating themes of sustainability, climate change and global health into the upgraded curriculum due to start in September 2025.

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)

1	Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organise hiking, backpacking, kayaking, or other outings for students)

Score explanation:

1. The Student Union frequently runs food pantries where students can leave unused but in-date food items, and the University of Galway Environmental Society organises organic community gardening on campus as well as beach clean-ups.

2. The Centre for One Health hosted their annual conference on October 13th 2023, titled 'One Health and the SDGs'. Students are invited to attend this conference.

5. *Environmental Society and the Student's Union Climate Crew regularly host events aimed at educating and engaging with the local community to minimise the impact of climate change. One example is the Fridays for Future Protest held in March 2023, where students marched from the University to Eyre Square in a show of support against climate change.*

6. *The Mountaineering Society at University of Galway, open to all students, is affiliated with Mountaineering Ireland, which has a Leave-No-Trace principle, meaning not littering and polluting the environment. There are other clubs available as well, such as Kayaking and Scouts club which follow similar principles.*

Section Total (9 out of 15)

60%

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

Campus Sustainability

Section Overview: This section evaluates the support and engagement in sustainability initiatives by the medical school and/or institution. The healthcare industry is a major contributor to greenhouse gas emissions as well as pollution that harms local, regional, and global ecosystems. While healthcare is, by nature, a resource-intensive endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising every aspect of how our systems operate, from where we source our energy, to how we build our infrastructure, to what companies we invest in. Our medical schools, clinics, and hospitals must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimising environmental impact.

5.1. Does your <u>medical school</u> and/or <u>institution</u> have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff , but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation: University of Galway has a sustainability committee that meets on a regular basis - The Community and University Sustainability Partnership (CUSP). In addition, in September 2019, the University appointed a Community and University Sustainability Officer (CUSO) who worked on a full-time basis up until 2022, however now occupies a part-time role. There is no specific staff member responsible for sustainability of the medical school. There is no staff representative from the medical school on the CUSP General Board.</i></p>	

5.2. How ambitious is your <u>institution/medical school</u> plan to reduce its own carbon footprint?	
5	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2030
3	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2040
1	The institution/medical school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate
0	The institution/medical school does not meet any of the requirements listed above
<p><i>Score explanation: The University of Galway Sustainability Strategy 2021-2025 has a stated goal of creating a plan of achieving carbon neutrality by 2030. The strategy outlines the following plan for achieving carbon neutrality: (1) measure and report carbon footprint by 2021 (achieved) and (2)</i></p>	

develop a framework by 2023 for the university to move ambitiously towards carbon neutrality by 2030 (not yet achieved). There is no written and approved framework to achieve this goal. The University of Galway Climate Action and Sustainability Policy states the goal to achieve net-zero greenhouse gas emissions by 2050, but again there is no written and approved plan to achieve this, The College of Medicine, Nursing and Health Sciences fall under these institutional goals. The College of Medicine, Nursing and Health Sciences have outlined their goals for improving sustainability in their Strategic Plan 2022-2025, stating that they will “Implement the University’s Sustainability Strategy”, however no clear plan to achieve carbon neutrality is outlined.

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

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

Score explanation: Solar photovoltaic (PV) panels installed on the Human Biology Building (HBB) supplies 10% of the building’s energy usage. The Sustainability Strategy for 2021-2025 has the goal that 20% of electricity will come from renewable sources by 2025. There is extensive work being done to replace fossil fuels with energy from combined heat and power plants, solar thermal and solar photovoltaic panels, air to water heat pumps, the introduction of biomass boilers and the implementation of LED high efficient lighting systems across campus. University of Galway has also managed to cut 40% of their energy usage since 2006, making it a leading institution for energy efficiency and usage in Ireland. University of Galway exceeded the Public Sector 2020 Energy Efficiency target of 33% reaching their target of 40% in 2020. For 2022, we reached a figure of 51% savings as reported through the Sustainable Energy Authority Ireland (SEAI) Monitoring & Reporting (M&R) system. During the academic year 2021/2022, University of Galway invested €2.2 million in infrastructural energy projects including energy saving equipment and technologies.

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

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

Score explanation: The Human Biology Building (HBB), which was built in 2017, is the main building for medical students in their preclinical years. The building was built with sustainability and energy efficiency in mind and received a BREEAM excellent rating. The university is ISO 50001:2011 certified and committed to retrofit old buildings to become more energy efficient and sustainable. Most buildings have already undergone some form of alteration, and many more are planned. For example, increasing energy efficiency in the Old Anatomy Building. The university also states the following in the University of Galway Strategic Plan – Shared Vision, Shaped by Values (p16): “We will embrace proven new technologies to increase our buildings’ energy efficiency and Building Energy Rating, by integrating sustainability in all Buildings and Estates planning and development under the auspices of the national Climate Action Plan.”

Note: Although Solar PV panels have been installed on the roof of HBB, its overall energy efficiency rating remains poor (BER E2 as of June 2021). The university plans to review and upgrade the heating and cooling strategies.

Note: We attempted to find information about sustainability of refurbishment of the Clinical Science Institute (CSI) and medical school academies but could not find anything.

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

2	Yes, the medical school or 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.
1	The medical school or institution has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school or institution has not implemented strategies to encourage and provide environmentally-friendly transportation options.

Score explanation: Most students walk, cycle, or take the bus to campus. The campus is very accessible by walking and has a shuttle bus system for transporting students throughout the campus. It begins at the park and ride in the north campus, linking the Biomedical buildings, student accommodations and the rest of the south campus. Underpass has been closed to traffic and is exclusive to pedestrians, cyclists, and the shuttle. Blue spaces are underutilised on campus. Galway University Hospital grounds lack green spaces entirely. Walkability is difficult around the hospital due to illegally parked cars, excessive bollards, and narrow footpaths. Bike parking is poor on the hospital campus in GUH. Shuttle bus connecting Merlin Park and GUH is accessible and convenient. Peripheral medical academies and associated hospitals all have similar issues, especially regarding green spaces, and bike parking. Transport to and from the academies is a sustainability challenge. The west of Ireland lacks a railway corridor linking Letterkenny, Sligo, Mayo and Galway. Many students and staff drive due to this fact. The Medical School should advocate for the reopening of the western rail corridor, all the way to Letterkenny and Derry.

5.6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?

2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	The medical school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the medical school.

Score explanation: Recycling bins for paper and recyclable waste are available throughout the university campus to all students and staff. Recycling stations for glass and aluminium are also available on the South Campus. Organic/compost bins are currently confined to canteen/food service outlets only. Initiatives such as “bin the bin” and “Zero Waste to Landfill” aim to increase recycling. The University aims to divert food waste into compost and increase composting opportunities for students and staff in their Sustainability Strategy 2021-2025, but it is not yet a reality. University of Galway has clear guidelines with regards to the Waste Reduction Reuse Recycling Guidelines on campus. In 2021, a monthly average of 53% of the total waste generated at University of Galway was recycled across six different waste streams (1% drop since previous year, months ranged from 37-66%).

5.7. Does the <u>medical school</u> apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.

Score explanation: The University of Galway Sustainability Strategy 2021-2025 aims to “increase the availability of healthy, sustainable (for example, vegan, vegetarian, organic), locally sourced, affordable and fairly traded food options in campus outlets”. This has been implemented since 2021. There are more plant based options, Fairtrade and vegan options available. The number of water refilling stations has increased in the last year, with almost every building having one outside it. There are limited facilities for cleaning reusable mugs on campus

5.8. Does the <u>medical school</u> or <u>institution</u> apply sustainability criteria when making decisions about supply procurement?	
3	Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional . The medical school is engaged in efforts to increase sustainability of procurement.

1	There are sustainability guidelines for supply procurement, but they are insufficient or optional . The medical school is not engaged in efforts to increase sustainability of procurement.
0	There are no sustainability guidelines for supply procurement.
<p><i>Score explanation: The University of Galway Procurement Policy states that they align with the principles of “Green Procurement” as outlined by the “Guidelines for Public Procurement” set out by the Irish Office of Government Procurement. The University of Galway Policy also states that the university “will incorporate the use of Green Procurement practices in our processes and procedures, in an effort to reduce our environmental impact in conjunction with the Community University Sustainability Programme (CUSP).” There are no concrete sustainability requirements stated in the University of Galway policy document. The University and the College of Medicine, Nursing and Health Sciences Strategic Plan 2022- 2025 states the following goal “To align investment within the College to support strategic goals and ongoing sustainability”. In the University of Galway Sustainability Strategy 2021-2025 they state the goal to achieve green lab certification for all university laboratories, however this is not yet a reality. The school of medicine laboratories have not yet received this certification.</i></p>	

5.9. Are there sustainability requirements or guidelines for events hosted at the <u>medical school</u>?	
2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required .
0	There are no sustainability guidelines for medical school events.
<p><i>Score explanation: The University of Galway Sustainable Event Checklist is a simplified tool to assist event organisers to organise sustainable events at the university. This tool is available but its use is not regulated or mandatory. It is not incentivised or strongly recommended by the School of Medicine, and as such no points are given for this metric.</i></p> <p>https://www.universityofgalway.ie/sustainability/studentsresources/resources/sustainableeventchecklist/</p>	

5.10. Does your <u>medical school</u> have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
2	Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the medical school to make lab spaces more sustainable.
<p><i>Score explanation: Green Labs initiative began in 2019 in the CÚRAM lab. It was the first in Europe to receive Green Lab Certification. The Lambe Institute in Galway University Hospital has since received the Green Lab Certification. This is part of the broader plan for all Galway University labs; University of Galway has the Goal of Certification of all laboratories on campus as green by 2025. This is a Flagship element of University of Galway Sustainability Strategy.</i></p>	

5.11. Does your <u>institution's</u> endowment portfolio investments include fossil-fuel companies?	
4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	The institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest , but currently still has fossil fuel investments.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organised advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
<p><i>Score explanation: University of Galway committed to divest from fossil fuels by the end of 2017 and is now recognised as being fully divested. University of Galway is also committed to invest in renewable energy sources and reinvest energy cost savings into new sustainability technologies and engagement with building occupants as agents for making the university buildings more energy efficient, as evident by the Sustainability Strategy 2021-2025.</i></p>	

Section Total (17 out of 32)	53.13%
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Are there additional sustainability resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

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 University of Galway School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(21/72) \times 100 = 29.17\%$	D
Interdisciplinary Research (17.5%)	$(12/17) \times 100 = 70.59\%$	B
Community Outreach and Advocacy (17.5%)	$(2/14) \times 100 = 14.29\%$	F
Support for Student-led Planetary Health Initiatives (17.5%)	$(9/15) \times 100 = 60.00\%$	B-
Campus Sustainability (17.5%)	$(17/32) \times 100 = 53.13\%$	C
Institutional Grade	$(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = 43.40\%$	C-

Report Card Trends

Section Overview

This graph demonstrates trends in overall and section grades for the years in which University of Galway has participated in the Planetary Health Report Card initiative.

Planetary Health Report Card Trends for University of Galway

