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# Planetary Health Report Card:

## *National University of Ireland, Galway*

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NUI Galway  
OÉ Gaillimh

2021-2022 Contributing Team:

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## Summary of Findings

Overall	C
<u>Curriculum</u>	D
<ul style="list-style-type: none"> <li>NUI Galway includes planetary health in the curriculum, but it lacks integration longitudinally. Aspects of planetary health are discussed in some lectures, particularly in the Global Health and Development module.</li> <li><b>Recommendations:</b> There is a lack of learning outcomes which explicitly mention the effects of environment, climate change, global warming, and pollution on health, particularly after year 3. These topics could be introduced in the Health and Disease modules, the Global Health and Disease Modules, or in Case Based Learning sessions (CBLs) in clinical years.</li> </ul>	
<u>Interdisciplinary Research</u>	B
<ul style="list-style-type: none"> <li>NUI Galway has excellent research clusters related to planetary health, such as the Centre for One Health (COH). The school of medicine also has a summer research programme which allows students to choose from a list of projects available. However, few of the projects available are related to planetary health.</li> <li><b>Recommendations:</b> The summer research programme should link up with the COH or related research clusters to provide research projects related to planetary health, climate change, and sustainability.</li> </ul>	
<u>Community Outreach and Advocacy</u>	D -
<ul style="list-style-type: none"> <li>NUI Galway school of medicine has little community outreach relating to planetary health. The Department of Anaesthesia at University Hospital Galway arranged a sustainability day. The school of medicine had no community facing events or patient-accessible material on planetary health.</li> <li><b>Recommendations:</b> The school of medicine should partner with initiatives already present in University Hospital Galway and the university. The school could also arrange their own community-facing events on the health effects of climate change, and develop easily accessible patient information on the topic.</li> </ul>	
<u>Support for Student-Led Initiatives</u>	B -
<ul style="list-style-type: none"> <li>There is one active medical student group affiliated with the Irish Doctors for the Environment. Faculty and administration are supportive of the group by offering advice, time and inviting the students to be represented on the medical Curriculum Review Steering group. Student research in the area of planetary health is possible, but remains unfunded and largely based on student initiative.</li> <li><b>Recommendations:</b> Although we greatly appreciate the support already received within the school of medicine, we recommend the school become active partners to the student-led initiatives, by providing a planetary health primary contact person in the school of medicine with whom the students could liaise with.</li> </ul>	
<u>Campus Sustainability</u>	B
<ul style="list-style-type: none"> <li>NUI Galway is making great progress to make the campus more sustainable, and the school of medicine is aligned with this development through the university-wide Sustainability Strategy. The university has stated goals of carbon neutrality by 2030 and to have all labs certified as 'green' by 2025.</li> <li><b>Recommendations:</b> The medical school is part of the university Sustainability Strategy, but there is no accessible strategy for how the school of medicine is working to meet these goals. We recommend making a Sustainability Strategy specifically for the school of medicine and improve guidelines for events and procurement within the school of medicine.</li> </ul>	

## **Statement of Purpose**

*Planetary health is human health.*

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

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

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

# Definitions & Other Considerations

## Definitions:

- **Planetary Health:** is described by the *Planetary Health Alliance* as “a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth’s natural systems on human health and all life on Earth”. For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional ‘environmental health’ examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of medical school education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term “planetary health” to satisfy the metric.
- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:
  1. Describe how the environment and human health interact at different levels.
  2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
  3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.
- **Medical School vs. Institution:** When “medical school” is specified in the report card, this only refers to curriculum and resources offered by the School of Medicine and does not include offerings from other parts of the university (for example, undergraduate departments (USA), other related departments eg Public Health, Population Health departments). In contrast, when “institution” is specified in the report card, we are referring to the university more broadly. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is specifically targeted for medical students, can meet this metric.
- **Environmental history (Metric 19 in curriculum section):** This is a series of questions

providers are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and 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 example).

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

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

# Planetary Health Curriculum

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

## Curriculum: General

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?	
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><b>Score explanation:</b> The equivalent of electives in NUI Galway are the Special Study Modules (SSMs) taken in the 1st and 4th year of medicine. In the SSMs, the students choose one from a variety to immerse themselves in for 2 hours per week for one semester, equal to 5 ECT. The SSMs differ every year. This year all SSMs were cancelled.</p>	

## Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><b>Score explanation:</b> This topic was not covered in the medical school curriculum.</p>	

**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:** *The module Global Health and Development undertaken by 3rd year NUI Galway students includes a lecture on water, sanitation, and hygiene (WASH) which also briefly covers the effects of extreme weather events such as droughts, flooding etc. on human health. Learning outcomes for this lecture include “be aware of the difficulties faced by health services in resource poor settings and the challenges of strengthening health systems, ensuring adequate human resources for health and equitable access” and “recognize issues related to global health security and addressing the causes and control of public health risks from epidemic prone diseases and climate change”.*

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

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

**Score explanation:** *The increasing range of the ‘aedes albopictus’ mosquito vector, as a result of climate factors, was briefly discussed in a lecture entitled ‘Red cell parasites’ as a part of the module ‘Health and Disease II’, taken by 3rd year students. The impact of environmental change on vector density and distribution is mentioned in a lecture in the ‘Global Health and Development’ module in 3rd year on vector borne diseases. However, environmental change is discussed more in relation to displacement and war rather than climate change directly.*

**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.

**Score explanation:** In the module *Global Health and Development* a group writing assessment (3-4 students per group) must be completed by all students and is worth 40% of the grade. The topics were assigned as titles, but students had the freedom to choose the angle of the article as long as it was related to the assigned title. A small number of students were assigned the titles “Air quality in a global health context”, “Environmental degradation as a major risk to human health”, “Occupational health risks arising from industrial chemicals”, “Urbanisation and human health” and “Promoting responsible international travel”. We awarded 2 points for this metric as the work was not elective but part of the core curriculum, even though only a small number of students were assigned topics related to respiratory health effects of climate change and air pollution.

**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.

**Score explanation:** In the module *Global Health and Development* a group writing assessment (3-4 students per group) must be completed by all students and is worth 40% of the grade. The topics were assigned as titles, but students had the freedom to choose the angle of the article as long as it was related to the assigned title. One group of students were assigned the title “Environmental degradation as a major risk to human health” which could be angled to include cardiovascular health effects of climate change, but as there were no other titles related this and none of the titles focused on heat and cardiovascular health specifically, we have chosen to award 1 point for this metric.

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

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

**Score explanation:** This topic was not covered in the medical school curriculum.

**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.
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2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

**Score explanation:** *The learning outcome "recognize issues related to global health security and addressing the causes and control of public health risks from epidemic prone diseases and climate change" in the Global Health and Development module deals with this topic. Food security, health, natural disasters, future food shortages, WASH, and the UN's role in restoring and conserving natural resources are mentioned. However, the role of climate change and ecosystem health is not sufficiently covered to award 3 points.*

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

**Score explanation:** *The learning outcome "demonstrate awareness of social, economic, political, environmental and gender determinants of health disparities; recognize the impacts of globalisation, poverty and widening socio-economic inequalities as determinants of health; understand the concepts of development, poverty, economic and social development, and the right to health" in the Global Health and Development module deals with inequalities in health in relation to social and environmental determinants of health. However, the link between climate change and marginalised communities is not sufficiently covered to award 3 points.*

<b>10. Does your medical school curriculum address the unequal regional health impacts of climate change globally?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

**Score explanation:** *One of the learning outcomes of the Global Health and Disease Module states that students should be able to "Recognise issues related to global health security and address the causes and control of public health risks from epidemic prone diseases and climate change". The unequal effects of humanitarian crises and natural disasters is covered, but the role of climate change and ecosystem health is not emphasised enough to award 3 points.*

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

**11. Does your medical school curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?**

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

*Score explanation: This topic was not covered in the medical school curriculum.*

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

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

*Score explanation: This topic was not covered in the medical school curriculum.*

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

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

*Score explanation: The curriculum does not mention the importance of Indigenous knowledge and value systems as essential components of planetary health solutions.*

**14. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women,**

**communities of colour, children, homeless populations, Indigenous populations, and older adults?**

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

2 This topic was briefly covered in the core curriculum.

1 This topic was covered in elective coursework.

0 This topic was not covered.

*Score explanation: There is no direct part of the curriculum that addresses the outsized impact of anthropogenic environmental toxins on marginalised populations.*

### *Curriculum: Sustainability*

**15. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?**

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

2 This topic was briefly covered in the core curriculum.

1 This topic was covered in elective coursework.

0 This topic was not covered.

*Score explanation: A plant-based diet is briefly mentioned in the “Metabolism, Nutrition and Health” module. However, the specific environmental and health co-benefits of a plant-based diet is not directly addressed in this module or the curriculum. The focus is on nutritional deficiencies associated with a plant-based diet.*

**16. Does your medical school curriculum address the carbon footprint of healthcare systems?**

3 This topic was explored in depth by the core curriculum

2 This topic was briefly covered in the core curriculum.

1 This topic was covered in elective coursework.

0 This topic was not covered.

*Score explanation: The curriculum did not address the carbon footprint of healthcare systems or the impact of current healthcare systems on the environment.*

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

1	Waste production within the healthcare system and strategies for reducing waste in clinical activities, such as in the operating room
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally anaesthetic gas options with reduced greenhouse gas emissions
1	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on de-prescribing where possible and its environmental and health co-benefits would fulfill this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes for obesity. This is commonly known as social prescribing in the UK.
1	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
<p><b>Score explanation:</b>  <i>In the Bacteriology section of the “Health &amp; Disease II” module, de-prescribing where possible and its environmental and health co-benefits is mentioned in multiple lectures in terms of antimicrobial resistance, antimicrobial stewardship, and the impact of these on the surrounding environment.</i></p> <p><i>Health and environmental co-benefits of non-pharmaceutical management of conditions (social prescribing) is mentioned in many lectures in the Public Health and Health Promotion section of the “Health &amp; Disease I” and “Health &amp; Disease II” modules. Examples of these lectures include those on Health Promotion Models &amp; Approaches, Obesity, Mental Health, and Non-Communicable Disease Control.</i></p> <p><i>In the Bacteriology section of the “Health &amp; Disease II” module, the health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment are mentioned in multiple lectures with a focus on antimicrobial stewardship and prudent prescribing.</i></p>	

### **Curriculum: Clinical Applications**

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

**Score explanation:** *The medical school's core curriculum does not teach students strategies to have conversations with patients about the health effects of climate change.*

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

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

**Score explanation:** *Strategies for taking an environmental history or exposure history are not covered in the core curriculum. Students are trained to ask patients about their social history when taking a medical history, which includes questions regarding the patient's smoking status and occupation. However, the core curriculum does not place emphasis on training students to ask about the patient's living conditions, food and water sources, or exposure to air pollution, pesticides, asbestos, lead, mould, and wildfire smoke.*

**Curriculum: Administrative Support for Planetary Health**

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

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

**Score explanation:** *Since NUI Galway was included in the PHRC last year, the school has been receptive and willing to listen to the student's call for increased planetary health focus. The school of medicine is currently in a medical curriculum review process, and has invited a student involved in last year's PHRC to be a member of the curriculum review steering group. Although no concrete plans for developing a more planetary health focused curriculum has been developed yet, the efforts to meet, discuss with, and invite the students into the curriculum development forum, is awarded 2 points.*

**21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?**

6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s).

0	There is minimal/no education for sustainable healthcare.
<p><b>Score explanation:</b> <i>The healthcare sustainability and some planetary health topics (eg. pollution, clean water accessibility) are the focus of certain lectures, especially in the “Global Health &amp; Development” module. The social determinants of health are well integrated longitudinally into the curriculum, but there is little mention or discussion of the impact of climate change in this context.</i></p>	

<p><b>22. Does your medical school employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?</b></p>	
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><b>Score explanation:</b> <i>The medical school does not employ a member of faculty to specifically oversee and be responsible for the incorporation of planetary health and sustainable healthcare as a theme throughout the course curriculum.</i></p>	

<b>Section Total (20 out of 69)</b>	<b>20</b>
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# Interdisciplinary Research

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

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

**Score explanation:**  
*The [Centre for One Health at NUIG](#) has several researchers involved with the School of Medicine, including:*

- \*Prof Dearbhaile Morris, personal professor of antimicrobial resistance and One Health, and Head of the Discipline of Bacteriology at the School of Medicine*
- \* Dr Georgios Miliotis, Antimicrobial Resistance and Microbial Ecology Group*
- \*Dr Liam Burke, tracking the antibiotic resistant strains and genes between humans, animals and the environment*
- \*Prof Ines Thiele, molecular systems physiology, how diet influences human health*
- \*Prof Máire Connolly, Emerging infectious diseases, surveillance, pandemic preparedness, humanitarian emergencies, health security*
- \*Prof Martin Cormican, antibiotic resistance and foodborne infections*
- \*Dr Sinead Duane, Antimicrobial Resistance, Social Marketing, Social Change, Systems Dynamics, Health and the Environment, Stakeholder Engagement*
- \*Dr Gerard Fleming, Marine biodiscovery, antimicrobial resistance, environmental microbiology*
- \*Prof Conor O’Byrne, foodborne pathogens, stress responses, sigma factors, gene regulation, listeria monocytogenes, e. coli*
- \*Dr Kate Reddington, infectious disease diagnostics, emerging technologies, antimicrobial resistance*
- \*Dr Sabine Franklin, antibiotic resistance*
- \*Ms Niamh Cahill, antibiotic resistance, food and water pathogen transmission*
- \*Ms Alexandra Chueiri, antimicrobial resistance in recreational waters*

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

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

*Score explanation: The Centre for One Health (COH), a trans-disciplinary research centre, is an integral part of the [Ryan Institute](#) at NUIG and brings together experts in human health, animal health, microbiology, infectious diseases, agriculture, environmental policy, social marketing and behavioural change from within and outside NUIG. The COH places sustaining human health, animal health and environmental health at the centre of public policy through teaching, research and advocacy. The COH hosts several small events each year and an annual conference.*

**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: There is no such process or efforts to create one.*

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

3	There is an easy-to-use, adequately comprehensive website that centralizes various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that attempts to 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.
<p><b>Score explanation:</b> <a href="http://www.nuigalway.ie/sustainability/">http://www.nuigalway.ie/sustainability/</a> is the most comprehensive sustainability website of NUIG. 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. <a href="https://www.nuigalway.ie/ryaninstitute/researchcentresandclusters/coh/">https://www.nuigalway.ie/ryaninstitute/researchcentresandclusters/coh/</a> is the One Health website of NUIG. 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.</p>	

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 <b>institution</b> 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><b>Score explanation:</b> NUIG hosted the 25th Annual Health Promotion Conference online on Thursday, 24<sup>th</sup> June, 2021. The theme was 'Health Promotion through E-Health: Challenges and Opportunities'. The conference was hosted by the Health Promotion Research Centre at NUIG in collaboration with the Department of Health; the Health Service Executive; and the Association for Health Promotion Ireland. This virtual conference aimed to provide a platform to highlight cutting-edge research and innovative initiatives, and to broaden connections among a diversity of researchers, policymakers and practitioners. It strengthened the link between planetary health problems, and potential solutions to these problems.</p> <p>The Centre for One Health hosted an annual conference from November 3<sup>rd</sup> to November 4<sup>th</sup> 2021, with speakers Dr Casey Barton Behravesh and Prof. Malcolm Jones speaking about the links between human, animal and environmental health.</p> <p>These annual conferences and spotlight series are aimed not only at the academic community but also students and the general public and highlight One Health Challenges.</p>	

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
<b>Score explanation:</b> <i>The school of medicine is not currently a member of such an organisation, but it has received an invitation to join the Global Consortium on Climate and Health Education (GCCHE) at Columbia University.</i>	

Section Total (12 out of 17)	12
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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.*

- *The Antimicrobial Resistance and Microbial Ecology Group research group has an outreach programme focused on infection prevention and antibiotic resistance aimed at primary/secondary students. This introduces the One Health concept to young students. Website with resources accessible [here](#)*

# Community Outreach and Advocacy

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

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

**Score explanation:** The partner hospital group of the medical school has partnerships with the Smarter Travel Charter 2015 which is a voluntary programme to promote walking, cycling and car-sharing to get to work. They also have a partnership with the National Sustainability Office to develop and maintain programmes to reduce waste, conserve water and electricity among other initiatives. NUI Galway partners with the Terryland Forest Park project. The aim is to develop Terryland Forest, Ireland's largest urban forest into a major Outdoor Laboratory and Outdoor Classroom for the benefit of schools and third level research. However, the School of Medicine is not involved in these partnerships.

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

**Score explanation:** There were no community focused planetary health courses or events held by the medical school or the university this year. NUI Galway hosted a conference with the title: [Climate Change and Health in 2017](#) open to the general public, which was given a point in last year's report

*card. However, since there have been no community-facing events hosted over the past year by neither the School of medicine nor NUI Galway, in this year's report card this score is 0.*

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

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

**Score explanation:** *No planetary health/sustainable healthcare updates are provided directly by the School of Medicine. However there are occasional university wide notices on climate action activities which healthcare students also receive.*

**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

**Score explanation:** *The Anaesthetic Department at the University Hospital Galway, which is affiliated with NUI Galway school of medicine, hosted a Sustainability Day on Tuesday 17th November 2020 which was approved for 4 CPD points. It consisted of a series of talks which focused on sustainability initiatives in healthcare.*

**5. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about environmental health exposures?**

2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centres have accessible educational materials for patients.

**Score explanation:** *No easily accessible educational materials are available to patients on the topic.*

**6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?**

2 Yes, all affiliated hospitals have accessible educational materials for patients.

1 Some affiliated hospitals have accessible educational materials for patients.

0 No affiliated hospitals have accessible educational materials for patients.

*Score explanation: No easily accessible materials available.*

**Section Total (3 out of 14)**

**3**

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# Support for Student-Led Planetary Health Initiatives

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

1. Does your institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, the institution does not offer opportunities or support for sustainability initiatives or QI projects.

**Score explanation:** Students can apply for the Student Sustainability Leadership Award, which is given to two students each summer. The award consists of an 8-week scholarship (June-August) with the NUI Galway Community and University Sustainability Partnership (CUSP) team. The goal of the award is to help implement the NUI Galway Sustainability Strategy on campus and to develop student leaders on sustainability. The award is open to all students at NUI Galway, including medical students.

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

**Score explanation:** The NUI Galway school of medicine has an excellent summer research programme which allows students to conduct funded research in areas of their interest. To date, there has been no research projects directly linked to planetary health or the health effects of climate change, however, the School is open to facilitate research in this area as well following student demand. Outside of the research opportunities run by the school of medicine themselves, faculty has also provided time, advice and support to the completion of the student-run study 'Planetary Health Education in Medical Curricula in the Republic of Ireland', currently in press.

**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, but there are webpages dedicated to research clusters such as the Centre for One Health (COH) and the Centre for Climate and Air Pollution Studies that can be found on the university webpage.. Professor Dearbháile Morris, who is a mentor to the NUI Galway students filling out this report card was contacted through this webpage. However, the webpage is not linked to from the medical school webpage, nor is there any information on these research centres on the medical school webpage.*

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

***Score explanation:** Although not registered as a student society, the NUI Galway student branch of the Irish Doctors for the Environment (IDE) is a new, active group with student members and faculty mentors from the Centre of One Health. The group was established in September 2021 and has gained support and positive feedback from faculty and administration at NUI Galway. The group hosted a major event in collaboration with the Medical Society at NUI Galway, which brought together students, faculty, and researchers interested in the links between climate change and health. The IDE group has also been invited to be represented on the medical Curriculum Review Steering Group, which aims to renew the entire medical curriculum at NUI Galway over the next 2 years.*

**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:** In November 2021, the school of medicine Curriculum Review Steering Group was formed, tasked with reviewing and renewing the medical curricula at NUI Galway over a 2 year process. The group includes students, faculty and administration representatives. The NUI Galway Irish Doctors for the Environment student group has joined the curriculum review process with one medical student representative.

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:**

2. The Centre for One Health hosted an annual conference from November 3<sup>rd</sup> to November 4<sup>th</sup> 2021, with speakers Dr Casey Barton Behravesh and Prof. Malcolm Jones speaking about the links between human, animal and environmental health. Students were encouraged to attend.

6. The NUIG mountaineering society, open to medical students, is affiliated with mountaineering Ireland, which has a Leave-No-Trace principle.

Section Total (9 out of 15)	9
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# Campus Sustainability

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

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

2. How ambitious is your medical school/institution's plan to reduce its own carbon footprint?	
4	The institution has a stated goal of carbon neutrality by 2030 or earlier and the medical school / institution has a well-defined and adequate plan in place to achieve this goal.
3	Yes, there is a stated carbon neutrality goal by at least 2040 and the medical school/institution has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal by at least 2040, but the medical school/institution has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.
<p><b>Score explanation:</b> <i>The NUIG Sustainability Strategy for 2021-2025 has a stated goal 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) develop a framework by 2023 for the university to move ambitiously towards carbon neutrality by 2030. The College of Medicine, Nursing</i></p>	

and Health Sciences fall under the institutional goal, but there is no specific plan from the college or the School of Medicine on how to reach this goal. NUI Galway also aims to achieve net zero greenhouse gas emissions by 2050.

**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 PV installed on the Human Biology Building (the main building for medical students in their preclinical years), supplies 10% of the building's energy usage. The NUI Galway Sustainability Strategy 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. NUI 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. NUI Galway exceeded the Public Sector 2020 Energy Efficiency target of 33% reaching their target of 40% in 2020. In 2021, NUI Galway ranked 14th in the world in the Times Higher Societal Impact Ranking for SDG 7 Clean and Affordable energy. During the academic year 2020/2021, NUI Galway invested €1,200,000 in infrastructural energy projects including energy saving equipment and technologies.

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

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

**Score explanation:** The Human Biology Building, 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 Building Research Establishment Environmental Assessment Method (BREEAM) excellence 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 alterations are planned. The university also states the

*following in the NUI 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.”. Solar PV panels have been installed on the roof of the Human Biology Building, however as of June 2021 its overall energy efficiency rating is currently poor (BER E2). The university has created plans to improve this rating, including a plan to review and upgrade the heating and cooling strategies and is currently seeking approval for this plan.*

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

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

**Score explanation:** *Most students walk, cycle or take the bus to campus. NUI Galway has a shuttle bus system for transporting students and staff across campus. Furthermore, secure cycling storage options have been implemented, and walking time maps are available that show the approximate walking time to campus from different areas in Galway city. NUI Galway has a Travel Plan project and several accessible online resources to encourage active travel and public transport use and discourage car use. Every year the Students’ Union also arrange walkathons and competitions to encourage walking to campus.*

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

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

**Score explanation:** *Recycling bins for paper and recyclable waste are available throughout the university campus to all students and staff, including the medical school buildings. Initiatives such as “bin the bin” and “Zero Waste to Landfill” aim to increase recycling. NUI Galway has clear guidelines with regards to the Waste Reduction Reuse Recycling Guidelines on campus. In 2020, a monthly average of 54% of the total waste generated at NUI Galway was recycled across six different waste streams (months ranged from 40-70%). Organic bins are currently confined to canteen/food service outlets only. 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.*

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

3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.

**Score explanation:** There is an optional Sustainability Event Checklist which includes several points on local, climate friendly, Fairtrade, plant-based and seasonal food. Campus caterers have implemented a recycling system to conserve natural resources and have placed a strong emphasis on fresh, local, organic and sustainable food offerings. NUI Galway has increased the number of water fountains on campus to reduce plastic bottle waste. The NUI 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”, and this has already begun to be implemented, with more plant-based options available across campus outlets in 2021. However, The College of Medicine, Nursing and Health Sciences has not outlined a strategy for implementing this change.

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

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

**Score explanation:** The NUI 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 NUI 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 NUI Galway policy document. The School of Medicine is involved in efforts to increase sustainability procurement through the university policy, particularly when it comes to lab resources procurement.

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

2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required.
0	There are no sustainability guidelines for medical school events.
<b>Score explanation:</b> <i>The NUI Galway Sustainable Event Checklist is available to all NUI Galway staff. The checklist is a simplified tool to assist event organizers to organize sustainable events.</i>	

<b>10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?</b>	
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.
<b>Score explanation:</b> <i>CÚRAM, the SFI Research Centre for Medical Devices based at NUI Galway, was the first in Europe to be awarded Green Lab Certification. The NUI Galway Sustainability Strategy 2021-2025 aims to have all labs on campus certified as 'green' by 2025 with several labs already having received 'Green Lab Certifications' including the Lambe institute at University Hospital Galway.</i>	

<b>11. Does your institution's endowment portfolio investments include fossil-fuel companies?</b>	
4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	No, the institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest, but currently still has fossil fuel investments.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
<b>Score explanation:</b> <i>NUI Galway committed to divest from fossil fuels by the end of 2017 and is now recognised as being fully divested. NUI Galway is also committed to invest in renewable energy sources, to reinvest energy cost savings into new sustainability technologies and to engage with building occupants as agents for making the university buildings more energy efficient. This is evident in the <a href="#">NUI Galway Sustainability Strategy 2021-2025</a>.</i>	

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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 NUI Galway School of Medicine

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

Section	Raw Score	Letter Grade
<b>Planetary Health Curriculum (30%)</b>	$(20 / 69) \times 100 = 28.98\%$	D
<b>Interdisciplinary Research (17.5%)</b>	$(12 / 17) \times 100 = 70.59\%$	B
<b>Community Outreach and Advocacy (17.5%)</b>	$(3 / 14) \times 100 = 21.43\%$	D-
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	$(9 / 15) \times 100 = 60.00\%$	B-
<b>Campus Sustainability (17.5%)</b>	$(22 / 31) \times 100 = 70.97\%$	B
<b>Institutional Grade</b>	<b>47.71%</b>	<b>C</b>

# Report Card Trends

## Section Overview

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

