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# Planetary Health Report Card (Medicine): *Trinity College Dublin*

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**Trinity College Dublin**  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin

2023-2024 Contributing Team:

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## Summary of Findings

Overall	C <sup>+</sup>
<u>Curriculum</u>	A <sup>-</sup>
<ul style="list-style-type: none"> <li>TCD's medical curriculum includes a module called 'Global Health' to highlight the salient aspects of sustainable development. Last year's curriculum update included the addition of a 'Sustainable Healthcare' workshop, which has received very positive feedback from students as a powerful advocacy initiation for climate awareness in healthcare.</li> <li><b>Recommendations:</b> Further initiations to address climate change as a threat to global health are needed, preferably with earlier and more longitudinal integration into the course. We call for the addition of further modules devoted to Planetary Health and the Environment.</li> </ul>	
<u>Interdisciplinary Research</u>	B <sup>-</sup>
<ul style="list-style-type: none"> <li>There is interdisciplinary planetary health research being carried out in TCD but the school of medicine could be taking a more active role in this research. In the Meath Foundation Research Symposium 2023 Professor Colin Doherty delivered the opening remark on climate change and health, mentioning the PHRC. TCD is a member of the Global Consortium on Climate and Health Education.</li> <li><b>Recommendations:</b> Expanding the Healthy Trinity web page to a whole website. Promoting collaboration between medical students or external networks such as Irish Doctors for the Environment (IDE) to organise a student-led conference geared at students. More partnerships with organisations such as Planetary Health Alliance.</li> </ul>	
<u>Community Outreach and Advocacy</u>	D <sup>-</sup>
<ul style="list-style-type: none"> <li>TCD's School of Medicine has minimal community outreach relating to planetary health. There is an opportunity for the school to participate in Trinity College Dublin's "Green Week" as a form to increase community advocacy.</li> <li><b>Recommendations:</b> More community partnerships relating to planetary health and more consistent outreach and education regarding environmentalism within local hospitals and the medical school.</li> </ul>	
<u>Support for Student-Led Initiatives</u>	C
<ul style="list-style-type: none"> <li>TCD has sustainability initiatives such as Green Week, organised by the Green Campus Committee. TCD, however, does not take enough responsibility or action in providing its students with the resources necessary to research, learn about or initiate projects relating to sustainability.</li> <li><b>Recommendations:</b> Providing funding, assigning mentors or integrating sustainability more within the curriculum. It should also aim to create a specific webpage on sustainability, and more collaboration with existing programs. The medical school or TCD should aim to create the role of a student representative related to sustainability.</li> </ul>	
<u>Campus Sustainability</u>	C <sup>+</sup>
<ul style="list-style-type: none"> <li>Trinity College Dublin has made consistent progress and efforts into becoming a more sustainable campus and has tried to involve all staff and students to participate in such efforts, as well as making relative facilities and services more accessible.</li> <li><b>Recommendations:</b> Goals and plans are already in place at the Medical School, but have yet to be achieved. The college, and different schools within the college have set goals and plans; but those specific to the medical school are far from enough, and lacking of information.</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 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 <b>more than one</b> elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered <b>one</b> elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does <b>not</b> have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a <b>lecture</b> on planetary health.
0	No, the medical school has <b>not</b> offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>Score explanation:</i>            'Global Health MOOC- Achieving Sustainable Development' is an online elective from Future Learn (<a href="https://www.futurelearn.com/">https://www.futurelearn.com/</a>) offered to fourth year medical students, comprising a review of the following topics:</p> <ul style="list-style-type: none"> <li>• Exploring the United Nations Sustainable Development Goals (SDG) framework.</li> <li>• Examining why SDG3 'good health and wellbeing' is critical for achieving sustainable development.</li> <li>• Introducing challenges to 'clean water and sanitation' and 'sustainable cities and communities'.</li> </ul>	

## 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 <b>in depth</b> by the <b>core</b> curriculum.
2	This topic was <b>briefly</b> covered in the <b>core</b> curriculum.
1	This topic was covered in <b>elective</b> coursework.

0	This topic was <b>not</b> covered.
<p><i>Score explanation:</i>  As part of the <b>ADVANCED CLINICAL AND PROFESSIONAL</b> module, third year medical students must complete the 'Global Health-Achieving Sustainable Development' course in their second semester. It spans a 4-week period and is worth 20% of the module's total mark. Upon completion, students are required to answer a set of MCQs to ensure their knowledge is satisfactory. The connection between extreme heat, climate change and potential health risks thus attributable are briefly highlighted.</p> <p>Two lectures under the topic of 'Environmental Health' are administered to fourth year medical students as part of their <b>PUBLIC HEALTH AND PRIMARY CARE (PHPC)</b> module. These lectures explore the principles of Planetary Health, the health sequelae of climate change and the potential benefits of plant-based diets. The impact of increased temperatures on human health and heart related disease is briefly discussed.</p> <p>In 2022, curriculum updates included a workshop tutorial entitled 'Sustainable Healthcare' led by doctors from IDE. This now comprises a mandatory part of the <b>MEDICAL ETHICS, LAW &amp; PROFESSIONALISM</b> module for fourth year medical students, constituting an interactive workshop based around the core principles of climate change in healthcare. The workshop has received very positive feedback from students.</p>	

1.3. Does your <u>medical school</u> curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
3	This topic was explored <b>in depth</b> by the <b>core</b> curriculum.
2	This topic was <b>briefly</b> covered in the <b>core</b> curriculum.
1	This topic was covered in <b>elective</b> coursework.
0	This topic was <b>not</b> covered.
<p><i>Score explanation:</i>  Two lectures entitled 'Environmental Health' are administered to fourth year medical students as part of their <b>PUBLIC HEALTH AND PRIMARY CARE (PHPC)</b> module. These lectures explore the principles of Planetary Health, the health consequences of climate change and plant-based diets, with brief coverage of extreme weather events.</p> <p>As of 2022, a workshop tutorial entitled 'Sustainable Healthcare' led by doctors from IDE has been added as a mandatory part of the <b>MEDICAL ETHICS, LAW &amp; PROFESSIONALISM</b> module for fourth year medical students. It is an interactive workshop focused around the core principles of Planetary Health. The topic of extreme and severe weather was discussed.</p>	

1.4. Does your <u>medical school</u> curriculum address the impact of climate change on the changing patterns of infectious diseases?	
3	This topic was explored <b>in depth</b> by the <b>core</b> curriculum.
2	This topic was <b>briefly</b> covered in the <b>core</b> curriculum.

1	This topic was covered in <b>elective</b> coursework.
0	This topic was <b>not</b> covered.
<p><i>Score explanation:</i>  Parasitology is a major component of the <i>INFECTION AND IMMUNITY</i> module taught in second year. The relationship between climate change and parasitic diseases are briefly highlighted, with additional exploration of neglected tropical diseases (NTDs) and climate change as one of the 10 failings in global NTDs.</p> <p>Two lectures entitled 'Environmental Health' are administered to fourth year medical students as part of their Public Health and Primary Care (PHPC) module. These lectures explore the principles of Planetary Health, the health consequences of climate change and plant-based diets. This includes a slide explaining the link between extreme weather events, changing biochemical flows and deforestation and infectious disease.</p> <p>As of 2022, a workshop tutorial entitled 'Sustainable Healthcare' led by doctors from IDE has been added as a mandatory part of the <i>MEDICAL ETHICS, LAW &amp; PROFESSIONALISM</i> module for fourth year medical students. It is an interactive workshop based around the core principles of Planetary Health. The change in patterns of infectious disease due to changes in vector ecology and water quality caused by climate change was explored.</p> <p>The 'Travel and tropical medicine' lecture in 5th year module <i>INTEGRATED MEDICAL SCIENCE AND PRACTICE</i> has a slide on the effect of climate, humidity and flooding on increased spread of vector-borne diseases.</p>	

<b>1.5. Does your <u>medical school</u> curriculum address the respiratory health effects of climate change and air pollution?</b>	
3	This topic was explored <b>in depth</b> by the <b>core</b> curriculum.
2	This topic was <b>briefly</b> covered in the <b>core</b> curriculum.
1	This topic was covered in <b>elective</b> coursework.
0	This topic was <b>not</b> covered.
<p><i>Score explanation:</i>  Air pollution's effect on respiratory health is briefly discussed in the <i>LABORATORY AND INVESTIGATIVE MEDICINE</i> module in third year. Its role as a risk factor for respiratory pathogenesis such as chronic bronchitis and lung cancers is explored.</p> <p>Two lectures entitled 'Environmental Health' are administered to fourth year medical students as part of their Public Health and Primary Care (PHPC) module. These lectures explore the principles of Planetary Health, the health consequences of climate change and plant-based diets. This includes 3 slides explaining the negative effects of smog, household air pollution and warmer temperatures on respiratory disease.</p> <p>As of 2022, a workshop tutorial entitled 'Sustainable Healthcare' led by doctors from IDE has been added as a mandatory part of the <i>MEDICAL ETHICS, LAW &amp; PROFESSIONALISM</i> module for fourth year medical students. It is an interactive workshop based around the core principles of Planetary Health. The increase in asthma and cardiovascular disease due to air pollution was highlighted, with</p>	



*further exploration of the increase in respiratory allergies and asthma attributable to an allergen increase owing to climate change.*

**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.

*Score explanation:*

*Two lectures entitled 'Environmental Health' are administered to fourth year medical students as part of their Public Health and Primary Care (PHPC) module. These lectures explore the principles of Planetary Health, the health consequences of climate change and plant-based diets, with brief discussion of the cardiovascular health effects of climate change.*

*As of 2022, a workshop tutorial entitled 'Sustainable Healthcare' led by doctors from IDE has been added as a mandatory part of the MEDICAL ETHICS, LAW & PROFESSIONALISM module for fourth year medical students. It is an interactive workshop based around the core principles of Planetary Health. The effect of both extreme heat and air pollution caused by climate change on cardiovascular health was explored.*

**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:*

*Two lectures entitled 'Environmental Health' are administered to fourth year medical students as part of their Public Health and Primary Care (PHPC) module. These lectures explore the principles of Planetary Health, the health consequences of climate change and plant-based diets. This includes one slide explaining the negative consequences of resource scarcity, extreme weather events and loss of nature on people's mental health. Depression, PTSD, anxiety and suicide are listed as potential consequences.*

*As of 2022, a workshop tutorial entitled 'Sustainable Healthcare' led by doctors from IDE has been added as a mandatory part of the MEDICAL ETHICS, LAW & PROFESSIONALISM module for fourth year medical students. It is an interactive workshop based around the core principles of Planetary Health. The concept of climate anxiety and its effects on overall mental wellbeing was discussed, with further exploration of the mental health impact of severe weather and environmental degradation.*

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

*Score explanation:*

*Two lectures entitled 'Environmental Health' are administered to fourth year medical students as part of their Public Health and Primary Care (PHPC) module. These lectures explore the principles of Planetary Health, the health consequences of climate change and plant-based diets. Topics covered include the biodiversity loss due to acidification of the oceans, the doubling of water deficits worldwide, the destruction of homes and increased climate refugees as a result of rising sea levels. The lecturer links all of these problems to climate change.*

*As of 2022, a workshop tutorial entitled 'Sustainable Healthcare', led by doctors from IDE, has been added as a mandatory part of the MEDICAL ETHICS, LAW & PROFESSIONALISM module for fourth year medical students. It is an interactive workshop based around the core principles of Planetary Health, with exploration of topics such as water and food supply changes and environmental degradation. Discussion is also given on the potentially devastating consequences of these issues e.g. malnutrition, diarrheal disease, forced migration, civil conflict and mental health impacts.*

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

*Score explanation:*

*A lecture titled 'Health Equity', delivered in Year 4 Medicine's Public Health and Primary Care (PHPC) module, highlighted the increasing and disproportionate burdens and incidences of many negative social determinants of health (SDOH) on the more disadvantaged people groups. There was a brief example of an SDOH being the environment (touching on concepts such as environmental justice and intergenerational equity, covered in 1 slide), and briefly also discussions in the lecture on the poor health outcomes in marginalised communities as a result of increased exposures to environmental and occupational pollutants.*

*The link is also touched on briefly in Year 2 Medicine's Infection and Immunity (I&I) module, which highlighted the link between climate change on the effects on parasite transmission & life cycle, and considered climate change among the "Ten failings in global neglected tropical diseases [NTDs]*

control” (Hotez et al, 2017), and subsequently also that NTDs and parasitic diseases disproportionately affect the world’s poorest and most marginalised populations.

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

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

*Score explanation:*

*A lecture titled ‘Health Equity’, delivered in Year 4 Medicine’s Public Health and Primary Care (PHPC) module, highlighted the increasing burdens and incidences of many negative social determinants of health (SDOH) and poorer health outcomes in the more disadvantaged people groups. However, any health differences between regions are mostly linked to the differences in deprivation of those regions and mostly interspersed throughout the discussions of the lecture.*

*A workshop titled ‘Planetary Health’, delivered in the Year 4 Medicine’s Medical Jurisprudence, Ethics, and Professionalism (MJEP) module, touched briefly in 1 slide on the impact of air pollution on children’s health - with the lecturer briefly highlighting that it occurred in a more deprived district of the city.*

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

*Score explanation:*

*A workshop titled ‘Planetary Health’, delivered in the Year 4 Medicine’s Medical Jurisprudence, Ethics, and Professionalism (MJEP) module featured one slide linking air pollution to almost a million stillbirths in a year.*

*A lecture titled ‘Preconceptual & Antenatal Care’, delivered in Year 4 Medicine’s Obstetrics & Gynaecology (O&G) module, touched on the importance of asking about environmental and occupational hazards to foetal health, such as radiation (e.g. radiography) and infectious diseases (e.g. veterinary medicine, childcare facilities), in the social history of pregnant women and women of childbearing age who are trying to conceive.*

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

*Score explanation:*

*A workshop titled 'Planetary Health', delivered in the Year 4 Medicine's Medical Jurisprudence, Ethics, and Professionalism (MJEP) module, touched in one slide on a paper which showed the alarming levels of fine particulate matter outside three Dublin maternity hospitals, which were higher than WHO guidelines - in the context of a previous slide linking air pollution with almost a million stillbirths a year.*

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

*Score explanation: This topic is not covered in the TCD medical curriculum.*

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

*Score explanation:*

*The TCD medical curriculum references this topic very briefly, in relation to marginalised / low SES populations, women, and children.*

*A lecture titled 'Health Equity', delivered in Year 4 Medicine's Public Health and Primary Care (PHPC) module, briefly discussed the poor health outcomes in marginalised communities as a result of increased exposures to environmental and occupational pollutants.*

*A workshop titled 'Planetary Health', delivered in the Year 4 Medicine's Medical Jurisprudence, Ethics, and Professionalism (MJEP) module, touched briefly in 1 slide on the impact of air pollution on children's health - with the lecturer briefly highlighting that it occurred in a more deprived district of the city.*

*A lecture titled 'Preconceptual & Antenatal Care', delivered in Year 4 Medicine's Obstetrics & Gynaecology (O&G) module, touched on the importance of asking about environmental and occupational hazards to foetal health in the social history of pregnant women and women of childbearing age who are trying to conceive.*

### **Curriculum: Sustainability**

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

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

*Score explanation:*

*A 2-part lecture titled 'Planetary Health' and 'Lifestyle Medicine', delivered as part of Year 4 Medicine's Public Health and Primary Care (PHPC) module, covered the environmental impacts and carbon footprint of dietary choices (comparing western standard meat-based diets with various alternatives, including vegetarian, vegan, and Mediterranean diets) in sufficient depth, including statistical and quantitative information, and also highlighted the multiple environmental, health, and social impacts of such change. They also touched on the fact that the food environment is an important social determinant of health (SDOH) - and how lower SES groups have poorer access to healthy foods and good access to unhealthy foods.*

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

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

*Score explanation:*

There is a workshop in 4<sup>th</sup> year led by doctors from the Irish Doctors for the Environment (IDE), titled “Planetary Health, Climate Change, and Sustainable Healthcare”. It is a mandatory part of the 4<sup>th</sup> year module MEDICAL ETHICS, LAW & PROFESSIONALISM- MDU44005  
 Additionally, there is a lecture titled “Planetary Health” delivered by an IDE member, part of the Public Health and Primary Care (PHPC) module.

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

2	The health <b>and</b> environmental <b>co-benefits</b> of <b>avoiding</b> over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of <b>pharmaceuticals</b> and over-prescribing as a cause of climate health harm. Alternatively teaching on <b>deprescribing</b> where possible and its environmental and health co-benefits would fulfil this metric.
1	The health <b>and</b> environmental <b>co-benefits</b> of <b>non-pharmaceutical management</b> 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 <b>surgical</b> healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of <b>anaesthetic</b> 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 <b>inhalers</b> on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	<b>Waste production</b> within healthcare <b>clinics</b> and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
	<p><i>Score explanation:</i></p> <p><i>In 4th year, students receive a lecture called ‘Planetary Health As part of their Public Health and Primary Care (PHPC) module. This lecture explores the benefits of a plant-based diet, the health effects of climate change, and the impact of healthcare on global health. It covers waste production in the healthcare system, and recommends switching to paperless systems and implementing the “Royal College of General Practitioners (RCGP) Green Toolkit”</i></p> <p><i>The impact of anaesthetic gases and the amount of waste and non-reusable materials used for surgery is vastly discussed during this lecture.</i></p> <p><i>This same lecture outlines the impact of pharmaceuticals, more specifically of inhalers in the overall carbon footprint of the healthcare system. An infographic depicting the reduction in greenhouse with prescribing dry powdered inhalers compared to metered dose ones. This change is compared to the effect of avoiding a short flight or going vegetarian. It is based on this publication: <a href="https://iopscience.iop.org/article/10.1088/1748-9326/aa7541">https://iopscience.iop.org/article/10.1088/1748-9326/aa7541</a></i></p> <p><i>A Lecture in the PHPC module in 4th year covers social prescribing and its impact.</i></p>

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 <b>core</b> curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in <b>elective</b> coursework.
0	No, there are <b>not</b> strategies introduced for having conversations with patients about climate change
<i>Score explanation:: This topic is not covered in the TCD medical curriculum.</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 <b>core</b> curriculum includes strategies for taking an environmental history.
1	Only <b>elective</b> coursework includes strategies for taking an environmental history.
0	No, the curriculum does <b>not</b> include strategies for taking an environmental history.
<i>Score explanation: 2<sup>nd</sup> and 3<sup>rd</sup> years are introduced to the skill of history taking (MDU22003: Fundamentals of Clinical and Professional Practice, and MDU33003: Advanced Clinical and Professional Practice, respectively). These are taught in both lecture and tutorial settings. Students are taught a complete history, which includes questions regarding living conditions, diet, occupational history, exposure to toxins, and main way of commuting. These are all part of an environmental history and generally fall under the 'Social history' category.</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 <b>major</b> improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making <b>minor</b> improvements to ESH/planetary health education.
0	No, there are <b>no</b> improvements to planetary health education in progress.
<i>Score explanation: In 2022 Professor Darach O Ciardha, Head of the Public Health and Primary Care (PHPC) module and a new member of the Faculty, was appointed to oversee and play a major role in the incorporation of sustainable healthcare and planetary health throughout the course.</i>	

The School of Medicine is also in direct contact with the Irish Doctors for the Environment who have a group working on a planetary health curriculum campaign.

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

6	Planetary health/ESH topics are <b>well integrated</b> into the core medical school curriculum.
4	<b>Some</b> 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 <b>(a) standalone lecture(s)</b> .
0	There is <b>minimal/no</b> education for sustainable healthcare.

*Score explanation:*

*Topics such as the effect of climate change on the patterns of infectious disease, and respiratory health are covered throughout multiple modules across multiple years such as in 2<sup>nd</sup> year (Infection and Immunity), 3<sup>rd</sup> year (Global Health), and 4<sup>th</sup> year (Public Health and Primary Care). Although it is in relatively minor detail in second year, the topics are covered quite extensively in 3<sup>rd</sup> and 4<sup>th</sup> year during the online module and the 'Planetary Health' lecture respectively.*

**1.22. Does your medical school employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?**

1	<b>Yes, the medical school</b> has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	<b>No, the medical school</b> does <b>not</b> have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.

*Score explanation:*

*In 2022 Professor Darach O Ciardha, Head of the Public Health and Primary Care (PHPC) module and a new member of the Faculty, was appointed to oversee and play a major role in the incorporation of sustainable healthcare and planetary health throughout the course.*

**Section Total (61 out of 72)**

**84.7%**

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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.*

<b>2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <u>medical school</u>?</b>	
3	Yes, there are faculty members at the <b>medical school</b> who have a <b>primary</b> research focus in planetary health <b>or</b> healthcare sustainability.
2	<b>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.</b>
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are <b>no</b> planetary health and/or healthcare sustainability researchers at the <b>institution or medical school</b> at this time.
<p><i>Score explanation:</i>  <i>The school of medicine has a global health centre, in which faculty occasionally publish relevant research (e.g. the impacts of climate change on human health, climate anxiety) but it is not their main area of focus. Many other departments within the institute (e.g. zoology, dentistry, and engineering) have researchers whose main focus of research is planetary health and sustainable healthcare.</i></p> <p><a href="https://link.springer.com/article/10.1007/s11920-023-01430-y">https://link.springer.com/article/10.1007/s11920-023-01430-y</a>  <a href="https://pubmed.ncbi.nlm.nih.gov/36294243/">https://pubmed.ncbi.nlm.nih.gov/36294243/</a></p>	

<b>2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your <u>institution</u>?</b>	
3	<b>There is at least one dedicated department or institute for interdisciplinary planetary health research.</b>
2	There is <b>not currently</b> a department or institute for interdisciplinary planetary health research, but there are <b>plans</b> to open one in the next 3 years.
1	There is an <b>Occupational and Environmental Health department</b> , but no interdisciplinary department or institute for planetary health research.
0	There is <b>no</b> dedicated department or institute.

*Score explanation:*

*There are multiple departments that oversee interdisciplinary planetary health.*

*The Trinity Centre for the Environment facilitates interdisciplinary collaboration in all aspects related to the environment. This includes but is not limited to hosting climate hackathons and climate leadership programs.*

*The Trinity Centre for Environmental Humanities “draw upon the insights of history, literature, philosophy, drama, film, media and culture studies, anthropology, sociology, psychology, geography, and other related disciplines” in order to examine climate change, raise awareness and find solutions to it. Current projects include assessing the historic importance of marine life in societal development and investigating how Egyptians have responded to and caused changes to the Nile.*

*The new Climate+ Co-Centre that is scheduled to open in January 2024 will bring together researchers from biodiversity, agriculture, climate science and respective industry partners to tackle climate change, biodiversity loss, and water degradation.*

<https://www.tcd.ie/environment/>

<https://www.tcd.ie/tceh/>

[https://www.tcd.ie/news\\_events/articles/2023/trinity-to-headquarter-climate-co-centre/](https://www.tcd.ie/news_events/articles/2023/trinity-to-headquarter-climate-co-centre/)

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

*Score explanation:*

*There is an effort made to include stakeholders in decision-making regarding patient care delivery but there is no evidence to suggest that residents of communities affected by climate change may influence research done by the school of medicine.*

**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 <b>easy-to-use, adequately comprehensive</b> website that <b>centralises</b> 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 <b>attempts to centralise</b> various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.

1	The <b>institution</b> has an <b>Office of Sustainability website</b> that includes <b>some</b> resources related to health and the environment.
0	There is <b>no</b> website.
<p><i>Score explanation:</i>  Trinity College Dublin has several web pages aiming to compile resources regarding planetary health, although there is no dedicated website to the best of our knowledge. One such example is <a href="#">Healthy Trinity</a> with coverage ranging from food to mental health, although not much insight is provided into ongoing research in this area. There are several websites such as <a href="#">Trinity Sustainability</a>, <a href="#">Trinity Research (Smart Sustainable Planet)</a>, and <a href="#">Trinity Centre for the Environment</a> which provides information on research and events although they are not confined to just sustainable healthcare. This <a href="#">website</a> has a comprehensive list of sustainability guides, green maps and societies to join. They are accessible and easy to navigate through. Having listed these resources, there is still a lack of centralisation of information and sometimes updates regarding opportunities such as research funding.</p>	

<b>2.5. Has your <u>institution</u> recently hosted a conference or symposium on topics related to planetary health?</b>	
4	Yes, the <b>medical school</b> 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 <b>institution</b> has hosted a conference on topics related to planetary health in the past three years.
1	The <b>institution</b> has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the <b>institution</b> has not hosted a conference on topics related to planetary health in the past three years.
<p><i>Score explanation:</i>  The Meath Foundation Research Symposium 2023 was hosted on Friday, 24th November 2023 in the Centre for Learning Development at Tallaght University Hospital where Professor Colin P Doherty, Head of School of Medicine, delivered an opening remark on global health, climate change, and medical education as well as shedding light onto the PHRC report.</p> <p>Efforts are continuously being made to deliver talks related to the topic, for example, a medical diplomacy and health equity lecture is delivered every year in October.</p>	

<b>2.6. Is your <u>medical school</u> a member of a national or international planetary health or ESH organisation?</b>	
1	Yes, the medical school is a member of a national or international planetary health or ESH organisation
0	No, the medical school is <b>not</b> a member of such an organisation

*Score explanation:*

*Yes, the School of Medicine has been a member of the [Global Consortium on Climate and Health Education](#), since 2022.*

**Section Total (11 out of 17)**

**64.7%**

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## Community Outreach and Advocacy

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

3.1. Does your <u>medical school</u> partner with community organisations to promote planetary and environmental health?	
3	Yes, the <b>medical school</b> meaningfully partners with <b>multiple</b> community organisations to promote planetary and environmental health.
2	Yes, the <b>medical school</b> meaningfully partners with <b>one</b> community organisation to promote planetary and environmental health.
1	The <b>institution</b> partners with community organisations, but the medical school is not part of that partnership.
0	No, there is <b>no</b> such meaningful community partnership.
<p><i>Score explanation:</i>  <i>Trinity College Dublin has several partnerships with community organisations that promote environmental health and planetary health. These include Climate Innovation Leadership Programme UNI-ECO and CHARM-EU, as well as Global Arctic. Additionally, Trinity leads a program called LEVERS, which partners with climate groups across Europe to sponsor local Irish researches to formulate the next climate solution. Although the medical school supports these partnerships, it has no specific role in them.</i></p>	

3.2. Does your <u>medical school</u> offer community-facing courses or events regarding planetary health?	
3	The <b>medical school</b> offers community-facing courses or events at least once every year.
2	The <b>medical school</b> 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 <b>institution</b> has offered community-facing courses or events, but the <b>medical school</b> was not involved in planning those courses or events.
0	The <b>institution/medical school</b> have not offered such community-facing courses or events.
<p><i>Score explanation:</i>  <i>Trinity has an annual 'Green Week' to educate staff, students, and the public about sustainability and planetary health issues, including a talk this year on 'Linking Planetary Health with Human Health'.</i></p>	

*This week is organised by the institution rather than the medical school. The university's Environmental Society also holds a number of events during the year.*

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

*Score explanation:*

*Although Trinity does have regular emails and articles sent out to the student population regarding planetary health, the medical school does not.*

**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 <b>institution</b> or <b>main affiliated hospital trust</b> 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 <b>institution</b> or <b>main affiliated hospital trust</b> offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are <b>no</b> such accessible courses for post-graduate providers

*Score explanation:*

*The Trinity Centre for Global Health runs an MSc in Global Health that includes a module on 'Health Environment and Climate'. There is also an MSc in Development Practice that focuses on both health and sustainability among others.*

**3.5. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?**

2	Yes, the <b>medical school</b> or <b>all affiliated hospitals</b> have accessible educational materials for patients.
1	<b>Some</b> affiliated hospitals have accessible educational materials for patients.
0	<b>No</b> affiliated medical centres have accessible educational materials for patients.

*Score explanation:*

*No affiliated medical centers have direct environmental educational materials for patients. However, doctors are educated on environmental health exposures that could present clinically in patients.*

**3.6. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?**

2	Yes, the <b>medical school</b> or <b>all affiliated hospitals</b> have accessible educational materials for patients.
1	<b>Some</b> affiliated hospitals have accessible educational materials for patients.
0	<b>No</b> affiliated hospitals have accessible educational materials for patients.

*Score explanation:*

*There are no easily accessible materials available to patients regarding the health impacts of climate change.*

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

**21.4%**

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## Support for Student-Led Planetary Health Initiatives

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

4.1. Does your <b>medical school</b> or your <b>institution</b> offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the <b>medical school</b> or <b>institution</b> <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 <b>medical school</b> or <b>institution</b> encourages sustainability QI projects (to fulfil clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, <b>but</b> there is no student funding available and there is no requirement to participate.
0	No, <b>neither</b> the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Score explanation:</i>            The school does not currently offer support for sustainability initiatives or quality improvement programs at a student level.</p>	

4.2. Does your <b>institution</b> offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The <b>institution</b> has a <b>specific</b> 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 <b>require student initiative</b> to seek these out and carry them out in their spare time.
0	There are <b>no opportunities</b> for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation:</i>            The school directs students towards research grants (e.g Health Research Board Summer Student Scholarships), however these are not necessarily sustainability-specific. If students wish to undertake a sustainability project, they must find an academic supervisor willing to conduct such a project with them. There are also research opportunities available within the school curriculum, however the vast majority of these projects do not pertain to sustainability. For example, of 75 projects offered to 2nd year students as part of the Principles of Pharmacology &amp; Practical Scientific Research module, 1 related to climate impacts on health. In the 2023 annual overview of Doctoral Health Research, there were no projects relating to sustainability or climate impacts on health.</p>	



**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 <b>medical school</b> 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 <b>medical school</b> 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 <b>no medical-school</b> specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.

*Score explanation:*

*There is no webpage specific to the School of Medicine (SoM) for locating planetary health projects and/or sustainable healthcare projects or mentors. However, the main school website does have a webpage dedicated to sustainability initiatives, where students can explore the research carried out at the Trinity Centre for Biodiversity Research (TCBR) and the Trinity Centre for the Environment, but there is no active research collaboration between the SoM and the TCBR.*

**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 <b>with faculty support</b> 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 <b>lacks faculty support</b> .
0	No, there is <b>not</b> a student organisation at my institution dedicated to planetary health or sustainability in healthcare.

*Score explanation:*

*13 Trinity SoM students are involved with the Irish Doctors for the Environment student working group. This group is involved with compiling the planetary health report card and petitioning the school for improved sustainability practices and curriculum changes. The group is mentored by Prof. Colin Doherty and the institution both encourages and engages with it. For example, a “Planetary Health” tutorial led by IDE doctors was provided to 4th-year medical students as part of their module “Medical Ethics, Law and Professionalism MDU44005”, and a separate lecture was delivered by an IDE member later in the year. Also, in the Foundation Scholarship exams, the topic set for the special topic examination was “The Impact of Climate Change on Human Health”, explored through the lens of Physiology, Infection and Immunity and Ethics.*

**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.
<p><i>Score explanation:</i>  There is no such representative. Any issues requiring institutional attention are relayed through general class representatives, who have no specific sustainability interest.</p>	

**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:*

There is an initiative on campus called Trinity's Urban Garden (TUG), it is a student-led space that allows students to grow fruit and vegetables using novel gardening techniques. It has quickly become a community that is interested in sustainable gardening practices, climate action and biodiversity preservation: <https://www.tcd.ie/healthytrinity/nutrition/UrbanGarden.php>.

During Green Week, several speakers were invited to speak to Trinity Students about planetary health. For Example, Alejandro Valderrama, founder of Ethical Origin gave a talk titled: Peace Through Coffee & Chocolate. His talk highlighted the interconnections between coffee production, consumer behaviour, biodiversity loss and how we as consumers can influence change by undertaking small actions.

Even though events were held during Green Week in which students could learn about the climate and environmental challenges some communities face, this was not directly done by members of a local environmental justice community.

Green Week also featured a slice of climate comedy with Colm O'Regan performing his stand-up show, Climate Worrier. Colm's show had the audience laughing at tales from his childhood, his insights into 'Everything Being Broken' and how we can turn our despair into action, all with the help of laughter. Also during Green Week, the Linte na Farrage Exhibition was displayed beside the Lecky Library of

*the Arts Building. The Linte na Farraige project is a series of light installations across Irish coastal sites revealing the risks of rising seas and storm surges and demonstrating the need to reduce our greenhouse gas emissions.*

*Though no direct volunteering opportunities relating to building community resilience to anthropogenic environmental impacts were offered by TCD, the university's webpage directed students to organisations with which they can volunteer their efforts in helping such an aim. There are volunteer opportunities provided by the medical school but none that pertain to sustainability.*

*TCD fosters many societies that offer wilderness and outdoors programs. Some of these societies include a hiking society and a canoe and kayak society.*

*Note:*

*In the Foundation Scholarship exams, the topic set for the special topic examination was "The Impact of Climate Change on Human Health", explored through the lens of Physiology, Infection and Immunity and Ethics.*

<b>Section Total (7 out of 15)</b>	<b>46.7%</b>
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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 <b>at least one designated staff member</b> 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 <b>no specific staff member</b> in charge of medical school and/or hospital sustainability.
1	There are <b>no salaried sustainability staff</b> , but there is a sustainability task force or committee
0	There are <b>no</b> staff members <b>or</b> task force responsible for overseeing campus sustainability
<p><i>Score explanation:</i>  <i>As part of the new Sustainability Strategy published in 2023, the Provost appointed members to the Environment and Sustainability Principal Committee of Board. This was established as the primary collective of decision-maker with regards to sustainable measures in the college. They are responsible for reviewing and updating Trinity College's sustainability policy.</i></p> <p><i>The Sustainability Management Group, also implemented alongside the 2023 Sustainability Strategy, is tasked with the implementation and reporting of the action plan.</i></p> <p><i>The Green Campus Committee comprises paid staff and student volunteers. Their main duty is to act as a council representative of the campus community, enabling widespread contribution to the action plan.</i></p> <p><i>Trinity Sustainability Strategy 2023-2030:</i>  <a href="https://www.tcd.ie/media/tcd/provost/pdfs/sustainability/Trinity-Sustainability-Strategy-2023-2030.pdf">https://www.tcd.ie/media/tcd/provost/pdfs/sustainability/Trinity-Sustainability-Strategy-2023-2030.pdf</a></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 <b>written and approved plan</b> to achieve carbon neutrality by <b>2030</b>
3	The institution/medical school has a <b>written and approved plan</b> to achieve carbon neutrality by <b>2040</b>

1	The institution/medical school has a stated goal of carbon neutrality by <b>2040</b> but has <b>not created a plan</b> to reach that goal or the <b>plan is inadequate</b>
0	The institution/medical school does <b>not</b> meet any of the requirements listed above

*Score explanation:*  
Trinity College Dublin is committed to achieving a 51% reduction in its overall greenhouse gas emissions by 2030, in accordance with the targets specified by the Irish Climate Action Plan. It also announces a goal of reaching a state of carbon neutrality by 2024, stating “The Irish Climate Action Plan requires public bodies to reduce their GHG emissions by 51% by 2030, and so our first priority is to meet this target and we will work toward Net Zero by 2040.”  
These objectives encompass those of the medical school are further detailed in the Trinity Sustainability Strategy 2023-2030:  
<https://www.tcd.ie/media/tcd/provost/pdfs/sustainability/Trinity-Sustainability-Strategy-2023-2030.pdf>

<b>5.3. Do buildings/infrastructure used by the <u>medical school</u> for teaching (not including the hospital) utilise renewable energy?</b>	
3	Yes medical school buildings are <b>100%</b> powered by renewable energy
2	Medical school buildings source <b>&gt;80%</b> of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source <b>&gt;20%</b> of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <b>&lt;20%</b> of energy needs from off-site and/or on-site renewable energy.

*Score explanation:*  
In Trinity’s 2021 Sustainability report, it states that 16.8% of energy used came from renewable resources. The same report also referenced the College’s achievement of a 35.9% improvement in energy efficiency and a 21% decrease in CO2-related emissions in comparison to 2006-2008 baseline.  
We were unable to locate data relating specifically to the Trinity Biomedical Sciences Institute (the medical school building on campus), or any affiliated hospital-based campuses in the region.  
Approximately 99.5% of renewable energy used by Trinity comes from increased renewables penetration on the grid. The remaining 0.5% of renewable energy used by the college is generated by the 4 on-site solar panels (located in Pavillion, Lir Centre and New Square houses 33 and 28) to provide hot water in these locations. 0.03% is from transport biofuels.  
In 2021, the Faculty of Health Sciences funded 3 labs to register with ‘my green labs’, an initiative attempting to promote sustainable practices in the running of laboratories. One of the chosen labs is the Renal Inflammation Group lab in TTMI, St James’ Hospital campus. ‘My green labs’ outline metrics by which research facilities can improve their standards of environmental sustainability. However, energy resources do not comprise any of the metrics.  
Trinity 2021 sustainability report:  
<https://www.tcd.ie/media/tcd/provost/pdfs/sustainability/TCD.2020-21.Sustainability.Report-Final.pdf>  
Green Labs Guide:

<https://www.tcd.ie/media/tcd/provost/pdfs/sustainability/green-labs-guide.pdf>

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

*Score explanation:*

*In the Trinity Sustainability Report 2021, some of the goals detailed included*

- *“ensuring all new buildings are based on sustainability principles.”*
- *“Trinity’s first NZEB building Trinity Business School (BER A2) opened May’19; Printing House Square (Oisin House, scheduled for completion Aug’20) residence. E3 centre in design stage. Heat pumps to decarbonise historic structures and provide renewable heating (Rubrics and Chief Stewards House going to tender).”*
- *“Complete work on a new generation teaching space enabled by philanthropy, the Martin Naughton E3 Learning Foundry, in 2023, providing a home for the E3 project, uniting the Schools of Computer Science and Statistics, Engineering, and Natural Sciences. This building will achieve Well Building standards and BREEAM excellence.”*

*However, with regards to a new building on the St James’ Trinity campus, the report’s plan to “begin developing the new Trinity St. James’s Cancer Institute” makes no reference to sustainable practice.*

*2021 Trinity Sustainability Report:*

<https://www.tcd.ie/media/tcd/provost/pdfs/sustainability/TCD.2020-21.Sustainability.Report-Final.pdf>

*Further reading about the BREEAM guidelines can be found here:*

<https://www.igbc.ie/certification/breeam/>

**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 <b>environmentally-friendly transportation options</b> 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 <b>some</b> strategies to provide environmentally-friendly transportation options, but the options are <b>unsatisfactorily</b> accessible or advertised.

0	The medical school or institution has <b>not</b> implemented strategies to encourage and provide environmentally-friendly transportation options.
<p><i>Score explanation:</i>  Trinity College Dublin is located in the city centre, where unsustainable modes of transportation (such as cars) are rarely used by students. Therefore the majority of students choose to walk, cycle, or use public transport.</p> <p>Dublin City Council have recently announced plans to further reduce the volume of private vehicles on the roads in the city centre.</p> <p>TCD promotion for sustainable transport:</p> <p>Trinity has been widely promoting sustainable ways of commuting like walking, cycling or skating etc. Trinity also benefits from direct access to public transport such as multiple bus lines coming from multiple areas, the DART line and Luas lines which stations are within walking distance. A Green Map is available on Trinity's official website to find on-campus secure bicycle-parking, and the locations of Dublinbikes and DART/Luas stations, which makes it easier for students to plan the journey ahead.</p> <p>Trinity is promoting the use of zero emission vehicles by providing two electric vehicle charge points for staff to charge their vehicles.</p> <p>1,135 bike racks on campus have been upgraded from toast racks to secure racks and 2 bike repair stations were installed on campus.</p>	

5.6. Does your <u>medical school</u> have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?	
2	Yes, the medical school has <b>both</b> compost <b>and</b> recycling programs accessible to students and faculty.
1	The medical school has <b>either</b> recycling <b>or</b> compost programs accessible to students and faculty, but not both.
0	There is <b>no</b> compost or recycling program at the medical school.
<p><i>Score explanation:</i>  As a minimum, there are recycling bins located in each department of the college, including in TBSI (Trinity Biomedical Sciences Institute, the medical school building on campus) and affiliate hospitals St James' and Tallaght. As this extends to the bins located outdoors on campus, such facilities are available to the visiting public as well as students.</p> <p>Availability of specific segregated recycling bins (such as those for glass, paper, batteries and clothes) are available on a department-specific basis.</p> <p>All bins in the main on-campus libraries have both general waste and dry recycling bins.</p> <p>Trinity offers a 'know your campus' guide, demarcating locations of specific bins for recycling and food waste. This includes facilities located in TBSI.</p> <p>TCD 'Know your campus' Guide:  <a href="https://www.tcd.ie/provost/sustainability/resources/know-your-campus/">https://www.tcd.ie/provost/sustainability/resources/know-your-campus/</a></p>	

**5.7. 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 <b>adequate</b> sustainability requirements for food and beverages, including meat-free days or no red-meat, and <b>is engaged</b> in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are <b>insufficient or optional</b> . The medical school <b>is engaged</b> in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are <b>insufficient or optional</b> . The medical school is <b>not</b> engaged in efforts to increase food and beverage sustainability.
0	There are <b>no</b> sustainability guidelines for food and beverages.

*Score explanation:*

*Trinity has adopted 4 objectives to reduce our consumption of resources and migrate to more sustainable food choices:*

- 1. Reduce paper use by 20%*
- 2. Increase sustainable food use by 50%*
- 3. Reduce large (5 gallon) bottled water use by 50%*
- 4. Reduce disposable and single use materials*

*20% decrease in paper use has been achieved, as has the reduction in large (5 gallon) bottled water use.*

*Food choices:*

- FoodCloud, a Trinity startup aiming to bring together businesses and charities with the unifying aim of reducing food waste and food poverty, is still operational. More can be read about FoodCloud at the link below.*
- The Perch Cafe on campus has operated as a vegetarian cafe since 2021.*
- Meat and red meat options are still offered regularly at the Buttery. The proportion of vegan/vegetarian main dishes 33%, increasing to 66% during 'Green Week' in 2021.*

*Water sustainability:*

- There has been a recent implementation of reusable water bottle sterilisation machines in the communal space within the Arts Block of Trinity's campus.*
- Water fountains provide free water in all buildings across campus*
- An 82% reduction in plastic bottled water within the overall college was achieved in 2021 (compared with 2011).*

*Packaging:*

- Ceramic crockery and drinkware is available for use at a lower rate than takeaway containers in the Buttery - the main dining hall on campus.*
- Reusable mugs are sold at various locations across campus.*
- There has been an 82% reduction in the number of single-use coffee cups on campus between 2011 and 2021.*

*Trinity declared their intention to achieve food sustainability goals in accordance with Green Pages - however have subsequently failed to provide data regarding their progress.*

*FoodCloud: <https://food.cloud/about>*



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

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

*Score explanation:*

*The Sustainable procurement working group, established by the Provost, published their Sustainable procurement policy in 2019, and have made further efforts towards achieving their objectives of supporting green procurement practices and reducing excessive resource consumption. The implementation of their policy was deemed a “major achievement”.*

*‘Sustainable Procurement Guidelines’ outlined by the college are made available to all staff involved in the procurement of products and services for Trinity, including those of the Medical school.*

*Three of the primary objectives of the working group are as follows:*

- *“Implement the Top 50 Supplier Procurement Programme to engage with key suppliers to bring about environmental improvements throughout the supply chain. “*
- *“Capture data through an online procurement platform which accesses the carbon footprint of the supply chain.”*
- *“Implement the Sustainable Procurement Policy across education, research and operations.”*

*In the Sustainability report of 2021, Trinity declared a 10% increase in the number of their tenders with Green Award status, in line with their previous goals. However, as of 2020 they had failed to achieve their goal of 100% of tenders being requested to submit environmental information, indicating the need for further work.*

*TCD Sustainable Procurement Policy:*

<https://www.tcd.ie/financial-services/procurement/assets/Trinity%20Sustainable%20Procurement%20Policy%202020.pdf>

*TCD Sustainable Procurement Guidelines:*

<https://www.tcd.ie/financial-services/procurement/sustainable-procurement/>

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

2	Every event hosted at the medical school <b>must</b> abide by sustainability criteria.
1	The medical school <b>strongly recommends or incentivizes</b> sustainability measures, but they are <b>not required</b> .

0	There are <b>no</b> sustainability guidelines for medical school events.
<p><i>Score explanation:</i>  There are sustainable event guidelines issued by the provost to achieve the “Green Flag” status on campus - a recognition it received in 2023.</p> <p><i>These guidelines include considerations in terms of</i></p> <ol style="list-style-type: none"> <li>1. Venue (accessibility to public transport, lift sharing between attendees, facilities to invite remote attendance, rooms with natural daylight etc.)</li> <li>2. Food catering (vegetarian/vegan option, steps to reduce food waste, usage of reusable/compostable cutlery, access to water refilling areas etc.)</li> <li>3. Communication (highlighting and publicising the sustainability aspects of the event, reduction of number of marketing leaflets for printing etc.)</li> <li>4. Accessibility to people with limited mobility</li> <li>5. Affordability for low-income attendees</li> <li>6. Consideration of gender ratio of panel/attendees</li> </ol> <p><i>Trinity also provides links to resources to support sustainability in event planning, such as the UNEP Sustainable Events Guide. More can be read about this guide at the link below.</i></p> <p><i>We were unable to find any information with specific regards to event sustainability in the Medical School.</i></p> <p><i>UNEP Sustainable Events guide:</i>  <a href="https://uist.acm.org/uist2019/sustainability/SustainableEventsGuideMay302012FINAL.pdf">https://uist.acm.org/uist2019/sustainability/SustainableEventsGuideMay302012FINAL.pdf</a></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 <b>programs</b> and <b>initiatives</b> to assist with making lab spaces more environmentally sustainable.
1	There are <b>guidelines</b> on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are <b>no</b> efforts at the medical school to make lab spaces more sustainable.
<p><i>Score explanation:</i>  TCD provides access to the ‘Green Labs Guide’ for researchers. Furthermore, in 2021, the Faculty of Health Sciences funded 3 labs to register with ‘my green labs’, an initiative attempting to promote sustainable practices in the running of laboratories. One of the chosen labs is the Renal Inflammation Group lab in TTMI, St James’ Hospital campus. ‘My green labs’ outlines metrics by which research facilities can improve their standards of environmental sustainability. However, energy resources do not comprise any of the metrics.</p> <p><i>Trinity Biomedical Science Institution (TBSI) has committed to changing practices around water usage, energy consumption, plastic waste, green chemistry, sustainable purchasing and management of substances inventory in alignment with the College’s Sustainability Plan 2023-2030</i></p> <p><i>TBSI declares it’s commitment to following Trinity’s ‘Green Labs Guide’, with the Institute of Neuroscience receiving a Platinum Green Lab Certification in recognition of their efforts to include sustainable best practices in the lab.</i></p>	

*LabCup, a TCD initiative aiming to inform and support laboratory staff in the management of their labs (including consideration for sustainable practice) was trialled in TCD for 2 years beginning in 2018, however has subsequently been halted within the College.*

*Green Lab Certification Guide:*

<https://www.tcd.ie/provost/sustainability/assets/guides/green-labs-guide.pdf>

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

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

*Score explanation:*

*In November 2016, TCD became the first University in Ireland to pledge divestment from its investments in fossil fuels (namely oil, coal and gas). The movement was a successful response to the student-led campaign 'Fossil Free TCD'. This movement marked the end of over 200 years of such financial endowment. As of 2020, the College fully divested from any business whose primary business is in the extraction of fossil fuels.*

*However, as of 2021, TCD still maintained shares in 11 businesses involved in the extraction of fossil fuels, with investments at the time amounting to just under 1 million euros.*

*No reference to pertaining endowment funds is made in the College's 2021 Sustainability report.*

**Section Total (19 out of 32)**

**59.4%**

Back to Summary Page [here](#)

*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%

## Planetary Health Grades for the Trinity College Dublin School of Medicine

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

Section	Raw Score %	Letter Grade
<b>Planetary Health Curriculum (30%)</b>	$(61/72) \times 100 = 84.7\%$	A <sup>-</sup>
<b>Interdisciplinary Research (17.5%)</b>	$(11/17) \times 100 = 64.7\%$	B
<b>Community Outreach and Advocacy (17.5%)</b>	$(3/14) \times 100 = 21.4\%$	D <sup>-</sup>
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	$(7/15) \times 100 = 46.7\%$	C
<b>Campus Sustainability (17.5%)</b>	$(19/32) \times 100 = 59.4\%$	C <sup>+</sup>
<b>Institutional Grade</b>	$(84.7 \times 0.3 + 64.7 \times 0.175 + 21.4 \times 0.175 + 46.7 \times 0.175 + 59.4 \times 0.175) = 59.1\%$	C <sup>+</sup>

# Report Card Trends

## Section Overview

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

## Planetary Health Report Cards Trends for Trinity College Dublin

