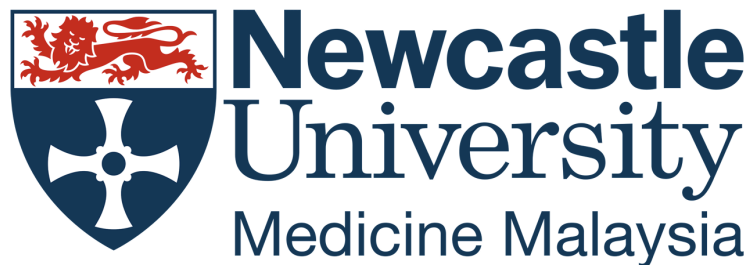




Planetary Health Report Card (Medicine) 2026:

*Newcastle University Medicine
Malaysia (NUMed Malaysia)*



2025-2026 Contributing Team:

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Land acknowledgment:

Summary of Findings

Overall Grade	B
Curriculum	A
<ul style="list-style-type: none"> The planetary health curriculum at NUMed is now well established and longitudinally integrated, with most metrics achieving full scores and strong emphasis on climate impacts, health inequities, and sustainable clinical practice. Recommendations: Expand and formalise existing planetary health teaching by making currently implicit content explicit and assessable (e.g. environmental co-benefits of social prescribing and sustainable diets), and broaden access to planetary health electives to ensure wider student engagement. 	
Interdisciplinary Research	C
<ul style="list-style-type: none"> NUMed has some engagement in planetary health research through individual faculty projects and international collaborations, and planetary health is recognised as a research focus area supported by the Research Management Centre. The institution is also a member of the Global Consortium on Climate and Health Education. However, there is no formal mechanism for community input, no dedicated planetary health research webpage, and no planetary health conferences hosted to date. Recommendations: NUMed should establish a formal community engagement process, create a centralised planetary health research webpage, and host regular planetary health or sustainable healthcare conferences. 	
Community Outreach and Advocacy	A
<ul style="list-style-type: none"> NUMed demonstrates strong community engagement through partnerships with local communities, student-led environmental initiatives, regular planetary health communications, post-graduate education, and patient education on environmental exposures; however, patient-facing education on the health impacts of climate change is lacking. Recommendations: NUMed should collaborate with affiliated hospitals and community partners to develop and disseminate simple, accessible educational materials on climate change and health. 	
Support for Student-Led Initiatives	B-
<ul style="list-style-type: none"> NUMed provides strong structural support for student-led planetary health initiatives through curriculum-embedded sustainability QI projects, active student societies with faculty mentorship, student representation on sustainability committees, and access to research guidance and scholarships; however, support is less formalised outside the curriculum, with limited dedicated research programmes, incomplete centralised information on mentors and projects, and few co-curricular planetary health activities. Recommendations: Formalise and expand student engagement beyond the core curriculum by developing a dedicated planetary health hub (webpage or platform) linking mentors, projects, and funding opportunities, and support a wider range of co-curricular planetary health programmes and community-linked activities. 	
Campus Sustainability	B
<ul style="list-style-type: none"> NUMed has taken meaningful steps towards improving campus sustainability through energy reduction initiatives, waste segregation and composting, sustainable transport options, greener food and event guidelines, and full divestment from fossil fuels. However, many measures remain optional or limited in scale. Recommendations: NUMed should strengthen and standardise sustainability policies, further reduce single-use plastics, expand renewable energy use, and increase student and staff engagement through regular sustainability workshops or planetary health events. 	

Statement of Purpose

Planetary health is human health.

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

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

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

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as “the health of human civilisation and the state of the natural systems on which it depends.” For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional ‘environmental health’ examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of health professional education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term “planetary health” to satisfy the metric.
- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimises use of healthcare services.
- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:
 1. Describe how the environment and human health interact at different levels.
 2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
 3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.
- **Medical School/Department vs. Institution:** When “Medical school” is specified in the report card, this only refers to curriculum and resources offered by the School/department of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments). In contrast, when “institution” is specified in the report card, we are referring to the university more broadly including all of its campuses. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is

specifically targeted for medical students, can meet this metric.

- **Environmental history (Curriculum Section):** This is a series of questions students are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mould after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution. Please be as specific as possible when providing evidence for this metric.
- **Elective:** The word "elective" refers to an optional course or lecture series that a student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.
- **Core Curriculum:** This refers to the taught material that is delivered to the entire cohort of students in one year.
- **Clerkship / Outreach:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations, outreach or placements. This is a relatively short (approximately 4-8 weeks) period of study and patient-centred clinical experience that takes place as part of the undergraduate programme.
- **Clinical rotation:** This is a term used to refer to placements that students go on (e.g., ophthalmology, surgery, cardiology).
- **Physiotherapy vs Physical Therapy:** For the purposes of this report card these terms are considered interchangeable. However, physiotherapy will be used primarily.
- **Community organisations:** For most institutions, there are existing groups that are not directly affiliated with the university and exist as a product of what the community the institution exists in cares about or needs. These specific community organisations relevant to this report include those that are focused around some aspect of climate and health preservation. These community organisations can include but are not limited to local mutual aid initiatives, underserved-resource distribution groups, clean-up and nature conservation groups, community gardeners, and other environmental-related organisations. If your institution does not have access to local volunteerships with community groups, please report any community organisations your institution or school has collaborated with.
- **Climate justice:** The idea that certain population groups and geographical locations which are disproportionately more impacted by climate change are already economically and socially disadvantaged. This double vulnerability sits alongside pre-existing social justice concerns and should therefore shift policy and practice to mitigate the inequitable effects of the climate crisis.
- **Extractivism:** The removal of natural resources typically in large quantities. Within anthropology this term is often used in the context of colonialism to refer to

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

- **Global South:** Nations that often have less economic and industrial development and are typically in the southern hemisphere. These nations have been found to be disproportionately impacted by the climate crisis.
- **Low socioeconomic status (SES):** An individual or geographical area that across a variety of socioeconomic factors (e.g., income, education, race/ethnicity) is considered vulnerable. This vulnerability has been correlated to more adverse health outcomes often as a consequence of encountering more barriers in accessing and receiving healthcare.
- **Low and Middle-Income Countries (LMIC):** Countries that have lower degrees of economic affluence.
- **Anthropogenic:** Created through human activity
- **Marginalized communities:** Groups excluded from mainstream economic, educational, social, and/or cultural experiences due to race, gender identity, sexual orientation, age, physical ability, language, and/or immigration status (Sevelius et al., 2020).

Scoring Matrix

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

Other considerations:

- If there are more than one “tracks” at your institution with two different curricula (for example, Harvard Medical School has a Pathways and HST curriculum track), you can choose to fill out a report card for each track, or fill out just one report card and average the scores received by each track in cases where the scores are different (see the 2021 Harvard or Oxford report cards as examples). Where possible please indicate the proportion of students that are on each track.

Updated in 2025, a complete literature review by metric is available for the 2024/25 Medicine Report Card Template. This largely translates across disciplines although we are hoping to expand this process across all of our covered disciplines. A link to the 2025 literature review by metric is available [here](#).

Planetary Health Curriculum

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

Curriculum: General

1.1. Did your <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?	
Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year. (3 points)	
Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year. (2 points)	
The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health. (1 point)	
No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year. (0 points)	
Score Assigned:	2
<p><i>NUMed offers an elective program with 4 spots whose primary focus is ESH/planetary health to the Year 4 medical students. It has the following learning objectives:</i></p> <ol style="list-style-type: none"> <i>1. To describe the impact of climate change on planetary and public health.</i> <i>2. To learn about how healthcare contributes to climate change.</i> <i>3. To understand how health and climate mitigation actions co-benefit.</i> <i>4. To explore opportunities and roles that healthcare professionals can play in tackling climate change.</i> 	

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

Score Assigned:	3
<p><i>A Year 5 lecture from the Good Medical Practice (GMP) module titled 'Climate, Health, & Healthcare' includes a task that covers the following objectives:</i></p> <ol style="list-style-type: none"> <i>1. To explain the impact of extreme temperatures, especially extreme heat, on health</i> <i>2. To identify factors that increase vulnerability to extremes of temperature, especially extreme heat</i> <i>3. To discuss how populations need to adapt to extreme temperatures, especially extreme heat through changes in the built environment and individual behaviour</i> <i>4. To discuss how public health and healthcare systems need to adapt their emergency preparedness and response systems to protect the population from extreme temperatures</i> <p><i>Students are given resources to cover these objectives and a group of students are tasked with summarising the context to the rest of the cohort as part of a 'flipped classroom' session.</i></p> <p><i>In addition, a Year 2 lecture entitled Global health covered the following learning outcome: Describe how the environment and health interact at the global level, including the effects of climate change on health.</i></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?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>A year 5 lecture from the Good Medical Practice module titled 'Climate, Health and Sustainable Healthcare' covers this topic in depth in a 9am- 5pm face to face session. It explores how extreme weather events lead to sudden influx of casualties which increases the hospital burden and affects the quality of patient care and healthcare worker stress. It also explores how these events increase the burden of disease of the local population, increasing the risks of sicknesses, injuries and deaths from extreme events, infectious diseases, mental health illnesses, etc.</i></p>	

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

Score Assigned:	3
<p><i>At NUMed, this topic is addressed in Year 2 through lectures that examine the interaction between environmental change and infectious diseases.</i></p> <p><i>In particular, the Year 2 lecture titled “Interactions between Environment and Health” explicitly explores how environmental and climatic factors influence disease transmission. Case studies such as the 1854 Broad Street cholera outbreak, the COVID-19 pandemic, and the rising incidence of tuberculosis are used to demonstrate how changes in water availability and quality, population density, and environmental conditions affect the spread of infectious diseases. The lecture also highlights how climate change contributes to the increased spread of vector-borne diseases and exacerbates existing public health challenges.</i></p> <p><i>Additionally, concepts related to disease surveillance and control are introduced in the Notifiable Diseases lecture, where students learn how communicable diseases and environmental health hazards are monitored and managed at a population level. Together, these components provide students with an understanding of how climate and environmental change influence infectious disease patterns and public health responses.</i></p>	

1.5. Does your <u>medical school</u> curriculum address the respiratory health effects of climate change and air pollution?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>NUMed covered these topics in depth through the year 2 Case 18 lecture titled ‘Global Health’ and the year 4 Clinical Decision Making (CDM) and Advanced Clinical Experience (ACE) modules.</i></p> <p><i>1. The Global Health lecture includes slides about the sources of air pollution, the mechanism behind how air pollution eventually contributes to climate change, and its impact on health. “Describe how the environment and health interact at the global level, including the effects of climate change on health”</i></p> <p><i>2. The Year 4 CDM and ACE modules explore the hazards of air pollution and occupational risks and their impact on respiratory illnesses</i></p>	

1.6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	

This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>At NUMed, this topic is covered in year 3 and year 5.</i></p> <p><i>A Year 3 lecture 'Planetary Health and Sustainability in Healthcare' includes multiple slides on the cardiovascular health effects of climate change. One of them mentions the impact of raised temperatures and heatwaves on increased cardiovascular disease incidence.</i></p> <p><i>The Year 5 lecture of the Good Medical Practice module titled 'Climate, Health & Sustainable Healthcare' explores how climate change contributes to an increased risk of premature death due to sedentary lifestyle and unhealthy diets. It includes a slide about the health co-benefits of reducing heat in urban areas through active transport, minimising fossil fuel use, and better infrastructure leading to less cardiovascular disease rates.</i></p>	

1.7. Does your <u>medical school</u> curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>NUMed covers this topic in a year 2 lecture titled 'Interactions between environment and health' and in the year 5 lecture 'Climate, Health, and Sustainable Healthcare'</i></p> <p><i>1. The year 2 lecture includes a case discussion about a situation where a local gentleman who was affected by recent floods is frustrated at an international elective medical student for contributing to the climate crisis and its associated effects. The case discussion focuses on how the medical student can approach this situation.</i></p> <p><i>2. The year 5 lecture includes a task with the objective 'to cover the mental health and neuropsychological effects of environmental degradation and climate change'</i></p>	

1.8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	

This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>The year 2 lecture titled ‘Sustainability in Healthcare’ demonstrated an awareness of the Sustainable Development Goals (SDGs) and their relevance to medicine, and describes the principles of environmental ethics and its relevance to medicine</i></p> <p><i>The year 5 lecture in the Good Medical Practice module titled ‘Climate, Health and Sustainable Healthcare’ explores this topic, and students are tasked to carry out self-directed learning (SDL) and present to their colleagues on the topic as a ‘flipped classroom’ activity.</i></p> <p><i>Both the lecture and flipped classroom activity covers the following learning objectives:</i></p> <ol style="list-style-type: none"> <i>1. Climate injustices including how the health impacts of environmental change are distributed unequally within and between population</i> <i>2. Climate change and health (at a global, local, and individual level)</i> <i>3. Climate change and healthcare - Understanding Carbon footprint of healthcare & Greener NHS (organisational sustainability policies and the legal frameworks for reducing carbon emissions)</i> <i>4. Co-benefits of climate actions with food and health as example</i> <i>5. Role as future doctors in addressing environmental issues and achieving sustainable healthcare.</i> 	

1.9. Does your <u>medical school</u> curriculum address the outsized impact of climate change on marginalised populations such as those with low SES, women, communities of colour, Indigenous communities, children, homeless populations, and older adults?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>At NUMed, this topic is covered in year 2, 3 and 5.</i></p> <p><i>A Year 2 lecture titled ‘ Migrant & Refugee Health’ covered the following learning outcome: Describe the particular health needs of vulnerable groups and migrants</i></p> <p><i>A Year 3 lecture on ‘Planetary health and Sustainability in Healthcare’ discusses the impact of climate change on the health of marginalised/indigenous populations globally. It includes multiple slides that cover:</i></p> <ul style="list-style-type: none"> <i>- Vulnerable populations disproportionately affected by climate change</i> <i>- Climate-related hazards that threaten the health of indigenous populations</i> 	

The Year 5 6-hour sub-module in the Good Medical Practice module titled ‘Climate and Sustainability’ explores this topic through a ‘flipped classroom’ activity where students are tasked to carry out self-directed learning (SDL) and present to their colleagues on their topics. Both the lecture and flipped classroom activity covers the the following learning objectives:

- 1. Climate injustices including how the health impacts of environmental change are distributed unequally within and between population*
- 2. Climate change and health (at a global, local, and individual level)*
- 3. Climate change and healthcare - Understanding Carbon footprint of healthcare & Greener NHS (organisational sustainability policies and the legal frameworks for reducing carbon emissions)*
- 4. Co-benefits of climate actions with food and health as example*
- 5. Role as future doctors in addressing environmental issues and achieving sustainable healthcare.*

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

3

At NUMed, this topic was briefly explored in both the third-year and fifth-year lectures with the learning outcome:

- 1. Climate injustices including how the health impacts of environmental change are distributed unequally within and between populations.*

The Year 3 lecture on ‘Planetary Health and Sustainability in Healthcare’ includes multiple slides that cover:

- Disparity between emission of greenhouse gases and the estimate of per capita mortality from climate change*
- How the observed impacts attributed to climate change like environmental changes, adverse physical symptoms, and food production differ between regions*

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

1.11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides, microplastics)?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>At NUMed, the year 5 sub-module (which is a 6 hour programme) titled 'Climate and Sustainability' explores this topic briefly.</i></p> <p><i>It includes a task about climate-smart Obstetrics & Gynaecology care that covers the following objectives:</i></p> <ul style="list-style-type: none"> - Reproductive health effects of industry related environmental toxins (e.g. air pollution, pesticides) & climate change. -Evidence-based care practices vs. sustainability in Obstetrics & Gynaecology The topic was covered in a webinar and additional resources provided to a group of students who are tasked with summarising the topic into a 10-minute presentation to the rest of the cohort. This is part of a 'flipped classroom' activity. 	

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

1.13. To what extent does your <u>medical school</u> emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	

This topic was **not** covered. (0 points)

Score Assigned:

3

The importance of relearning Indigenous wisdom to help contribute to climate change adaptation strategies was emphasised during the year 3 lecture 'Planetary health and Sustainability in Healthcare'. The slides refer to Indigenous people as the best guardians of global biodiversity:

Traditional knowledge is key to building resilience for vulnerable populations in the face of climate change.

relies on nature-based solutions, passed on by their elders over generations

emphasizes balance, respect and harmony between human beings and the rest of the natural world, Traditional practices: minimal impact of the environment & foster self-sustaining ecosystems and biodiversity.

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?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

3

This topic was explored in the Year 5 GMP module under the Climate injustice student-led lecture, as well as a lecture in Year 2 about Global Health.

The Year 2 lecture Global Health talked about the unequal impact of Environmental Change to marginalised communities, going into detail on the mechanism of communicable and non-communicable disease spread highlighting the inequality of the burden of disease.

Specific learning outcome: describe the responses of the international community to addressing global inequalities in health and the challenges ahead.

The Year 5 GMP (Good Medical Practice) module includes a learning objective 'Explain how global change such as the climate emergency, impacts on health at a global, local, and individual level. Understand how the health impacts of environmental change are distributed unequally within and between populations

Curriculum: Sustainability

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

This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 point)	
Score Assigned:	2
<p><i>The environmental and health co-benefits of a plant-based diet were briefly addressed in single lectures within the core curriculum.</i></p> <p><i>Year 2: In Case 18 (Lecture: Sustainability in Healthcare), plant-based diets were mentioned as examples within the broader discussion of environmental ethics and the Sustainable Development Goals (SDGs).</i></p> <p><i>Year 5: In a lecture covering learning outcomes related to personal values and environmental sustainability, diet was briefly referenced in relation to both health and planetary impact.</i></p>	

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>This topic was covered in the core curriculum. In Year 3, learning outcomes on the environmental impact of healthcare provision and responsibilities of providers explicitly addressed the carbon footprint of healthcare systems. Year 4 and Year 5 learning outcomes on sustainable clinical management and organisational sustainability policies further reinforced these concepts.</i></p>	

1.17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	Score
The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment (2 points)	2

The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfil this metric. (2 points) .	2
The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK. (1 point)	1
Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated. (1 point)	1
The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions. (1 point)	1
The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers. (1 point)	1
Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting) (1 point)	1

The curriculum addressed multiple components of sustainable clinical practice across the MBBS programme.

- *In Year 2, Case 18 (Lecture: Sustainability in Healthcare) introduced core sustainability concepts, including the environmental ethics of healthcare. This was further reinforced through the Planetary Health and Sustainability in Healthcare lecture, which addressed the healthcare carbon footprint, including the **environmental impact of inhalers**. Students were taught about the role of hydrofluorocarbon propellants in metered-dose inhalers and the environmental benefits of dry powder inhalers, which are significantly more environmentally friendly.*
- *In Year 3, students learned to describe the knowledge and skills required to **improve the environmental sustainability of health systems** and to assess the environmental impact of healthcare provision, including the responsibilities of healthcare providers and organisations in mitigating climate change.*
- *In Year 4, these principles were reinforced through clinical management teaching that emphasised reducing waste and harm. The Advanced Clinical Experience module included learning outcomes on recognising the consequences of **over-diagnosis and over-treatment**, delivered through clinical placements and biweekly discussion sessions. Students were taught the importance of selecting lower environmental-impact investigations (e.g. ultrasound as first-line imaging where appropriate), **recognising adverse effects of over-prescribing, and practising deprescribing** to improve patient outcomes while reducing environmental and healthcare costs.*
- *Across the clinical years (Years 3, 4, and 5), the importance of **non-pharmaceutical management** including exercise, healthy diet, smoking cessation programmes, and referral*

to patient support groups was consistently emphasised. However, the environmental benefits of social prescribing were not explicitly highlighted.

- *In Year 5, sustainable practice was addressed extensively through the Primary Care module. This included organisational sustainability policies and personal values related to environmental stewardship, as well as the environmental impact of healthcare delivery. Students examined sources of greenhouse gas emissions in healthcare, including **anaesthetic gases, waste management, and supply procurement**, and were taught mitigation strategies such as rational use of disposable PPE, increased use of reusable materials, and **environmentally responsible practices in surgical and clinical settings**.*

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your medical school's curriculum introduce strategies to have conversations with patients about the health effects of climate change?

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

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

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

Score Assigned:

2

The curriculum introduces strategies for patient communication about climate and health through background knowledge from Year 2 lectures on Global Health and Migrant & Refugee Health, Year 3 learning outcomes on the impact of climate change on marginalised populations, and Year 4–5 learning outcomes on sustainable clinical management and environmental stewardship. These modules provide foundational knowledge and applied scenarios to support conversations with patients about the health effects of climate change.

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

Yes, the **core** curriculum includes strategies for taking an environmental history. (2 points)

Only **elective** coursework includes strategies for taking an environmental history. (1 point)

No, the curriculum does **not** include strategies for taking an environmental history. (0 points)

Score Assigned:

2

At NUMed, students are taught in both preclinical and clinical years to incorporate environmental exposures into focused history taking. This includes assessing occupational risks (such as exposure to asbestos, aromatic amines, or cadmium) in relevant conditions, identifying the type, location, and nature of a patient's work, and evaluating home and community environmental hazards. For example, proximity to water sources or industrial areas, and exposure to fogging in dengue-prone regions help to guide appropriate public health interventions when needed.

Curriculum: Administrative Support for Planetary Health

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

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

Yes, the medical school is currently in the process of making **minor** improvements to ESH/planetary health education. (2 points)

No, there are **no** improvements to planetary health education in progress. (0 points)

Score Assigned:

4

At NUMed, there is strong engagement and interest in implementing and enhancing Education for Sustainable Healthcare (ESH), supported by a dedicated team including Deans, staff, students, and external advisors. Oversight is in place for the integration of planetary health teaching across the curriculum, ensuring that sustainable healthcare topics are incorporated longitudinally throughout the course. The goal is to integrate these topics within every course and case, with three key outcomes: the first delivered through taught lectures, the second integrated in the clinical setting, and the third focusing on the responsibilities of a doctor.

Multiple Year 2–5 lectures and learning outcomes introduce planetary health concepts, including sustainability, environmental ethics, the SDGs, and organisational policies. While not fully integrated across all modules, the curriculum demonstrates ongoing implementation and reinforcement.

Over the past few years, NUMed has incorporated multiple learning objectives, lectures, and student activities to educate future healthcare professionals about the climate crisis and their role in mitigating it.

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

Planetary health/ESH topics are **well integrated** into the core medical school curriculum. (6 points)

Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum. (4 points)

Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s) . (2 points)	
There is minimal/no education for sustainable healthcare. (0 points)	
Score Assigned:	6
<p><i>Planetary health topics are embedded in the medical school curriculum and reinforced across Years 2–5. Repeated exposure through lectures, seminars, and clinical modules supports the longitudinal integration of these concepts.</i></p> <p><i>For example, in Year 2, lectures and seminars cover the links between biochemistry and environmental exposures, such as smoking and air pollutants, along with genetics sessions on the effects of free radicals from pollutants on DNA, and connections to the pathophysiology of pulmonary conditions, including COPD and emphysema.</i></p> <p><i>These examples demonstrate that planetary health concepts are not confined to standalone lectures but are integrated into core courses and clinical teaching, providing students with both foundational knowledge and applied understanding of environmental impacts on health.</i></p>	

1.22. Does your <u>medical school</u> employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?	
Yes, the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (1 point)	
No, the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (0 points)	
Score Assigned:	1
<p><i>At NUMed, a senior clinical lecturer is responsible for overseeing the integration of planetary health and sustainable healthcare throughout the curriculum. She collaborates with academic staff to identify the most effective ways to include these topics in the syllabus.</i></p> <p><i>Although NUMed does not have a dedicated expert in Education for Sustainable Healthcare (ESH) or planetary health, guidance is provided by the Newcastle UK campus, with which NUMed shares the same curriculum.</i></p>	

1.23. Does your health professional curriculum include teaching on civic engagement/advocacy to address the environmental and structural determinants of health?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	

This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>Civic engagement and advocacy to address the environmental and structural determinants of health are well embedded in the curriculum. In the NUMed MBBS program, a “case” refers to a themed learning block or topic, usually centred around a clinical scenario, that guides teaching and learning for that period. These cases often change every week or fortnight, providing students with a variety of clinical and public health contexts to apply their knowledge.</i></p> <ul style="list-style-type: none"> • <i>Year 1 – Case 1: Society & Illness: Evidence-based approaches to health promotion and reducing health inequalities.</i> • <i>Year 2 – Case 17: HIV/AIDS: Awareness of social, political, economic, environmental, and gender determinants of health.</i> • <i>Year 2 – Case 18: Global Health & Migrant/Refugee Health: Effects of environment and climate on health, global health inequalities, and vulnerable populations.</i> • <i>Year 5: Personal values and environmental sustainability; the role of doctors in addressing environmental issues and promoting sustainable healthcare.</i> <p><i>These modules introduce advocacy and stewardship, highlighting social and environmental determinants of health and the responsibilities of doctors in promoting equity and sustainability.</i></p>	

Section Total (70 out of 75)	93.33%
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Back to Summary Page [here](#)

Are there additional curriculum resources offered at your 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 broader institution. Interactions between health and the environment are complex and multifactorial. While climate change has been extensively studied from an environmental science perspective, planetary health is an emerging field. As leading health institutions with talented researchers and research resources, institutions should fund research studying the health effects of climate change and anthropogenic environmental toxins. This obligation is particularly strong because the public and policymakers are more attentive to climate change when its implications for human health are emphasised.

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your institution?

Yes, there are faculty members at the **institution** who have a **primary** research focus in planetary health **or** sustainable healthcare/vetcare. (3 points)

Yes, there are individual faculty members at the **institution** who are conducting research **related** to planetary health or healthcare sustainability, **OR** are part of a national/international sustainability working group, but it is not their primary research focus. (2 points)

There are sustainability researchers at the **institution**, but not specifically associated with healthcare/vetcare. (1 point)

No, there are **no** planetary health and/or sustainability researchers at the **institution** at this time. (0 points)

Score Assigned:

2

NUMed staff worked on the 'Integrating Sustainability into Medical Education: Evaluating the Impact of the 'Planetary Health and Sustainability in Healthcare' module, with the goal of developing student awareness of sustainability in medical practice.

The Water Security and Sustainable Development Hub, was another project researchers at NUMed undertook as part of an international research initiative involving five nations- India, Ethiopia, Colombia, Malaysia, and the United Kingdom. This interdisciplinary project, funded by the Global Challenges Research Fund (GCRF) through UK Research and Innovation (UKRI), ran from 2019 to 2024, during which it harnessed the expertise of researchers in public health, environmental health, engineering, social sciences, and governance to identify and address water security challenges in each participating country. The project received significant recognition, earning the Queen's Anniversary Prize for Higher and Further Education (2023/2024).

<https://www.ncl.ac.uk/numed/news-events/news/qaprize-2023/>

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

There is **at least one** dedicated department or institute for interdisciplinary planetary health research. (3 points)

There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years. (2 points)	
There is an Occupational and Environmental Health department , but no interdisciplinary department or institute for planetary health research. (1 point)	
There is no dedicated department or institute. (0 points)	
Score Assigned:	3
<i>At Newcastle University Medicine Malaysia (NUMed), research activities are coordinated and supported centrally through the Research Management Centre (RMC), which provides institutional oversight and facilitates collaboration across disciplines. Planetary Health is one of NUMed's research focus areas, with ongoing work examining environmental determinants of health, including water and soil quality and their impacts on human health outcomes. Through the RMC's role in enabling and managing research across departments and themes, NUMed supports interdisciplinary planetary health research at the institutional level, including coordinating relevant projects, partnerships, and research planning.</i>	

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 <u>institution</u>?	
Yes, there is a process in which community members impacted by climate and environmental injustice have decision-making power in the climate + environmental research agenda. (3 points)	
Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda. (2 points)	
No , but there are current efforts to establish a process for community members to advise or make decisions on the research agenda. (1 point)	
There is no process, and no efforts to create such a process. (0 points)	
Score Assigned:	0
<i>Currently, there is no process nor ongoing efforts at NUMed.</i>	

2.4. Does your <u>institution</u> have a planetary health website that centralises ongoing and past research related to health and the environment?	
There is an easy-to-use, adequately comprehensive website that centralises various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities. (3 points)	
There is a website that attempts to centralise various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive. (2 points)	
The institution has an Office of Sustainability website that includes some resources related to health and the environment. (1 point)	

There is no website. (0 points)	
Score Assigned:	2
<p><i>NUMed is in the process of establishing a webpage on the existing student learning platform, which will provide useful information the ongoing efforts of the Environment & Sustainability Campus Committee's efforts, resources related to health and environment., and student research updates from the Global Consortium (GCCHE) on Climate and Health Education, as well as upcoming workshops/courses/webinars organised by the GCCHE.</i></p> <p><i>This webpage is still in the developmental stage and has not yet been created.</i></p>	

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

2.6. Is your <u>institution</u> a member of a national or international planetary health or ESH/ESV organisation?	
Yes, the institution is a member of a national or international planetary health or ESH/ESV organisation. (1 point)	
No, the institution is not a member of such an organisation. (0 points)	
Score Assigned:	1
<i>NUMed is a member of the Global Consortium on Climate and Health Education (GCCHE).</i>	

Section Total (8 out of 17)	47.06%
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Back to Summary Page [here](#)

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

Community Outreach and Advocacy

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

3.1. Does your <u>institution</u> partner with community organisations to promote planetary and health?	
Yes, the institution meaningfully partners with multiple community organisations to promote planetary and environmental health. (3 points)	
Yes, the institution meaningfully partners with one community organisation to promote planetary and environmental health. (2 points)	
The institution does not partner with community organisations, but participates in community focused events relating to planetary health. (1 point)	
No, there is no such meaningful community partnership. (0 points)	
Score Assigned:	3
<p><i>The VOLTAGE Society collaborated with Majlis Perbandaran Pengerang (Pengerang City Council) to organise 'Clear the Coast,' a beach clean-up event held at Pantai Batu Layar on 18 October 2025. A link to their Instagram reel documenting the event is provided below:</i></p> <p>https://www.instagram.com/reel/DQTMho_D5ND/?igsh=dDJqY3g1Z2l4cWQ3</p> <p><i>The Year 5 Health Camp was organised on 1 June 2025 (Sunday) in partnership with the Residents of Kampung Sungai Melayu (Sungai Melayu Village) to promote public and planetary health. An extensive day of health booths were set up at the local government school, covering screenings and topics of "Global Health", "Women's Health", "Child Health", "Mental Health", "Primary Care" and talks ranging from the harmful effects of smoking/vaping and the relations of plastics & health.</i></p>	

3.2. Does your <u>institution</u> offer community-facing courses or events regarding planetary health?	
The institution offers community-facing courses or events at least once every year. (3 points)	
The institution offers courses or events open to the community at least once per year, but they are not primarily created for a community audience. (2 points)	

The institution has promoted community-facing courses or events, but was not involved in planning those courses or events. (1 point)	
The institution has not offered such community-facing courses or events. (0 points)	
Score Assigned:	3
<i>“Trash to Treasure” is a NUMed-led initiative that provides a Facebook platform for students, staff, and the wider EduCity community to upload second-hand items they wish to sell or give away. The initiative encourages sustainable practices by promoting the reuse of items such as books, clothing, electronics, and household goods. Participants can browse listings, connect with others to exchange or purchase items, and contribute to reducing waste while fostering a sense of community engagement.</i>	

3.3. Does your <u>institution</u> have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?	
Yes, all students regularly receive communication updates dedicated to planetary health and/or sustainable healthcare. (2 points)	
Yes, planetary health and/or sustainable healthcare topics are regularly included in communication updates to some courses . (1 point)	
Students do not receive communications about planetary health or sustainable healthcare. (0 points)	
Score Assigned:	2
<i>The NUMed ESCC has a dedicated email to disseminate planetary-health related information and events to the wider university community.</i>	

3.4. Does the <u>institution</u> or <u>main affiliated hospital trust</u> engage in professional education activities targeting individuals post-graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?	
Yes, the institution or main affiliated hospital trust offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health. (2 points)	
Yes, the institution or main affiliated hospital trust offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers. (1 point)	
There are no such accessible courses for post-graduate providers. (0 points)	
Score Assigned:	2
<i>NUMed provides access to multiple post-graduate professional education opportunities in planetary health through its membership in the Global Consortium on Climate and Health Education (GCCHE). These include the Western Pacific Climate and Health Responder course and</i>	

Let's Teach Planetary Health, both of which offer structured online training and certification aimed at updating healthcare professionals' knowledge and skills in planetary health and sustainable healthcare. While these courses are externally delivered, they are actively promoted and accessible to NUMed staff and postgraduate providers, fulfilling the criteria for multiple post-graduate planetary health education offerings.

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

Yes, the **institution** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)

Some affiliated hospitals have accessible educational materials for patients. (1 point)

No affiliated medical centres have accessible educational materials for patients. (0 points)

Score Assigned:

2

Most affiliated teaching hospitals of NUMed have physical posters and brochures on environmental health exposures such as dengue mosquitoes, chemical and toxic exposures, harmful effects of smoking and e-cigarettes etc.

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

Yes, the **institution** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)

Some affiliated hospitals have accessible educational materials for patients. (1 point)

No affiliated hospitals have accessible educational materials for patients. (0 points)

Score Assigned:

0

There are no educational materials for patients about the health impacts of climate change.

Section Total (12 out of 14)

85.71%

Back to Summary Page [here](#)

Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Support for Student-Led Planetary Health Initiatives

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

4.1. Does your <u>institution</u> offer support for students interested in enacting a sustainability initiative/QI project?	
Yes, the institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects or sustainability QI projects are part of the core curriculum. (2 points)	
The institution encourages sustainability QI projects (to fulfil clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate. (1 point)	
No, the institution does not offer opportunities or support for sustainability initiatives or QI projects. (0 points)	
Score Assigned:	2
<p><i>Sustainability QI projects have been introduced as part of the core curriculum.</i></p> <p><i>Final-year medical students are tasked to form groups of 3-5 at the start of the year and are assigned an academic supervisor. Each group must come up with one sustainable QI project idea and work out the following:</i></p> <ol style="list-style-type: none"> <i>1. What aspect of healthcare will you focus on?</i> <i>2. What environmental impact(s) will you target? Why have these been chosen?</i> <i>3. What benefits do you expect (patient outcomes, financial savings, or social benefits for staff / patients / families / communities)?</i> <i>4. Can you articulate the 'problem' that you are addressing</i> <p><i>Students are required to use the Defining the Structure framework on the Set Goals page of the Step-by-Step Guide at susqi.org.</i></p> <p><i>Each group must think of possible changes to address the 'problem', identify the limitations/challenges between different options, and specify what indicators they will use to measure project outcomes. Specific tools are provided to measure environmental impacts, social impact, and healthcare carbon footprint.</i></p> <p><i>Each group must create an abstract and ePoster for their proposed QI project which will be reviewed by their academic supervisor. All groups will present their poster to a panel of lecturers in the second semester.</i></p>	

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

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

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

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

Score Assigned:

1

There is a Research Scholarship Scheme that students can apply for which allows students to carry out research about planetary health and sustainable healthcare.

Students also have the opportunity to design their own research study & discuss it with the research team through the research clinic initiative. The team provides students with the guidance necessary to start their research project.

For example, a student supported through the Research Scholarship Scheme and mentorship of NUMed's research team has designed a research protocol and poster titled "Study Protocol – Eco-directed Sustainable Prescribing in Malaysia: Knowledge, Awareness, and Attitude among Medical Students." This work was presented at the APRU Global Health Conference 2025, themed "Towards Planetary Health Equity: A Global Call for Shared Solutions," where it won first place.

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

The institution has a webpage with specific information related to planetary health or sustainable healthcare/vetcare that includes up-to-date information on relevant initiatives and contact information of potential mentors. (2 points)

There is an institution webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the institution, but it lacks key information. (1 point)

There is **no institution** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors. (0 points)

Score Assigned:

1

NUMed has a webpage on the student learning platform that offers resources related to health and environment. This webpage offers information regarding the ongoing and future planetary health events in and out of NUMed, research opportunities and events offered by the Global Consortium on Climate and Health Education (GCCHE), and information relating to PHRC.

4.4. Does your <u>institution</u> have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?	
Yes, there is a student organisation with faculty support at my institution dedicated to planetary health or sustainability in healthcare. (2 points)	
Yes, there is a student organisation at my institution dedicated to planetary health or sustainability in healthcare but it lacks faculty support . (1 point)	
No, there is not a student organisation at my institution dedicated to planetary health or sustainability in healthcare. (0 points)	
Score Assigned:	2
<i>There is a Planetary Health Society in NUMed that strives to bring awareness towards the topic of environmental sustainability and the delicate relationship between healthcare and the environment. The society is funded by the Student Association and has a faculty mentor.</i>	

4.5. Is there a student liaison representing sustainability interests who serves on a <u>department or institutional</u> decision-making council to advocate for curriculum reform and/or sustainability best practices?	
Yes, there is a student representative who serves on a department or institutional decision-making council/committee. (1 point)	
No, there is no such student representative. (0 points)	
Score Assigned:	1
<i>There is a staff-led environment and sustainability focused committee with the involvement of three student representatives named 'Environment and Sustainable Campus Committee (ESCC)' that hosts events every year. It also plays a part in suggesting new environment-friendly campus policies such as the Bring-Your-Own campaign for food vendors.</i>	
<i>The NUMed Student Association (NUMedSA) appoints one member to represent sustainability interests. The NUMedSA sustainability representative is invited to join the regular ESCC meetings.</i>	

4.6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	Score
Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.	0
Panels, speaker series, or similar events related to planetary health that have students as an intended audience.	0

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.	0
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.	0
Wilderness or outdoors programs (e.g., that organise hiking, backpacking, kayaking, or other outings for students)	1
<p><i>NUMed has a dedicated space called the 'Eco Lounge' to host and promote planetary health events and initiatives. The lounge features displays of repurposed and upcycled items created by students and faculty, such as decorative planters crafted from old containers, recycled art installations, and sustainable campus supplies. These exhibits aim to inspire students to adopt eco-friendly practices and contribute to a culture of environmental responsibility.</i></p> <p><i>NUMed's Athletics & Cross Country Club (NUAXC) organises regular outdoors programmes including weekly night runs and hikes.</i></p>	

Section Total (9 out of 15)	60%
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Back to Summary Page [here](#)

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

5.1. Does your <u>institution</u> have an Office of Sustainability?	
Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital. (3 points)	
There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of hospital sustainability. (2 points)	
There are no salaried sustainability staff , but there is a sustainability task force or committee. (1 point)	
There are no staff members or task force responsible for overseeing campus sustainability. (0 points)	
Score Assigned:	2
<p><i>The university has an Environment and Sustainability Committee (ESCC) composed of 10 paid staff, including academics, heads of service, senior management and 3 student representatives who are responsible for the environmental management across the University.</i></p> <p><i>They oversee policy development to help NUMed meet sustainability goals such as cutting down on single-use plastic products around campus, help create sustainable spaces around campus such as the Eco-Lounge, raise awareness on environmental issues by hosting workshops and designing posters, and work on integrating aspects of sustainability into the medical curriculum.</i></p>	

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

NUMed is part of SEDA's Energy Management and Efficiency program and has received approval and a certification for its plan to reduce its carbon footprint by 40%-45% by 2030. The university has successfully reduced its total energy expenditure by 26.47% from 2018 to 2023. Long-term goals of this initiative include:

- Carbon-neutrality by 2030
- Net-zero carbon emissions by 2050
- Continue to implement and expand sustainability initiatives like energy-efficient infrastructure, waste reduction programs, and sustainable procurement practices.
- To integrate sustainability into research and education
- Position NUMed as a leader in sustainability within the medical education community to promote planetary health

While the Environment and Sustainability Campus Committee at NUMed has stated a long-term goal of carbon neutrality, the institution has not created a plan to achieve carbon neutrality.

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

Yes, institution buildings are **100%** powered by renewable energy. (3 points)

Institution buildings source **>80%** of energy needs from off-site and/or on-site renewable energy. (2 points)

Institution buildings source **>20%** of energy needs from off-site and/or on-site renewable energy. (1 point)

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

Score Assigned:

0

The institution has implemented an on-site solar photovoltaic system across five academic buildings, with a total installed capacity of 366 kWp. The system is forecasted to generate approximately 37,361 kWh per month, contributing around 16% of the campus's total annual electricity consumption. While this demonstrates a clear commitment to integrating renewable energy into teaching infrastructure, the current contribution remains below the 20% threshold required for scoring under this criterion. Therefore, the appropriate score assigned is 0. However, the project reflects a significant step towards reducing reliance on grid electricity and provides a strong foundation for future expansion of renewable energy capacity on campus.

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

Yes, sustainable building practices are utilised for new buildings on the institution's campus and the **majority** of old buildings **have been retrofitted** to be more sustainable. (3 points)

Sustainable building practices are utilised for new buildings on the institution's campus, but most old buildings have **not been retrofitted**. (2 points)

Sustainable building practices are inadequately or incompletely implemented for new buildings. (1 point)	
Sustainability is not considered in the construction of new buildings. (0 points)	
Score Assigned:	0
<i>Metric is not applicable since NUMed does not have permission to construct new buildings on the current campus premises.</i>	

5.5. Has the <u>institution</u> implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
Yes, the institution has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default. (2 points)	
The institution has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised. (1 point)	
The institution has not implemented strategies to encourage and provide environmentally-friendly transportation options. (0 points)	
Score Assigned:	2
<i>NuMed provides a free shuttle bus to students commuting from university-managed accommodation to the campus. Additionally, there are electric scooters available for students to use, bike racks, and walkways to provide students with better and more environmentally friendly ways to commute to the university. Students are offered a bus for transportation to their clinical placements in the early years, and encouraged to carpool to their clinical placements during the last two years of their program.</i>	

5.6. Does your <u>institution</u> have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?	
Yes, the institution has both compost and recycling programs accessible to students and faculty. (2 points)	
The institution has either recycling or compost programs accessible to students and faculty, but not both. (1 point)	
There is no compost or recycling program at the institution. (0 points)	
Score Assigned:	2
<i>NUMed has a compost program in both cafeterias of the university. Additionally, there are multiple waste baskets designated for paper, general waste, plastics, and glass throughout the campus in easily accessible and commonly used spaces such as outside lecture theatres, at the school</i>	

entrance, outside of labs, near the entrances of the library, and other such areas. NUMed also has a designated area for paper recycling, where students may deposit larger items to be recycled.

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

Yes, the institution has **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. (3 points)

There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution **is engaged** in efforts to increase food and beverage sustainability. (2 points)

There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution is **not** engaged in efforts to increase food and beverage sustainability. (1 point)

There are **no** sustainability guidelines for food and beverages. (0 points)

Score Assigned:

2

The NUMed cafeteria is actively trying to reduce waste production by providing reusable plates, cups, and cutlery. They've implemented an extra charge for food or drinks packaged with takeaway containers or plastic cutlery as part of the 'Bring Your Own Campaign' in order to discourage students from choosing this option.

There are sustainability guidelines in place for food catering for any events in NUMed. This includes:

- *Stopping the use of single-use plastic and other disposable chopsticks*
- *Stop serving foods that come in single-use plastics (e.g: packaged buns, juice bottles, etc)*
- *Event organisers are asked to organise the food disposal to ensure waste is segregated into recyclable items, non-recyclable items, and compostable food waste.*

There are also water filters around the university so that reusable water bottles can be refilled. However, vending machines have been installed which sell bottled water and packaged snacks which are a popular option with students in a rush. Meat-free days or no-red meat has not been implemented, but it's part of our long-term goals in sustainable food practices.

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

Yes, the institution has **adequate** sustainability requirements for supply procurement **and is engaged** in efforts to increase sustainability of procurement. (3 points)

There are sustainability guidelines for supply procurement, but they are **insufficient or optional**. The institution is **engaged** in efforts to increase sustainability of procurement. (2 points)

There are sustainability guidelines for supply procurement, but they are **insufficient or optional**. The institution is **not engaged** in efforts to increase sustainability of procurement. (1 point)

There are no sustainability guidelines for supply procurement. (0 points)	
Score Assigned:	2
<p><i>NUMed includes sustainability considerations within its Procurement Policy, stating that, where practical, preference should be given to suppliers with environmentally responsible operations and ethical labour practices. The policy allows for sustainability criteria to be included in RFQs and tender documents and may require relevant environmental certifications (e.g. ISO 14001, FSC), with procurement decisions considering environmental and social impact alongside cost and quality. However, these sustainability requirements are framed as discretionary rather than mandatory, and there is limited evidence of systematic implementation or active monitoring to drive continuous improvement in sustainable procurement practices.</i></p>	

5.9. Are there sustainability requirements or guidelines for events hosted at the institution?	
Every event hosted at the institution must abide by sustainability criteria. (2 points)	
The institution strongly recommends or incentivizes sustainability measures, but they are not required . (1 point)	
There are no sustainability guidelines for institution events. (0 points)	
Score Assigned:	1
<p><i>NUMed's Environmental & Sustainability Campus Committee (ESCC) offers a comprehensive guide comprising sustainable tips aimed at encouraging all staff and students to integrate green practices into their event planning and execution, with the objective of inspiring a shift towards more environmentally responsible event hosting.</i></p> <p><i>The ESCC offers financial rewards for events that adhere to these guidelines, but events are not required to adhere to them to be approved.</i></p>	

5.10. Does your <u>institution</u> have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
Yes, the institution has programs and initiatives to assist with making lab spaces more environmentally sustainable. (2 points)	
There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives. (1 point)	
There are no efforts at the institution to make lab spaces more sustainable. (0 points)	
Score Assigned:	1
<p><i>The institution has established documented guidelines and internal workflows aimed at improving the environmental sustainability of laboratory spaces. These include proper scheduled waste management in compliance with DOE regulations, waste segregation by category, inventory tracking, licensed contractor disposal, waste minimisation practices such as controlled reagent preparation and inventory management, reuse of materials where safe, and informal energy- and resource-saving practices. While these measures demonstrate clear commitment and ongoing</i></p>	

efforts to reduce environmental impact within laboratories, they are implemented as internal guidelines and operational practices rather than structured, institution-wide sustainability programs. Therefore, the institution meets the criteria for having guidelines but not formal programs or initiatives.

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

The institution is **entirely divested** from fossil fuels **and** has made a **commitment to reinvest divested funds** into renewable energy companies or renewable energy campus initiatives. (4 points)

The institution is **entirely divested** from fossil fuels. (3 points)

The institution has **partially divested** from fossil fuel companies **or** has made a **commitment to fully divest**, but **currently** still has fossil fuel investments. (2 points)

The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organised advocacy** for divestment. (1 point)

Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that. (0 points)

Score Assigned:

4

The institution is entirely divested from fossil fuels, as NUMed does not hold any direct or indirect investments in fossil-fuel companies and its investment activities are limited exclusively to term deposits with banks. As such, the investment portfolio is fully free from fossil-fuel exposure. In addition, NUMed has demonstrated a clear commitment to supporting renewable energy initiatives through its collaboration with the campus landlord, IIB, which is installing solar panels on campus buildings. NUMed has committed to purchasing the electricity generated from these solar panels, partially replacing grid electricity supplied by Tenaga Nasional Berhad. This reflects both full divestment from fossil fuels and active support for renewable energy campus initiatives, meeting the criteria for the highest score.

Section Total (21 out of 32)

65.63%

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%

**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 Newcastle University of Medicine Malaysia’s School of Medicine.

The following table presents the individual section grades and overall institutional grade for the Newcastle University of Medicine Malaysia’s School of Medicine on this Planetary Health Report Card.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(70/75) \times 100 = 93\%$	A
Interdisciplinary Research (17.5%)	$(8/17) \times 100 = 47\%$	C
Community Outreach and Advocacy (17.5%)	$(12/14) \times 100 = 86\%$	A
Support for Student-led Planetary Health Initiatives (17.5%)	$(9/15) \times 100 = 60\%$	B-
Campus Sustainability (17.5%)	$(21/32) \times 100 = 66\%$	B
Institutional Grade	$(93 \times 0.3 + 47 \times 0.175 + 86 \times 0.175 + 60 \times 0.175 + 66 \times 0.175) = 73\%$	B

Report Card Trends

Section Overview

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

Planetary Health Report Card Trends for Newcastle University Medicine Malaysia

