



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



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

Faculty of
Medicine

2023-2024 Contributing Team:

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Summary of Findings

Overall	B
<u>Curriculum</u>	B
<ul style="list-style-type: none"> The University of Queensland (UQ) Medical School includes some excellent planetary health content in the curriculum which are explored in depth. The 2023 curriculum lacked longitudinal integration, however, it is acknowledged that the Medical School is in the process of creating and refining a new program. Recommendations: The Medical School could employ a designated member of faculty to provide clinicians with expert guidance to integrate planetary health concepts into lectures. Furthermore, teaching regarding conversations about planetary health with patients could be introduced in clinical practice, or GP. 	
<u>Interdisciplinary Research</u>	B-
<ul style="list-style-type: none"> UQ as an institution is engaging positively with planetary health interdisciplinary research, particularly the School of Public Health, however UQ Medical School itself is lacking in this regard. Recommendations: Proactive research collaboration with other faculties, and joining an international organisation dedicated to planetary health, could improve engagement with environmental health research. 	
<u>Community Outreach and Advocacy</u>	C+
<ul style="list-style-type: none"> UQ has successfully created a range of initiatives designated to planetary health. The Medical School has formed foundational relationships with the rural and First Nations communities. There are also frequent communications within the Medical School and the broader community through seminars and newsletters. Recommendations: Delegating one article in each newsletter to a medically themed environmental piece including discussion of new prescribing options, or ways to minimise wastage in practice. Additionally, UQ Medical School should consider developing projects in partnership with communities more vulnerable to planetary health decline, such as including rural and First Nations communities. 	
<u>Support for Student-Led Initiatives</u>	B
<ul style="list-style-type: none"> UQ provides support for student-led initiatives related to sustainability, including a medical student club. However, medical students typically have to seek out opportunities to engage with sustainability. Recommendation: Student engagement could be improved by: a medical student specific page on the <u>Sustainability</u> webpage; sustainability focused research projects in the <u>Foundations of Medical Research</u> course; volunteering in a sustainability initiative as assessment for the <u>Introduction to Environmental Health for Medicine</u> elective; a sustainability focused student liaison position on the Medical Program Student-Staff Liaison Group; and affiliations with <u>Medical Students for a Sustainable Future</u>. 	
<u>Campus Sustainability</u>	B
<ul style="list-style-type: none"> UQ has a comprehensive sustainability strategy with goals for renewable energy, building standards, and performance metrics. They promote environmentally responsible practices and provide infrastructure for recycling, laboratories, and sustainable transportation. Recommendations: The university should consider hiring medical-specific personnel for the office of sustainability and develop clear regulations for sustainable practices in food and beverage services and catered 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 medical school’s institutional priorities do not reflect the urgency of this danger to human health.

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

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

Definitions & Other Considerations

Definitions:

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

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

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

Other considerations:

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

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

Planetary Health Curriculum

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

Curriculum: General

1.1. Did your <u>medical school</u> offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>For first year students, no electives offered, only single course <u>Foundations of Medicine MEDI7100</u>.</i></p> <p><i>In second year, at University of Queensland, <u>Introduction to Environmental Health for Medicine (PUBH7287)</u> is a semester-long elective offered to second year medical students which delivers teaching via lectures and tutorials. Other electives also offered that briefly include planetary health in their teachings are <u>Health Promotion in Public Health for Medicine (PUBH7288)</u> and <u>Global Health Policy in Practice for Medicine (PUBH7291)</u>.</i></p>	

Curriculum: Health Effects of Climate Change

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

For first year students, MEDI7100: Advocacy & Public Health Workshops provided a connection between climate change ideas as well as their relevance in health practice. The pre-learning for the week 17 Introduction to Climate Change workshop addressed UN Secretary General Antonio Gueterras launching the 'United in Science' report September 2022 and the video discussed catastrophic consequences of global warming to 1.5 degrees celsius. The workshop lecture slides spoke on changes in global surface temperatures and ocean heat uptake.

In Week 19, The Impact of Climate Change Workshop, the lecture and slides discussed climate sensitive health risks (heat impacts on health) including anger and violence. There was also discussion of health and environmental impacts of extreme temperatures due to global warming. The small group activity and large group discussion within the workshop discussed the extreme heat impact on health, SES and climate, health inequity, health infrastructure, moderators, and opportunities for adaptation.

For second year students, in the course Integrated Clinical Studies (MEDI7212), the week focusing on environmental threats had a dedicated lecture, 'Impacts of Heat,' and symposium 'Impact of environmental factors on patient care,' as well as required readings, focusing on this topic. The case-based learning also explored this topic with the Week 1 Main Case 'Extreme heat in the far North,' specifically focusing on the impacts of heat waves, and their rising incidence, as well as the health consequences and how to manage them on a public health level.

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

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

For first year students, MEDI7100 Advocacy & Public Health Workshops covered the topic 'Introduction to Climate Change' in week 17 and the Impact of Climate Change in week 19. Slides and lectures taught future projections of extreme weather events (heatwaves, river floods, rainfall, sand, and dust storms). Required reading discussed climate change causing frequent and severe heat waves, leading to death and illness. Workshop slides included teaching on 'Health and SES impacts of climate change' with discussion of extreme temperatures due to global warming's effect on health and the environment. Small group activity and large group discussion within the workshop discussed extreme weather events' impact on health, SES and climate, health inequity, health infrastructure, moderators, and opportunities for adaptation.

For second year students, in the course Integrated Clinical Studies (MEDI7212), the 'Environmental Threats' week had a series of lectures which explored how various extreme weather events, such as bushfires, flooding, and heat waves, impact healthcare systems and cause disease. These were further reinforced in the case-based learnings, namely the Week 1, Main Case 'Extreme heat in the far North' and Week 1, Short Case 2 'The Mudder of all Endurance Events'.

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

3	This topic was explored in depth by the core curriculum.
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2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>For first year students, the <u>MEDI7100</u> Week 16 Advocacy and Public Health Workshop topic was environmental impacts on health, including a lecture, discussion, casework, and pre reading from the Australian Institute of Health and Welfare (AIHW). Some of the slides discussed the natural environment and health, identifying and discussing a range of environmental determinants of health including infectious disease. The slides linked to some reading on vectors, communicable diseases, and Queensland-specific diseases like leptospirosis (but this was not discussed in the workshop). Following were slides addressing the impact of environmental factors and health, but not specific to infectious diseases, with a much greater focus on links with chronic disease like air pollution and CVD, respiratory infections linked to asthma or UV exposure, obesity or environmental toxins.</i></p> <p><i>For second year students, in the course <u>Integrated Clinical Studies (MEDI7212)</u>, the week focusing on environmental threats involved a symposium titled 'Impact of environmental factors on patient care', with a slide exploring the threat of infectious diseases in regards to climate change. The week focusing on local and global infections had a lecture titled 'Tropical infection and the febrile child,' which had a couple of slides acknowledging how climate change poses a risk for increased atypical and increased case numbers of infectious diseases.</i></p>	

1.5. Does your <u>medical school</u> curriculum address the respiratory health effects of climate change and air pollution?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>For first year students, as part of the <u>MEDI7100</u> Week 16 workshops focused on the intersection between chronic disease and the environment. Learning activities included a case study, large and small group discussion, a lecture and reflection sessions on how this will inform future practice. Topics specifically addressed included air pollution (road, industrial) and mould exposure, and the resultant respiratory diseases, infections and asthmatic episodes. A few PowerPoint slides were dedicated to studies on air pollution and respiratory disease (especially asthma).</i></p> <p><i>For second year students, in the course <u>Integrated Clinical Studies (MEDI7212)</u>, the week focusing on environmental threats had a symposium, 'Impact of environmental factors on patient care,' with a lecture exploring the impact of carbon pollution on lung health.</i></p>	

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

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>For first year students, the <u>MEDI7100</u> Week 16 Workshop had multiple learning modalities teaching students about the environment's impact on chronic disease, with a great focus on cardiovascular disease (CVD). This included a case study, small and large group discussion, a lecture and videos. Pre-reading and discussion was on 'Environmental determinants of cardiovascular disease: lessons learned from air pollution,' (a case study of a patient with CVD and activities to determine what environmental risks were present and how to go about management). The PowerPoint presented during this workshop was dedicated mostly to data surrounding factors that affect chronic disease. Most slides focused on CVD environmental determinants, including a slide 'Exposure to environmental risk factors (external exposome) leads to changes of central biochemical pathways with associated health impact,' and 5 slides on biological pathways linking air and noise pollution to the pathophysiology of CVD. They also spent considerable teaching on the links of different social determinants of health together on CVD and mitigation strategies.</i></p> <p><i>For second year students, in the course <u>Integrated Clinical Studies (MEDI7212)</u>, the week focusing on environmental threats involved several lectures and readings which explored physiological response to heat, focusing on the cardiovascular system. The most prominent lecture was 'Impacts of Heat' and the symposium 'Impact of environmental factors on patient care.' This was further reinforced in the case-based learnings, namely the Week 1, Main Case 'Extreme heat in the far North.'</i></p>	

1.7. Does your <u>medical school</u> 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.
<p><i>For first year students, as part of <u>MEDI7100</u> in the 'Environment determinants of health' workshop in Week 16, the implications of environmental factors on mental health of patients in a case study are touched upon without in-depth analysis. In the week 19 climate change workshop, the lecture lists climate-sensitive risks including mental and psychosocial health and that it impacts health systems and facilities, but not in what specific ways.</i></p> <p><i>For second year students, in the course <u>Integrated Clinical Studies (MEDI7212)</u>, the week focusing on environmental threats had lectures, 'Impacts of Heat', 'Health System adaptation to climate change' and 'Impact of environmental factors on patient care symposium', which each had a couple slides exploring how those with mental health conditions are at risk of deterioration, how those without diagnosed mental health conditions can have diminished cognitive function from heat, and how events like bushfires devastate communities with a need for mental health support.</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?	
3	This topic was explored in depth by the core curriculum.

2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>For first year students, in both Weeks 17 and 19 of the <u>MEDI7100</u> course there is considerable time given to climate change in advocacy and public health workshops labelled 'Climate Change.' In the workshop lecture in Week 19, the theme was 'Health and SES Impacts of climate change' of which the learning objectives included: Describe the health and socioeconomic impacts of climate change; describe the moderators of these impacts; discuss the impacts of climate change on health inequities; and discuss the role of adaptation in responding to the impacts. Specifically in the Week 19 workshop, two discussion questions were posed: one of extreme weather events leading to scarcity of basic needs (food, water, etc.) and the other of biodiversity loss.</i></p> <p><i>For second year students, in the course <u>Integrated Clinical Studies (MEDI7212)</u>, the week focusing on environmental threats had several lectures on this topic. 'Impacts of Heat' and 'Health System adaptation to climate change' explored the effect of power outages and other climate events on food and water security, with changes to infrastructure, such as coolants, offered as a solution to reduce vulnerability. Similarly, 'Climate Change and Food and Nutrition' thoroughly addressed the relationship between climate change and food insecurity. Additionally, the symposium 'Impact of environmental factors on patient care' highlighted how droughts, floods, and disease can impact water and food access.</i></p>	

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?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>For first year students in <u>MEDI7100</u> Weeks 16 & 19 workshops 'Climate Change', there is an overview of environmental determinants and climate change in the context of health. Environmental determinants discussed in the workshop included economic stability, education, community, race, sociopolitical conditions, demographics and health status. In the workshop lecture in week 19 the theme was 'Health and SES Impacts of climate change', of which the learning objectives included discussion on the impacts of climate change on health inequities and discussion of the role of adaptation in responding to the impacts. There were in depth slides on relationships and interplay of different social determinants of health with climate change in society.</i></p> <p><i>For second year students, in the course <u>Integrated Clinical Studies (MEDI7212)</u>, the week focusing on environmental threats had readings, lectures ('Impacts of Heat' and 'Impact of environmental factors on patient care - symposium') and case-based learning (Week 1, Main Case 'Extreme heat in the far North) covering how vulnerable populations are disproportionately affected, and at risk of being affected, by climate change.</i></p>	

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

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

For first year students in MEDI7100 Week 19 'Health and Socioeconomic Impacts of Climate Change' workshops lecture, there was a slide on the global and regional risks for increasing levels of global warming. There are also two other slides on increasing global warming causing ecological and agricultural droughts in dry regions and heavy precipitation in others, as well as extremes in temperatures regionally.

For second year students, in the course Integrated Clinical Studies (MEDI7212), the week focusing on environmental threats has a lecture titled 'Health System adaptation to climate change' with a slide on the unequal climate adaptation gap, where disadvantaged populations are more likely to suffer the health impacts of climate change both globally, and nationally.

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

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

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

For students in year 1, nothing was taught about reproductive health in relation to environmental toxins.

Similarly, this topic was not covered in any year 2 electives or in core curriculum. In the Reproductive week of Clinical Sciences 3 (MEDI7211), a lecture titled 'Approach to the Infertile Couple' had a dot point on a slide mentioning that exposure to chemicals and toxins such as mercury, cadmium, volatile organic solvents, pesticides and textile dyes has been implicated in causing female infertility, but this was not a focus.

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

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

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>For first year students, the week 17 advocacy workshop discussed climate change mitigation options at individual, community and policy levels. Discussion about flooding and deforestation was initiated by a slide on Australia being one of the highest per-capita CO2 emitters in the world and the effects that would have on the Australian environment and society.</i></p> <p><i>For second year students, in the course <u>Integrated Clinical Studies (MEDI7212)</u>, the week focusing on environmental threats had case-based learning tutorials with 3 cases focused on health issues in Queensland directly resulting from human-caused climate change. The topics covered included extreme heat waves and bushfire risks in North Queensland (with a focus on Townsville and Cairns), migration of the Irukandji jellyfish near K'gari and Hervey Bay, and melioidosis risk after flooding and monsoonal rain in Townsville. Additionally, the elective <u>Introduction to Environmental Health for Medicine (PUBH7287)</u> considers local environmental health with some local examples (e.g. green space in Brisbane City Council areas).</i></p>	

1.13. To what extent does your <u>medical school</u> emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?	
3	Indigenous knowledge and value systems are integrated throughout the medical school's planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework.
0	This topic was not covered.
<p><i>While various lectures were delivered in the core curriculum in Year 1 and 2 regarding Indigenous Australians and cultural safety, with recognition of how Aboriginal and Torres Strait Islander peoples worked with the land to survive and thrive, these were not delivered in the context of planetary health.</i></p> <p><i>In the second-year elective <u>Introduction to Environmental Health for Medicine (PUBH7287)</u>, the course coordinator draws from their research work which has a large focus on Indigenous Voices and Knowledges leading climate discussions and decision-making. The course also has a guest lecturer who is an Aboriginal Environmental Health Worker based in remote NT communities.</i></p>	

1.14. Does your <u>medical school</u> curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous populations, and older adults?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.

0	This topic was not covered.
<p><i>University of Queensland did not cover the impact of anthropogenic environmental toxins in the core medical school curriculum. In the second year elective, <u>Introduction to Environmental Health for Medicine (PUBH7287)</u>, social determinants of health in both the causes and protective factors from climate change and other environmental health impacts were discussed, including anthropogenic environmental toxins.</i></p>	

Curriculum: Sustainability

1.15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>In year one, <u>MEDI7100</u>, there was minimal coverage of plant-based diets outside the context of looking out for B12 deficiency in vegans in a team-based learning class on nutrition and diet.</i></p> <p><i>For second year students, in the course <u>Integrated Clinical Studies (MEDI7212)</u>, the week focusing on environmental threats had a lecture titled 'Climate Change and Food and Nutrition'. This lecture touched on how choosing more healthy plant-based options was recommended as one of four key principles to achieving a sustainable diet, and that the data supporting this was rejected from the national dietary guidelines resulting in recommended diets that revolve around omnivorous models, not vegetarian options. Further exploration of the health and environmental benefits of a plant-based diet was minimal.</i></p>	

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored in depth by the core curriculum
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>For second year students, in the course <u>Integrated Clinical Studies (MEDI7212)</u>, the week focusing on environmental threats had a dedicated lecture titled 'Health System Climate Mitigation' addressing the carbon footprint of the healthcare system.</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)	
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2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfil this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
<ol style="list-style-type: none"> 1. For second year students, in the course <i>Integrated Clinical Studies (MEDI7212)</i>, the week focusing on environmental threats had a lecture titled 'Health System Climate Mitigation,' which highlighted research demonstrating pre-operative over-investigation across several specialties and how a 'Choose Wisely' approach would have positive environmental and economical impacts. 2. Not covered. 3. Not covered. 4. Not covered. 5. For second year students, in the course <i>Integrated Clinical Studies (MEDI7212)</i>, the week focusing on environmental threats had a lecture titled 'Health System Climate Mitigation' which explored how research and education of anaesthetists has results in sevoflurane, a gas with 7 times less carbon emissions compared to desflurane, being used as the default in hospitals. 6. For second year students, in the course <i>Integrated Clinical Studies (MEDI7212)</i>, the week focusing on environmental threats had a lecture titled 'Health System Climate Mitigation' which specified the impact of metered dose inhalers and how dry powder inhalers are a more sustainable solution. This concept had also been previously discussed in asthma pharmacological management lectures. 7. For second year students, in the course <i>Integrated Clinical Studies (MEDI7212)</i>, the week focusing on environmental threats had a lecture titled 'Health System Climate Mitigation' which provided examples of clinician-led action including audit findings which resulted in switching to reusables from single-use items, programs to collect usable medical items that would have been disposed of and redistribute them to charitable organisations, and soft plastics collection resulting in a closed loop recycling program. 	

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
<i>At the University of Queensland, there was no evidence supporting that the medical school included this in the 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 core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.
<i>At the University of Queensland, medical students are taught to take a thorough patient history which includes asking about environmental exposure (e.g. through travel, home environment, etc) and occupational exposure with reinforcements of the physiological effects of environmental exposures in clinical science content.</i>	

Curriculum: Administrative Support for Planetary Health

1.20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?	
4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.
<i>UQ medical school is restructuring its program to become a more integrative course with fewer stand alone sessions focused on planetary health. While the content will remain fairly similar to previous years, there will be a shift from teaching about the science of climate change, to an increase in the more clinical aspects of climate change, based on student and staff feedback. After speaking with the representative from the UQ School of Public Health, who develops medical school planetary health teachings, it was agreed that regarding the teachings they coordinate, there will be minor improvements. However, due to the integrative nature of this newer program, the extent to which</i>	

planetary health will be incorporated in other domains that are not organised by the School of Public Health, is unknown.

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 well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s) .
0	There is minimal/no education for sustainable healthcare.

UQ medical school is restructuring its program to become a more integrative course with fewer stand alone sessions focused on planetary health. A representative from the UQ School of Public Health who develops medical school planetary health teachings shared the developments for fewer stand alone planetary health sessions, to an increased amount of planetary health content within each clinical topic/organ system module. It is important to note however that due to the integrative nature of this newer program, the extent to which planetary health will be incorporated in other domains, not organised by the School of Public Health, is unknown.

Despite these upcoming improvements, in 2023, this metric would receive a score of 2 as there is a stand alone 'Environmental Health' week in the year 2 Integrated Clinical Studies (MEDI7212) course, which is not integrated with other teachings.

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

The curriculum coordinators in the School of Medicine are responsible for overseeing the integration of planetary health teachings. Within the Medical School, the domain responsible for this part of curriculum is advocacy and public health. Much of the planetary health content is developed and coordinated by staff in the UQ School of Public Health, who work in collaboration with the Medical School to ensure this theme is maintained throughout the course.

Section Total (51 out of 72)	70.83%
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Interdisciplinary Research

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

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <u>medical school</u> ?	
3	Yes, there are faculty members at the medical school who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the medical school who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution , but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>UQ Medical School does not appear to have any research specifically focussed on planetary health or healthcare sustainability. There are some groups focussing indirectly on the impact of the environment on human health, such as the Thoracic Research Centre researching the impact of air pollution on disease development, although specifics on their projects in this area were unable to be ascertained.</i></p> <p><i>There are, however, other schools at the institution with the specific research focus of planetary health. For example, the <u>Faculty of Business, Economics and Law's Sustainable Infrastructure Research Hub</u>, which enables 'rapid research collaboration between industry, government academia and communities' in the areas of energy, water and transport. Additionally, the <u>School of Public Health</u> has researchers focussing on both 'Environmental epidemiology and sociology' and 'Climate change and health'.</i></p>	

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

0	There is no dedicated department or institute.
<p><i>UQ (alongside the Queensland Government) jointly funds the ‘<u>Queensland Alliance for Environmental Health Sciences</u>’, an institute that explores climate health challenges through interdisciplinary research. Furthermore, as described above in section 2.2, there are several departments across different schools at UQ whose primary research focus is environmental health or sustainability. Furthermore, individual projects have centred around planetary health such as The Australian Institute of Bioengineering and Nanotechnology has a specific research focus into energy solutions and The School of the Environment names one of their research themes as ‘<u>Biodiversity and Conservation Science</u>’. UQ is also participating in the ‘<u>Alliance to achieve net zero emissions in agriculture</u>’. UQ advertise their research teams as ‘multidisciplinary’.</i></p>	

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>medical school</u> ?	
3	Yes, there is a process in which community members impacted by climate and environmental injustice have decision-making power in the climate + environmental research agenda.
2	Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda.
1	No , but there are current efforts to establish a process for community members to advise or make decisions on the research agenda.
0	There is no process, and no efforts to create such a process.
<p><i>As described in Section 2.1, UQ Medical School does not engage in any specific climate change focussed research. There does not appear to be a standardised process for consulting with community stakeholders to direct the research agenda in the medical school. The institution of UQ described consultation with ‘<u>major stakeholders</u>’ in their research strategy, however, does not specify who these are or the process of gaining their input.</i></p>	

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

UQ has a website dedicated to Sustainability which outlines UQ's sustainability strategy, current projects from different schools and disciplines, and how to get involved for current students and alumni.

2.5. Has your institution recently hosted a conference or symposium on topics related to planetary health?

4	Yes, the medical school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.

UQ hosted the iDEA conference for 2023 where the theme was 'Surviving and Thriving' focussing on 'the intersection of environmental advocacy across a range of spheres including healthcare, economics and law'. UQ also hosted other events and conferences such as the 'Circular Bioeconomy in a Decarbonised World' symposium (June 2023), the 'Key Technologies in the Bioeconomy: A Global Bioeconomy Alliance Conference' which aimed to facilitate discussion on 'building a sustainable future amidst a backdrop of unprecedented change' (September 2023) and the '2023 ACTS The Future of Sustainability Conference' (November 2023).

2.6. Is your medical school a member of a national or international planetary health or ESH organisation?

1	Yes, the medical school is a member of a national or international planetary health or ESH organisation
0	No, the medical school is not a member of such an organisation

Although UQ has an affiliation through the student body to Doctors for the Environment, I cannot find evidence of membership to a national or international planetary health organisation.

Section Total (11 out of 17)

64.71%

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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 medical school partner with community organisations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organisations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organisation to promote planetary and environmental health.
1	The institution partners with community organisations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>University of Queensland Medical School staff and students have affiliations with the Doctors for the Environment. In 2023, it hosted the annual Doctors for the Environment conference (https://dea.org.au/idea23/). Furthermore, the Medical School has partnered with local rural communities to provide a multi-day immersion program for first year students. This program allows for the students to join the community, live with locals and visit healthcare and community centres. Primary learning outcomes included identifying the community needs. This encompassed healthcare barriers such as extreme weather, closing the gap on Aboriginal and Torres Strait Islander health and access challenges. The OCHSNER component of the program also has a 'Global Health is Local Health' campaign, with focuses including hurricane recovery support in Haiti and The Bahamas, and a 2020 conference on global health https://education.ochsner.org/clined/global-is-local.</i></p> <p><i>The UQ Medical School also engages with First Nations Australians through the Indigenous engagement program, outlined here: https://medicine.uq.edu.au/indigenous-engagement</i></p> <p><i>Furthermore, the University of Queensland has global partnerships with environmental groups. For example, the university assists with coastal management through their partnership with the Coral Triangle initiative: https://global-partnerships.uq.edu.au/development/environment</i></p>	

3.2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The medical school offers community-facing courses or events at least once every year.

2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The institution/medical school have not offered such community-facing courses or events.
<p><i>The University of Queensland Medical School offers an open lecture series titled 'Health Matters' which is available to the public. It was launched in 2017 and since then has had two dedicated climate change related lectures. One was titled 'A fork in the road: climate change, food and health' (March 2020), and the other titled 'The next generation: How climate change and pandemics are shaping our children's future' (July 2022). Both were delivered in person and no recording is available online. https://medicine.uq.edu.au/health-matters</i></p> <p><i>The University of Queensland also runs the School of the Environment health series through the environmental science department. This series contains lectures available in person and online regarding climate change, environmental science, and global health. An example of a relevant lecture title is 'Water at the centre of everything' https://environment.uq.edu.au/event/5810/senv-seminar-series</i></p>	

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

2	Yes, all students regularly receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are sometimes included in communication updates.
0	Students do not receive communications about planetary health or sustainable healthcare.
<p><i>While the UQ Medical School has a regular newsletter, there are no currently available articles discussing planetary health or sustainable healthcare. However, the UQ medical magazine has several articles concerning planetary health dating back to 2016. An example of this article is 'Combating climate change, one step at a time'.</i></p>	

3.4. Does the institution or main affiliated hospital trust engage in professional education activities targeting individuals post graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?

2	Yes, the institution or main affiliated hospital trust offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the institution or main affiliated hospital trust offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are no such accessible courses for post-graduate providers

While the University of Queensland has an alumni network which offers ongoing education, there does not appear to be any planetary health specific courses available (outside of credited research programs and degrees). However, within this program there are some webinars based around environmental education including the 'future of farming' and 'Steve Irwin Memorial' lectures.

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

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

While UQ and its associated hospitals do not all have dedicated patient information packs accessible, some do. For example, the Metro South Public Health Unit, which encompasses UQ hospitals like Princess Alexandra and Logan hospital, has environmental exposure information available through its website. This is included on a page with information about health promotion and disease control and can be found here: <https://metrosouth.health.qld.gov.au/publichealth>

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 medical school or all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.

In 2021, the UQ Medical School acknowledged and published an article outlining the goals and purpose of the Health Environments and Lives (HEAL) network which has been designed to address health effects of climate change and is designed to be accessible to staff, students and patients.

The Queensland Government has also provided climate change impact predictions for different regions. For example, linked is the predictions for the Wide Bay region which is encompassed in the UQ MD program. This material is made available to students, staff, and patients.

Section Total (8 out of 14)

57.14%

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

The UQ Green fund provides 'funds for projects that improve UQ's sustainability performance.' This is available to all UQ students and for applications of funding over \$500, match-funding partnership with a UQ entity is required. In addition, UQ offers the opportunity for students to volunteer in a range of projects focused on sustainability. As seen on the [sustainability website](#) there are many environmental focused clubs where students can undertake sustainability initiatives. As written on the website, "recent years clubs have included the UQ Environmental Collective, UQ Sustainability Club, Vegetarian & Vegan Society, Oxfam UQ, UQ Food Coop, UQ Fair Trade Collective, UQ Oaktree." Through the UQ Green Ambassador programs students are supported by staff to initiate student-led sustainability projects. Through this program, students can contribute to Sustainability Council meetings and are provided with resources and networks to run initiatives on campus. Similarly, the Green Labs Program offers education and support for Laboratory staff (which often includes UQ students).

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

UQ Medical School does not appear to have any research specifically focussed on planetary health or healthcare sustainability. However, as part of the second-year elective 'Foundation of Medical Research' medical students are able to source their own project, which could include one with an

environmental focus, and work on it during the semester, with the support of the faculty running the Foundations of Medical Research course. The Student Research Portal has some projects related to planetary health, namely 'Understanding the effects of wildfire exposure on birth outcomes,' and 'Better control of mosquito-borne diseases through mosquito genomics.'

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

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

There is no specific medical school webpage for locating planetary health projects or mentors. However, UQ has a website dedicated to Sustainability which describes the information related to planetary health, the university's sustainability strategy, projects from different schools and disciplines, and how students and alumni can get involved. There is also the 'Doctors for the Environment Australia UQ' Facebook page, a club specifically for medical students, which posts information about volunteering opportunities.

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

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

UQ medical school has a student club affiliated with Doctors for the Environment (DEA). The 'Doctors for the Environment Australia UQ' Facebook page features ways to engage in planetary health. Volunteering opportunities include tree planting on National Tree Day and environmental conservation work at Mulgumpin (Moreton Island). UQ union provides the Medical Student Board funding, and UQ medical society allocates this money to UQ DEA amongst other medical student clubs. UQ union also acts as an affiliate for advertising and promotion of UQ DEA. The UQ branch of DEA is linked to the national organisation, which has faculty members who work in UQ medical school and support student-led initiatives. .

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.

The Medical Program Student-Staff Liaison Group (SSLG) consists of four representatives, one from each year level. There is no student liaison who specifically represents sustainability who is in this group, nor appears to be one consulted in institutional decision-making. However, the UQMS Management Committee also has an Advocacy Chair, who is responsible for advocacy within medical education.

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)

- In sustainability week, 'Composting Workshop,' 'Grow it, Cook it, Eat it,' 'DIY herb garden' workshop taught students about sustainable food systems. Both the St Lucia and Gatton campus have community gardens, which provide a space to meet, cook, and garden.*
- The theme of the 2023 iDEA conference, which was held at UQ, was 'Surviving and Thriving' focussing on 'the intersection of environmental advocacy across a range of spheres including healthcare, economics and law' and was available for student participation. All students were able to attend other UQ sustainability conferences such as the 'Circular Bioeconomy in a Decarbonised World' symposium (June 2023), the 'Key Technologies in the Bioeconomy: A Global Bioeconomy Alliance Conference,' which aimed to facilitate discussion on 'building a sustainable future amidst a backdrop of unprecedented change,' (September 2023), and the '2023 ACTS The Future of Sustainability Conference' (November 2023).*
- The theme of the 2023 iDEA conference featured several health professionals and local community members, whose presentations covered topics such as challenges in sustainability (e.g. the presentation entitled 'The Ultimate Emergency: Why we need to treat the planet as a*

patient to save the human race') and how partnerships with communities can improve healthcare and the environment (e.g. The presentation entitled 'Knowledge Holders within Indigenous communities whose footprints are not to be erased by the impacts of climate change').

4. *'Turning Trash into Art' event during sustainability week involved the creation of an art installation from students' trash.*
5. *Students have the opportunity to volunteer to help build community resistance to anthropogenic environmental impacts by joining student run clubs (e.g. UQ Environmental Collective and UQ Food Co-op), as well as UQ sustainability Crew, which runs tree planting and riverbank clean up days among other activities.*
6. *UQ DEA offered environmental conservation work at Mulgumpin (Moreton Island) where students hiked through Moreton Island, weeding invasive species. UQ has several student clubs that provide students opportunities to engage in nature. For instance, UQ Mountain Club, UQ Oschner's Wilderness Medicine Interest Group, and UQ canoe club.*

Section Total (11 out of 15)	73.33%
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Campus Sustainability

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

5.1. Does your <u>medical school</u> and/or <u>institution</u> have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff , but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>The Medicine Faculty don't have any dedicated staff member allocated full or part time to sustainability as part of their major job function. They also don't have any detailed oversight of our affiliate hospitals and their staff members.</i></p> <p><i>The staff comply with <u>UQ's sustainability principles</u> by adopting their protocols at our sites, e.g. using the recommended waste management systems, with individuals driving this themselves on site. In particular, our Faculty of Medicine Infrastructure team works with "<u>P&F Sustainability</u>" to claim and repurpose preloved furniture through a website called WarpIt and implement UQ's Policies & Procedures relating to staff and student spaces.</i></p> <p><i>The sustainability office used to put out a call out for "champions," but it is not clear if this initiative still exists. There are no other faculty positions.</i></p>	

5.2. How ambitious is your <u>institution/medical school</u> plan to reduce its own carbon footprint?	
5	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2030
3	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2040
1	The institution/medical school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate

0	The institution/medical school does not meet any of the requirements listed above
	<p><i>University of Queensland has a clear <u>2021-2025 sustainability strategy plan</u> wherein there is a 2025 Vision to be a beyond carbon neutral university. The university's grounds and buildings are planned and designed to be resilient to the effects of climate change. Measurements of success will include reduced carbon emissions and mitigation by scope and outdoor air quality. UQ has committed to:</i></p> <ul style="list-style-type: none"> - <i>A beyond carbon neutral footprint, including agricultural and scope 3 emissions</i> - <i>A 2021 Baseline Climate Forecast scenario established</i> - <i>Climate change impacts and adaptation strategies are included in all strategic and operational plans</i> - <i>Outdoor air quality metrics and monitoring of emissions to improve air quality are established</i>

5.3. Do buildings/infrastructure used by the <u>medical school</u> for teaching (not including the hospital) utilise renewable energy?	
3	Yes medical school buildings are 100% powered by renewable energy
2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.
<p><i>It's difficult to say definitively whether the UQ's medical school teaching buildings directly utilise a significant amount of renewable energy. UQ has a <u>complex energy mix</u>, likely powering different buildings with a combination of sources. The medical school could draw power from its solar farm, purchase electricity (which might include renewables), and potentially other smaller on-site generation.</i></p> <p><i><u>Public information</u> does not specify the exact energy mix for individual medical school buildings. UQ owns a large 64 MW solar farm that could potentially generate most of the electricity needed for its entire campus, including the medical school. However, the university sells a majority of this solar-generated electricity to the grid and continues to purchase electricity from other sources. Additionally, they have sold the carbon credits (LGCs) associated with solar electricity. This means UQ cannot directly claim its campuses are powered by renewable energy, and the medical school likely uses less than 20% renewable sources. UQ's <u>broader commitment to sustainability</u> offers hope for future improvements. As a large organisation, UQ is a significant energy consumer and recognizes the importance of reducing its carbon footprint.</i></p>	

5.4. Are sustainable building practices utilised for new and old buildings on the <u>medical school</u> campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?	
3	Yes, sustainable building practices are utilised for new buildings on the medical school campus and the majority of old buildings have been retrofitted to be more sustainable.

2	Sustainable building practices are utilised for new buildings on the medical school campus, but most old buildings have not been retrofitted .
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.
<p><i>The UQ Infrastructure and Sustainability team maintains <u>design standards</u> that are state of the art and quite current for all new buildings; however, there are still many older buildings not retrofitted for energy efficiency. The challenge for UQ this year is to decide which buildings may be demolished and/or replaced entirely to improve overall building sustainability.</i></p>	

<p>5.5. Has the <u>medical school</u> or <u>institution</u> implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?</p>	
2	Yes, the medical school or institution has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school or institution has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school or institution has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<p><i>The University of Queensland recognizes transport as one of the 17 key focus areas within the UQ Sustainability Strategy.</i></p> <p><i>UQ supports environmentally-friendly transportation options and active transport by having:</i></p> <ul style="list-style-type: none"> ● <i>Public transit connections at each of its St Lucia, Herston and Gatton locations</i> ● <i>Electric vehicle charging stations,</i> ● <i>Pedestrian priority pathways</i> ● <i>Bicycle racks</i> ● <i>End-of-trip facilities</i> ● <i>The Intercampus Express Bus Service</i> ● <i>A fleet of zero-emissions vehicles</i> ● <i>Electronic micro mobility devices (e-bikes and e-scooters) at the St Lucia campus</i> <p><i><u>Transport - Sustainability - University of Queensland</u></i></p>	

<p>5.6. Does your <u>medical school</u> have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?</p>	
2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	The medical school has either recycling or compost programs accessible to students and faculty, but not both.

0	There is no compost or recycling program at the medical school.
<p><i>UQ is committed to responsible waste management as it is one of the focus topics in the UQ sustainability strategy. According to the Principal Program Officer – Sustainability, the medical school has both compost and recycling programs accessible. They do this by having:</i></p> <ul style="list-style-type: none"> ● <i>20 different waste streams including soft plastics, e-waste, chemical waste and fluorescent tubes and lamps.</i> ● <i>More than 100 recycling stations across our campuses, including our reuse and recycling stations for difficult-to-dispose-of materials.</i> ● <i>Organics bins have been incorporated into the waste stations in the UQ Food Court. Waste can be separated into general (landfill) waste, co-mingled recycling, and organic waste.</i> ● <i>In 2017, UQ Gatton introduced food waste collection at the Walkway Café and the campus dining hall</i> ● <i>Food outlets within the UQ Food Court also separate out food scraps for recycling as they are cooking and preparing food. This is known as 'pre-consumer organics' and is a large percentage of all the organic waste collected on campus.</i> ● <i>On St. Lucia campus, Merlo Coffee and St Leo's Catering, are also separating their pre-consumer organics</i> <p><i>Organics collection at UQ - Sustainability - University of Queensland Recycling and waste minimisation - Sustainability - University of Queensland</i></p>	

5.7. Does the <u>medical school</u> apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.
<p><i>UQ recognizes the importance of sustainable food choices and is taking steps towards providing more environmentally responsible options. This includes community gardens focused on edible plants, fresh food education, and the development of the Sustainable Events Guide.</i></p> <p><i>While there are no strict requirements in place yet, initiatives like the UQ Union's efforts to reduce food waste and provide affordable, nutritious meals demonstrate ongoing progress.</i></p> <p><i>UQ's ultimate goal, detailed in the Sustainability Strategy, is to increase the availability of sustainable food options that are locally sourced, minimally processed, healthy, and have a low carbon footprint. Specific information about the medical school's efforts in this area is currently limited aside from the entirety of the university.</i></p>	

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

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

UQ promotes sustainable decisions on procurement like paper, apparel, food, lab supplies and equipment and catering at an organisational level and facilitates multiple options for people on our campuses to eat and drink sustainably.

UQ's procurement planning process, as set out in the University's Purchasing Policy, requires the inclusion of sustainability considerations in all purchasing decisions.

UQ aspires to do business with ethically, environmentally, and socially responsible suppliers.

UQ does, however, have in place a UQ Supplier Standards, which outlines expectations of suppliers and the standards to meet our responsible, social and legal requirements.

UQ expects its suppliers to uphold environmental responsibility by complying with regulations, minimising their environmental impact, reducing waste, implementing environmental management systems, actively seeking positive environmental outcomes, and being transparent about their sustainability practices.

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

2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required .
0	There are no sustainability guidelines for medical school events.

UQ provides a sustainable events certification via a checklist as well as a guide to host a sustainable event. They provide free water coolers, help with 'green caterers' recycling and waste disposal. UQ WARPit is an online resource -haring tool that allows UQ staff to post unwanted items for donation or to claim items for work purposes so that there is minimised waste post or pre-events. However, there are not mandatory sustainability requirements for events at UQ.

Sustainable Events Guide

5.10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?

2	Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
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1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the medical school to make lab spaces more sustainable.
<p><i>UQ has the Greenlabs program, a <u>best practice guide</u> and a <u>sustainable purchasing guide</u> for the laboratory. The Greenlabs program cultivates a network of environmentally conscious laboratory staff who promote good environmental practices in their work area, which would include the laboratories used by the medical school. The guidelines provide a framework for staff to follow for effective implementation.</i></p> <p><i>The <u>Greenlabs Program</u>:</i></p> <ul style="list-style-type: none"> • <i>Raises environmental awareness in laboratories on campus</i> • <i>Reduces the amount of water and energy use</i> • <i>Reduces the amount of waste generated.</i> <p><i>Additionally, there are potential guidelines and programs at the <u>Gross Anatomy Facility</u> where the medical school conducts teaching, but these were unfortunately unable to be accessed before report finalisation.</i></p>	

5.11. Does your <u>institution's</u> endowment portfolio investments include fossil-fuel companies?	
4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	The institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest , but currently still has fossil fuel investments.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organised advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies, and there have been no efforts to change that.
<p><i>There has not been an updated statement by the university about divesting from fossil fuels since 2016. There has been some advocacy from staff & students on occasion. In 2023, this includes the <u>Environmental Collection</u> at UQ-Union advocacy for fossil fuel divestment, However, this varies from year to year, according to the sustainability team at UQ.</i></p> <p><i>According to the <u>Sustainability Strategy</u>, UQ does not make direct investments, but rather invests in managed funds. These managed funds contain no significant fossil fuel interests. UQ uses fund managers who have either signed the United Nations-supported Principles for Responsible Investment (PRI) or are members of the Responsible Investment Association Australasia (RIAA).</i></p> <p><i>UQ has established the UQ Socially Responsible Investment (SRI) Green Fund inside the managed funds, with an initial investment of \$3 million. This fund makes sustainable and socially responsible investments and will not invest in firms that are not included in the FTSE All-World ex Fossil Fuel Index Series.</i></p> <p><i><u>Chancellor's letter to Fossil Free UQ - UQ News - The University of Queensland, Australia</u></i></p>	

Section Total (22 out of 32)	68.75%
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Grading

Section Overview

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

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

Planetary Health Grades for the University of Queensland School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(51/72) \times 100 = 70.83\%$	B
Interdisciplinary Research (17.5%)	$(11/17) \times 100 = 64.71\%$	B-
Community Outreach and Advocacy (17.5%)	$(8/14) \times 100 = 57.14\%$	C+
Support for Student-led Planetary Health Initiatives (17.5%)	$(11/15) \times 100 = 73.33\%$	B
Campus Sustainability (17.5%)	$(22/32) \times 100 = 68.75\%$	B
Institutional Grade	$(70.83 \times 0.3 + 64.71 \times 0.175 + 57.14 \times 0.175 + 73.33 \times 0.175 + 68.75 \times 0.175) = 67.44\%$	B