



Planetary Health Report Card (Medicine)

Curtin Medical School



2023-2024 Contributing Team:

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Summary of Findings

Overall	D
<u>Curriculum</u>	C-
<ul style="list-style-type: none"> • Curtin Medical School has a few lectures dedicated to sustainability and planetary health, however, they are not incorporated longitudinally in the curriculum. The effects of climate change on social determinants of health, cardiovascular, respiratory and psychiatric health is covered, however there is no mention in teachings related to other body systems or specialty areas such as renal, gastrointestinal or endocrine. • Recommendations: Integrating planetary health content into teaching throughout the entirety of the course, instead of having standalone lectures would better reflect the complex and far reaching relationships between human health and the health of our environment. We recommend the incorporation of learning objectives that address these relationships as a means of formalising their integration into the curriculum. In addition, we recommend co-developing sustainable healthcare content with Indigenous health leads. 	
<u>Interdisciplinary Research</u>	D-
<ul style="list-style-type: none"> • Although Curtin University conducts research into topics related to planetary health, such as environmentally sustainable agriculture, none of these are overtly health orientated, nor are they directly associated with the medical school. • Recommendations: We propose the establishment of a planetary health and healthcare sustainability research group. This could be composed of students, clinicians and researchers, and would conduct research in collaboration with other disciplines across the university. 	
<u>Community Outreach and Advocacy</u>	F-
<ul style="list-style-type: none"> • The Medical School conducts outreach and community work in Indigenous health, homelessness and domestic violence, but not within the planetary health space. Affiliated hospitals do not provide information on health impacts of climate change to patients, staff or the community. • Recommendations: The medical school should aim to grow the community partnerships they have made to include a focus on planetary and environmental health. Possible action could be taken to include such initiatives in the Community Partnership Program running in 3rd year. These may include taking part in beach clean ups or restoration work in estuaries, which can be run through 'Curtin Volunteers'. 	
<u>Support for Student-Led Initiatives</u>	D
<ul style="list-style-type: none"> • The International Health Organisation at Curtin (IHOC) is a student group that liaises with Australian Medical Students' Association (AMSA) Code Green, and Doctors for Environment Australia (DEA) to organise activities such as climate strikes, nature hikes, and conferences. • Recommendations: We recommend the Medical School consults directly with students regarding student lead initiatives and provide support for these when feasible. 	
<u>Campus Sustainability</u>	F
<ul style="list-style-type: none"> • There is no readily accessible information about the energy usage for the Medical School. Fossil fuel divestment hasn't been put on the table as far as we are aware, however we have seen some sources of renewable energy, such as solar panels, throughout the campus. • Recommendations: Taking steps towards renewable energy is increasingly becoming important, and we recommend the school to consider their energy sources and consider how we as a school can set a standard and a goal to decrease our carbon footprint. 	

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>Curtin Medical School(CMS) does not offer elective courses relating to Education for Sustainable Healthcare or Planetary Health, as the course itself doesn't allow for an option to select electives in the first place. The medical course has four vital themes, one of which is called 'Personal and Professional Development'. This component includes a single lecture on 'Sustainability, Planetary Health and Healthcare', presented by a guest lecturer.</i></p>	

Curriculum: Health Effects of Climate Change

1.2. Does your <u>medical school</u> curriculum address the relationship between extreme heat, health risks, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>As part of the GMED2008 Theme 4 core curriculum at Curtin Medical School, the lecture on "Sustainability, Planetary Health and Healthcare" features a few topics relating to the effects of climate change on health, climate justice and looking after oneself in climate crises. The lecture</i></p>	

introduces the direct and indirect effects of climate change, the impact of social dynamic factors and the potential consequences on human health, with a focus on cardiovascular and respiratory health. The lecture also discusses the impact of extreme weather and heatwaves on basic determinants of health and mental health, with acknowledgement of the socio-economic and cultural impacts. A substantial amount of time was devoted to these topics in the lecture and was presented as testable learning objectives for the end of year GMED2008 Common Assessment Task.

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.

In the GMED2008 unit, we had a lecture titled “Sustainability, Planetary Health and Healthcare”. This lecture covered the impact of extreme weather events, such as heatwaves and tsunamis, and how these events not only affect the individual but the healthcare system as a whole. We discussed how heatwaves can have a negative psychological impact on the patient’s mind, leading them to take irrational actions that can negatively affect not only themselves but also those around them.

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

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

In the GMED2008 core curriculum unit at Curtin Medical School, we received a lecture titled “Sustainability, Planetary Health and Healthcare” which discussed the impacts of climate change (eg. drought, bushfires, floods, etc) on health, society and the economy. There were a number of slides that specifically addressed the consequences of climate change on human health such as respiratory illnesses, cardiovascular disease and infectious disease – however, the topic of infectious disease was only briefly mentioned and not further explained.

1.5. Does your medical school curriculum address the respiratory health effects of climate change and air pollution?

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

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>In the GMED1000 and GMED1001 core curriculum unit at Curtin Medical School, there were no lectures that covered the respiratory health effects of climate change and air pollution. While we were given access to ClinicalKey, which contained multiple resources citing this topic, it wasn't explicitly addressed.</i></p>	

<p>1.6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat?</p>	
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 GMED2008, a core curriculum unit at Curtin Medical School, we received a lecture called "Sustainability, Planetary Health and Healthcare." This seminar not only covered cardiovascular health effects of climate change but also expanded on other systems such as respiratory effects and nutritional diseases. This included a brief small group discussion on these implications, however this discussion was not revisited at any other stage of the course.</i></p>	

<p>1.7. Does your <u>medical school</u> curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?</p>	
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 the GMED2008 core curriculum unit at Curtin Medical School, we received a lecture titled "Sustainability, Planetary Health and Healthcare" which discussed the holistic nature of human health and how climate change impacts each of its aspects. The psychological consequences of extreme weather events (eg. flooding and bushfires) were extensively outlined, with a particularly strong emphasis on the mental distress that occurs with loss of employment and housing; abuse and conflict; damage to infrastructure; and relationship issues – problems brought about by climate change and environmental degradation.</i></p>	

<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?</p>	
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 the GMED2008 curriculum unit at Curtin Medical School, students received a lecture entitled “Sustainability, Planetary Health and Healthcare”. This lecture discussed the relationship between health, ecosystem health and climate change, and how all three are related to health as a whole. In the first year of Medicine at Curtin Medical School, students are required to take a unit (CMHL100) called “Foundations of Professional Health Practice”, where students are taught about the relationship between social determinants of health and the wellbeing of patients. This did include specific content of environmental determinants of health.</i></p>	

<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?</p>	
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>Within the second year core curriculum (GMED2008) at Curtin Medical School, the lecture titled “Sustainability, Planetary Health and Healthcare” mentions marginalised populations under vulnerability factors for climate change by listing age, gender, socioeconomic status, demographic factors, etc in dot points. Although these dot points were briefly mentioned over 4-5 slides, one slide in particular explained a mind map to show us why and how all marginalised groups are impacted through various interconnected factors.</i></p>	

<p>1.10. Does your <u>medical school</u> curriculum address the unequal regional health impacts of climate change globally?</p>	
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>The core curriculum (GMED2008) lecture in 2nd year called “Sustainability, Planetary Health and Healthcare” very briefly mentions the factors that cause unequal health impacts regionally in one of the slides. By mentioning “hunger, poverty and migration” as differentiating reasons, we were only given a slight glimpse into the bigger picture behind the unequal regional health impacts caused by climate change globally.</i></p>	

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.

In the GMED2008 core curriculum unit at Curtin Medical School, there was a lecture entitled “Reproductive Cancers”, which talked about the major reproductive cancers as well as their risk factors. This briefly outlined some environmental risk factors, but was not a focus of the lecture.

One of the learning objectives in Year 2 of the medical program was to “Describe the effects of mutagens and teratogens, and outline the risk factors for teratogenesis, e.g. occupational, environmental, infective, genetic and metabolic (e.g. hyperglycaemia)”. This, however, required students to conduct their own research on the topic, and so there may be knowledge gaps where this topic is concerned.

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.

This topic was not covered in our medical school curriculum.

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

3	Indigenous knowledge and value systems are 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.

The medical school has quite a large focus on incorporating Indigenous knowledge throughout our education. We have several lectures and days dedicated to learning and understanding the abundance

of Indigenous knowledge and its importance in health promotion and the practice of healthcare. These lectures and select days are compulsory for attendance. In these yarns (discussions), we discussed how the Indigenous ways of living are much more in sync with the natural flora and fauna of the land, and how everything came from the land and returned back to the land. Although these discussions were not overtly planetary health discussions, they provide an important basis for the promotion of Aboriginal Australia knowledge systems as planetary health solutions.

1.14. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous populations, and older adults?

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

Curriculum: Sustainability

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

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Although we talk about diet plans affecting our individual health, the impact on diet on the environment wasn't really a topic covered in lectures or coursework; nor was it brought up in discussions.</i>	

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

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

1.17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	
2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfil this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
<i>Both the above topics were mentioned in very little detail, just in a couple of sentences during lectures. This very brief mention that didn't go into depth about how this contributes to the carbon footprint of the healthcare system.</i>	

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
<i>No strategies are provided for directly discussing climate change and disease with patients. (At least in MBBS years 1 and 2).</i>	

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

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

In GMED2008, the clinical skills curriculum involves learning to take an environmental history (in the context of an in-depth respiratory history), with particular focus on exposures and risk factors significant to local areas, e.g. asbestos.

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?

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.

The efforts are mostly student-driven at this point in time, however the faculty leads have shown to be responsive and open to integrating and reflecting on the content that could be delivered to further expand our knowledge of planetary health. There is constant opportunity to provide anonymous feedback about the lectures and the content covered, and there are meetings with student bodies for the faculty to learn more about the student perspective on how and what content is being delivered. Faculty members are also quite happy to help out with student-led events that run throughout the year. The process might take a few years, and also more recognition from students and educators that this is important content that needs to be thoroughly covered in the core curriculum.

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.

At Curtin Medical School, topics relating to planetary health and education for sustainable healthcare are mainly covered in the core curriculum in second year, rather than integrated longitudinally

throughout the length of the degree. A core lecture on “Sustainability, Planetary Health and Healthcare” covered these topics in the most detail, but they were also addressed in other lectures such as “Occupational Lung Disease” which covered smaller topics such as environmental hazard exposure regarding the lungs. Furthermore, within our Problem Based Learning [PBL] classes, there are some learning objectives that briefly mention environmental health impacts. These include refugee health in a tuberculosis case, atopy in an anaphylaxis case, and environmental triggers in an asthma case.

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.

There is no specific faculty member within Curtin Medical School tasked with overseeing planetary health and sustainability content within the medical curriculum.

Section Total (31 out of 72)

43.06%

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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>There is sustainability research happening at the institution, however none associated specifically with, or endorsed by the medical school.</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>There is a section of research under the title of Sustainable Development. This has subgroups on sustainable housing, fashion and consumption.</i></p> <p><i>Under sustainable consumption: the team is working to lessen the environmental impact of meat production, including greenhouse gas emissions, and land and water degradation caused by livestock. CUSP research is identifying the nutritional and environmental benefits of plant-based foods to help encourage sustainable food consumption among policy-makers, health professionals and the general</i></p>	

population. Our publications include the Gourmand World Cookbook Awards-winning book: *Environmental, Health, and Business Opportunities in the New Meat Alternatives Market*.

For sustainable livelihood: Curtin is a key partner in the Pacific Livelihoods Research Group, which is seeking to understand and enhance the livelihoods of people in the Pacific, particularly those from Papua New Guinea, as they grapple with the challenges of globalisation, modernity and resource allocation. The research is strongly participatory and usually involves extended fieldwork with the community. There are five themes: Cash Crops and Markets, Food Insecurity, Indigenous and Moral Economies, Gendered Lives, and Land, Labour and Mobility.

This research addresses topics related to, but not overtly part of, planetary health.

2.3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your medical school?

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

There is no process and no efforts to create such a process at our medical school.

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

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

The institution has a webpage that is dedicated to research topics with specific focuses on [Agriculture and Environment](#), including topics such as sustainable water use and food security. There was a bit of navigation required to access this webpage and is not as comprehensive. There is also the aforementioned [Sustainable Development](#) webpage.

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.
<i>It is not clear whether Curtin University has recently hosted a conference or symposium on topics related to planetary health.</i>	

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
<i>Although student societies within it are involved in planetary health organisations (e.g. the Australian Medical Students' Association (AMSA) Code Green initiative), Curtin Medical School itself (as of December 2023) appears to not be a member of any national or international planetary health or ESH organisations.</i>	

Section Total (4 out of 17)	23.53%
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Community Outreach and Advocacy

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

3.1. Does your <u>medical school</u> partner with community organisations to promote planetary and environmental health?	
3	Yes, the 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.
<i>We do have community partnership placements, which include helping the homeless and those suffering from domestic violence, however none of them specifically involve sites in which we can promote planetary health.</i>	

3.2. Does your <u>medical school</u> 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.
<i>Curtin Medical School does not appear to offer community-facing courses or events relating to planetary health.</i>	

3.3. Does your <u>medical school</u> have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?
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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.
<i>Curtin Medical School has not sent communications to medical students about planetary health or sustainable healthcare.</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?	
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
<i>There do not appear to be such resources available for post-graduate providers.</i>	

3.5. Does your <u>medical school</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about environmental health exposures?	
2	Yes, the medical school or all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centres have accessible educational materials for patients.
<i>Curtin Medical School and its affiliated teaching hospital does not have easily accessible resources for patients.</i>	

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

The medical school or affiliated hospitals do not have readily accessible educational material for patients about the health impacts of climate change.

Section Total (0 out of 14)

0.00%

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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 <u>medical school</u> or your <u>institution</u> 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.
<p><i>The institution has initiatives called Planet Positive, in which you can participate and complete certain tasks and projects. This program involves units which aim to better equip students with the knowledge and skills required to address the environmental and climate crisis. However, this is a completely optional course which also isn't highly promoted within the medical school or institution.</i></p>	

4.2. Does your <u>institution</u> 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.
<p><i>There do not appear to be opportunities for medical students to do research related to planetary health and/or sustainable healthcare..</i></p>	

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

4.4. Does your <u>medical school</u> 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.
<i>International Health Organisation at Curtin (IHOC) is a registered student organisation, composed of Curtin medical students interested in global health, advocacy, and supporting disadvantaged populations. The group has affiliations with AMSA Global Health and is supported by Curtin Guild. A subsection of IHOC, Code Green and Doctors for Environmental Health, is dedicated to advancing sustainability and environmental advocacy, as well as promoting planetary health engagement. Although there isn't a specific faculty member allocated to the student group, IHOC is quite supported by Curtin Medical School and has full faculty support in conducting events related to sustainability and planetary health.</i>	

4.5. Is there a student liaison representing sustainability interests who serves on a <u>medical school</u> or <u>institutional</u> 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.
<i>There is no student representative as such on a decision-making council in the medical school, however through our student-run initiatives there are informal channels of communication with the medical school.</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)	
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)
<p><i>The institution, through their volunteering programs and their student-run clubs, has organised outdoor activities. The institution has a program titled Curtin Volunteers, which allows students to choose from a wide range of various volunteer opportunities throughout the year. Through our medical school, we have also had a Wheatbelt Immersion Program where we are exposed to rural life giving us opportunities to learn more about farming and agriculture.</i></p>	

Section Total (5 out of 15)	33.33%
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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>There are staff members dedicated to sustainability at Curtin. They list what steps Curtin University currently has in place, and there is also an option for students to submit their own sustainability initiative ideas. However, there is no specific staff member in charge of medical school and/or hospital sustainability on campus.</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>There was no readily available information on the medical school's plans to reduce its own carbon footprint.</i></p>	

5.3. Do buildings/infrastructure used by the <u>medical school</u> for teaching (not including the hospital) utilise renewable energy?	
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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.
<i>There was no readily accessible information on how much renewable energy the medical school utilises.</i>	

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.
<i>There was no readily accessible information on whether building practises on the medical school campus conform to a sustainability guideline or rating system.</i>	

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?	
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.
<i>The institution regularly promotes students to use buses as the public mode of transport to the university.</i>	

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

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

There are recycling bins across the Curtin Medical School campus, but there is not an organics recycling program with compost bins available for students or faculty. There is a student-run initiative in place called 'Containers for Change', which involves recycling plastic and glass bottles. There are also recycling stations for coffee cups around campus.

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

3	Yes, the medical school has 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.

There are no sustainability guidelines in place for food and beverages.

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.

There are no sustainability guidelines for supply procurement as far as we are aware.

5.9. Are there sustainability requirements or guidelines for events hosted at the <u>medical school</u> ?	
2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required .
0	There are no sustainability guidelines for medical school events.
<i>AMSA does have a Code Green Sustainable Events Guide, and some clubs within Curtin Medical School do follow this guideline, however this is not adhered to for all events within the Medical School, and is not a requirement for hosting events.</i>	

5.10. Does your <u>medical school</u> have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
2	Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the medical school to make lab spaces more sustainable.
<i>There was no readily accessible information on whether the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.</i>	

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.
<i>There was no readily accessible information on whether the institution's endowment portfolio investments include fossil-fuel companies.</i>	

Section Total (4 out of 32)	12.50%
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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 Curtin University School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(31/72) \times 100 = 43.06\%$	C-
Interdisciplinary Research (17.5%)	$(4/17) \times 100 = 23.53\%$	D-
Community Outreach and Advocacy (17.5%)	$(0/14) \times 100 = 0.00\%$	F-
Support for Student-led Planetary Health Initiatives (17.5%)	$(5/15) \times 100 = 33.33\%$	D
Campus Sustainability (17.5%)	$(4/32) \times 100 = 12.50\%$	F
Institutional Grade	$(A \times 0.3 + B \times 0.175 + C \times 0.175 + D \times 0.175 + E \times 0.175) = 25.06\%$	D