



Planetary Health Report Card (Medicine):

University of Nebraska Medical Center

UNIVERSITY OF
Nebraska
Medical Center



2024-2025 Contributing Team:

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Land Acknowledgment

We acknowledge that the University of Nebraska Medical Center (UNMC) campuses and programs are located on the homelands of the Pawnee, Ponca, Otoe-Missouria, Omaha, Dakota, Lakota, Arapaho, Cheyenne, Apache, and Kaw Peoples, as well as the relocated Ho-Chunk, Iowa, and Sac and Fox Peoples. Land acknowledgments do not substitute relationships with Indigenous Peoples, but we want to recognize and honor their formidable relationship with the land and admirable stewardship. We are thankful for the opportunity to work, learn, and grow on this land.

Summary of Findings

Overall Grade	B
Curriculum	C
<ul style="list-style-type: none"> UNMC COM curriculum demonstrates an adequate introduction of climate change and its impacts on health, featuring a key lecture in Phase 1 Fundamentals: “Climate Change and Medicine”, that is then supplemented with an elective “Climate Change and Health” enhanced medical education track. Phase 1 didactic lectures describe topics such as air pollution and environmental exposures as they relate to specific organ systems and human health. Recommendations: Establish plans to introduce concepts of sustainable clinical practice in Phase 2 curriculum as well as discussion of environmental disparities during designated community engagement days, as these topics are completely lacking in the clinical curriculum. 	
Interdisciplinary Research	A-
<ul style="list-style-type: none"> UNMC hosts talented and motivated faculty who strive to make changes in the community through environmental research in dedicated organizations and interdisciplinary programs mainly housed under the College of Public Health. Recommendations: While the institution has strong environmental interdisciplinary research opportunities, planetary health research programs specific to the College of Medicine may be enhanced and input from communities disproportionately impacted by climate change and environmental injustice could be incorporated into the institutional research agenda. 	
Community Outreach and Advocacy	C+
<ul style="list-style-type: none"> UNMC does an adequate job with community outreach and advocacy with significant partnership with community organizations, such as Keep Omaha Beautiful and Omaha Metro. Multiple education opportunities are offered through programs like the Water, Climate, and Health Program, as well as continued professional education programs for post graduates at UNMC. Recommendations: Improve the coverage of events/courses to the entire Omaha community and non affiliated teaching hospitals for a more inclusive initiative, especially communities disproportionately impacted. Initiation of regular coverage of planetary health and sustainability through campus wide communication channels should also be implemented. 	
Support for Student-Led Initiatives	A
<ul style="list-style-type: none"> UNMC has an interdisciplinary student organization–Healthy Earth Alliance backed by faculty support, representation of sustainability interests at an institutional level via sustainability liaison position, specific research programs, and organized resources for students to engage in planetary health and environmental stewardship, and service. Recommendations: Continue to assess the long-term impact and maintenance of our student-led initiatives. Consider opportunities to incorporate cultural arts events related to planetary health, specifically targeting students and community members as the intended audience. 	
Campus Sustainability	A-
<ul style="list-style-type: none"> UNMC is advancing sustainability with a dedicated full-time staff member overseeing campus initiatives. Committed to net-zero emissions by 2030, UNMC requires all major renovations over \$5 million to meet specific sustainability standards. The university also prioritizes eco-friendly procurement, event guidelines, and operates a comprehensive recycling program. Additionally, UNMC has fully divested from fossil fuels 	

and promotes sustainable transportation—40% of students and faculty walk, bike, use public transit, carpool, or work remotely.

- **Recommendations:** Make resources for sustainable event guidelines, composting, and food and beverage choices more accessible and advertised. Additionally, UNMC must continue to reduce its non-renewable energy use per UNMC’s 2030 net-zero emissions goal.

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

Instructions for Completing the PHRC

Thank you! We are really pleased to have you and your team on board to complete the PHRC at your institution. Many of you will have already been part of a completed report card or even lead the team at your school but please take a moment to read the instructions below.

For a full comprehensive step-by-step guide to completing your report card please refer to the PHRC User Guide. This page serves as a brief overview of the important methodology.

Completing the report card:

The Planetary Health Report Card is a self assessment tool designed to identify an institution's strengths and areas in need of improvement in regards to its planetary health education. The metric-based report card consists of five sections; 1. Curriculum, 2. Interdisciplinary Research, 3. Community Outreach, 4. Support for Student-Led Initiatives and 5. Campus Sustainability.

- **Metrics.** There are roughly 55 metrics (depending on your discipline). Sections 2-5 are the same across all disciplines. Each metric has different criteria for either scoring 1, 2 or 3 points. Participants should read each metric carefully and answer the question with as much accuracy as possible, drawing upon multiple sources where possible. It is vital sufficient investigation is completed for each metric to give a fair and accurate representation of your institution.

Most of the Curriculum metrics are graded by inclusion in **elective** coursework, **brief** coverage in the **core curriculum** or **in depth** coverage in the **core curriculum**.

Elective coursework: This score applies to material that is actively selected by the students such as a module choice, or additional lecture series. By implication, only a given proportion of the cohort will receive this taught material.

Brief coverage in the core curriculum: This score applies where a topic is covered only briefly in a core curriculum session. This implies that the entire cohort receives the same material. Brief inclusion would qualify as inclusion in a single lecture slide in a single year.

In depth coverage in the core curriculum: This score applies where a topic is taught in significant detail or where a topic is repeatedly brought up in different years. This might look like several dedicated lecture slides, or inclusion of the same topic in different lectures and teaching formats. Please consider amongst your team that this is the highest score awarded and a subjective decision must be made as to whether the topic should be awarded this score.

(A full list of definitions is provided on the below pages)

- **Types of evidence.** Acceptable forms of evidence include: lecture titles, learning objectives, module descriptions, descriptions of the intended learning, case titles, seminar titles, project titles, webpages, researcher profiles / biographies, news articles, publications, social media output, institutional policy documents. Please be as specific as possible.

It is essential that you have clearly justified the score for each metric, outlining in the box provided the specific content delivered in your curriculum and why you have assigned the

score. Each report card is reviewed by a member of the leadership team for accuracy and consistency across report cards. An example of the sufficient level of evidence is provided below each metric.

Please do not include **lecturers' names** without permission. The title of the lecture or module with a brief description of the material will suffice.

Where material is publicly available via an institution's website, please include hyperlinks to the webpages.

- **Evidence deadline.** Any material from the previous academic year and the current academic year up to the draft deadline of the **17th February 2025** may be included in this report card. Any teaching planned after this date should not be scored in this report card but can be included in the 2025/26 report. You may wish to make a note of any such teaching for your colleagues producing next year's report card.

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/Department vs. Institution:** When “Medical school” is specified in the report card, this only refers to curriculum and resources offered by the School/department of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments). In contrast, when “institution” is specified in the report card, we are referring to the university more broadly including all of its campuses. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is

specifically targeted for medical students, can meet this metric.

- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions students are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mould after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution. Please be as specific as possible when providing evidence for this metric.
- **Elective:** The word "elective" refers to an optional course or lecture series that a 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.
- **Core Curriculum:** This refers to taught material that is delivered to the entire cohort of students in one year.
- **Clerkship / Outreach:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations, outreach or placements. This is a relatively short (approximately 4-8 weeks) period of study and patient-centred clinical experience that takes place as part of the undergraduate programme.
- **Clinical rotation:** This is a term used to refer to placements that students go on (e.g., ophthalmology, surgery, cardiology).
- **Physiotherapy vs Physical Therapy:** For the purposes of this report card these terms are considered interchangeable. However, physiotherapy will be used primarily.
- **Community organisations:** For most institutions, there are existing groups that are not directly affiliated with the university and exist as a product of what the community the institution exists in cares about or needs. These specific community organisations relevant to this report include those that are focused around some aspect of climate and health preservation. These community organisations can include but are not limited to local mutual aid initiatives, underserved-resource distribution groups, clean-up and nature conservation groups, community gardeners, and other environmental-related organisations. If your institution does not have access to local volunteerships with community groups, please report any community organisations your institution or school has collaborated with.
- **Climate justice:** The idea that certain population groups and geographical locations which are disproportionately more impacted by climate change are already economically and socially disadvantaged. This double vulnerability sits alongside pre-existing social justice concerns and should therefore shift policy and practice to mitigate the inequitable effects of the climate crisis.
- **Extractivism:** The removal of natural resources typically in large quantities. Within anthropology this term is often used in the context of colonialism to refer to

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

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

Other considerations:

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

Completed in 2022 a [Literature Review by Metric](#) is available for the 2022 medicine report card metrics. We are in the process of updating this review and making it more applicable to all the disciplines. However the review serves as a rough 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?	
Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year. (3 points)	
Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year. (2 points)	
The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health. (1 points)	
No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year. (0 points)	
Score Assigned:	2
<i>Score explanation:</i> The University of Nebraska Medical Center College of Medicine offers an elective “Climate Change and Health” enhanced medical education track. This is a longitudinal program that students can apply for during their first semester and if accepted, continues throughout their medical education. This program exposes students to different types of research related to climate change and health and culminates with a final capstone project in their final year of medical school.	

Curriculum: Health Effects of Climate Change

1.2. Does your <u>medical school</u> curriculum address the relationship between extreme heat, health risks, and climate change?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	

This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>Score explanation:</i> The University of Nebraska Medical Center College of Medicine Phase 1 curriculum includes a lecture in the Fundamentals block titled: “Climate Change and Medicine” which features extensive discussion on historical temperature change, the health effects of extreme heat, and defines at-risk populations. Additionally, lectures such as “Drug and Climate Induced Kidney Injury” outline the role of environment and climate change on the pathophysiology/prevalence of diseases such as kidney injury.</p>	

1.3. Does your <u>medical school</u> curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>Score explanation:</i> The University of Nebraska Medical Center College of Medicine Phase 1 curriculum includes a lecture in the Fundamentals block titled: “Climate Change and Medicine.” This lecture discusses extreme weather events, such as heavy downpours, floods, droughts, and major storms and their various health impacts. The lecture includes discussion of Hurricane Maria and the 2019 flood of the Missouri River and its impact on hospitals, long term care facilities, and access to care. This lecture also discusses the mental health effects of drought on farmers.</p>	

1.4. Does your <u>medical school</u> curriculum address the impact of climate change on the changing patterns of infectious diseases?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>Score explanation:</i> The impacts of climate change on infectious disease is introduced in the “Climate Change and Medicine” lecture in the Fundamentals block in Phase 1, which contains several slides outlining the connection between increasing temperatures and the spread of vector-borne diseases such as Lyme and West Nile Virus. In the Blood, Defenses, and Invaders Block during Phase 1 of the curriculum, lectures such as “Protozoan Parasitic Infectious Diseases”</p>	

and “Fungal Pathogens” incorporate discussion about the impact that climate change has on wildlife habitats and the shifting geographic distribution of disease-causing microorganisms.

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

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

This topic was **briefly** covered in the **core** curriculum.

This topic was covered in **elective** coursework.

This topic was **not** covered.

Score Assigned:

2

Score explanation: The impacts of heat on respiratory health are briefly discussed in Phase 1 of the core curriculum at the University of Nebraska Medical Center College of Medicine. Several lectures in the Respiratory block, including “Asthma and Allergy” and “Obstructive Lung Disease,” discuss the association between climate change and increased incidence of environmental allergies and asthma exacerbation. In the Blood, Defenses, and Invaders block, the “Hypersensitivity Type 1” lecture lists exposure to air pollutants as a factor that impacts allergy development.

1.6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat

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

This topic was **briefly** covered in the **core** curriculum.

This topic was covered in **elective** coursework.

This topic was **not** covered.

Score Assigned:

0

Score explanation: The medical curriculum at the University of Nebraska College of Medicine does not cover the relationship between cardiovascular health and climate change.

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

This topic was explored in depth by the core curriculum.	
This topic was briefly covered in the core curriculum.	
This topic was covered in elective coursework.	
This topic was not covered.	
Score Assigned:	3
<p><i>Score explanation:</i> UNMC has a dedicated learning objective to “illustrate the effects of climate conditions on psychiatric conditions” which is emphasized across several lectures including “Trauma and Stressor Related Disorders” and “Anxiety”. These lectures contain slides detailing climate anxiety and the link between climate change and mental health. Further, the “Climate Change and Medicine” lecture in the Fundamentals block of Phase 1 at the University of Nebraska College of Medicine discusses how the increased frequency and severity of extreme weather events can affect mental health, providing the example of how drought causes increased stress in farmers. Air pollution was also listed as a non-traditional stroke risk factor in a lecture titled “Stroke Syndromes” in the Neurosciences block.</p>	

1.8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
This topic was explored in depth by the core curriculum.	
This topic was briefly covered in the core curriculum.	
This topic was covered in elective coursework.	
This topic was not covered.	
Score Assigned:	2
<p><i>Score explanation:</i> The “Climate Change and Medicine” lecture in the Fundamentals block of Phase 1 at UNMC briefly discusses the relationships between health, food and water access, and ecosystem health and climate change. Specifically, topics included an extensive discussion on historical temperature change, the health effects of extreme heat, and defines at-risk populations. Extreme weather events, such as heavy downpours, floods, droughts, and major storms and their various health impacts were also described, such as Hurricane Maria and the 2019 flood of the Missouri River and its impact on agriculture and access to care.</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?	
This topic was explored in depth by the core curriculum.	
This topic was briefly covered in the core curriculum.	

This topic was covered in elective coursework.	
This topic was not covered.	
Score Assigned:	2
<i>Score explanation:</i> In the Health System Sciences Coil of Phase 1 at the University of Nebraska Medical Center College of Medicine, the lecture titled “Caring for Populations” contains a learning objective to “Recognize key determinants that contribute to health outcomes of populations”. This lecture included a brief description of the relationship between segregation, red lining, and environmental health risk by discussing disparities in exposures and food and water security due to climate change.	

1.10. Does your <u>medical school</u> curriculum address the unequal regional health impacts of climate change globally?	
This topic was explored in depth by the core curriculum.	
This topic was briefly covered in the core curriculum.	
This topic was covered in elective coursework.	
This topic was not covered.	
Score Assigned:	0
<i>Score explanation:</i> The unequal regional health impacts of climate change globally is not covered in the University of Nebraska Medical Center College of Medicine Curriculum.	

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

1.11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
This topic was explored in depth by the core curriculum.	
This topic was briefly covered in the core curriculum.	
This topic was covered in elective coursework.	
This topic was not covered.	
Score Assigned:	3
<i>Score explanation:</i> <i>Insert explanation here.</i> At the University of Nebraska Medical Center, in the Endocrinology block, there was a learning objective to understand “Environmental pollutants and hormone functions. Discussion of endocrine disrupting compounds and their pathophysiology in relation to endocrine function.” This learning objective was discussed in the lecture: “Endocrine Physiology: Pituitary and Adipose Tissue Hormones”, which described how endocrine disrupting compounds in everyday consumables and pesticides that can cause epigenetic alterations leading to endocrine malfunctions for generations. Additionally, the Fundamentals block contained the	

lecture: “Early Development of Embryo II”, which contained several slides discussing a common herbicide used in the Midwest United States known as Atrazine, and its association to midline defects. The slides included maps depicting Atrazine use in the US and the predicted concentration of atrazine in groundwater in the US. Lastly, in the Genitourinary and Reproductive block, there was a lecture on “Teratogens” that included slides on the impact of occupational exposures to pesticides, organic solvents, lead, ect., in development.

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

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

This topic was **briefly** covered in the **core** curriculum.

This topic was covered in **elective** coursework.

This topic was **not** covered.

Score Assigned:

2

Score explanation: Within UNMC’s curriculum, several slides on lead are discussed within the lecture "Minerals in Diet", which outlines the Omaha Superfund Site. Several lead smelting plants—Omaha and Grant Smelting and Refining Company, Asarco, and Gould Inc., operated from the 1880s through the 1980s along the Missouri River outside of Omaha. Their activity has resulted in contaminated surface soil from air emissions that impact numerous zip codes in Omaha, and which have historically been redlining districts, disproportionately impacting colored communities in Omaha. These slides contain maps that depict the overlap of the superfund sites in Omaha and the location of redlined zones, which emphasizes environmental health as a social determinant of health. Additionally, the herbicide, Atrazine, is discussed in the lecture “Early Development of Embryo II”, which contains slides with maps predicting the concentration of atrazine in groundwater in the US, which was especially poignant in the midwest region and local community.

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?

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

This topic was **briefly** covered in the **core** curriculum.

This topic was covered in **elective** coursework.

This topic was **not** covered.

Score Assigned:

0

Score explanation: The medical school curriculum at the University of Nebraska Medical Center does not address the importance of Indigenous knowledge and value systems as essential components of 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?

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

This topic was **briefly** covered in the **core** curriculum.

This topic was covered in **elective** coursework.

This topic was **not** covered.

Score Assigned:

2

Score explanation: Within UNMC's Phase 1 curriculum, the overlap between the Omaha Superfund site for lead contamination and historically red lined neighborhoods is discussed within the lecture "Minerals in Diet". Contaminated surface soil from smelter air emissions impacts numerous zip codes in Omaha, disproportionately impacting colored communities in Omaha. These slides contain maps that depict the overlap of the superfund sites in Omaha and the location of redlined zones, emphasizing environmental health as a social determinant of health. Additionally, the lecture "*Systemic Diseases with Rheumatic Manifestations*" contained several slides describing the association between unequal exposure of coloured communities to environmental contaminants and sarcoidosis.

Curriculum: Sustainability

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

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

This topic was **briefly** covered in the **core** curriculum.

This topic was covered in **elective** coursework.

This topic was **not** covered.

Score Assigned:

2

Score explanation: In the phase 1 curriculum the medical school curriculum briefly discusses the health benefits of a vegetarian diet in 2 "Nutrition" lectures in the Endocrine block of Phase I; however, the curriculum does not discuss the environmental benefits of a vegan or vegetarian diet.

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
This topic was explored in depth by the core curriculum.	
This topic was briefly covered in the core curriculum.	
This topic was covered in elective coursework.	
This topic was not covered.	
Score Assigned:	0
<i>Score explanation:</i> The University of Nebraska Medical Center College of Medicine curriculum does not discuss the carbon footprint of healthcare systems.	

1.17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	Score
The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment (2 points)	0
The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfil this metric. (2 points) .	0
The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK. (1 point)	0
Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated. (1 point)	0
The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions. (1 point)	0
The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers. (1 point)	0
Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting) (1 point)	0
<i>Score explanation:</i> The medical curriculum does not integrate strategies to decrease waste generated as a result of clinical care.	

Curriculum: Clinical Applications

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

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

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

No, there are **not** strategies introduced for having conversations with patients about climate change. (0 points)

Score Assigned:

0

Score explanation: The medical curriculum does not integrate strategies to have conversations with patients about climate change and health effects.

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

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

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

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

Score Assigned:

2

Score explanation: The medical Phase I curriculum includes specific learning objectives in the Respiratory block regarding how to take an environmental history and occupational history—“Recognize the risk factors and the importance of occupational and other environmental exposures in the development of respiratory disease” and “Describe how to perform an environmental health risk assessment”. These objectives are extensively discussed in the lectures titled “Restrictive Lung Diseases” and “Dyspnea Evaluation.”

Curriculum: Administrative Support for Planetary Health

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

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

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

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

Score Assigned:

4

Score explanation: At the University of Nebraska Medical Center College of Medicine, there was a student-led initiative to integrate planetary health education into the medical school curriculum in 2023. After review of the curriculum, students wrote a proposal that indicated where topics of climate change and its health impacts can be incorporated into each block of the Phase 1 education. This proposal was well received by school administrators and approved by the curriculum committee. Some blocks have begun to incorporate such changes, with new learning objectives that address the impact of climate change on well being and disease, such as in the Renal and Neurosciences blocks, which have added new content since 2024. However, others are still in the process of making these changes. Progress with planetary health education continues to be advocated for and monitored by students, with continued support from faculty. A “Climate Change and Health” enhanced medical education track was created and is now in its fourth year.

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

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

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

Planetary health/ESH is not integrated and is primarily addressed in **(a) standalone lecture(s)**. (2 points)

There is **minimal/no** education for sustainable healthcare. (0 points)

Score Assigned:

4

Score explanation: At the University of Nebraska Medical Center College of Medicine, there is a stand-alone lecture—“Climate Change and Medicine” that covers the majority of planetary health topics. However, there has been increased integration of planetary health discussions and concepts throughout some of the organ system blocks, such as the Respiratory block, Neurosciences Block, Endocrine Block, and Fundamentals block. While these blocks lack dedicated lectures regarding the impact of climate change and sustainability, they do possess scattered lectures where it is acknowledged.

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?

Yes, the **medical school** has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (1 point)

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

Score Assigned:

0

Score explanation: The medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.

Section Total (39 out of 72)

54.17%

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Interdisciplinary Research

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

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

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

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

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

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

Score Assigned:

3

Score explanation: The Water, Climate, and Health Program under the College of Public Health at the University of Nebraska serves to address environmental health challenges through interdisciplinary research, education, and collaboration with the Daugherty Water for Food Global Institute at the University of Nebraska and the Institute of Agriculture and Natural Resources at the University of Nebraska-Lincoln. This program is directed by Dr. Jesse Bell, whose work is focused on understanding the impacts of climate change on natural and human processes. He has held inter-agency positions between the National Oceanic and Atmospheric Administration and the Centers for Disease Control and Prevention, was a lead author for a previous U.S. Global Change Research Program report released by the White House, served on the White House Pandemic Prediction and Forecasting Working Group to assist with forecasting dengue fever outbreaks, was a

contributing author on the United Nations Water Scarcity in Agriculture Working Group report regarding drought resilience, and is an editor for the annual Lancet Countdown: Tracking Progress on Health and Climate Change. He also leads the College of Medicine's "Climate Change and Health" Enhanced Medical Education Track mentoring students in integrating planetary health into their medical education.

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

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

There is **not currently** a department or institute for interdisciplinary planetary health research, but there are **plans** to open one in the next 3 years. (2 points)

There is an **Occupational and Environmental Health department**, but no interdisciplinary department or institute for planetary health research. (1 points)

There is **no** dedicated department or institute. (0 points)

Score Assigned:

3

Score explanation: The Environmental, Agricultural, and Occupational Health Department within the College of Public Health at the University of Nebraska Medical Center is an organization dedicated to addressing issues related to agricultural health and safety, climate and health, and emerging infectious disease training for the public health workforce in the Midwest. Additionally, the College of Public Health also houses the Water, Climate, and Health Program, which is an organization dedicated to addressing issues related to planetary health and healthcare sustainability. Research is aimed at addressing water quality and quantity issues in Nebraska. This includes climate related issues such as drought and flooding, and well as quality issues such as nitrates, lead, and pesticides in drinking water. This program utilizes research, training, education, and various outreach strategies to achieve their goals. Program overview and recently featured publications can be found [here](#).

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 institution?

Yes, there is a process in which community members impacted by climate and environmental injustice have **decision-making power** in the climate + environmental research agenda. (3 points)

Yes, there is a process in which community members impacted by climate and environmental injustice **advise** the climate + environmental research agenda. (2 points)

No, but there are **current efforts** to establish a process for community members to advise or make decisions on the research agenda. (1 points)

There is **no** process, and **no** efforts to create such a process. (0 points)

Score Assigned:	0
<i>Score explanation:</i> There is no process that currently exists or is being developed at the University of Nebraska Medical Center where communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the institutional research agenda.	

2.4. Does your <u>institution</u> have a planetary health website that centralises ongoing and past research related to health and the environment?	
There is an easy-to-use, adequately comprehensive website that centralises various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities. (3 points)	
There is a website that attempts to centralise various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive. (2 points)	
The institution has an Office of Sustainability website that includes some resources related to health and the environment. (1 point)	
There is no website. (0 points)	
Score Assigned:	3
<i>Score explanation:</i> The College of Public Health at UNMC houses the Water, Climate, and Health Program. Their website serves as a centralized location where one can easily find and navigate to recently released publications and current research projects related to environmentally relevant publications on water and air quality, extreme heat, extreme weather/flooding/drought, and climate change. Their seasonal newsletter provides a well-organized synopsis of upcoming events and leaders in this field at UNMC.	

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

Score Assigned:	4
<p><i>Score explanation:</i></p> <p>In February 2024, UNMC’s College of Public Health’s Water, Climate and Health program hosted the “Harnessing the Heartland: Utilizing Earth Data for Improved Environmental Health” conference. Universities, local and state public health entities and other stakeholders throughout the region collaborated to address climate-related public health challenges in the Midwest, such as negative health impacts that result from drought, poor air quality, and extreme weather.</p> <p>In July 2024, The Child Health Research Institute, the UNMC College of Public Health and the Fred & Pamela Buffett Cancer Center hosted the Midwest Pediatric Cancer Environmental and Survivorship Research Symposium. The Symposium was a free platform for researchers, clinicians and stakeholders across the region to collaborate and exchange insights on the impact of environmental exposures on pediatric cancer incidence and survivorship.</p>	

2.6. Is your <u>institution</u> a member of a national or international planetary health or ESH/ESV organisation?	
Yes, the institution is a member of a national or international planetary health or ESH/ESV organisation. (1 points)	
No, the institution is not a member of such an organisation. (0 points)	
Score Assigned:	1
<i>Score explanation:</i> The University of Nebraska Medical Center, College of Medicine, is a part of the Global Consortium on Climate and Health Education.	

Section Total (14 out of 17)	82.35%
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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>institution</u> partner with community organisations to promote planetary and health?	
Yes, the institution meaningfully partners with multiple community organisations to promote planetary and environmental health. (3 points)	
Yes, the institution meaningfully partners with one community organisation to promote planetary and environmental health. (2 points)	
The institution does not partner with community organisations, but has participating in community focused events relating to planetary health. (1 point)	
No, there is no such meaningful community partnership. (0 points)	
Score Assigned:	3
<p><i>Score explanation:</i></p> <p>Through the Travelsmart program, UNMC partners with the Omaha Metro bus system to provide students and employees with free bus passes and a software to match interested individuals with walking/bicycling partners. The Travelsmart program aims to reduce pollution and helps to promote a healthy lifestyle while reducing parking pressure and traffic congestion.</p> <p>UNMC partners with the Nebraska Environmental Trust to convert regular grass monoculture greenspaces on its property into native prairies. To the authors' knowledge, this has been done with two plots of land so far.</p> <p>UNMC partners with Keep Omaha Beautiful (a subsidiary of the City of Omaha) and Blue Bucket Project–Omaha to clean up litter in the vicinity of campus at least twice per year.</p>	

3.2. Does your <u>institution</u> offer community-facing courses or events regarding planetary health?
The institution offers community-facing courses or events at least once every year. (3 points)

The **institution** offers courses or events open to the community at least once per year, but they are not primarily created for a community audience. (2 points)

The **institution** has promoted community-facing courses or events, but was not involved in planning those courses or events. (1 point)

The **institution/medical school** have not offered such community-facing courses or events. (0 points)

Score Assigned:

2

Score explanation: The UNMC College of Public Health is one of the co-hosts of the Water, Climate, and Health Program (WCHP). This fall (of 2024), the WCHP hosted a poster session featuring work that has been sponsored by the program on such topics as water quality and climate change in Nebraska. Although the event was primarily geared toward academia, members of the community were welcomed to attend.

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

Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare. (2 points)

Yes, planetary health and/or sustainable healthcare topics are regularly included in communication updates to **some courses**. (1 point)

Students **do not** receive communications about planetary health or sustainable healthcare. (0 points)

Score Assigned:

1

Score explanation: Planetary health and sustainability healthcare issues are often mentioned and the focus of several articles of the University of Nebraska College of Medicine daily newsletter UNMC Today and activity update UNMC VITALS. These articles and posts include tips on sustainable habits. However, there is no specific planetary health related communication source.

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?

Yes, the **institution** or **main affiliated hospital trust** offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health. (2 points)

Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate provider. (1 point)

There are **no** such accessible courses for post-graduate providers. (0 points)

Score Assigned:	2
<p><i>Score explanation:</i></p> <p>UNMC’s Center for Continuing Education provides a course on “<i>Agricultural Health and Safety Medical and Safety Professionals</i>” every year over the summer, and has 3 sessions that are available both in-person, live stream, or as an online option. This course is designed to examine key health and safety issues specific to rural agricultural workers, such as agricultural respiratory diseases, migrant and immigrant worker health, health effects of agricultural pesticide, general environmental hazards in agriculture, ect. More information on the continuing education course can be found here.</p> <p>At UNMC, both post-graduate providers and students have the opportunity to serve as Livegreen Ambassadors. LiveGreen Ambassadors receive training/workshops to help them integrate sustainability into their role and department. These trainings aim to keep ambassadors up to date on the Nebraska Medical Center’s sustainability efforts, engage with other ambassadors, and to provide them with information related to sustainability to disseminate to their colleagues. A webpage detailing this role can be found here.</p> <p>On the website of UNMC’s Office of Interactive E-learning, there is a 15 minute e-module called “Introduction to Climate Change” that offers an introduction to climate change and its effect on the community and human health. The module contains learning objectives to define climate drivers, climate change, and climate variability; describe and quantify the role of greenhouse gases in Earth’s climate system; and explain some major impacts of projected climate change and their corresponding uncertainty. The website and emodule can be viewed here.</p>	

<p>3.5. Does your <u>institution</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about environmental health exposures?</p>	
<p>Yes, the medical school or all affiliated hospitals have accessible educational materials for patients. (2 points)</p>	
<p>Some affiliated hospitals have accessible educational materials for patients. (1 point)</p>	
<p>No affiliated medical centres have accessible educational materials for patients. (0 points)</p>	
Score Assigned:	0
<p><i>Score explanation:</i> The UNMC College of Public Health Water, Climate, and Health website lists informational materials regarding nitrite contamination of drinking water. These materials can be found here. However, besides this resource, the UNMC medical school and the Nebraska Medicine health system do not currently provide accessible educational materials for patients regarding environmental health exposures.</p>	

<p>3.6. Does your <u>institution</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about the health impacts of climate change?</p>
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Yes, the medical school or all affiliated hospitals have accessible educational materials for patients. (2 points)	
Some affiliated hospitals have accessible educational materials for patients. (1 point)	
No affiliated hospitals have accessible educational materials for patients. (0 points)	
Score Assigned:	0
<i>Score explanation:</i> UNMC affiliated colleges and the Nebraska Medicine health systems do not currently offer accessible educational materials for patients regarding health impacts of climate change.	

Section Total (8 out of 14)	57%
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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>institution</u> offer support for students interested in enacting a sustainability initiative/QI project?	
Yes, the institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum. (2 points)	
The institution encourages sustainability QI projects (to fulfil clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate. (1 point)	
No, neither the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects. (0 points)	
Score Assigned:	2
<i>Score explanation:</i> The Healthy Earth Alliance student organization has received funding and/or support from the Student Senate and University of Nebraska Medical Center's Office of Sustainability to fulfill sustainability initiatives and events, such as Earth Week activities, clothing swaps, and campus/neighborhood walking path clean up events.	

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

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

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

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

Score Assigned:

2

Score explanation: The University of Nebraska Medical Center College of Medicine offers a “Climate Change and Health” Enhanced Medical Education Track which provides students the opportunity to engage in interdisciplinary planetary health/sustainable healthcare related research. There are also a variety of climate-related research opportunities through the College of Public Health and Graduate Studies.

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

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

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

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

Score Assigned:

2

Score explanation: The University of Nebraska Medical Center College of Medicine has a [webpage](#) delineating planetary health educational opportunities for students, postgraduates, faculty, and the general public with links to specific programs and contact information of potential mentors.

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

Yes, there is a student organisation with faculty support at my medical school dedicated to planetary health or sustainability in healthcare. (2 points)	
Yes, there is a student organisation at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support . (1 point)	
No, there is not a student organisation at my institution dedicated to planetary health or sustainability in healthcare. (0 points)	
Score Assigned:	2
<i>Score explanation:</i> The Healthy Earth Alliance (HEAL) is an interdisciplinary student organization dedicated to promoting planetary health and sustainability on campus. This group works closely with the institution’s Office of Sustainability, students of the “Climate Change and Health” Enhanced Medical Education Track, and the institution’s Student Senate Sustainability Liaison. This student organization has faculty support and is affiliated with Medical Students for a Sustainable Future.	

4.5. Is there a student liaison representing sustainability interests who serves on a <u>department or institutional</u> decision-making council to advocate for curriculum reform and/or sustainability best practices?	
Yes, there is a student representative that serves on a department or institutional decision-making council/committee. (1 points)	
No, there is no such student representative. (0 points)	
Score Assigned:	1
<i>Score explanation:</i> The University of Nebraska Medical Center’s Student Senate is the student-led governing body of the institution, where a student annually holds the Sustainability liaison position and works with the Office of Sustainability to represent student planetary health interests.	

4.6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	Score
Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.	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.	0
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)	1
<p><i>Score explanation:</i> The University of Nebraska Medical Center’s College of Public Health maintains a community garden where students can volunteer. Additionally, the student organization, HEAL, hosts a variety of volunteer opportunities and “lunch and learn” speaker events for students. Local volunteer events have included local park/campus clean ups, partnering with UNMC’s run club to pick up trash along city trails, and community gardening. One “lunch and learn” event in 2024-2025 was a presentation by a representative from the Douglas County Health Department regarding lead poisoning in Omaha and their Lead Poison Prevention Program. Additionally, UNMC’s Student Alliance for Global Health group hosts a monthly volunteer opportunity at Claire Memorial Church in which students help harvest and maintain a community garden whose produce is used at the church’s drive-thru foodbank. Lastly, UNMC has both a Wilderness Medicine Interest Group that has organized emergency medicine oriented hiking events, as well as a “Climb. Relax. Adventure. Gather.” (CRAG) club that hosts biweekly climb nights at a local climbing gym that is free for UNMC students, as well as monthly hikes in the surrounding Omaha area.</p>	

Section Total (14 out of 15)	93%
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Campus Sustainability

Section Overview: *This section evaluates the support and engagement in sustainability initiatives by the institution. The healthcare industry is a major contributor to greenhouse gas emissions as well as pollution that harms local, regional, and global ecosystems. While healthcare is, by nature, a resource-intensive endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising every aspect of how our systems operate, from where we source our energy, to how we build our infrastructure, to what companies we invest in. Our 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>institution</u> have an Office of Sustainability?	
Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital. (3 points)	
There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of hospital sustainability. (2 points)	
There are no salaried sustainability staff , but there is a sustainability task force or committee. (1 point)	
There are no staff members or task force responsible for overseeing campus sustainability. (0 points)	
Score Assigned:	3
<i>Score explanation:</i> The University of Nebraska Medical Center/Nebraska Medicine has a well-established Office of Sustainability. As UNMC is an exclusively health focused university and not associated with an undergraduate campus, there is one full-time sustainability staff member.	

5.2. How ambitious is your <u>institution's</u> plan to reduce its own carbon footprint?	
The institution has a written and approved plan to achieve carbon neutrality by 2030 (5 points)	
The institution has a written and approved plan to achieve carbon neutrality by 2040 (3 points)	
The institution has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate (1 point)	
The institution/medical school does not meet any of the requirements listed above (0 points)	
Score Assigned:	5
<i>Score explanation:</i> : UNMC is committed to net-zero carbon emission by 2030 as explained here. This goal is to achieve an overall balance between greenhouse gas emissions produced and greenhouse gas emissions removed from the atmosphere with a focus on minimization of carbon	

offsetting. To meet this goal, UNMC has an [executive sustainability council](#) and focus team on emissions scope 1&2 and emissions scope 3.

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

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

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

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

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

Score Assigned:

1

Score explanation: UNMC purchases electricity from OPPD which is [roughly 30% carbon free](#). UNMC also produces its own renewable energy with the [largest rooftop array of solar panels in Nebraska](#) including on the main building used for medical school teaching, the Michael F. Sorrell Center for Health Science Education.

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

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

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

Sustainable building practices are **inadequately or incompletely** implemented for new buildings. (1 point)

Sustainability is **not considered** in the construction of new buildings. (0 points)

Score Assigned:

3

Score explanation: UNMC has published a [Design Standards document](#) that architects, project managers, planners and external partners use when considering work on new construction or renovations. New building and major renovation projects over \$5M construction cost must address topics covered in this section as part of the Design Quality Process. Division 01.81.13 of the Design Standard outlines the Sustainability Requirements that drive sustainable design considerations..

5.5. Has the institution implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?

Yes, the institution has implemented strategies to encourage and provide **environmentally-friendly transportation options** such as safe active transport, public transport, or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default. (2 points)

The institution has implemented **some** strategies to provide environmentally-friendly transportation options, but the options are **unsatisfactorily** accessible or advertised. (1 point)

The institution has **not** implemented strategies to encourage and provide environmentally-friendly transportation options. (0 points)

Score Assigned:

2

Score explanation: Currently [40% of students, faculty, and staff](#) walk, bike, transit, carpool, or work from home. UNMC has a program called [TravelSmart](#) to promote environmentally-friendly transportation to and from campus. This program is promoted at orientation and has a booth at the beginning of academic year events. People who choose to carpool receive a free parking pass. UNMC offers free bus passes, bike racks, e-bike rentals, lockers, and shower facilities.

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

Yes, the institution has **both** compost **and** recycling programs accessible to students and faculty. (2 points)

The institution has **either** recycling **or** compost programs accessible to students and faculty, but not both. (1 point)

There is **no** compost or recycling program at the medical school. (0 points)

Score Assigned:

1

Score explanation: The institution has a long history of recycling that dates back to the 1990's. The med center operates a [recycling program](#) accessible to students and faculty that targets the following streams: all mixed paper, rigid plastics, metals, cardboard. There are programs for recycling of many non-conventional materials including aerosol cans, alkaline batteries, lab coats, toner cartridges, pens, mechanical pencils, dry-erase markers, and sharpies as explained [here](#). UNMC piloted a composting program in several buildings across campus in Spring of 2023 including the main building for medical student education, the Michael F. Sorrell Center for Health Science Education, however, it was cost prohibitive to move forward with further implementation for the rest of the university/hospital.

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

Yes, the institution has **adequate** sustainability requirements for food and beverages, including meat-free days or no red-meat, and **is engaged** in efforts to increase food and beverage sustainability. (3 points)

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

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

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

Score Assigned:

2

Score explanation: In 2016, UNMC passed a [ban on styrofoam](#) use for campus food and beverage resulting in cospostable to-go containers [replacing styrofoam](#) clamshells in the cafeteria and paper coffee cups replacing styrofoam cups at departmental seminars. Additionally, some departments encourage people to bring their own coffee cups to seminars. However, a few onsite food vendors and departments do not follow this sustainability requirement and still serve coffee in styrofoam cups at department seminars. Plant-based food options through onsite vendors and at the cafeteria are limited. However, active conversations with Sodexo, our cafeteria food provider, are ongoing, and tofu quinoa and rice bowls, veggie ramen, and veggie burritos have recently been added as new plant based options in the cafeteria.

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

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

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

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

There are **no** sustainability guidelines for supply procurement. (0 points)

Score Assigned:

3

Score explanation: Target 4 of the University of Nebraska System sustainability goals is to reinforce a culture of sustainable procurement. One pillar of the UNMC green labs program is procurement and purchasing as explained [here](#). The recent progress includes completion of a Scope 3 inventory for the institution for fiscal year 24 with the intention of leveraging this information to drive sustainable procurement decisions going forward.

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

Every event hosted at the institution **must** abide by sustainability criteria. (2 points)

The institution **strongly recommends or incentivizes** sustainability measures, but they are **not required**. (1 point)

There are **no** sustainability guidelines for institution events. (0 points)

Score Assigned:

1

Score explanation: UNMC hosts a campus wide BBQ event each year and there is significant effort to make this a zero-waste event. There is also a [toolkit](#) available on UNMC's sustainability website to create a zero-waste event if other departments are inclined to do so, but it's not supported or mandated by policy. However, the only required sustainability measure of campus events is for them to be styrofoam free, based on a [2018 campus resolution](#).

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

Yes, the institution has **programs** and **initiatives** to assist with making lab spaces more environmentally sustainable. (2 points)

There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives. (1 point)

There are **no** efforts at the institution to make lab spaces more sustainable. (0 points)

Score Assigned:

2

Score explanation: At UNMC, there is a [Green Labs program](#) to provide a common-sense and obtainable approach for laboratory and research spaces to achieve excellence in innovation and safety by driving meaningful reductions in energy, water, and waste, and promoting responsible lab purchasing.

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

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

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

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

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

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

Score Assigned:

3

Score explanation: University of Nebraska has [no direct investments](#) in fossil fuel companies. After a campaign led by students, the University of Nebraska divested its endowment from the fossil fuel industry.

Section Total (26 out of 32)

81.25%

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Grading

Section Overview

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

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

**Within each grade bracket, a score in the top 5% (_5 to _9%), receives a “+”, and a score in the bottom 5% (_0- _4%) receives a “--”. For example, a percentage score of 78% would be a B+.*

Planetary Health Grades for the University of Nebraska School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(39/72) \times 100 = 54.17\%$	C
Interdisciplinary Research (17.5%)	$(14/17) \times 100 = 82.35\%$	A-
Community Outreach and Advocacy (17.5%)	$(8/14) \times 100 = 57.14\%$	C+
Support for Student-led Planetary Health Initiatives (17.5%)	$(14/15) \times 100 = 93.33\%$	A
Campus Sustainability (17.5%)	$(26/32) \times 100 = 81.25\%$	A-
Institutional Grade	$(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = 71.21\%$	B

Report Card Trends

Section Overview

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

