



Planetary Health Report Card: *Creighton University School of Medicine*

Creighton
UNIVERSITY

School of Medicine

2020-2021 Contributing Team:

- Students: Ellie Dorchuck, Darby Keirns, Christian Krause, Cecelia Plaehn, Ellen Townley
- Faculty Mentors: Patrick Swanson, PhD
- Primary Contact: Ellen Townley, ellentownley@creighton.edu

Summary of Findings

Curriculum	C
<ul style="list-style-type: none"> • Creighton SOM offers a Student Interest Selective and two Gold Track lectures that emphasize the importance of Planetary Health and the massive impacts that climate change and environmental exposures have on human health. • Creighton SOM can improve curriculum by ensuring that these topics are integrated into Blue and Green Track lectures as well as clerkship years. This will ensure longitudinal learning and the development of physicians aware of pathophysiology as well as social processes that are implicated in Planetary Health. 	
Interdisciplinary Research	D
<ul style="list-style-type: none"> • Creighton SOM lacks research in the field of Planetary Health and healthcare sustainability. The SOM can expand into Planetary Health research through interdisciplinary collaboration with the environmental and public health researchers across the university, particularly through the Kingfisher Institute. • The SOM can improve by identifying faculty research mentors for students interested in Planetary Health research and encouraging quality improvement projects related to healthcare sustainably. • Creighton SOM is supportive of the Global Health Conference Midwest, a key platform for Planetary Health education and research advancement. 	
Community Outreach and Advocacy	D+
<ul style="list-style-type: none"> • There are numerous local organizations the University partners with in order to promote Planetary and Environmental health. However, the SOM is not engaged directly in these relationships. • The SOM is in the process of setting goals that ensure engagement with the community when determining advocacy and community partnership priorities. • Creighton Clinical Affiliates do not offer materials regarding the health impacts of climate change (such as education on maintaining health during severe heat waves) to patients in an accessible and meaningful way. 	
Support for Student-Led Initiatives	B
<ul style="list-style-type: none"> • Structures within the medical school appear to provide ample opportunities for student creativity and funding for academic projects and student groups alike. The awareness and ease of use of these programs as well as the visibility of faculty mentors are limiting factors to more active student involvement in sustainability initiatives. • Greater institutional attention to Planetary Health as well as publication of such efforts in accessible online formats are recommended to make the culture and activities of the school align with its mission and goals. 	
Sustainability	D
<ul style="list-style-type: none"> • As an institution, there is slow but steady movement toward sustainability goals -- notably, a dedicated Office of Sustainability, plans for full divestment, a task force updating plans for carbon neutrality, and a new composting program. However, there is a need for more rigorous sustainable building practices, <i>particularly in the building of the new medical school</i>, and an ambitious transition to renewable energy. • The SOM lacks basic sustainability practices seen in other parts of the university, such as composting and reliable recycling. The SOM can improve by reconciling these differences, developing sustainable guidelines for food and beverages, supply procurement, events, and lab spaces, and taking a leading role in university-wide efforts for sustainability. 	

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance defines planetary health as “a field focused on characterizing the human health impacts of human-caused disruptions of Earth's natural systems.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanization, 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 color, 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 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 centered on environmental health impacts 5) medical school campus sustainability.

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 change. Therefore, it is critical that medical students are trained to understand the health effects of climate change, as well as planetary health 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. Did your medical school offer elective courses 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>Score explanation: Creighton University SOM offers a selective on “Restorative Recreation” to both M1 and M2s. This selective goes over Laudato Si and how it relates to care for our common home and also explores the benefits of nature in relation to human health. While this selective does a great job at deepening understanding of the need of nature in the human experience, we do not think that it succeeds in delving deeper into topics directly related to planetary health such as climate change, natural disasters, changing infectious diseases, food systems, etc. A new elective on Planetary Health has been approved; however, it will not be available to students until the fall of 2021.</i></p>	

Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme temperature health risks and climate change, as well as the socioeconomic/racial disparities in extreme heat exposure?	
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>Score explanation: In Dr. Theresa Townley’s Gold Track lecture, “Planetary Health: Existential Threats and Clinical Opportunities,” the effects of extreme heat were linked to changes in infectious diseases, allergic/respiratory diseases, heatstroke, and deteriorating mental health. She also linked an increase in pollution-related deaths disproportionately affecting low and middle-income countries and children.</i></p> <p><i>This was also discussed briefly in the Infectious Disease course where Dr. Horne mentioned infectious insects being seen further up North due to increasing temperatures making the environment hospitable to various vector species.</i></p>	

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.
<p><i>Score explanation: This topic was briefly addressed in a lecture given to M1s by Dr. Travis Bourret about Epidemiology and Disease Transmission where she identified global warming, ecological changes from war, natural disaster or population changes, and failure in public health as factors contributing to emerging infectious disease.</i></p>	

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.
<p><i>Score explanation: This was briefly covered in a lecture given by Dr. Horne where he addressed the increasing incidence of Chagas disease further North due to climate change. It was also briefly emphasized in our Foundations Block where Dr. Selmecki noted the changing patterns of fungi due to selection for a higher temperature. Additionally, in a recent lecture given to the Class of 2024, Dr. Bourret linked “global warming, animal control, transportation, ecological changes from war, and natural disaster or population changes” to changing patterns in infectious disease.</i></p>	

5. Does your medical school curriculum address the cardiorespiratory health effects of climate change, including 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.

Score explanation: This topic was briefly introduced in Dr. Theresa Townley’s Gold Track lecture on “Planetary Health: Existential Threats and Clinical Opportunities.” She addresses how pollution underlies mortality of many chronic diseases. However, this was not covered sufficiently in the cardiology and pulmonary Blue Track courses as we do not feel prepared to explain the pathophysiology behind how pollution and other effects of climate change affect the cardiorespiratory diseases that are extremely common in our patients.

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

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

Score explanation: This is covered extensively in the selective “Restorative Recreation”. This elective emphasizes the impacts of an “increasing disconnectedness to nature on human health” and focuses on how reestablishing a physical connection with earth through nature immersion can ameliorate these effects. This was also briefly addressed in Dr. Townley’s Gold Track lecture on Planetary Health, but was not sufficiently covered in Brains and Behavior or Neuroscience Blue Track sessions.

7. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?

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

Score explanation: This topic was covered briefly in a lecture by Dr. Roedlach in our Social Determinants of Health block. He presented a graphic that emphasized the interconnectedness of ecological (climate, access to clean water, vegetation), social (water deposits, distribution of health), and cultural (age, gender roles, work) factors in the experience of health for individuals. This was also covered in a Case Based Learning module given the first week of school to the Class of 2024 where students were asked to evaluate the physical environment and access to clean water and food as it relates to the social determinants of health.

8. Does your medical school curriculum address the outsized impact of climate change on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, and older adults?

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

Score explanation: While we agree that Creighton does a good job at emphasizing the vulnerability of those with low SES, communities of color, children, homeless populations, and older adults in discussions of other issues of injustice, we do not believe that this has been specifically addressed in the context of climate change. While the increased vulnerability of marginalized populations was briefly mentioned in Dr. Townley’s Gold Track Lecture “Planetary Health: Existential Threats and Clinical Opportunities,” we feel that this topic deserves a more explicit explanation. Additionally, Dr. Swanson’s “Restorative Recreation” elective course does focus on the socioeconomic disparities of access to nature; however, we determined “access to nature” to be different from climate change.

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

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

Score explanation: In Dr. Townley’s lecture “Planetary Health: Existential Threats and Clinical Opportunities,” she cited that pollution accounts for premature deaths at a much higher rate in low and middle-income countries.

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

10. 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.

Score explanation: We have had many lectures that have included lists of teratogens, but none of these lectures have explicitly related pollution or pesticides to impacts on the fetus or mother. Dr. Townley's lecture "Planetary Health: Existential Threats and Clinical Opportunities" provided one example of black carbon particles reaching the fetal side of the placenta, but neither the pathophysiology nor the effects were described.

11. 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.

Score explanation: This topic was covered in a Gold Track Lecture "Academic Service Learning" given by Dr. Townley. She emphasized that Omaha's high caseload of children presenting with lead poisoning was and continues to be due to The American Smelting and Refining Company, Inc historically releasing toxic air emissions from their downtown facility. This disproportionately affected those living closer to this plant - mainly communities of color and immigrants.

12. Does your medical school curriculum address the unique climate and environmental health challenges that have impacted and are impacting Indigenous communities?

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

Score explanation: During Mission Outreach Selectives through CURA, two groups of students spent a week at Pine Ridge Reservation and Rosebud Reservation, respectively. Through time here, students

were instructed to explore challenges in delivering patient care, structural issues driving health in the region, and historical challenges to delivering care within the community as directed by the syllabus. However, these trips were student led and some of these points may have been glossed over. There is also not a specific objective in this syllabus that includes climate and environmental health challenges. While we are grateful for the relationship that Creighton holds with these communities, we feel that this could be explored in more depth and in a more concrete manner.

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

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

Score explanation: Dr. Townley’s Gold Track Lecture “Academic Service Learning” covered the effects of lead and other toxic chemicals historically released by The American Smelting and Refining Company, Inc and how this remains a justice issue that disproportionately affects children, immigrants, communities of color, and those with low SES based on proximity to where the factories operated. Dr. Townley’s Gold Track Lecture “Planetary Health: Existential Threats and Clinical Opportunities” addressed the disproportionate effects of pollution on lower-income countries. In summary, this question was addressed in two Gold Track Lectures and could be incorporated in greater depth across the various curricular tracks.

Curriculum: Sustainability

14. 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.

Score explanation: This topic was covered briefly in two different lectures. A Blue Track lecture given by Eva Schaible on “Nutrition for Medical Students #1” noted that people may choose to eat a vegan or vegetarian diet because of sustainability and environmental concerns while also highlighting the positive health impacts of these diets. These include decreased GI inflammation, increased fiber and vitamin intake, and lower rates of heart disease and cancer.

Dr. Townley's Gold Track lecture, "Planetary Health: Existential Threats and Clinical Opportunities." discussed the negative environmental and health effects of meat production and consumption while also giving alternative food ideas to partake in, such as eating crickets.

15. Does your medical school curriculum highlight the waste generated by the healthcare system and identify ways to advocate for and implement sustainable best practices in health care?

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

Score explanation: Dr. Townley's Gold Track lecture covered this by explaining the amount of waste that hospitals create and the idea of circular economy emphasizing the goals of preservation of natural capital, optimization of resources by reuse and recycling, and ensuring effective planning of system design in order to limit pollution, greenhouse gas emissions, and toxic materials. Additionally, Dr. Swanson provides a lecture entitled "Sustainability in Laboratory Practice" to the SOM graduate IDC601 cohort, but this is focused on ways to reduce energy consumption and materials in a research lab without emphasis on how to do this in a hospital or clinic setting. Neither of these lectures addressed ways to advocate for and implement sustainable best practices in health care. We recommend healthcare sustainability activities or lectures, including ways to advocate for and implement best practices, are added to the third and fourth year curriculum.

Curriculum: Clinical Applications

16. 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?

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.

Score explanation: While one slide in Dr. Townley's lecture "Planetary Health: Existential Threats and Clinical Opportunities" noted the importance of asking patients about exposure to smoke and air pollution, we do not think this equips us with the tools to have these conversations with patients in a practical manner.

17. 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.

Score explanation: During Pulmonology, we were given tools to take a thorough occupational and household exposure social history and how this relates to increased risk for certain diseases - such as how asbestos and silicone can impair alveolar macrophage function. Additionally, inquiring about environmental exposures such heat was discussed by Dr. Howell in Multisystem Disease. We are also taught to take a detailed social history during our Clinical Skills Experiences with Dr. Peter including occupational history and smoking history.

Curriculum: Administrative Support for Planetary Health

18. Is your medical school currently in the process of 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.

Score explanation: The CUSOM has established a Planetary Health and Sustainability Task Force with faculty and physicians from both the Omaha and Phoenix campus. This task force will focus on incorporating sustainability goals into the strategic plan, initiating change, and tracking improvements. Since the task force was formed in the spring of 2021 and has not yet implemented any changes, we’ve chosen a rating of 2 for this year with the hope that the task force will take action for major improvements in the coming year.

19. 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.
<p><i>Score explanation: Dr. Townley's Planetary Health Lecture is the primary source of education on this topic. This lecture is part of a longitudinal core service-learning course for firsts and second year students. The Student Interest Selectives mentioned in explanations are elective courses offered to first and second year students. In summary, the information is weakly integrated because the discontinuation of the Planetary Health Lecture would eliminate the majority of coverage of planetary health objectives. We recommend integrating planetary health topics throughout the organ system (Blue track) curriculum (M1-M2 year) and adding lectures or activities related to health care sustainability (M3-M4 year).</i></p>	

20. Bonus: Does your medical school have a program that offers incentives for faculty/departments to develop new planetary health/ESH courses and/or incorporate planetary health/ESH into existing courses?	
1*	Yes, the medical school has an incentive program.
0	No, the medical school does not have an incentive program.
<p><i>Score explanation: The school does not offer incentives focused specifically on developing planetary health/ESH courses.</i></p>	

Section Total (x out of 58)	27
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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 emphasized.*

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
4	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health and healthcare sustainability.
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in a planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine 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>Score explanation: There is environmental, sustainability, and health research taking place across the university, but there are not research efforts dedicated specifically to Planetary Health or healthcare sustainability within the medical school. We recommend that the SOM identifies faculty who are willing to conduct or mentor students in Planetary Health research.</i></p>	

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

Score explanation: The Kingfisher Institute supports interdisciplinary research and a included planetary health project in its fellowship program for 2020. However, planetary health is not the primary focus of the institute.

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.

Score explanation: Current efforts in the School of Medicine to develop a new strategic plan include discussions about promoting justice in the community through engagement, advocacy, research, and environmental sustainability.

4. Does your institution have a planetary health website, or a website centralizing various campus resources related to health and the environment?

3	There is an easy-to-use, adequately comprehensive website that centralizes 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 centralize 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.

Score explanation: Creighton School of Medicine does not have a planetary health website, and no student organizations maintain websites related to planetary health. The campus-wide Creighton Office of Sustainability website does not explicitly mention health as it is related to the environment. We recommend adding "Health" as a guiding principle for the Office of Sustainability.

5. Has your institution recently hosted a conference or symposium on topics related to planetary

health?	
4	Yes, the institution has hosted more than one conference or symposium on topics related to planetary health in the past year, including at least one on climate change.
3	Yes, the institution has hosted 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.
<p><i>Score explanation: Creighton has not hosted any conferences or symposiums strictly dedicated to planetary health. However, Creighton's annual Global Health Conference Midwest includes speakers focused on planetary health. In 2021, one of the three key keynote speakers gave a presentation on climate change entitled "The Health Benefits of Addressing Environmental Threats - A Triple Benefit" in addition to multiple breakout sessions that addressed planetary health. Notably, in the spring of 2020, the theme of the conference focused on sustainability and featured a keynote presentation entitled "Planetary Health: Creating a Just and Equitable Future for All."</i></p>	

6. Has your institution or medical school joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?	
2	Yes, the medical school has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education.
1	Yes, the institution has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education, but the medical school specifically has not.
0	No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.
<p><i>Score explanation: Creighton School of Medicine is not a member of either organization. We recommend Creighton SOM joins and meaningfully engages in the work of these organizations.</i></p>	

Section Total (x out of 19)	5
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Are there additional research resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Community Outreach and Advocacy

Section Overview: *This section evaluates 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 color. 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.*

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation: Creighton offers an environmental justice-focused community orientation entitled "Climate Change: Faith, Hope, and Action." This program is a partnership among the Office of Sustainability, the Center for Service and Justice, and community organizations. The goal is to introduce participants to the issue of environmental justice through site visits, education, and community-based and faith-based discussion. Particularly, the connections between planetary health, environmental health, and social justice are demonstrated through the example of the North Omaha coal-fired power plant. We recommend the School of Medicine partner with the orientation planners to increase medical student participation or develop a program specifically for medical students.</i></p> <p><i>There are additional partnerships maintained by the Schlegel Center for Service and Justice and other offices across the university that promote planetary and environmental health.</i></p> <p><i>Although students in the SOM are engaged with environmental organizations, the SOM does not play a significant role in advancing these community relationships. Therefore, we would not consider the following "meaningful partnerships" although they are important community connections: SOM students partner with Habitat for Humanity, an organization focused on reusing resources in the community. SOM students also partner with Completely Kids Community Garden to help plant, weed, and tend to this garden, which promotes environmental stewardship among students and community members.</i></p>	

2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The medical school has not offered such community-facing courses or events.
<p><i>Score explanation: The School of Medicine is largely involved in the planning of the Global Health Conference Midwest; this conference is open to the community at the cost of \$10-30 and includes lectures on Planetary Health. Annually, the University hosts a Planetary Emergency Lecture as part of a public lecture series sponsored by the Creighton Global Initiative. The lecture was suspended in 2020 due to COVID-19, but it is historically widely publicized to the Omaha community.</i></p>	

3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?	
2	Yes, all students regularly receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are sometimes included in communication updates.
0	Students do not regularly receive communications about planetary health or sustainable healthcare.
<p><i>Score explanation: University-wide presidential email updates focus on environmental sustainability 1-2 times per year; however, none in the last year have included mention of planetary health or sustainable healthcare. Students do not receive newsletters or communication from the SOM regarding this topic. The Office of Sustainability produces a newsletter that students can sign up to receive. We recommend that the Office of the Dean or Planetary Health and Sustainability Task Force send out a biannual update on Creighton's efforts to address Planetary Health and Healthcare Sustainability.</i></p>	

4. Does the medical school offer continuing medical education (CME) courses that address planetary health and/or sustainable healthcare?	
2	Yes, multiple in-person or online CME courses relating to planetary health and/or sustainable healthcare are offered, including at least one with a primary focus of planetary health.
1	Yes, one in-person or online CME course related to planetary health and/or sustainable healthcare is offered.

0	There are no CME courses on planetary health or sustainable healthcare topics.
<i>Score explanation: Participants can receive CME credit from the Global Health Conference which is co-hosted by the School of Medicine and includes lectures on Planetary Health.</i>	

5. Do hospitals affiliated with your medical school have accessible educational materials for patients about environmental health exposures?	
2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centers have accessible educational materials for patients.
<i>Score explanation: Children's Hospital of Omaha provides materials on environmental exposures. We recommend posting patient-facing materials on environmental exposures on the websites for CHI and clinic affiliates.</i>	

6. Do hospitals affiliated with your medical school have accessible educational materials for patients about climate change and health impacts?	
2	Yes, 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.
<i>Score explanation: We could not find easily accessible materials online and none of the physicians we contacted were aware of printed materials. We recommend posting patient-facing materials on climate change and the health impacts on the websites for CHI and clinic affiliates.</i>	

Section Total (x out of 14)	5
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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.*

1. Does your institution offer support for medical students interested in enacting a sustainability initiative?	
2	Yes, the institution offers grants available to medical students for students to enact sustainability initiatives.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available.
0	No, the institution does not offer opportunities or support for sustainability initiatives.
<p><i>Score explanation: The School of Medicine operates an M1 Summer Research Program which provides funding for non-specific student projects, including QI initiatives. Students may submit proposals for projects of their own imagination and solicit mentors independently. This funding is often not utilized due to lack of organization. There are not programs or funds designated specifically to initiatives on the topic of sustainability.</i></p> <p><i>As addressed in Question 4 of this section, the institution does also award funding for student groups which can undertake their own initiatives. There are currently no medical student groups active in planetary health or sustainability programming.</i></p> <p><i>We would encourage more attention be given to the breadth of possible projects to which the existing funds could be applied, as well as advance opportunities for students to imagine and enact projects with university financial support after their M1 year.</i></p>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
3*	The institution offers an explicit paid fellowship for medical students to do research related to planetary health and/or sustainable healthcare.
2	The institution offers paid research opportunities for students and planetary health/sustainable healthcare projects would be considered eligible.
1	There are unfunded research opportunities for students to perform research related to planetary health/sustainable healthcare.

0	There are no opportunities for students to receive funding for planetary health/sustainable healthcare research.
<p><i>Score explanation: The School of Medicine operates an M1 Summer Research Program that provides funding for student projects. Students may submit proposals for projects of their own imagination and solicit mentors independently. There are no planetary health projects currently in progress on any “student research” list or database of mentors.</i></p> <p><i>We would encourage more attention be given to the breadth of possible projects to which the existing funds could be applied, as well as improved relationships between medical school and faculty across the university that are involved in research related to climate change, planetary health, or sustainable healthcare.</i></p>	

3. Does the medical school have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.	
2	The medical school has a 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.
<p><i>Score explanation: There is no dedicated page in the SOM section of CU website. There is a Sustainable Creighton webpage that covers University-wide programs, but these are not related to health.</i></p> <p><i>We encourage creation of a site under the SOM “Students” section that focuses on student activities and SOM programs that promote sustainability and planetary health. We likewise call for a site under “Research” on the SOM website that lists research initiatives specifically related to climate change and health as well as identifies faculty involved or interested in mentoring students on these topics. Finally, we recommend including the Global Health Conference Midwest as a regional meeting opportunity under the Research section of the website.</i></p>	

4. Does your medical school have funded, 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 funded student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.

1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support and/or funding.
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.
<p><i>Score explanation: There are groups, including Justice in Medicine and the Mayan Community Health Collaborative, that include programming related to climate justice and climate/environment as related to health outcomes. Such themes are not explicit in the mission of these groups. The groups also vary in their funding status.</i></p>	

5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional decision-making council to advocate for sustainability best practices?	
1	Yes, there is a student representative that serves on a medical school or institutional decision-making council.
0	No, there is no such student representative.
<p><i>Score explanation: The president of the CMSG is a member of the University's Climate Change Task Force. (The CCTF is a temporary group assembled to prepare a report for future University carbon neutrality planning.) Additionally, three medical students serve on the newly-formed medical school Planetary Health and Sustainability Task Force.</i></p> <p><i>We recommend medical student and medical faculty representation on any university body making decisions about sustainability and our institutional response to climate change.</i></p>	

6. In the past year, has the institution had one or more <u>co-curricular</u> 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 organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.
<p><i>Score explanation:</i></p> <ul style="list-style-type: none"> - <i>Notably, in the spring of 2021, the School of Medicine partnered with the University Campus Clinic to help maintain the University Campus Community Garden.</i> - <i>Many opportunities for community involvement and volunteering were suspended this year due to the COVID-19 pandemic. There are a number of active, dedicated community groups in Omaha that focus on urban agriculture (Big Muddy), sustainable farming (Sacred Seed), community gardens (The Big Garden), environmental justice and the other areas listed; we would encourage renewal and/or establishment of relationships with these groups as public health safety and local regulations permit.</i> - <i>Panels, speaker series, and related events were numerous in the campus calendars and occurred throughout the year, even in the transition to virtual events.</i> - <i>Events where students learned from local environmental justice organizations were limited as described above, but the Community Fair at the Global Health Conference Midwest presented an opportunity for students to hear directly from local actors.</i> - <i>Local volunteer opportunities were likewise restricted, but Completely KIDs and City Sprouts did maintain calls for regular volunteers to participate in community garden and food insecurity initiatives.</i> - <i>Emergency Medicine Interest Group hosted a trash-cleanup event along a local running trail, and a Student Government Wellness Chair regularly hosts outdoor yoga events.</i> 	

Section Total (x out of 15)	10
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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 endeavor, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinizing 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 minimizing environmental impact.*

1. Does your medical school and/or institution 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>Score explanation: Creighton University has an Office of Sustainability that serves the entire university, including our Phoenix campus. The office supports two full-time staff members. There is not a specific branch for graduate medical or hospital programs.</i></p>	

2. Does your medical school and/or institution have a stated goal of carbon neutrality by 2050?	
4*	The medical school is already carbon neutral.
3	Yes, there is a stated carbon neutrality goal and the medical school has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal, but the medical school has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.
<p><i>Score explanation: Creighton does have a formal plan to be carbon neutral by 2050, with a 40% carbon reduction below baseline emissions by 2028. This is outlined in a plan created 2013 found here,</i></p>	

but no one in the medical school is tasked with ensuring we are meeting the goals found in the 2013 plan. The University plan is currently in the process of being updated.

3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital) utilize renewable energy?

3*	Yes medical school buildings are 100% powered by renewable energy
2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.

Score explanation: The medical school facilities have no direct renewable energy, but due to the renewable energy efforts of the Omaha Public Power District, who we get energy from, some off-site renewable energy is a part of Creighton's electricity portfolio (close to 40%). However, this would likely be about 0.2% of total energy usage within medical school buildings.

4. Are sustainable building practices utilized for new and old buildings on the medical school campus, with design and construction of new buildings and remodeling of old buildings conforming to a published rating system or sustainable building code/guideline?

3	Yes, sustainable building practices are utilized 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 utilized 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.

Score explanation: Creighton has outlined goals for building sustainably in the following documents: [process](#), [policy](#), and [construction](#). The goals are vague and do not have required standards to meet and buildings have not been sufficiently retrofitted.

5. Has the medical school implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental

impact of commuting?	
2	Yes, the medical school 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-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<p><i>Score explanation: The medical school specifically has not implemented any strategies to encourage or provide environmentally-friendly transportation options and driving seems to be the primary form of transportation for the majority of students. We recommend expanding any transportation initiatives from the undergraduate campus to the medical school. We suggest the medical school explore and support the installation of a Heartland B Cycle bicycle rack in closer proximity to the Cardiac Center.</i></p>	

6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/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.
<p><i>Score explanation: The undergraduate campus started a compost program in the fall of 2020, and it has a conventional recycling program with the exception of glass recycling. The Omaha campus medical school does not have a compost program, and although it typically has limited recycling, it has been suspended for COVID. The Office of Sustainability intends to expand compost programs to graduate schools. We recommend the SOM establishes a commitment to recycling and waste aversion.</i></p>	

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections?	
3	Yes, the medical school has adequate sustainability requirements for food and beverages 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.
<i>Score explanation: There is no reason to believe any sustainability guidelines have been put in place for food and beverages.</i>	

8. Does the medical school or associated 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.
<i>Score explanation: Creighton does have sustainability procurement guidelines, however, sustainable options are chosen when “quality, function and cost are equal or superior” or deemed practical.</i>	

9. Are there sustainability requirements or guidelines for events hosted at the medical school?	
2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required.
0	There are no sustainability guidelines for medical school events.
<i>Score explanation: There are currently no guidelines for medical school events. We recommend that the student government implement requirements, specifically for composting.</i>	

10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
2	Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.

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>Score explanation: There are no programs or Creighton-specific guidelines regarding environmental sustainability within lab spaces.</i>	

11. Does your institution’s 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	No, the institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil-fuel companies.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
<i>Score explanation: Creighton has committed to “exit from its holdings in private fossil fuel investments within the next 10 years.”</i>	

Section Total (x out of 29)	8
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Are there additional sustainability resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Grading

Section Overview

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

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

Planetary Health Grades for the Creighton University School of Medicine

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

Section	Raw Score	Grade
Planetary Health Curriculum	27 / 58 = 47%	C
Interdisciplinary Research	5 / 19 = 26%	D
Community Outreach and Advocacy	5 / 14 = 36%	D+
Support for Student-led Planetary Health Initiatives	10 / 15 = 67%	B
Campus Sustainability	8 / 29 = 28%	D
Institutional Grade	41%	C-