



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



2023-2024 Contributing Team:

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Summary of Findings

Overall	C
<u>Curriculum</u>	D-
<ul style="list-style-type: none"> The University of Oklahoma College of Medicine (OUCOM) does not significantly include planetary health in the curriculum, but it did introduce a new elective course focused on the health effects of climate change. The OU-Tulsa School of Community Medicine does include some planetary health topics in one course. Recommendations: There is a lack of planetary health content throughout the core curriculum. During the upcoming curriculum reform, the medical school should formalize planetary health as a component of its educational program and learning objectives and assign a faculty member to oversee this responsibility. 	
<u>Interdisciplinary Research</u>	C
<ul style="list-style-type: none"> OU houses many researchers from different fields interested in planetary health and sustainable healthcare; however, there is a lack of centralized organization for this interest and interdisciplinary opportunity. Recommendations: There is great opportunity for OUCOM and its students to work more closely with the College of Public Health in the research of sustainability within healthcare, specifically within topics concerning environmental exposures in Oklahoma and within anesthesia. We recommend students also utilize resources outside the academic institution to learn more about planetary health. 	
<u>Community Outreach and Advocacy</u>	C+
<ul style="list-style-type: none"> OUCOM provides support and opportunity for various community outreach projects through the Environmental and Sustainable Health Interest Group (ESHIG), a MS4SF Affiliate organization, and campus wide events such as the annual Big Event, supporting environmental projects such as Closer to Earth and OKC Beautiful. However, there is much room for improvement outside of the efforts of ESHIG. Recommendations: Campuswide communication on environmentalism efforts, website centered on environmental efforts, and online patient-centered resources on the health impacts of climate change. 	
<u>Support for Student-Led Initiatives</u>	B-
<ul style="list-style-type: none"> OUHSC and OUCOM continue to support student-led interest groups monetarily and through faculty mentorship. Additionally, OUCOM has supported students devoting time towards Quality Improvement projects involving healthcare sustainability. Recommendations: Make opportunities for research and QI projects involving planetary health and sustainability more accessible to medical students earlier on in their education; increase collaboration with other departments within the institution of OU, specifically the Hudson College of Public Health. 	
<u>Campus Sustainability</u>	C
<ul style="list-style-type: none"> OUCOM is supportive of efforts towards increased campus sustainability. Some programs in place such as campus recycling serve this purpose. In the past year, OUHSC demonstrated marked improvement. However, there is room for improvement in multiple areas listed below. Complete divestment of fossil fuels was not achieved this year. Recommendations: Similar to last year's report, there is a lack of initiative and/or transparency in the following areas: campus-wide composting program, meat-free days in the cafeteria, supply procurement guidelines, and sustainability requirements for campus events. More improvement to sustainability sourcing should be prioritized by OUHSC's Energy Management team. 	

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 analyzing 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, 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 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 centered on environmental health impacts 5) medical school campus sustainability.

Definitions & Other Considerations

Definitions:

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

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

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

Other considerations:

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

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

Planetary Health Curriculum

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

Curriculum: General

1.1. Did your <u>medical school</u> offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>Score explanation:</i> The University of Oklahoma College of Medicine (OUCOM) offered an elective section of its Humanities course available for second year medical students. The course, entitled “Impact of Climate Change on Health and Medicine,” occurred during the fall semester of 2023 and was delivered by a faculty member whose research interests include environmentalism as it applies to anesthesiology. The OU-TU School of Community Medicine (OU-TU SCM), an integrated track within the OU College of Medicine, does not offer electives on planetary health.</p> <p>Because of this elective, a score of 2 is recommended.</p>	

Curriculum: Health Effects of Climate Change

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

Score explanation: OUCOM addressed the relationship between climate change, extreme heat, and health risks in the humanities elective entitled “Impact of Climate Change on Health and Medicine” available for second year medical students on the Oklahoma City campus. OU-TU SCM briefly covered this topic in its core curriculum in the second year course “America’s Quest for Health” by discussing extreme heat and the Dust Bowl during the “Migration and Health” lecture. The lecturer describes the effect of poor farming practices on soil conditions, which contributed to the extreme weather event known as the “Dust Bowl” and ultimately forced many inhabitants of the area to emigrate. The lecture also discussed how extreme heat around the world is leading to modern migration in places such as North Africa.

Because this topic is covered in OU-TU curriculum and in OUCOM elective coursework, OU is awarded 1 point for this metric.

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

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

Score explanation: OUCOM offered an elective section of its Humanities course available for second year medical students entitled “Impact of Climate Change on Health and Medicine.” The course occurred during the fall semester of 2023 and included objectives concerning climate change, natural disasters, and impacts on climate health.

OU-TU SCM briefly covered this topic in its core curriculum. In the MS2 year, Tulsa medical students take the course “America’s Quest for Health,” which discussed the extreme weather event causing the Dust Bowl during the “Migration and Health” lecture. The lecture described the impact of this weather event causing significant illness such as dust pneumonia.

Because this topic is covered in OU-TU curriculum and in OUCOM elective coursework, OU is awarded 1 point for this metric.

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

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

Score explanation: OUCOM and OU-TU SCM do not cover this topic in the core curriculum. This topic was briefly verbally discussed in a lecture during the “Gastrointestinal and Hepatobiliary” course upon discussing Chagas disease, but no session objectives or written material covers such topics.

OUCOM offered an elective section of its Humanities course available for second year medical students entitled “Impact of Climate Change on Health and Medicine.” The course occurred during the fall semester of 2023 and included objectives concerning climate change, natural disasters, and impacts on climate health.

Because this topic was not explicitly covered in the core curriculum and is covered in an elective of the OKC curriculum, OU is awarded 1 point for this metric.

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

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

Score explanation: OUCOM offered an elective section of its Humanities course available for second year medical students entitled “Impact of Climate Change on Health and Medicine.” The course occurred during the fall semester of 2023 and included objectives concerning pollution and infectious disease.

In the OUCOM core curriculum, the “Restrictive and Interstitial Lung Diseases” lecture discusses environmental causes of interstitial lung disease such as exposure to coal, asbestos, silica, smoke, beryllium, and other organic or inorganic materials, but the respiratory health effects of climate change and air pollution are not addressed.

Because this topic was only covered in an elective of the OKC curriculum, OU is awarded 1 point for this metric.

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

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

Score explanation: OUCOM and the OU-TU SCM do not cover this topic in the core curriculum or in elective coursework.

1.7. 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: OUCOM offered an elective section of its Humanities course available for second year medical students entitled “Impact of Climate Change on Health and Medicine.” The course occurred during the fall semester of 2023 and included objectives concerning mental health as it is affected by climate change.

OU-TU SCM briefly covered this topic from a historical perspective in its core curriculum. In the MS2 year, Tulsa medical students take the course “America’s Quest for Health,” which discusses the extreme weather event causing the Dust Bowl during the “Migration and Health” lecture. The lecture described the impact of this weather event causing significant psychological distress and adverse childhood experiences for those affected leading to poor mental health outcomes.

Because this topic was covered in the OU-TU curriculum and in an elective of the OKC curriculum, OU is awarded 1 point for this metric.

1.8. 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: OUCOM offered an elective section of its Humanities course available for second year medical students entitled “Impact of Climate Change on Health and Medicine.” The course occurred during the fall semester of 2023 and included objectives concerning climate change, food and water security, and ecosystem health.

OU-TU SCM briefly covered this topic in its core curriculum. In the MS2 year, Tulsa medical students take the course “America’s Quest for Health,” which describes food and water insecurity during the “Migration and Health” lecture. The lecture discussed how extreme weather can threaten food and water security leading to conflict and migration.

Because this topic was covered in the OU-TU curriculum and in an elective of the OKC curriculum, OU is awarded 1 point for this metric.

1.9. 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, Indigenous communities, children, homeless populations, and older adults?

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

Score explanation: OUCOM offered an elective section of its Humanities course available for second year medical students entitled “Impact of Climate Change on Health and Medicine.” The course occurred during the fall semester of 2023 and included objectives concerning intersectionality as it relates to climate change and the ethics of climate health, with modules on how climate change disproportionately affects marginalized populations.

The fourth year elective on Tribal Health does allow students to rotate through a local tribal health system for 1 month, but climate change and environmental health are not integrated into the course.

OU-TU SCM briefly covered this topic in its core curriculum. In the MS2 year, Tulsa medical students take the course “America’s Quest for Health,” which described the impact of extreme weather events on marginalized populations during the “Migration and Health” lecture. The lecture discussed how extreme weather events disproportionately impact marginalized populations due to their limited resources and limited ability to cope with changes to local temperature, water supply, and food supply.

Because this topic was covered in the OU-TU curriculum and in an elective of the OKC curriculum, OU is awarded 1 point for this metric.

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

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

Score explanation: OUCOM offered an elective section of its Humanities course available for second year medical students entitled “Impact of Climate Change on Health and Medicine.” The course occurred during the fall semester of 2023 and included objectives concerning the ethics of climate health and how climate health affects different regions disproportionately.

OU-TU SCM briefly covered this topic in its core curriculum. In the MS2 year, Tulsa medical students take the course “America’s Quest for Health,” which described the impact of climate change on migration during the “Migration and Health” lecture. The lecture discussed how climate change unequally impacts certain parts of the world and can result in mass migration. The lecture also covered the healthcare interactions and health needs of these migrant communities.

Because this topic was covered in the OU-TU curriculum and in an elective of the OKC curriculum, OU is awarded 1 point for this metric.

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

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

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

Score explanation: OUCOM and the OU-TU SCM do not cover this topic in the core curriculum or in elective coursework. In the Reproductive System course, the lecture slide notes on “The State of Women’s Health” contextualizes women’s health rankings in Oklahoma compared to other states and lists physical environment factors — such as air and water quality, housing and transit, and climate change policy — as one such area where Oklahoma ranks poorly. Despite this, the presenter does not mention environmental factors during the lecture.

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

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

Score explanation: OUCOM and the OU-TU SCM do not cover this topic in the core curriculum or in elective coursework.

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

3	Indigenous knowledge and value systems are integrated throughout the medical school’s planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework.

0	This topic was not covered.
<p><i>Score explanation:</i> OUCOM does not emphasize this topic in the core curriculum or in elective coursework. OU-TU SOM briefly covers this topic in its core curriculum. In the MS2 year, Tulsa medical students take the course “America’s Quest for Health,” which discussed the extreme weather event causing the Dust Bowl during the “Migration and Health” lecture. The lecturer discusses how poor farming practices contributed to the Dust Bowl, the importance of Indigenous knowledge and farming practices, and the utility of Indigenous knowledge in creating more sustainable farming. Because this topic is covered in OU-TU SOM curriculum but not in the main campus OUCOM curriculum, a score of 1 is awarded.</p>	

<p>1.14. Does your <u>medical school</u> 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, Indigenous populations, and older adults?</p>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i> OUCOM offered an elective section of its Humanities course available for second year medical students entitled “Impact of Climate Change on Health and Medicine.” The course occurred during the fall semester of 2023 and included objectives concerning intersectionality as it relates to climate change and the ethics of climate health, with modules on how environmental toxins disproportionately affect marginalized populations.</p> <p>OU-TU SCM briefly covered this topic in its core curriculum. In the MS1 and MS2 years, Tulsa medical students take the longitudinal course “Lifestyle Medicine.” The “Physical Disabilities/Adaptive Cooking” module and the “Community Engaged Lifestyle Medicine” case study partially covered elements of the impact of environmental toxins on marginalized populations.</p> <p>Because this topic was only covered in the OU-TU curriculum and in an elective of the OKC curriculum, OU is awarded 1 point for this metric.</p>	

Curriculum: Sustainability

<p>1.15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?</p>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: OUCOM does not cover this topic in the core curriculum or in elective coursework. OU-TU SCM covered the health benefits of a plant-based diet in depth in its core curriculum but did not cover the environmental co-benefits. In the MS1 and MS2 years, Tulsa medical students take the longitudinal course “Lifestyle Medicine.” All culinary medicine modules involved plant-based whole foods and discussed the benefits of a plant-based diet. Module 4 on Cancer Prevention specifically discusses the benefits of a plant-based diet for cancer prevention. Because the environmental benefits of a plant-based diet were not covered, OU is awarded 0 points for this metric.

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

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

Score explanation: OUCOM offered an elective section of its Humanities course available for second year medical students entitled “Impact of Climate Change on Health and Medicine.” The course occurred during the fall semester of 2023 and included objectives concerning climate health and the carbon footprint of medicine, with an emphasis on integrative solutions.

Because this topic was only covered in an elective of the OKC curriculum, OU is awarded 1 point for this metric.

1.17. Does your medical school curriculum cover these components of sustainable clinical practice in the core curriculum? (points for each)

2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfill this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.

1	<p>Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)</p>
	<p>Score explanation: See below for a description of OU's coverage for each component.</p> <ol style="list-style-type: none"> 1. The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment <i>OUCOM and the OU-TU SCM partially cover this topic during the Neurosciences course. The course discusses how unnecessary imaging leads to unnecessary surgeries and treatments, but it does not discuss the environmental co-benefits.</i> 2. The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. <i>OUCOM and OU-TU SCM do not cover this topic.</i> 3. 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. <i>OUCOM discusses the health benefits of non-pharmaceutical management of conditions during the Neurosciences course and the Family Medicine Clerkship. The Neurosciences course discusses managing psychiatric and neurologic conditions with non-pharmaceutical treatments such as yoga, massage therapy, meditation, acupuncture, and special diets. The Family Medicine Clerkship discusses the health benefits of non-pharmaceutical management of conditions such as Type II Diabetes Mellitus. Neither course discusses the environmental co-benefits. During the "Lifestyle Medicine" course, First Year Orientation, and other Tulsa-specific courses, the OU-TU SCM covers in depth the health benefits of non-pharmaceutical management of conditions but does not cover the environmental co-benefits.</i> 4. Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated <i>OUCOM and the OU-TU SCM do not cover this topic in the core curriculum or in the Surgery Clerkship or Anesthesia Selective courses.</i> 5. The impact of anesthetic gasses on the healthcare carbon footprint and ways to reduce anesthesia environmental impacts, such as total intravenous anesthesia or choosing less environmentally harmful anesthetic gas options with reduced greenhouse gas emissions <i>OUCOM and the OU-TU SCM do not cover this topic in the core curriculum or in the Surgery Clerkship or Anesthesia Selective courses. The Environmental and Sustainable Health Interest Group has hosted multiple guest lectures that address this point and it has been covered in the elective course entitled "Impact of Climate Change on Health & Medicine," however, there is no core curriculum coverage.</i> 6. The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers. <i>OUCOM and OU-TU SCM do not cover this topic in the core curriculum or in the elective coursework.</i> 7. Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting) <i>OUCOM and OU-TU SCM do not cover this topic in the core curriculum or in the elective coursework.</i>

	No points are awarded.
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Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
<p><i>Score explanation:</i> OUCOM and OU-TU SCM do not cover this topic in the core curriculum or in the elective coursework.</p>	

1.19. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.
<p><i>Score explanation:</i> OUCOM core curriculum trains students to ask about various environmental exposures when taking a patient's history. These include (but are not limited to): home environment, travel, and occupational exposures. This is enforced in both preclinical (Clinical Medicine I and II) and clinical (Pediatrics and Internal Medicine) rotations.</p> <p>Therefore, OU is awarded 2 points.</p>	

Curriculum: Administrative Support for Planetary Health

1.20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?	
4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.

Score explanation: OUCOM is undergoing the process of curriculum reform and the Assistant Dean for Preclinical Curriculum has indicated interest in incorporating planetary health into the longitudinal curriculum. In the past year, a planetary health elective (“The Impact of Climate Change on Health”) was established for 2nd year medical students. There are no clear proposals to formalize planetary health into the core curriculum and most of the efforts regarding improving education for sustainable healthcare have been student-driven. Therefore, a score of 2 is awarded.

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

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

Score explanation: OUCOM and OU-TU SCM do not longitudinally integrate planetary health topics into the core medical school curriculum. There is an elective that covers planetary health (“The Impact of Climate Change on Health”) but it is not required. Because there are no planetary health topics integrated into the core curriculum, a score of 0 is awarded.

1.22. Does your medical school employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?

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

Score explanation: OUCOM and OU-TU SCM do not employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health into the curriculum.

Section Total (17 out of 72)

23.61%

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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.

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <u>medical school</u> ?	
3	Yes, there are faculty members at the medical school who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the medical school who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution , but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation:</i> Dr. Kaitlyn Kulesus would consider healthcare sustainability/planetary health to be her primary research focus. Her research focuses on the differing greenhouse gas (GHG) contributions of desflurane vs sevoflurane anesthetic gasses and how GHG emissions can be reduced by changing which anesthetic gasses are used. Additionally, there are faculty that have been willing to be advisors for quality improvement projects, including a project pending publication that sought to quantify and provide a framework for eliminating waste in the operating room.</p>	

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your <u>institution</u> ?	
3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	There is an Occupational and Environmental Health department , but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.
<p><i>Score explanation:</i> The OUHSC Interdisciplinary Program, the office on campus responsible for interdisciplinary engagement, does not include any mention of planetary health research on their</p>	

website. However, [the Occupational and Environmental Health Department](#) lists that its aim is to unite interdisciplinary teams in order to further research programs in environmental fields of study.

More recently, there has been interest within the Hudson College of Public Health, as their annual Hudson Fellows in Public Health [Symposium](#) focused on climate change in October 2023. Additionally, the Environmental Protection Agency has funded a grant for OU researchers to create a [Children’s Environmental Health Center](#). This new center’s aim is a multidisciplinary approach to investigate the chemical and non-chemical exposures amongst children in Oklahoma and Texas that may cause absenteeism due to respiratory and gastrointestinal illnesses.

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

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

Score explanation: This is not occurring at the medical school level.

2.4. Does your institution have a planetary health website that centralizes ongoing and past research 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: There is one University of Oklahoma [website](#) that aims to consolidate research related to health and the environment. The Institute for Resilient Environmental and Energy Systems (IREEC) is a recent initiative aligned with OU's institutional goals, their website is also given [here](#). The Health Sciences Center has a dedicated [site](#) for Occupational and Environmental Health. Overall, this area could be a good target for improvement in future years.

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

planetary health?	
4	Yes, the medical school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>Score explanation:</i> The College of Public Health Hudson Fellows hosted a health symposium on October 12, 2023. The symposium was titled “Climate change: a challenge for public health education, research and practice.” Here is the link to the recorded symposium.</p>	

2.6. Is your medical school a member of a national or international planetary health or ESH organization?	
1	Yes, the medical school is a member of a national or international planetary health or ESH organization
0	No, the medical school is not a member of such an organization
<p><i>Score explanation:</i> No, the medical school is not currently a member of any such organization.</p>	

Section Total (9 out of 17)	52.94%
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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 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.*

3.1. 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:</i> OUCOM has established collaborative partnerships with multiple community organizations to advance planetary and environmental health initiatives through the Environmental and Sustainable Health Interest Group (ESHIG), a MS4SF Affiliate organization. Medical students participate in practical endeavors with community gardens such as Commonwealth Urban Farms and Closer to Earth, contributing to the gardening and composting activities on urbanized land in Oklahoma City. Furthermore, ESHIG actively collaborates with OKC Beautiful's Litterblitz, participating in organized trash clean-up events with a specific emphasis on community parks. The synergistic efforts of student volunteers and Litterblitz not only enhance environmental stewardship but also contribute to the beautification of the state of Oklahoma. Therefore, a score of 3 should be applied in recognition of these collaborative efforts.</p>	

3.2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The institution/medical school have not offered such community-facing courses or events.

Score explanation: Environmental and Sustainable Health Interest Group (ESHIG), a MS4SF Affiliate organization, hosts numerous events centered around planetary health which are open to the community, but these events are primarily created for students within the health science center. The events focus on various topics of planetary health, including the impact of anesthesia and surgical waste on the environment and potential solutions to limit such impacts. In 2023, one event in collaboration with the OKC Recycling Association aimed to educate participants on the intricacies of the recycling process within our city. Therefore, a score of 2 should be applied.

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

2	Yes, all students regularly receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are sometimes included in communication updates.
0	Students do not receive communications about planetary health or sustainable healthcare.

Score explanation: Environmental and Sustainable Health Interest Group (ESHIG), a MS4SF Affiliate organization, sends out emails and slack updates to students who are part of the interest group. As with last year, the communication is not solely pertaining to planetary health/sustainable healthcare but this is often included. A score of 1 should be applied to this category.

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

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

Score explanation: The CME office at the University of Oklahoma Health Science Center reports a course pertaining to environmental impact on health was offered in the past year. The course was titled “Neighborhood Socio-Environmental Determinants of Cardiovascular Health” presented for Cardiovascular Grand Rounds on June 1, 2023. The learning objectives for the session included “to address environmental factors contributing to cardiovascular health issues” and to “enumerate potential avenues for mitigation of environmental exposures on CVD.” With the addition of this course to CME offered at a post-graduate level at OUHSC, this category should earn a score of 1.

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

2	Yes, the medical school or all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centres have accessible educational materials for patients.
<p><i>Score explanation:</i> There are currently no patient-centered materials focused on environmental exposures on OU Health’s website. There are a few blog posts discussing relevant topics such as “OU Wastewater Surveillance Team to Monitor Long-Term for Foodborne Pathogens, a Global First” and “Health and Climate Change is Theme of Bridges to Access Conference” in addition to a few materials that can be found through “Our Health Library.” However, the blog posts do not educate patients on environmental health exposures and the latter materials are primarily news articles and not easily accessible for patients. Therefore, a score of zero should be applied.</p>	

3.6. Does your <u>medical school</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about the health impacts of climate change?	
2	Yes, the medical school or all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.
<p><i>Score explanation:</i> There are currently a few patient-centered materials in “Our Health Library” that are focused on the health impacts of climate change. There are a few blog posts discussing relevant topics such as “OU Wastewater Surveillance Team to Monitor Long-Term for Foodborne Pathogens, a Global First” and “Health and Climate Change is Theme of Bridges to Access Conference.” A few news articles concerning climate and health can also be accessed through the OU Health website.</p>	

Section Total (8 out of 14)	57.14%
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Support for Student-Led Planetary Health Initiatives

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

4.1. Does your <u>medical school</u> or your <u>institution</u> offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the medical school or institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school or institution encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, neither the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Score explanation:</i> OU Hudson College of Public Health researchers were awarded a \$1.8 million grant from the US Environmental Protection Agency. The grant is being used towards the creation of a Children's Environmental Health Center in the U.S. Southern Great Plains, with a goal to “reduce environmental health disparities and promote environmental justice for children living in underserved, rural agricultural communities.” The research will take a multidisciplinary approach to address environmental health disparities.</p>	

4.2. Does your <u>institution</u> offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation:</i> While there isn't a dedicated research program or fellowship specifically for students interested in planetary health or sustainable healthcare research, there are faculty members within the College of Medicine and researchers in the College of Public Health with interests in this field. In the past, medical students have received support and guidance from faculty for their research projects related to sustainability and quality improvement, although these initiatives have been driven by student efforts.</p>	

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

2	The medical school has a 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.

Score explanation: No clear examples exist for finding specific planetary health opportunities within the medical school. Current work within the research outreach apparatus includes listing [research liaisons for student interest groups](#), which does not presently include ESHIG, and a [Linktree](#) with links that direct students to [present research opportunities](#) among the College of Medicine. None of these target planetary health and/or sustainable healthcare activities specifically, however.

Within the medical school, a school-wide Slack page contains resources from the Environmental and Sustainable Health (MS4SF Affiliate) student interest group on campus, which details sustainability initiatives, mentors, and options for sustainable practices within and outside of medicine. Additionally, the Hudson College of Public Health provides a list of faculty as well as research publications.

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

2	Yes, there is a student 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 .
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.

Score Explanation: OUCOM's Environmental and Sustainable Health (MS4SF Affiliate) Interest Group advocates for educating the student body on planetary health initiatives in relation to the practice of medicine as well as sustainable practices on campus. The interest group is supported monetarily and recognized by the OU Health Sciences Center Student Government Association, OU College of Medicine Student Council, and is supported by a College of Medicine faculty mentor.

4.5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional decision-making council to advocate for curriculum reform and/or sustainability

best practices?	
1	Yes, there is a student representative that serves on a medical school or institutional decision-making council/committee.
0	No, there is no such student representative.
<p><i>Score explanation:</i> While there are students advocating for curriculum reform within the College of Medicine, there is no such student representative at the moment that serves on a medical school or institutional decision-making council specifically dedicated to advocating for sustainable best practices. We do have a MS4SF Student Liaison who is a member of the executive team of Environmental and Sustainable Health Interest Group (ESHIG), a MS4SF Affiliate organization. Additionally, there are students who are a part of the ESHIG at OUCOM that are currently working with faculty to implement curriculum reform, but there is not a designated representative amongst the medical school or institutional curriculum committees.</p>	

4.6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	
1	Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students)
<p><i>Score explanation:</i> The Environmental and Sustainable Health Interest Group (ESHIG), a MS4SF Affiliate organization, at OUCOM provides the opportunity to students, faculty, and staff at OUHSC to volunteer at Closer to Earth, a nonprofit community garden in Oklahoma City. This year, the Hudson College of Public Health hosted a Symposium for OU's Health Sciences Center student body on the challenge climate change presents to the field of public health. ESHIG also provides opportunities for students to volunteer through park clean-ups, recycling initiatives, a clothing and school material exchange, as well as educational events concerning climate change. The Wilderness and Medicine Interest Group at OUCOM provides wilderness activities and opportunities for students.</p>	

Section Total (9 out of 15)	60.00%
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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.

5.1. 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:</i> The University of Oklahoma Health Science Center should be awarded a 3 because they have an Office of Sustainability called the Energy Management Department. They have a designated staff member in charge of energy conservation. They have previously worked on LED retrofitting, steam pipe insulation, and infrared thermography inspection.</p>	

5.2. How ambitious is your institution/medical school plan to reduce its own carbon footprint?	
5	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2030
3	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2040
1	The institution/medical school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate
0	The institution/medical school does not meet any of the requirements listed above
<p><i>Score explanation:</i> The University of Oklahoma Health Sciences Center (OUHSC) is continuously lowering carbon emissions, and there has been a goal established to become carbon neutral by 2040. According to the OUHSC Energy Management Office, OUHSC, at the moment, has no formal plan in place to get there and the immediate goal is to establish a road map to implement carbon neutrality in 2025. OUHSC earns a score of 1.</p>	

5.3. 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: Collaborating with the OUHSC's Energy Management Office, yield the following findings: OUHSC's medical school buildings source all their energy needs from OG&E's electric utility. From an OG&E statement, "OG&E's power mix is 60 percent natural gas, 20 percent coal and 20 percent renewable (wind and solar)". In addition, OG&E recently said the following, "Our customers rely on a variety of devices to power their homes and businesses every day. Using some of the nation's premier wind and solar resources, we have reduced our carbon emissions by investing in 32 MW of owned solar capacity, 449 MW of owned wind power generation, 342 MW of wind-purchased power contracts, and converting over 1000 MW of coal generation to natural gas. In order to better meet the needs of those we serve, as well as mitigate the impact of increasing extreme weather, OUHSC's Office of Energy Management invested more than \$3.7 billion in transmission, distribution, and grid advancements to improve reliability and resilience." Until they update their figures, OUHSC can only assume/estimate that medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy, earning a score of 1.

5.4. 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 sustainability rating system or 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: All new construction projects are adapting sustainable building practices and are following modern building codes and guidelines. The majority of our existing facilities have been retrofitted with high efficiency equipment and modern building automation control systems. We have also taken action to convert our facilities to have high efficiency LED lighting. The OUHSC campus has made great strides to adapt to sustainable building practices. Examples cited by the office of Energy management include:

- 1) Energy Efficiency Measures: We perform regular energy audits to identify areas where energy efficiency can be improved. This includes upgrading lighting systems to LED (mentioned above), installing energy-efficient HVAC systems, and implementing smart building

technologies to optimize energy use. We do this across campus for all of our OUHSC properties that we maintain.

- 2) Renewable Energy Generation: We have power purchase agreements for renewable electricity through OG&E and take advantage of all the renewable energy opportunities that they offer. At this time, we do not have any on-site renewable energy generation such as solar panels, wind turbines, or geothermal systems. However, we have a few projects in place to address this in CY24.
- 3) Green Building Standards: When constructing new buildings or renovating existing ones, we do our best to adhere to green building standards such as **LEED (Leadership in Energy and Environmental Design) certification**. These standards promote energy efficiency, water conservation, and the use of sustainable materials.

OUHSC Office of Energy earns the score of 3.

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

2	Yes, the medical school or institution has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school or institution has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school or institution has not implemented strategies to encourage and provide environmentally-friendly transportation options.

Score explanation: The OUHSC campus offers shuttle access to the public, students and staff. Information regarding the transportation shuttle and its schedule can be found on the OUHSC parking and transportation website as well as through the "Ride Systems" app. Besides this major change, last year's processes have carried over: Bike racks are present on campus, but there are few of them near the medical school. In addition, the office of Energy Management is looking to double the number of our electric vehicle charging stations in CY24 to help promote sustainable commuting. Therefore, OUHSC should be rewarded 2 points.

5.6. 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.

Score explanation: The University of Oklahoma Health Science Center has recycling receptacles available around the Basic Science Education Building; however, there is no composting program available on campus. Therefore, OUHSC should be awarded a score of 1.

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

3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.

Score explanation: Our recent outreach to OUHSC's Office of Supply Procurement did not yield additional information regarding sustainability in food and beverage sourcing. Last year's feedback suggested environmental concerns are considered, yet tangible sustainability efforts, like meat-free options, were not evident. We retain a score of '1', indicating the presence of minimal and potentially optional sustainability criteria, with no clear advancement in these initiatives.

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

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

Score explanation: Last year, the Office of Supply Procurement at OUHSC conveyed that while environmental matters are considered during the solicitation evaluation and award process, there were no specific initiatives toward enhancing the sustainability of supply procurement. This year, despite our efforts, we have not received further details or evidence of progression in this domain. In the absence of new information or demonstration of improved sustainability guidelines, our assessment must remain unchanged. Thus, we continue to score this area with a '1', indicating that while there are some guidelines, they are either insufficient or optional, with no active engagement from the medical school to advance sustainability in procurement practices.

5.9. Are there sustainability requirements or guidelines for events hosted at the <u>medical school</u> ?	
2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required .
0	There are no sustainability guidelines for medical school events.
<p><i>Score explanation:</i> There are currently no sustainability requirements for medical school events held on the OUHSC campus. A score of 0 should be applied.</p>	

5.10. Does your <u>medical school</u> have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
2	Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the medical school to make lab spaces more sustainable.
<p><i>Score explanation:</i> In our previous assessment last year, the Office of Supply Procurement indicated that there were no established efforts or guidelines aimed at promoting sustainability within lab spaces. This year, despite repeated attempts to engage with the relevant departments for an updated overview, we have not been able to obtain additional information. Therefore, we must report that there is no evidence of progress in this area since our last evaluation. This lack of transparency and communication has been factored into our current score, reflecting a continued absence of visible commitment to sustainability in procurement practices at the OUHSC.</p>	

5.11. Does your <u>institution's</u> endowment portfolio investments include fossil-fuel companies?	
4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	The institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest , but currently still has fossil fuel investments.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
<p><i>Score explanation:</i> The OUHSC campus is a not-for-profit entity and is actively reinvesting funds into sustainability practices and renewable energy campus initiatives. According to the OUHSC Energy Management Officer, OUHSC currently has no written plan to divest completely in fossil fuels but does</p>	

have processes to allocate funds for renewable energy initiatives and sustainability practices. OUHSC does not make any investments to any other entity. According to the OUHSC Manager, the fact that OUHSC uses OG&E to produce our electric utility is not considered an investment, as they are billed the same as any other user of their utility. Thus, OUHSC earns a score of 3.

Section Total (15 out of 32)

48.87%

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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 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 Oklahoma School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(17/72) \times 100 = 23.61\%$	D-
Interdisciplinary Research (17.5%)	$(9/17) \times 100 = 52.94\%$	C
Community Outreach and Advocacy (17.5%)	$(8/14) \times 100 = 57.14\%$	C+
Support for Student-led Planetary Health Initiatives (17.5%)	$(9/15) \times 100 = 60.00\%$	B-
Campus Sustainability (17.5%)	$(15/32) \times 100 = 46.88\%$	C
Institutional Grade	$(A \times 0.3 + B \times 0.175 + C \times 0.175 + D \times 0.175 + E \times 0.175) = 45.05\%$	C

Report Card Trends

Section Overview

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

Planetary Health Report Card Trends for the University of Oklahoma College of Medicine

