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# Planetary Health Report Card:

## *University of Arkansas for Medical Sciences*

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**UAMS**



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**COLLEGE OF MEDICINE**

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**UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES**

2020-2021 Contributing Team:

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## Summary of Findings

<b>Curriculum</b>	<b>B</b>
<ul style="list-style-type: none"> <li>Planetary health (PH) issues are addressed in several preclinical courses at UAMS, and the administration is actively working to increase the PH content for future classes.</li> <li>Discussions on how climate change directly impacts human health, with an emphasis on how PH issues threaten the immediate environment and patient population in Arkansas, should be made more explicit. In order to integrate PH issues more seamlessly into the core curriculum and/or elective coursework, the medical school should identify PH as a priority theme and include that material in learning objectives and test questions, in addition to filling in content gaps.</li> </ul>	
<b>Interdisciplinary Research</b>	<b>D</b>
<ul style="list-style-type: none"> <li>PH research is conducted by individual faculty members and through the Environmental and Occupational Health department; however, UAMS lacks an institute for interdisciplinary PH research.</li> <li>UAMS should strongly consider recruiting researchers who investigate PH topics, as well as furthering collaborations with community members impacted by climate and environmental injustice to allow them decision-making power in the climate research agenda. Existing opportunities for faculty and students to engage in PH research should be better highlighted through the PH-specific website..</li> </ul>	
<b>Community Outreach and Advocacy</b>	<b>B-</b>
<ul style="list-style-type: none"> <li>UAMS is increasing PH community outreach and advocacy efforts that welcome medical student involvement. The student-led Climate Health Interest Group helps to expand those opportunities across UAMS.</li> <li>UAMS should increase coverage of PH issues in its monthly journal and provide more easily accessible educational resources for students and patients.</li> </ul>	
<b>Support for Student-Led Initiatives</b>	<b>C</b>
<ul style="list-style-type: none"> <li>Medical students can engage in PH initiatives through participation in the Climate and Health Interest Group, wilderness/outdoors clubs, and community gardens. UAMS offers support of student-led PH initiatives through faculty collaboration, though funding is lacking.</li> <li>The administration could further support student-led initiatives by facilitating connections between research mentors and students via the PH website, creating grant opportunities, and developing a student fellowship program designated for PH.</li> </ul>	
<b>Sustainability</b>	<b>F+</b>
<ul style="list-style-type: none"> <li>UAMS has implemented efforts to support environmentally-friendly transportation options and recycling for students and faculty.</li> <li>UAMS should strongly consider strengthening efforts in sustainability through investing in renewable energy campus initiatives, and implementing sustainability guidelines for campus food and beverage selections, supply procurement, and campus events.</li> </ul>	

# 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*

<b>1. Did your medical school offer elective courses to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?</b>	
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.
<b>0</b>	<b>No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.</b>
<i>The UAMS COM curriculum has not offered any electives on planetary health nor electives that include ESH/planetary health topics in the past year.</i>	

## *Curriculum: Health Effects of Climate Change*

<b>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?</b>	
<b>3</b>	<b>This topic was explored in depth by the core curriculum.</b>
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>As part of the M1 core curriculum, in the Practice of Medicine (POM) course, Dr. Alice Alexander explores extreme heat and mortality data in detail in the lecture titled "Climate Change and Health:</i>	

*How should a medical school address this problem?". Additionally, in a POM lecture titled "Social determinants that affect our health - a deep dive", Drs. Sara Tariq and Riley Lipschitz explore how climate change disproportionately impacts lower SES communities.*

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

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

*In the POM course, Dr. Alice Alexander's lecture on climate change and health addresses the impacts of extreme weather events on individual health. This lecture highlights contributions of climate change-induced rises in temperature to overall mortality and explains how extreme weather events impact access to care. Additionally, as a part of the M2 renal module, Dr. Manisha Singh addresses the role of climate change in droughts and food shortages, as well as the downstream negative health effects.*

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

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

*In Dr. Alexander's M1 POM lecture on climate change and health, she addresses the epidemiology of certain infectious diseases, including illnesses caused by Vibrio species, ixodes ticks, Zika, Dengue, and Chikungunya. Matthew Jorgenson, PhD, also states that emergency rooms will see higher rates of Vibrio infections due to climate change-induced warming of oceans in his infectious disease lecture.*

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

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

*In Dr. Alexander's POM lecture on climate change and health, she states that carbon emissions drive climate change, and that the resultant air pollution is contributing to respiratory disease. Additionally, in an obstructive respiratory disease lecture given by Manish Joshi, MD, to M2 students, he addresses the role of biomass fuel exposure and air pollution in respiratory disease.*

**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.
<b>0</b>	<b>This topic was not covered.</b>

*The curriculum does not address the mental health and neuropsychological effects of environmental degradation and climate change.*

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

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

*Several lectures in the M2 core curriculum address the health effects of climate change. Nishank Jain, MD, mentions that global warming has increased the risks of kidney stones. Dr. Jorgenson states emergency rooms will see higher rates of *Vibrio parahaemolyticus* due to the climate change-induced warming of oceans. Furthermore, Dr. Manisha Singh gives a more in-depth description of mechanisms through which climate change will impact human health, including the effects of dehydration, drought, water shortages, and heat stress on food supply, poverty, toxin exposure, kidney disease, and other illnesses.*

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

*In the MI POM course, Drs. Sara Tariq and Riley Lipschitz discuss the intersectionality of climate change and social health determinants. They describe how health, social equity, and environment synergistically contribute to global issues, such as climate change. Drs. Tariq and Lipschitz also explain how climate change will continue to impact health outcomes through access to food, water, and clean air. They highlight specific examples of environmental factors disproportionately impacting lower SES communities and communities of color, such as the 1995 heat wave in Chicago. Additionally, Dr. Manisha Singh's lecture on chronic kidney disease states that climate change will force more people into extreme poverty by 2030 through diminishing crop yields and water supplies.*

**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	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.

*Dr. Manisha Singh addresses the unequal health impacts of climate change globally and that it will force more people into extreme poverty by 2030 by impairing crop yields and altering water supplies.*

***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	<b>This topic was not covered.</b>

*The curriculum does not address the reproductive health effects of industry-related environmental toxins.*

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

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

*In the MI POM lecture on climate change and health, Dr. Alexander explains allergens, like ragweed, grow faster and produce more pollen when exposed to higher levels of CO2 in the air. Dr. Alexander points out that Little Rock, where the UAMS main campus is located, already ranks #11 on the Asthma and Allergy Foundation's "Asthma Capitals" list and provides suggestions for reducing asthma attacks and allergic reactions during peak times of the year. She also describes the growth of indoor fungal spores as a result of flooding, risk of wildfires, and increased rates of certain infectious diseases as local environmental threats exacerbated by climate change.*

**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	<b>This topic was not covered.</b>

*The UAMS SOM curriculum does not address the unique climate and environmental health challenges that have impacted and are impacting Indigenous communities.*

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

*In the POM course, the outsized impact of anthropogenic environmental toxins on vulnerable populations is addressed in the "Social Determinants of Health" lecture given by Drs. Sara Tariq and Riley Lipschitz. This lecture discusses how low-income communities encounter higher levels of pollutants and toxic waste, which put these populations at increased risk of certain diseases. Additionally, Dr. Tariq emphasizes the importance of taking an environmental history. She cites the Altgeld Gardens housing project in Chicago and the outsized impact of environmental toxins on the residents today as they live in one of the most dense concentrations of potentially hazardous pollution sources in North America due to nearby landfills and industrial plants.*

**Curriculum: Sustainability**

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

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

*In the POM course, Dr. Alexander's lecture on climate and health lists counseling patients on the positive health impacts of plant-based diets as a way to help mitigate climate change, stating that meat and dairy production account for 14.5% of the world's greenhouse gas emissions.*

**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.
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.

*In the POM course, Ryan Dare, MD, provides a lecture and simulation experience on resource allocation and emphasizes the waste generated by the healthcare system.*

*Curriculum: Clinical Applications*

<b>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?</b>	
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	<b>No, there are not strategies introduced for having conversations with patients about climate change</b>
<p><i>Though the UAMS COM curriculum trains students to ask about environmental exposures, it does not introduce strategies to have conversations with patients about the health effects of climate change in training for patient encounters.</i></p>	

<b>17. In training for patient encounters, does your medical school’s curriculum introduce strategies for taking an environmental history or exposure history?</b>	
2	<b>Yes, the core curriculum includes strategies for taking an environmental history.</b>
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>In the Practice of Medicine course, students are trained to take a full social history, which includes asking patients about exposures to environmental and occupational hazards. Students must explicitly ask standardized patients about environmental exposures at work in order to satisfy all requirements on the clinical skills evaluations.</i></p>	

*Curriculum: Administrative Support for Planetary Health*

<b>18. Is your medical school currently in the process of improving Education for Sustainable Healthcare (ESH)/planetary health education?</b>	
4	<b>Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.</b>
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.

*The UAMS COM is currently in the process of improving planetary health education. Faculty and administration are actively working with the students to further develop curriculum geared towards improving planetary health education.*

**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	<b>Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.</b>
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.

*Some of the aforementioned planetary health topics are appropriately and longitudinally integrated into the core curriculum, such as the effect of climate change on the epidemiology of infectious disease, the intersectionality of social determinants and climate change, and the effect of heat-related illness. The UAMS COM is actively working to improve this integration.*

**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	<b>No, the medical school does not have an incentive program.</b>

*The UAMS COM does not 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.*

<b>Section Total (41 out of 58)</b>	<b>B</b>
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*Are there additional curriculum resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

# 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.

<b>1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?</b>	
4	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health and healthcare sustainability.
3	<b>Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health or healthcare sustainability.</b>
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>There are faculty members at the COM who have a primary research focus related to planetary health. Dr. Manish Joshi is a pulmonologist within the COM who has published multiple articles on the intersection of climate change and respiratory health, including a recent 2021 article that studied the interplay of climate change and COVID-19.</i></p>	

<b>2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?</b>	
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	<b>There is an Occupational and Environmental Health department, but no interdisciplinary department or institute for planetary health research.</b>
0	There is no dedicated department or institute.

*Although there is not a department focused on planetary health within the College of Medicine, the Environmental and Occupational Health department in the College of Public Health focuses on assessing and controlling the impacts of environment on individual and population health. Research projects within this department study planetary health issues such as air pollution effects on cardiovascular and respiratory health, environmental effects on epigenetics, and the role of microbes in promoting environmental sustainability, bioremediation, and food preservation.*

**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.
<b>0</b>	<b>There is no process, and no efforts to create such a process.</b>

*Although UAMS has held public forums that are open to the community and aimed at identifying and addressing health disparities, which include environmental injustice, there currently is no formal process for these communities to give input on research projects related to climate change and planetary health within the UAMS COM.*

**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.
<b>1</b>	<b>The institution has an Office of Sustainability website that includes some resources related to health and the environment.</b>
0	There is no website.

*The UAMS COM has the webpage “Sustainable UAMS”, which provides educational information about on-campus recycling, sustainable nutrition through on-campus dining, links to sustainable transportation options, and utility energy-saving tips. <http://uams.edu/campusop/depts/sus/>*

<b>5. Has your institution recently hosted a conference or symposium on topics related to planetary health?</b>	
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	<b>No, the institution has not hosted a conference on topics related to planetary health in the past three years.</b>
<i>UAMS has not hosted a conference or symposium on topics related to planetary health in the last three years.</i>	

<b>6. Has your institution or medical school joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?</b>	
2	Yes, the medical school has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education.
1	<b>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.</b>
0	No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.
<i>The UAMS College of Public Health has joined the Global Consortium on Climate and Health Education, but the UAMS College of Medicine has not. Thus, the institution has joined the Global Consortium on Climate and Health Education in some capacity, though the medical school specifically has not.</i>	

<b>Section Total (6 out of 19)</b>	<b>D</b>
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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.*

<b>1. Does your medical school partner with community organizations to promote planetary and environmental health?</b>	
<b>3</b>	<b>Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.</b>
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>UAMS co-sponsors Science Cafe of Little Rock with KUAR, the UA Little Rock public radio, which are monthly public forums to educate the local community about various scientific topics. Several forums in the past year have related to planetary health and/or environmental health, including the November 2019 "Climate Change and You" and the February 2018 talk on "Urban Farming in Little Rock" (can be viewed <a href="#">here</a>). Additionally, in October 2020, UAMS partnered with a community organization to create more backyard gardens as a way to adapt to climate change (can be viewed <a href="#">here</a>).</i></p>	

<b>2. Does your medical school offer community-facing courses or events regarding planetary health?</b>	
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	<b>The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.</b>
0	The medical school has not offered such community-facing courses or events.

*The Science Cafe of Little Rock is a monthly community-facing event that provides an educational opportunity for planetary health within the larger community via monthly forums about various scientific topics, including climate change, however the COM is not actively involved in the planning of these events.*

**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	<b>Students do not regularly receive communications about planetary health or sustainable healthcare.</b>

*Though the student-led Climate Health Interest Group provides monthly updates dedicated to planetary health, students do not regularly receive communication updates from the COM at large about planetary health and/or sustainable healthcare.*

**4. Does the medical school offer continuing medical education (CME) courses that address planetary health and/or sustainable healthcare?**

2	<b>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.</b>
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.

*Yes, UAMS offers CME courses that address planetary health and can be found through the institution's website, such as Dr. Alexander's Grand Rounds on "Climate Change and Health".*

**5. Do hospitals affiliated with your medical school have accessible educational materials for patients about environmental health exposures?**

2	<b>Yes, all affiliated hospitals have accessible educational materials for patients.</b>
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centers have accessible educational materials for patients.

*Yes, UAMS has accessible educational materials for patients about environmental health exposures that can be found through the institution's website. One example of such resources can be viewed [here](#).*

**6. Do hospitals affiliated with your medical school have accessible educational materials for patients about climate change and health impacts?**

2	<b>Yes, all affiliated hospitals have accessible educational materials for patients.</b>
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.

*Yes, UAMS has accessible educational materials for patients about climate change and health impacts that can be found through the institution's website, on the page "UAMS Library - Services to the state". [Here](#), patients can find informational resources, including a link to the NIH's ToxTown page, which informs the general public about toxic chemicals and environmental health risks of everyday life.*

<b>Section Total (10 out of 14)</b>	<b>B</b>
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*Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

# 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.

<b>1. Does your institution offer support for medical students interested in enacting a sustainability initiative?</b>	
2	Yes, the institution offers grants available to medical students for students to enact sustainability initiatives.
1	<b>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.</b>
0	No, the institution does not offer opportunities or support for sustainability initiatives.
<p><i>UAMS participates in sustainability projects and offers resources to help students in these efforts, such as in October 2020, UAMS partnered with a community organization to create more backyard gardens as a way to adapt to climate change (can be viewed <a href="#">here</a>). However, UAMS does not offer student funding specifically.</i></p>	

<b>2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?</b>	
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	<b>There are unfunded research opportunities for students to perform research related to planetary health/sustainable healthcare.</b>
0	There are no opportunities for students to receive funding for planetary health/sustainable healthcare research.
<p><i>The medical school allows students to perform research related to planetary health/sustainable healthcare, however, there are no opportunities for students to receive funding specifically for planetary health/sustainable healthcare research.</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 web page with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a medical school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
0	<b>There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.</b>

*There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.*

**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	<b>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.</b>
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.

*Yes, there is a student organization at my medical school dedicated to planetary health and sustainability in healthcare. The Climate Health Interest Group at UAMS has received faculty support but lacks funding.*

**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	<b>No, there is no such student representative.</b>

*No, there is no formal position for a student representative who serves on a medical school or institutional decision-making council.*

**6. In the past year, has the institution had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)**

<b>1</b>	<b>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.</b>
<b>1</b>	<b>Panels, speaker series, or similar events related to planetary health that have students as an intended audience.</b>
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.
<b>1</b>	<b>Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.</b>
<b>1</b>	<b>Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.</b>

*In October 2020, UAMS partnered with a community organization to create more backyard gardens as a way to adapt to climate change (can be viewed [here](#)). Additionally, there are two student-run gardens at UAMS that help provide fresh produce for uninsured and underserved patient populations in Little Rock, AR. The Harmony Health Garden is maintained by medical student volunteers and cultivates fresh produce for patients receiving care at the Harmony Health Clinic. The Interprofessional Fresh Food Coalition consists of students enrolled in graduate health programs at UAMS and helps provide produce for patients at the 12th Street Clinic and Wellness Center. The student-led Climate Health Interest Group arranges panels and speakers for students and the student-led Wilderness Medicine Interest Group organizes outdoor trips that follow Leave No Trace principles.*

<b>Section Total (7 out of 15)</b>	<b>B</b>
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*Are there additional student-led initiative resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

# 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.

<b>1. Does your medical school and/or institution have an Office of Sustainability?</b>	
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	<b>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.</b>
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
<i>UAMS has a department called "Sustainable UAMS" with more than one full-time staff member dedicated to campus sustainability; however, there is no specific staff member in charge of medical school and/or hospital sustainability.</i>	

<b>2. Does your medical school and/or institution have a stated goal of carbon neutrality by 2050?</b>	
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	<b>There is no stated goal for reduction of CO2 emissions.</b>
<i>UAMS does not have a stated goal of carbon neutrality by 2050.</i>	

**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	<b>Medical school buildings source &lt;20% of energy needs from off-site and/or on-site renewable energy.</b>

*While UAMS launched a \$150M energy project in 2019 that is intended to move the institution into the top 1% of academic medical centers for energy efficiency, there is no mention of efforts to utilize renewable energy.*

**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	<b>Sustainable building practices are inadequately or incompletely implemented for new buildings.</b>
0	Sustainability is not considered in the construction of new buildings.

*While UAMS does conform to some LEED rating guidelines, the sustainable building practices are inadequately implemented for new and old buildings.*

**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.
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<b>1</b>	<b>The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.</b>
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<i>UAMS has a shuttle system that transports students and employees between the different campus sites; however, environmentally-friendly transportation strategies are not well-utilized due to insufficient accessibility and advertisement.</i>	

<b>6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?</b>	
2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
<b>1</b>	<b>The medical school has either recycling or compost programs accessible to students and faculty, but not both.</b>
0	There is no compost or recycling program at the medical school.
<i>UAMS has a conventional recycling program and has maps to recycling locations on campus, as well as a recycling day that allows for glass recycling. There is not a composting program accessible to students on campus, however, starting in 2016, unused food and waste from the cafeteria is donated to Organix, which is a national food company that uses food waste to make animal feed.</i>	

<b>7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections?</b>	
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.
<b>0</b>	<b>There are no sustainability guidelines for food and beverages.</b>
<i>There are no sustainability guidelines for food and beverages.</i>	

<b>8. Does the medical school or associated institution apply sustainability criteria when making decisions about supply procurement?</b>	
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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.
<b>0</b>	<b>There are no sustainability guidelines for supply procurement.</b>
<i>There is no mention of sustainability guidelines in regards to supply procurement.</i>	

<b>9. Are there sustainability requirements or guidelines for events hosted at the medical school?</b>	
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.
<b>0</b>	<b>There are no sustainability guidelines for medical school events.</b>
<i>There are no sustainability requirements or guidelines for events hosted at the medical school.</i>	

<b>10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?</b>	
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.
<b>0</b>	<b>There are no efforts at the medical school to make lab spaces more sustainable.</b>
<i>The medical school does not have programs and initiatives to assist with making lab spaces more environmentally sustainable.</i>	

<b>11. Does your institution's endowment portfolio investments include fossil-fuel companies?</b>	
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	<b>Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.</b>
<i>The institution's endowment portfolio investments include fossil-fuel companies and there have been no efforts to change that.</i>	

<b>Section Total (5 out of 29)</b>	<b>F</b>
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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%

## Planetary Health Grades for the UAMS College of Medicine

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

Section	Raw Score	Grade
<b>Planetary Health Curriculum (30%)</b>	41 / 58 = 71%	B
<b>Interdisciplinary Research (17.5%)</b>	6 / 19 = 32%	D
<b>Community Outreach and Advocacy (17.5%)</b>	9 / 14 = 64%	B-
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	7 / 15 = 47%	C
<b>Campus Sustainability (17.5%)</b>	5 / 29 = 17%	F+
<b>Institutional Grade</b>	<b>48%</b>	<b>C</b>