
Planetary Health Report Card:

*University of Arkansas for Health Sciences,
College of Medicine*

2019-2020 Contributing Team:

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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 standardized and reproducible Planetary Health Report Card that medical students nationally can use to grade and compare their home institutions. This medical-student-driven initiative aims to compare medical schools on the basis of discrete metrics in four 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. This project is inspired by the [Racial Justice Report Card](#), an initiative from White Coats 4 Black Lives that has led to substantial impactful change at medical schools around the country.

Planetary Health Curriculum

Section Overview: This section evaluates the integration of relevant planetary health topics into the medical school curriculum.

Metric	Points	Descriptor
1.1 Did your medical school offer elective courses to engage students in planetary health in the last year?	1	Yes, the medical school has offered such elective courses in the last year.
	0	No, the medical school has not offered such elective courses in the last year.
1.2 Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.3 Does your medical school curriculum address the environmental co-benefits of a plant-based diet in its nutrition lectures?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.4 Does your medical school curriculum address the potential mental health effects of environmental degradation and climate change?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.5 Does your medical school curriculum address the effects of industry-related environmental exposures (e.g. air pollution, pesticides) on pregnancy?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	The metric is not met.

1.6 Does your medical school curriculum address endocrine disrupting chemicals and their effects?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.7 Does your medical school curriculum address the relationships between individual patient food security, ecosystem health, and climate change?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.8 Does your medical school curriculum address the effect of air pollution on respiratory and cardiovascular health?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.9 Does your medical school curriculum address the relationship between heat-related illnesses and climate change?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.10 Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins and climate change on vulnerable populations such as those with low SES, women, minorities, indigenous communities, children, and the elderly?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.11 Does your medical school curriculum identify ways to advocate for and implement sustainable best practices	2	The metric is met by the core curriculum
	1	The metric is met by elective coursework.

in health care? (for example, avoiding unnecessary OR waste)	0	The metric is not met.
1.12 Does your medical school curriculum address important environmental threats that are relevant to the university's surrounding community? (for example, fires in California)	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.13 Does your institution have graduate or non-medical undergraduate level courses on planetary health open to medical student enrollment free of charge?	2	There are graduate or undergraduate level courses open to free medical student enrollment.
	1	There are graduate or undergraduate level courses but they are not open to free medical student enrollment.
	0	There are no graduate level courses related to planetary health
1.14 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?	1	Yes, there are strategies introduced for having conversations with patients about climate change.
	0	No, there are not strategies introduced for having conversations with patients about climate change.
1.15 In training for patient encounters, does your institution's curriculum introduce strategies for taking an environmental history or exposure history?	1	Yes, the curriculum includes strategies for taking an environmental history.
	0	No, the curriculum does not include strategies for taking an environmental history.
1.16 Does your medical school have an ongoing program that offers incentives for	1	Yes, the medical school has an incentive program.

faculty/departments to develop new planetary health courses and/or incorporate planetary health into existing courses?	0	No, the medical school does not have an incentive program.
Section Total (out of 28)	12	

Score explanations:

1.1 Elective Courses

Our medical school does not offer elective courses that directly address planetary health.

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1.2 Infectious Disease

In our Brain and Behavior module, the geographical distribution of arboviral diseases is discussed. Though this lecture points to the role of climate in the spread and transmission of diseases such as Dengue, Chikungunya, Zika, and West Nile Virus, the impact of climate change on changing patterns of infectious diseases is not addressed.

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1.3 Diet and Sustainability

In our Molecules to Cells module, the potential for a vitamin B12 deficiency in individuals following a vegan diet is addressed. Additionally, in the GI/Nutrition module, our students learn that a low-fiber diet contributes to longer colonic transit and that increasing dietary fiber can help relieve constipation and other related GI disorders. However, the environmental co-benefits of a plant-based diet are not discussed in either module.

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1.4 Mental Health

Mental health lectures, presented during our Brain and Behavior module, address the multifactorial causes of mental illness. However, they do not discuss the potential mental health effects of environmental degradation and climate change.

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1.5 Environmental Exposures in Pregnancy

In our Endocrine/Reproduction module, the lecture "Birth Defects and Teratogens" given by Dr. T. Andrew Burrow addresses the influence of cigarettes and work chemicals on paternal health and how these exposures, while not specifically teratogenic, may be important in fetal development.

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1.6 Endocrine Disrupting Chemicals

The influence of cigarettes and work chemicals on paternal health and the downstream endocrine-disrupting effects are addressed in our Endocrine/Reproduction module (see metric 1.5).

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1.7 Food Security

In both our core curriculum and elective courses we discuss the issue of food insecurity in Arkansas. However, these courses do not address the relationship between individual patient food security, ecosystem health, and climate change.

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1.8 Air Pollution

In the M2 Pulmonary module, the lecture on COPD/Asthma, given by Dr. Manish Joshi, cites air pollution and biomass fuel exposure as contributing factors to these diseases. Additionally, a lecture on obstructive lung diseases, given by Dr. Asangi Kumarapeli, lists smog as a cause of chronic bronchitis. The M2 Cardiovascular module addresses the multifactorial causes of CV diseases, including the role of the environment.

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1.9 Heat-Related Illnesses

During our Disease and Defense module, we discuss heat-related illnesses in the context of humidity and high temperatures; however, there is no mention of climate change.

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1.10 Environmental Determinants of Health

In the Practice of Medicine course, the outsized impact of anthropogenic environmental toxins on vulnerable populations is addressed in the "Social Determinants of Health" lecture given by Dr. Sara Tariq and Dr. 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, such as asthma.

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1.11 How to Advocate for Sustainable Practices

During the Practice of Medicine course, a lecture and simulation on resource allocation during pandemics emphasizes the importance of non-wasteful practices in healthcare.

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1.12 Area-Specific Environmental Threats

Our curriculum does not address important environmental threats relevant to the university's surrounding community.

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1.13 Graduate-Level Planetary Health Courses

Medical students at UAMS can choose to enroll in the dual MD/MPH program at no additional cost in tuition. The College of Public Health offers the course "ENVH 5303 Climate Change and Public Health", which MD/MPH students can enroll in. However, medical students cannot elect to take this course without participating in the full MD/MPH program. Further, since UAMS is not tied to a traditional undergraduate institution, undergraduate level courses are not offered to medical students. For these reasons, we felt a score of 1 best reflected our school on this metric.

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1.14 Patient Encounters

While medical students are trained in the Practice of Medicine course to ask patients about exposures to environmental hazards (see metric 1.15), the curriculum does not introduce strategies to have conversations with patients about the health effects of climate change.

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1.15 Environmental History

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. UAMS medical students must explicitly ask standardized patients about environmental exposures at work in order to prevent possible point deductions on practical examinations. The Medical History Template students are instructed to follow can be viewed [here](#).

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1.16 Faculty Incentives

Our medical school does not have an ongoing program offering incentives for faculty/departments to develop new planetary courses and/or incorporate planetary health into existing courses.

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Interdisciplinary Research in Health and Environment

Section Overview: This section evaluates the quality and quantity of interdisciplinary research in health and environment at the medical school.

Metric	Points	Description
2.1 Does your institution have a planetary health website, or a website centralizing various campus resources related to health and the environment?	1	There is a website that centralizes various campus resources related to health and the environment.
	0	There is no website.
2.2 Has your institution hosted a conference related to planetary health in the past 3 years?	1	Yes, the institution has hosted a conference on planetary health in the past three years.
	0	No, the institution has not hosted an interdisciplinary health conference in the past three years.
2.3 Are there researchers engaged in planetary health research at your institution?	3	Yes, there is a department, institute, or center devoted to planetary health.
	2	Yes, there are individual faculty members who are doing research on topics immersed in planetary health.
	1	Yes, there are individual faculty members who are doing research that is related to planetary health.
	0	No, there is no research on planetary health at this time.
2.4 Is there a dedicated department or institute for multidisciplinary environmental and planetary health research?	1	There is a dedicated department or institute.
	0	There is no dedicated department or institute.
2.5 Is there active recruitment of researchers who focus on planetary health issues?	1	There is active recruitment.
	0	No recruitment efforts are made.

2.6 Is there quantitatively and qualitatively meaningful research that has been authored or co-authored by researchers from your institution on planetary health issues?	2	Yes, researchers from my institution have produced a substantial body of impactful research related to planetary health.
	1	There has been some research related to planetary health generated by researchers from my institution, but it is lacking in quantity and/or quality.
	0	There are no studies authored or co-authored by university researchers on these issues.
2.7 Has your institution joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?	1	Yes, the institution has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education.
	0	No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.
Section Total (out of 10)	6	

Score Explanations

2.1 Planetary Health Website

Get Healthy UAMS has a website called "Environmental Wellness" that provides links to various campus resources related to health and the environment. For example, it includes links to the Stocked & Reddie Food Pantry, which supports food-insecure students and employees, and Sustainable UAMS, which provides educational information about on-campus recycling and sustainable nutrition in the main hospital cafeteria. Click [here](#) to visit the Environmental Wellness website.

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2.2 Planetary Health Conference

UAMS has not hosted a conference on planetary health in the past 3 years.

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2.3 Planetary Health Individual Researchers

Our institution has engaged in immersive planetary health research, both at an individual faculty level in the College of Medicine and through the Environmental and Occupational Health department in the College of Public Health. Dr. Manish Joshi, a pulmonologist, has published multiple articles on the intersections of climate change and respiratory health, including an article published in March 2020. In the past, research by Drs. Marie-Cecile Chalbot and Ilias Kavarous in the EOH focused on a variety of planetary health topics, such as the impact of air pollution on cardiovascular and respiratory morbidity in Central Arkansas.

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2.4 Institute for Multidisciplinary Research on Health and the Environment

The Environmental and Occupational Health department in the College of Public Health conducts research on planetary health issues, such as air pollution (see metric 2.3).

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2.5 Recruitment of Planetary Health Researchers

While we do have researchers investigating planetary health topics (see metric 2.3), UAMS is not actively recruiting researchers who focus on planetary health issues.

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2.6 Meaningful research

Though researchers at UAMS have authored or co-authored multiple articles on planetary health issues (see metric 2.3), and we consider this research to be qualitatively meaningful, it is lacking in quantity relative to other institutions.

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2.7 Planetary Health Alliance

The UAMS College of Public Health has joined the Global Consortium on Climate and Health Education, but the College of Medicine has not. Since colleges within an institution can independently join this consortium, we have given our school a score of 0 on this metric.

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Community Outreach and Advocacy in Environment and Health

Section Overview: This section evaluates the quality of medical school engagement in community programming and outreach and advocacy efforts associated with the environment and health.

Metric	Points	Description
3.1 How often does your institution offer community-facing courses or events regarding planetary health and the environment?	2	The institution offers such community-facing courses or events at least once every year.
	1	The institution offers such community-facing courses or events less than once per year.
	0	The institution does not offer such community-facing courses.
3.2 Does your institution interface with community organizations to promote planetary and environmental health?	1	Yes, the institution formally interfaces with one or more community organizations to promote planetary and environmental health.
	0	No, there is no such community partnership.
3.3 Does your institution have regular coverage of issues related to planetary health in its primary campus magazine?	2	Yes, there is an article related to planetary health in the majority of issues.
	1	In the past year, there has been at least one article related to planetary health.
	0	There has been no mention of planetary health in the last year in the campus magazine.
3.4 Does the institution offer continuing medical education courses that address planetary health?	2	Yes, one or more in-person CME courses are offered.
	1	Yes, one or more online CME courses are offered.
	0	There are no courses.
3.5 Does your institution provide opportunities for medical student engagement in developing community resilience to anthropogenic environmental impacts?	1	Yes, the institution has provided opportunities.
	0	No, the institution has not provided opportunities.

3.6 Does institutional marketing (posters, billboards, etc) address climate change or the relationship between health and the environment?	1	Yes, institutional marketing addresses the intersections between climate and health.
	0	No, institutional marketing does not address these intersections.
3.7 Does your medical center have accessible educational materials for patients about environmental health exposures?	1	Yes, the medical center has accessible educational materials.
	0	No, the medical center does not have accessible educational materials.
3.8 Does your institution's endowment portfolio investments include fossil-fuel companies?	3	No, the institution is entirely divested from fossil fuels.
	2	The institution has partially divested from fossil-fuel companies.
	1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.
	0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
Section Total (out of 13)	6	

Score Explanations

3.1 Community-facing courses

UAMS co-sponsors Science Café Little Rock, an organization that holds 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. For example, the November 2019 forum "Climate Change and You" aimed to educate community members about future biological, environmental, and economic impacts of climate change in Arkansas. The Science Café Little Rock website can be viewed [here](#).

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3.2 Community organizations

UAMS is a co-sponsor of Science Café Little Rock (see metric 3.1).

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3.3 Coverage in campus magazine

The UAMS Journal is the primary campus magazine. There is not an article related to planetary health topics in the majority of UAMS Journal issues, and there have not been any articles related to planetary health within the last year.

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3.4 Continuing education courses

In the Department of Internal Medicine Grand Rounds, Dr. Alice Alexander recently gave a presentation titled "Climate Change and Health: How should a medical school address this problem?"

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3.5 Community outreach

Our institution does not provide opportunities for medical student engagement in developing community resilience to anthropogenic environmental impacts.

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3.6 Marketing

Marketing developed by Sustainable UAMS emphasizes their "People-Planet-Profit" approach to achieving sustainability, educates viewers on sustainable practices, and informs viewers of opportunities to engage in sustainable practices at UAMS. Though their marketing does not explicitly address climate change, it does address the relationship between the wellbeing of people and the environment. Click [here](#) to view the Sustainable UAMS website.

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3.7 Patient educational materials

UAMS News has published stories on planetary health topics, including a story in 2017 on air pollution (read it [here](#)) and one on light pollution in 2015 (read it [here](#)). While patients can access these patients online, UAMS does not have educational materials about environmental health exposures specifically developed for patients.

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3.8 Investments

Based on online information made accessible to the public, it appears UAMS has received donations from fossil fuel companies in the past and has not made efforts to change that.

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University Support for Student-Led Planetary Health Initiatives

Section Overview: This section evaluates the extent and quality of institutional support for student-led planetary health initiatives, such as funding, programming, etc.

Metric	Points	Description
4.1 Does your medical school offer a year-long fellowship for medical students to enact an initiative related to planetary health?	1	The medical school offers an explicit year-long fellowship for medical students to enact an initiative related to planetary health.
	0	There is no explicit practicum or year-long planetary health fellowship open to medical students.
4.2 Does your medical school have a website where medical students can learn about applying for funding for planetary health initiatives?	1	Yes, there is a website where medical students can learn about applying for funding for initiatives related to planetary health.
	0	No, there is no such website.
4.3 Does your institution have a website where medical students can find the contact information of mentors for planetary health initiatives?	2	The institution has a webpage that lists faculty involved in planetary health.
	1	The institution has a general website or directory that lists faculty and staff members' research and/or academic interests, but is not planetary health specific.
	0	There is no simple means of locating potential mentors for planetary health initiatives.
4.4 Does your medical school have funded, registered student groups dedicated towards fostering a culture of planetary health engagement and scholarship on campus, supported by faculty advisors?	2	Yes, there is a funded student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.
	1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support and/or funding.
	0	No, there is not a funded student organization at my institution dedicated to planetary health or sustainability in healthcare.

4.5 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)	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.
	0	Conferences, speaker series, symposia or similar events related to planetary health that have students as the intended audience.
	0	Cultural arts events, installations or performances related to planetary health that have students as the intended audience.
	1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.
Section Total (out of 10)	5	

Score Explanations

4.1 Fellowship opportunity

UAMS does not offer a practicum or year-long planetary health fellowship open to medical students.

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4.2 Funding application website

There is no UAMS website that allows students to find information about funding for planetary health initiatives.

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4.3 Mentor contact information

Our institution has department-specific webpages where medical students can find faculty and staff members' research and/or academic interests, but there is no planetary health specific webpage.

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4.4 Registered student group

The Climate and Health Interest Group, which aims to combat climate change and its impacts on human health through education and service, is registered and supported by a faculty advisor. It has not yet received funding as it is newly formed, but is actively seeking funding opportunities.

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4.5 Miscellaneous programs and initiatives

- **Garden:**

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. More information about the Interprofessional Fresh Food Coalition can be found [here](#).

- **Conferences, speaker series, symposia, or similar events:**

Students have access to conferences held at UAMS, such as the internal medicine grand rounds talk titled "Climate Change and Health: How a Medical School Should Address this Problem" given by Dr. Alexander, and community-facing forums, including talks hosted by Science Café Little Rock and co-sponsored by UAMS (see metric 3.1). However, our institution has not held any conferences, speaker series, symposia, or similar events related to planetary health that have students as the intended audience.

- **Cultural arts events, installations, or performances:**

There have not been any cultural events, installations, or performances related to planetary health that have students as the intended audience.

- **Wilderness or outdoor programs:**

The Wellness Through Climbing group strives to provide opportunities for medical students to improve their physical and mental health by engaging in a safe, goal-oriented sport. Additionally, the newly formed Wilderness Medicine Interest Group aims to educate students about providing emergency care in remote, low-resource areas. While these groups have not yet hosted an outdoor event, both are committed to follow Leave No Trace principles.

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Grading

Section Overview

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

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

Planetary Health Grades for the 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
Planetary Health Curriculum	12 / 28 = 43%	C-
Interdisciplinary Research in Health and Environment	6 / 10 = 60 %	B-
Community Outreach and Advocacy in Environment and Health	6 / 13 = 46 %	C
University Support for Student-led Planetary Health Initiatives	5 / 10 = 50 %	C
Institutional Grade	Average of four scores above = 50%	C