



Planetary Health Report Card:

Washington State University

Elson S. Floyd College of Medicine



Elson S. Floyd
College of Medicine
WASHINGTON STATE UNIVERSITY

2021-2022 Contributing Team:

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Summary of Findings

Overall	D
<u>Curriculum</u>	F +
<ul style="list-style-type: none"> The Washington State University Elson S. Floyd College of Medicine does have several examples of planetary health in the pre-clerkship curriculum, championed by individual instructors. However, there are no specific courses, lectures, or learning objectives that tie in planetary health. Recommendations: There should be a purposeful integration of planetary health into the core curriculum. Initial steps could include adding planetary health learning objectives to lectures and case-based-learning. 	
<u>Interdisciplinary Research</u>	D+
<ul style="list-style-type: none"> The WSU College of Medicine is a member of the Global Consortium on Climate and Health Education. WSU has the Center for Environmental Research, Education, and Outreach (CEREO) and the Center for Sustaining Agriculture and Natural Resources. However, there is no planetary health research associated with the College of Medicine, nor a process for communities affected by climate injustice to have a role in research decisions. Recommendations: The WSU College of Medicine could host a symposium directly related to planetary health, recruit researchers and projects that examine the health impacts of climate change, or create a system for communities affected by environmental injustice to influence research. 	
<u>Community Outreach and Advocacy</u>	D-
<ul style="list-style-type: none"> The WSU College of Medicine does partner with some community hospitals which have patient education materials on environmental health exposure and climate health impacts. There are also student groups which partner with community organizations promoting environmental health. Unfortunately, the College of Medicine itself does not have any meaningful community outreach relating to planetary health. Recommendations: There should be more community partnerships relating to planetary health, including community-facing events, regular sustainability communications, or CME courses. 	
<u>Support for Student-Led Initiatives</u>	B
<ul style="list-style-type: none"> The area of greatest strength for the WSU College of Medicine is the support given to student-led planetary health initiatives. There are two faculty-supported student groups, which have held many co-curricular events. Opportunities through WSU Pullman campus include a Student Green Fund, CEREO, and a graduate student liaison to the WSU Sustainability and Environment Committee. Recommendations: University wide student opportunities should be more clearly advertised in the College of Medicine. Additionally, the institution should begin to host co-curricular planetary health events. 	
<u>Campus Sustainability</u>	D
<ul style="list-style-type: none"> The WSU College of Medicine does have some sustainable practices, such as recycling and LEED certification. However, there are insufficient goals to reduce carbon emissions, no compost accessible to students and faculty in the College of Medicine, and no sustainability guidelines for campus dining, supplies, lab spaces, or campus events. There has also been no move to divest from fossil fuels. Recommendations: The institution should implement a composting program and sustainability guidelines for campus activities. The university is updating goals for carbon reduction and neutrality, which should be mirrored by the College of Medicine. Finally, divestment from fossil fuels should be considered. 	

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 schools’ 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.

Added to our resources this year, 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. Did your medical school 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 Washington State University Elson S. Floyd College of Medicine offers an elective called Comparative Medicine, focusing on veterinary medicine and taught by Dr. Rachel Larson, which has a lecture on zoonotic diseases which includes the effects of climate change on global spread of zoonoses. There is also an elective on Community Organizing, taught by Dr. Luis Manriquez, which utilizes Environmental Health as one of four lenses to practice organizing principles.</p>	

Curriculum: Health Effects of Climate Change

2. Does your medical school 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: The WSU College of Medicine has a lecture on "Health Equity and Population Health" in the first-year curriculum, which has a slide referencing redlining's effect on overall life expectancy. Limitations on access to green space, and the associated excess heat, was noted during this conversation as one of the factors leading to lower life expectancy. Climate change was not specifically mentioned in relation to extreme heat.

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: This topic was not covered in our curriculum.

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: There are several lectures as part of the Microbiology and Infectious Disease curriculum thread that address climate change. In the first-year lecture "Micro-ID Review", Dr. Joanna Breems addressed on two slides the spread of coccidiomycosis to Spokane and further due to the effects of climate change. A second-year lecture from Dr. Breems on "Spirochetes" contained a slide discussing the expanding tick habitat and spread of Lyme disease occurring due to climate change. Another second-year lecture from Dr. Niranjana Bhat titled "Rickettsia and Arthropod-Borne Viruses" has a slide titled "Emergence/Resurgence of Vector-Borne Disease", which lists "climate change, deforestation, pesticide resistance/changed agriculture practices" as important factors in infectious disease spread.

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.
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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.
<p><i>Score explanation:</i> Our first year-curriculum has several lectures that address the respiratory health effects of air pollution, smoke, and other environmental toxins and exposures.</p> <p>The lectures "Asthma" and "COPD" each have a slide discussing respiratory risk factors including "work-particulates, irritants, chemicals, dust, smoke" as well as "Biomass fuel exposure -3rd world, occupational exposures, outdoor air pollution". Dr. Sam Joseph's lecture "Sarcoidosis" contains two slides on etiology mentioning "environmental and occupational exposures" including combustible wood products firefighters are exposed to, wood stoves/fireplaces, World Trade Center disaster firefighters, metal exposures (metalworking), and occupational exposures (hairdressers, health care workers, agriculture, insecticide, mold/mildew, industrial organic dust, educators, workers/suppliers of building materials, hardware, gardening materials). A lecture on "Interstitial Lung Disease" from Dr. Tom DeCato also has two slides mentioning "occupational and environmental exposures". A mention of the impact of radon gas was included in Dr. Robert Gersh's lecture "Neoplastic Disorders of the Chest and Lungs". Finally, a lecture titled "Neoplasia II" has a slide on "environmental carcinogens" including respiratory ones, citing many sources including pollution, pesticides, and manufacturing bi-products.</p> <p>Though there are 6 lectures touching on this topic, many only contain brief or vague reference to the impact of pollutants, and none specifically discuss the role of climate change on respiratory health.</p>	

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.
<i>Score explanation:</i> This topic was not covered in our curriculum.	

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.
<p><i>Score explanation:</i> In the second-year lecture "History Gathering in the Adolescent Patient", Dr. Jennifer Troiano included a slide with a quote from the US Surgeon General's Report discussing the many stressors impacting adolescent mental health including "distressing issues such as climate change", and another slide featured Xiuhtezcat Roske Martinez a youth environmental activist. This lecture is particularly important as it was a part of our "Art and Practice of Medicine" class, which is mandatory, rather than optional as the majority of pre-clerkship lectures are.</p>	

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.
<p><i>Score explanation:</i> The College of Medicine has a pre-clerkship curriculum which includes six "Clinical Campus Weeks", meant to provide clinical experience and delve deeply into important healthcare topics. In the third Clinical Campus Week, "Population Health & Cost of Health Equity" guest lecture, one slide mentioned air and water quality as key physical environment factors that were social determinants of health. Another slide emphasizes considering how patients are affected by environmental impacts, environmental justice, and geographic distribution of public resources.</p>	

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.
<p><i>Score explanation:</i> Our curriculum does have a Health Equity thread, which delves into the social determinants of health and the disproportionate negative health impacts and barriers to healthcare in already marginalized and vulnerable communities. However, there is no specific discussion of the effects of climate change on these populations.</p>	

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: This topic was not covered in our curriculum.

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

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: There is a second-year lecture from Dr. Ken Roberts on “Spermatogenesis and Male Infertility” which has a slide on risk factors mentioning toxins, and another slide emphasizing the importance of asking about occupational exposures, and chronic heat exposure.

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: This topic was not covered in our curriculum.

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.
<i>Score explanation:</i> This topic was not covered in our curriculum.	

14. 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, Indigenous 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.
<i>Score explanation:</i> This topic was not covered in our curriculum.	

Curriculum: Sustainability

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

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.
<i>Score explanation:</i> This topic was not covered in our curriculum.	

17. Does your medical school curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (1 point each)	
1	Waste production within the healthcare system and strategies for reducing waste in clinical activities, such as in the operating room
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally anaesthetic gas options with reduced greenhouse gas emissions
1	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on de-prescribing 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 for obesity. This is commonly known as social prescribing in the UK.
1	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
<i>Score explanation:</i> These topics were not covered in our curriculum.	

Curriculum: Clinical Applications

18. In training for patient encounters, does your medical school's curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
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
<i>Score explanation:</i> This topic was not covered in our curriculum.	

19. In training for patient encounters, does your medical school’s curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.
<i>Score explanation:</i> A few lecturers, particularly in the respiratory unit, have mentioned the impact of pollutants and toxins, and the importance of asking about exposures to them while taking a history. However, during our “Art and Practice of Medicine” class, which introduces history taking components and strategies, environmental and exposure histories are not covered.	

Curriculum: Administrative Support for Planetary Health

20. Is your medical school 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.
<i>Score explanation:</i> There are no current in-progress plans to increase planetary health education in the medical school curriculum. However, there has been interest in using the findings of this report card to begin implementing improvements to planetary health curriculum in the future.	

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.
<p><i>Score explanation:</i> There are several lectures throughout the curriculum that have one or two slides which touch on some aspects of planetary health. However, these often do not draw a connection with climate change, and are not addressed by any full courses, lectures, or even learning objectives within a lecture. Individual instructors have added in connections to planetary health if they think it is relevant, rather than a deliberate longitudinal integration or even purposeful standalone inclusion in the core curriculum.</p>	

<p>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?</p>	
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.
<p><i>Score explanation:</i> The WSU College of Medicine does not have specific faculty/staff responsible for curricular integration of planetary health, though several faculty/staff have expressed interest in aiding efforts to do so.</p>	

Section Total (x out of 69)	13
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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.

A few more lectures did bring up environmental toxins that were not specific to air pollution or respiratory disease. A first-year lecture on “Cancers of the Urinary Tract” taught by Dr. Shane Pearce has a slide on risk factors for renal cancer including “occupational exposures (trichlorethylene, benzene, herbicide, vinyl chloride)”, while another slide on the risk factors for bladder cancer mentions chemicals including rubber paints and dyes. A second-year lecture on “The Bladder and Bladder Cancer” from Dr. Brian Voelzke also emphasized the impact of “occupational carcinogens (metal workers, miners, jobs with carpets/paints/plastics/industrial chemicals)” on cancer risk. Finally, a second-year lecture on “Obesity” included a figure on “Environmental endocrine disruptors [with] obesogenic properties,” including paired examples for each field (industrial - tributyltin, pharmaceutical - diethylstilboestrol, agriculture industry-persistent organochlorines, plastics - BPA phthalates, flame retardants - PBDEs, preservatives - parabens, industrial - 4-nonylphenol).

Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation:</i> The Center for Environmental Research, Education and Outreach (CEREO) at Washington State University is currently compiling a list of all climate-related research occurring at the institution, in nine of its colleges. Of these, two colleges (the School of Nursing and the School of Agriculture, Human, and Natural Resource Science) have current research on planetary health. The School of Nursing has one researcher who is studying multiple issues of planetary health including health outcomes, and another researcher who is studying social policies related to planetary health. Further information is not publicly available.</p>	

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?	
3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	There is an Occupational and Environmental Health department, but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.

Score explanation: The [Center for Environmental Research, Education and Outreach](#) (CEREO) at Washington State University “is a progressive network of 350+ faculty, staff, students, and industry leaders working to resolve the ever-growing challenges of environmental sustainability and climate change through collaborative partnerships.” CEREO is currently compiling a list of climate research happening across nine colleges; both the School of Nursing and the School of Agriculture, Human, and Natural Resource Science have current planetary health research projects.

CEREO invites affiliates who belong to one of three major categories regarding climate change research. Of these, one is related to the mission of planetary health - Sustainability and the Environment: “WSU will draw on faculty with interest in human and natural systems, environmental justice, environmental entrepreneurship, and sustainable agriculture, as well as urban design and public health. The Center is committed to the support of research on interrelationships between culture, society and the environment. CEREO's mission includes environmental education and outreach, as well as understanding the challenges of ecological literacy and environmental citizenship.”

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: Within the College of Medicine, the [Institute for Research and Education to Advance Community Health](#) (IREACH) collaborates with community leaders to advance community health. Among these, the Partnerships for Native Health reports, “We conduct community-centered research, training, education, and outreach to improve the health and quality of life of American Indian and Alaska Native populations.” At this time, the Partnership for Native Health does not appear to be conducting any research on planetary health.

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.
<p><i>Score explanation:</i> The Center for Sustaining Agriculture and Natural Resources (CSANR) is a website dedicated to research and other resources regarding the intersections of sustainable agricultural practices, food systems innovation, and agriculture in the environment. These resources fit within planetary health, but are limited in scope to sustainable agriculture and health.</p> <p>The Center for Environmental Research, Education and Outreach (CEREO) includes ongoing and past research related to health and the environment, but it neither centralizes this information nor has information on current research readily or publicly available.</p>	

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> Washington State University, as an institution, has hosted symposiums on planetary health in the past, but none in the past three years. The Elson S. Floyd College of Medicine has hosted several student-led events related to planetary health, but no conferences or symposiums.</p>	

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> The WSU College of Medicine is a member of the Global Consortium on Climate and Health Education.</p>	

Section Total (x out of 17)	6
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Are there additional research resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Community Outreach and Advocacy

Section Overview: *This section evaluates medical school engagement in community outreach and advocacy efforts associated with planetary health. Researching and teaching planetary health is necessary but not sufficient. It is critical that institutions also directly engage with communities most affected by environmental health harms. Although climate change is a problem largely created by those with power and resources, its impacts fall disproportionately on under-resourced populations and communities of color. Institutions should partner with local communities affected by climate change and pollution to share information about environmental health threats, advocate together for change, and provide opportunities for students to be a part of this work.*

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation:</i> Washington State University as an institution does have some community partnerships centered on environmental health. WSU has also advertised the recruitment of an outside organization for students interested in environmental health research in their WSU Insider Newsletter under Health and Medicine, but there is no direct partnership. There are currently no partnerships between the community and the WSU College of Medicine to promote planetary health within the local Spokane area. Although there are student initiatives within an intercollegiate group called the Health Equity Circle to raise awareness and promote action, this is a student organization, not directed by the College of Medicine. Although the College of Medicine has advertised opportunities and partnerships for outreach in medicine, environmental and planetary health are not included.</p>	

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

0	The medical school has not offered such community-facing courses or events.
<p><i>Score explanation:</i> No courses or events related to planetary health have been offered or advertised within the curriculum or College of Medicine newsletter. Although there is a student-led Global Health interest group created in 2017, with talks and discussions regarding the limited resources available in low-income settings such as discussions with guest speakers from Doctors without Borders in February of 2019, there is no specific course or event offered by the College of Medicine to promote sustainable environmental health nor its intersection with medical conditions.</p>	

3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?	
2	Yes, all students regularly receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are sometimes included in communication updates.
0	Students do not regularly receive communications about planetary health or sustainable healthcare.
<p><i>Score explanation:</i> The WSU College of Medicine does not regularly provide students with environmental health or climate change related information.</p>	

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
<p><i>Score explanation:</i> The WSU College of Medicine offers live and virtual Continuing Medical Education courses for providers, but does not currently have any courses or classes regarding the environment or climate change and health.</p>	

5. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about environmental health exposures?	
2	Yes, all affiliated hospitals have accessible educational materials for patients.

1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centers have accessible educational materials for patients.
<p><i>Score explanation:</i> The WSU College of Medicine does not currently provide patients with informational resources on environmental exposures, but one of the school’s main affiliated hospital systems/residency program, Providence, offers many articles to patients on these topics. Patients can navigate to the hospital’s blog, which offers information on pollutants and patients’ health. For example, there are articles available that discuss the effects of air pollution on memory, pregnancy outcomes, and respiratory health. Providence offers many great resources, but not all of WSU’s affiliated hospitals do. Notably, PeaceHealth does not offer any accessible resources to patients.</p>	

6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?	
2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.
<p><i>Score explanation:</i> The WSU College of Medicine does not currently provide patients with informational resources on their health and the environment, but one of the school’s main affiliated hospital systems/residency program, Providence, offers many articles to patients on these topics. Patients can navigate to the Providence blog, which offers relevant articles such as “Confronting Climate to Protect Health” and “5 Ways to Protect Your Health During a Climate Crisis”. These articles provide patients with actionable steps to take to protect their health, from researching types of environmental disasters in their region to packing emergency supplies, including prescriptions, in case of a disaster. There are also mental-health related articles for those experiencing climate change anxiety and related mental health challenges, such as “For some, depression deepens as temperatures rise”. Additionally, there are informational resources on how the environment may be affecting their current health, including “Why your seasonal allergies are getting worse” which discusses the changes in plant blooming patterns and extended pollen season. Providence offers many great resources, but not all of WSU’s affiliated hospitals do. Notably, PeaceHealth does not offer any accessible resources to patients.</p>	

Section Total (x out of 14)	3
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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.

1. Does your institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, the institution does not offer opportunities or support for sustainability initiatives or QI projects.

Score explanation: Washington State University Pullman, where the undergraduate campus is located, has a [Student Green Fund](#) that is accessible to all WSU students. The Student Green Fund is not advertised at the Spokane Health Sciences campus, where the pre-clerkship College of Medicine is located, nor at the clerkship campuses in Everett, Vancouver, or Tri-Cities, but the fund is accessible to those who look for it.

2. Does your institution 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.

Score explanation: WSU Pullman has the [Center for Environmental Research, Education and Outreach](#) (CEREO), which offers tools and collaborative partnerships to widen environmental project focus; however, CEREO is not well-known, advertised, or accessible to the Spokane Health Sciences campus or College of Medicine.

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: WSU does not have a medical school-specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.

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: WSU College of Medicine has two student organizations dedicated to planetary health and/or sustainability in healthcare. The [Environmental Justice Interest Group](#) (faculty advisor: Dr. Carlton Heine) and the Environmental Health Action Team section of the [Health Equity Circle](#) (faculty advisor: Dr. Luis Manriquez) both explore the intersection of environment, health, and social justice.

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.
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0	No, there is no such student representative.
<p><i>Score explanation:</i> WSU Pullman has a student liaison on the Sustainability and the Environment Committee. An ASWSU-nominated undergraduate student and a GPSA-nominated graduate student are eligible to vote on the committee. The College of Medicine does not have a dedicated student liaison.</p>	

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)

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)

Score explanation: Over the past year (March 2021 to March 2022), the Environmental Justice Interest Group has held the following events:

- *Climate and Land Use Effects on the Environment.* A lecture from water scientist Dr. Jan Boll on water and land use in Washington State. (3/2/2021)
- *A Public Health Approach to Climate Change.* A lecture from former Spokane County Health Officer Dr. Bob Lutz and Amber Leuten. (3/18/2022)

Combined events held by the Environmental Justice Interest Group and Health Equity Circle Environmental Action Team:

- *It's Hot and Smoky: How Climate Change Impacts Our Health and Community.* A virtual event for Spokane-area health professionals to learn about climate change, how it is affecting health in Spokane, and how health advocates are seizing the opportunity to use their voice to change policy and protect the wellbeing of their communities. (9/20/2021)
- *Urban Tree Planting & Green Space Inequities.* A lecture and discussion on the inequities of green spaces in Spokane and how it's important for health with Chelsea Updegrave of SpoCanopy. (10/7/2021)
- Volunteering to plant trees with SpoCanopy. (10/14/2021 through 10/14/2021)
- *Climate Crisis as a Public Health Crisis.* An in-person and virtual event to learn more about how climate change affects health in our region. (Held at Gonzaga on 11/16/2021)

- *How Climate Change Affects Youth*. A virtual event to learn more about how climate change is impacting youth and how pediatricians are organizing to act with Dr. Pragya Rai and Dr. Alea Perkins. (11/10/2021)

Over the past year, the Wilderness Medicine Interest Group has held the following events:

- Stevens Creek Hike (9/30/2021)

The [WSU Eggert Family Organic Farm](#) provides multiple events and opportunities for students on the Pullman campus throughout the year, however this is not accessible or known to students in the College of Medicine.

Section Total (x out of 15)	11
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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.

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> WSU Pullman does have an Office of Sustainability and Environmental Management with two staff dedicated for both sustainability and other campus environmental management. There are no specific staff dedicated only to sustainability either at the institutional level or at the College of Medicine. There is also a Sustainability and the Environment Committee; however, none of the committee members are salaried sustainability staff.</p>	

2. How ambitious is your medical school/institution's plan to reduce its own carbon footprint?	
4	The institution has a stated goal of carbon neutrality by 2030 or earlier and the medical school / institution has a well-defined and adequate plan in place to achieve this goal.
3	Yes, there is a stated carbon neutrality goal by at least 2040 and the medical school/institution has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal by at least 2040, but the medical school/institution has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.

Score explanation: WSU does have several stated goals for CO2 emissions and one of carbon neutrality. A 2011 [Climate Action Plan](#) states 3 goals of CO2 emission reduction from 2005 levels: 15% reduction by 2020, 36% reduction by 2035, and 57.5% reduction by 2050. The plan also states, “As a signatory to the American College and University [President’s Climate Commitment](#), WSU has pledged to work towards net climate neutrality. Given the long time line for this commitment, the technological advances that will occur, and an uncertain budgetary future, WSU cannot, at this time, predict or commit to a specific date to achieve net climate neutrality.” The Climate Action Plan is being currently updated and will be released with new goals in the Summer of 2022. However, as currently written, these goals are inadequate to meet the rising threat of climate change.

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: WSU Spokane Campus, which houses the College of Medicine pre-clinical campus, sources 50% of its energy from onsite natural gas steam boilers. The other 50% of the energy is purchased from Avista whose portfolio consists of 57 percent renewable energy and 43 percent natural gas. This would mean that about 28.5% of energy for the Spokane campus comes from renewables. WSU is also part of the Pacific Northwest Smart Grid Demonstration project which looks at ways to reduce energy consumption without impacting consumers’ needs. There are also some solar panels at the Spokane Campus, feeding into a solar microgrid. However, we were unable to get information on what exact percentage of energy these solar panels supply for the campus, though we were told it was minimal. It should be noted that the College of Medicine does have four clerkship sites throughout Washington, in Spokane, Everett, Vancouver, and the Tri-Cities. The latter three sites may have slightly different energy utilization profiles than the Spokane Campus.

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.
<p><i>Score explanation:</i> The WSU College of Medicine has some sustainable building practices in place. WSU is a member of the U.S. Green Building council (USGBC), and follows the Leadership in Energy and Environmental Design (LEED) green building rating system for new construction. Some efforts have been made to retrofit older buildings for sustainability, however there is further potential for more sustainable retrofitting.</p>	

5. Has the medical school implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<p><i>Score explanation:</i> WSU Spokane Health Sciences campus does have resources and strategies for students to practice sustainable transportation, such as free bus passes and carpool lists ; however, these resources are poorly advertised and are generally unknown to students.</p>	

6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?	
2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	The medical school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the medical school.
<p><i>Score explanation:</i> There are recycling bins on campus, but there is not an organics recycling program with compost bins available for students or faculty. The conventional recycling program that exists is unsatisfactory. There are only one or two conventional recycling bins available on each floor of the medical school. These bins are located inside a select few classrooms and hallways, and thus are not readily available for use by students and faculty. Essentially, only (unsorted) waste bins are readily accessible all around the campus.</p>	

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: While sustainability guidelines for food and beverages on the Spokane campus do not exist, there are attempts by Fresh Plate to serve locally sourced foods. The WSU Pullman dining services do have [sustainability guidelines](#).

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

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

Score explanation: Among the WSU [procurement guidelines](#) provided online, there was no list of sustainability guidelines for supply procurement. WSU Pullman does seem to show some effort to move toward [sustainable purchasing](#), but there does not seem to be a formal criteria for sustainable procurement. The only guidance we were able to find was a requirement to purchase [recycled paper](#).

9. Are there sustainability requirements or guidelines for events hosted at the medical school?

2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required.

0	There are no sustainability guidelines for medical school events.
<i>Score explanation:</i> Among the WSU procurement guidelines provided online, there was no mention or evidence of sustainability guidelines for medical school events.	

10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
2	Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the medical school to make lab spaces more sustainable.
<i>Score explanation:</i> There are not any current guidelines, programs, or initiatives to assist with making lab spaces more environmentally sustainable.	

11. Does your institution's endowment portfolio investments include fossil-fuel companies?	
4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	No, the institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil fuel companies 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.
<i>Score explanation:</i> WSU is still invested in fossil-fuel companies, but a campaign led by students from the WSU Vancouver campus, and joined by Pullman campus, is advocating for WSU's fossil-fuel divestment.	

Section Total (x out of 31)	10
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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 Washington State University Elson S. Floyd College of Medicine

The following table presents the individual section grades and overall institutional grade for the Washington State University Elson S. Floyd College of Medicine on this medical-school-specific Planetary Health Report Card.

Section	Raw Score	Letter Grade
Planetary Health Curriculum (30%)	$(13 / 69) \times 100 = 18.84\%$	F+
Interdisciplinary Research (17.5%)	$(6 / 17) \times 100 = 35.29\%$	D+
Community Outreach and Advocacy (17.5%)	$(3 / 14) \times 100 = 21.43\%$	D-
Support for Student-led Planetary Health Initiatives (17.5%)	$(11 / 15) \times 100 = 73.33\%$	B
Campus Sustainability (17.5%)	$(10 / 31) \times 100 = 32.26\%$	D
Institutional Grade	34.06%	D