Planetary Health Report Card (Medicine):

Johns Hopkins University School of Medicine

2024-2025 Contributing Team:

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Land acknowledgment: We acknowledge that our campus is located on the unceded lands of the Piscataway and Susquehannock Nations.

Summary of Findings

Overall Grade	B

Curriculum	C+

- Though the Johns Hopkins University School of Medicine curriculum lacks longitudinal integration of climate change effects on planetary health, concepts regarding climate change are emphasized in the Disaster Medicine and Global Health courses. A student-led planetary health elective is also offered to first-year students as an elective class.
- **Recommendations:** Course directors could begin to consider integrating case studies on pollution and climate change effects on respiratory, reproductive, infectious, and cardiovascular diseases as well as the disproportionate impact of environmental hazards on vulnerable populations.

Interdisciplinary Research	A

- Across Johns Hopkins University, interdisciplinary research in planetary health is strong. With the new launch of the Institute of Planetary Health, the institution now has a centralized team dedicated to advancing planetary health initiatives. The Institute of Planetary Health connects Johns Hopkins University with the global Planetary Health Alliance and represents an interdisciplinary collaboration involving the School of Medicine, School of Nursing, School of Public Health, and others. The Office of Climate & Sustainability has also served to advance planetary health initiatives across the institution.
- **Recommendations**: The Johns Hopkins University School of Medicine could improve involvement in planetary health research by hosting events between School of Medicine faculty and students with the Institute of Planetary Health, distributing a list of planetary health research projects and faculty contact information to the medical student community for potential partnerships, and sponsoring students and faculty to pursue planetary health research and attend planetary health events.

Community Outreach and Advocacy	B+

- Johns Hopkins University has strong planetary health-focused outreach and advocacy, partnering with the organizations to promote planetary health topics and providing educational materials and training for clinicians and patients.
- **Recommendations**: Develop accessible educational materials for patients about climate change.

Support for Student-Led Initiatives	A-

- Johns Hopkins University offers a wide variety of opportunities for student-led initiatives, including university grants, planetary health-related research, student interest groups, and representation on decision-making councils.
- **Recommendations**: Create a dedicated webpage for students to find projects and mentors in sustainable healthcare.

Campus Sustainability	B

- Johns Hopkins University has made great strides in sustainability with the Climate Action and Sustainability Plan released in 2024 committing to achieving net-zero emissions by 2040 and purchasing 100% of its energy from renewable sources by 2030. The institution has already achieved a 57% reduction in greenhouse gas emissions to date since 2007.
- **Recommendations**: While the university does have a number of optional campus sustainability guidelines, we recommend implementing sustainability incentives or requirements for events hosted on campus.

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 analysing 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, urbanisation, 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 health professional 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 health professional training. It is imperative that we hold our institutions accountable for educating health professional 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 colour, 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 health professional schools, we have created a Planetary Health Report Card that students internationally can use to grade and compare their institutions on an annual basis. This student-driven initiative aims to compare health professional 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 centred on environmental health impacts, and 5) school campus sustainability.

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as "the health of human civilisation and the state of the natural systems on which it depends." For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional 'environmental health' examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of health professional education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term "planetary health" to satisfy the metric.

- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimises use of healthcare services.

- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:

    1. Describe how the environment and human health interact at different levels.
    2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
    3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.

- **Medical School/Department vs. Institution:** When "Medical school" is specified in the report card, this only refers to curriculum and resources offered by the School/department of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments). In contrast, when "institution" is specified in the report card, we are referring to the university more broadly including all of its campuses. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is

specifically targeted for medical students, can meet this metric.

- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions students are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mould after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution. Please be as specific as possible when providing evidence for this metric.

- **Elective:** The word "elective" refers to an optional course or lecture series that a student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.

- **Core Curriculum:** This refers to taught material that is delivered to the entire cohort of students in one year.

- **Clerkship / Outreach:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations, outreach or placements. This is a relatively short (approximately 4-8 weeks) period of study and patient-centred clinical experience that takes place as part of the undergraduate programme.

- **Clinical rotation:** This is a term used to refer to placements that students go on (e.g., ophthalmology, surgery, cardiology).

- **Physiotherapy vs Physical Therapy:** For the purposes of this report card these terms are considered interchangeable. However, physiotherapy will be used primarily.

- **Community organisations:** For most institutions, there are existing groups that are not directly affiliated with the university and exist as a product of what the community the institution exists in cares about or needs. These specific community organisations relevant to this report include those that are focused around some aspect of climate and health preservation. These community organisations can include but are not limited to local mutual aid initiatives, underserved-resource distribution groups, clean-up and nature conservation groups, community gardeners, and other environmental-related organisations. If your institution does not have access to local volunteerships with community groups, please report any community organisations your institution or school has collaborated with.

- **Climate justice:** The idea that certain population groups and geographical locations which are disproportionately more impacted by climate change are already economically and socially disadvantaged. This double vulnerability sits alongside pre-existing social justice concerns and should therefore shift policy and practice to mitigate the inequitable effects of the climate crisis.

- **Extractivisim:** The removal of natural resources typically in large quantities. Within anthropology this term is often used in the context of colonialism to refer to

the historic seizing of natural resources, a practice which has developed business models tied to ecological degradation and loss of biodiversity.

- **Global South:** Nations that often have less economic and industrial development and are typically in the southern hemisphere. These nations have been found to be disproportionately impacted by the climate crisis.

- **Low socioeconomic status (SES):** An individual or geographical area that across a variety of socioeconomic factors (e.g., income, education, race/ethnicity) is considered vulnerable. This vulnerability has been correlated to more adverse health outcomes often as a consequence of encountering more barriers in accessing and receiving healthcare.

- **Low and Middle-Income Countries (LMIC):** Countries that have lower degrees of economic affluence.

- **Anthropogenic:** Created through human activity

- **Marginalized communities:** Groups excluded from mainstream economic, educational, social, and/or cultural experiences due to race, gender identity, sexual orientation, age, physical ability, language, and/or immigration status (Sevelius et al., 2020).

Other considerations:

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

Completed in 2022 a Literature Review by Metric is available for the 2022 medicine report card metrics. We are in the process of updating this review and making it more applicable to all the disciplines. However the review serves as a rough collection of references for further learning and a resource for those advocating for increased planetary health engagement at their institutions.

Planetary Health Curriculum

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

Curriculum: General

1.1. Did your medical school offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
Yes, the medical school has offered **more than one** elective whose primary focus is ESH/planetary health in the past year. (3 points)	
Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year. (2 points)	
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. (1 points)	
No, the medical school has **not** offered any electives on planetary health or electives that include ESH/planetary health topics in the past year. (0 points)	
Score Assigned:	3
Score explanation: The Planetary Health elective is a three-day class organized by second-year medical students that engages students by educating them on what planetary health is, the role of physicians in planetary health, and how students can get involved in planetary health research. In addition, the Disaster Medicine course, which was an elective for the Class of 2027 and will become a core course for the Class of 2028, focuses on the impacts of planetary health on emergency responses.	

Curriculum: Health Effects of Climate Change

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

Score Assigned:	2

Score explanation:
This relationship is addressed during the elective course Disaster Medicine, which includes the lecture "Climate Effects on Disaster Medicine and Health," and discusses the effect of wildfires on particulate air quality, heat and gun violence, and excess heat and its effect on insulin overdose in type 1 diabetes. The Disaster Medicine course was an elective for the Class of 2027 and will be a core course for the Class of 2028.

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

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

Score Assigned:	2

Score explanation:
The Disaster Medicine class explicitly emphasizes the effect of hurricanes, tornados, and other extreme events. The class teaches students about the United States Department of Health and Human Services Disaster Medical Assistance Teams response to the Haiti earthquakes and also teaches about hospital preparedness and response as well as the Incident Command System. The Disaster Medicine course was an elective for the Class of 2027 and will become a core course for the Class of 2028.

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

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

Score Assigned:	2

Score explanation:
The Infectious Disease block of the core curriculum briefly mentions climate change contributions to changing patterns of infectious disease in the "Introduction to Infectious Diseases, Bacterial Physiology and Genetics" lecture.

1.5. Does your medical school curriculum address the respiratory health effects of climate change and air pollution?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 points)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: A lecture on "Chronic Lung Disease in Pre-term Infants" in the pulmonary unit mentions traffic, indoor combustion, and traffic as potentially detrimental environmental exposures that can affect the lung in developing infants. The "Asthma" lecture also mentions environmental exposures as a potential cause of asthma. However, there is no dedicated lecture specifically for the respiratory health effects of climate change and air pollution.	

1.6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 points)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: The "Planetary Health" lecture of the Global Health course briefly mentions that cardiovascular disease is a consequence of outdoor and ambient air pollution. The Global Health course was an elective for the Class of 2027 and will become a core course for the Class of 2028.	

1.7. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?
This topic was explored **in depth** by the **core** curriculum. (3 points)
This topic was **briefly** covered in the core curriculum. (2 points)
This topic was covered in **elective** coursework. (1 points)

This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: The Brain, Mind, and Behavior core course contains one lecture, "Mood and Emotional Regulation," which lists weather as a component of the surrounding environment that can affect mood states. The Disaster Medicine class also mentions the effect of climate change as a stressor in the lecture "Climate Effects on Disaster Medicine and Health." The Disaster Medicine course was an elective for the Class of 2027 and will become a core course for the Class of 2028.	

1.8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 points)	
This topic was not covered. (0 points)	
Score Assigned:	2
Score explanation: The Global Health course has a lecture dedicated to planetary health. The course discusses water sanitation systems, ecosystem degradation, and the health impacts of climate change, giving examples on several geographic levels, from highly localized to global. The Global Health course was an elective for the Class of 2027 and will become a core course for the Class of 2028.	

1.9. Does your <u>medical school</u> curriculum address the outsized impact of climate change on marginalised populations such as those with low SES, women, communities of colour, Indigenous communities, children, homeless populations, and older adults?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the core curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 points)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: This topic is covered in the Planetary Health elective course as well as the Disaster Medicine class, which states that the most vulnerable populations to extreme weather are minorities, disabled people, and pregnant women, in the lecture "Climate Effects on Disaster Medicine and Health."	

The Disaster Medicine course was an elective for the Class of 2027 and will become a core course for the Class of 2028.

1.10. Does your <u>medical school</u> curriculum address the unequal regional health impacts of climate change globally?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 points)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: This topic is covered in the class Disaster Medicine lecture "Climate Effects on Disaster Medicine and Health," which showcases the fact that climate change causes displacement of people, for example, due to extreme weather effects and food scarcity. The Disaster Medicine course was an elective for the Class of 2027 and will become a core course for the Class of 2028.	

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

1.11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 points)	
This topic was not covered. (0 points)	
Score Assigned:	2
Score explanation: The "Teratology" lecture in the reproductive unit mentions lead as a teratogen.	

1.12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?
This topic was explored in depth by the core curriculum. (3 points)
This topic was briefly covered in the core curriculum. (2 points)
This topic was covered in **elective** coursework. (1 points)

This topic was **not** covered. (0 points)	
Score Assigned:	3
Score explanation: During the lecture “Past to Present-Anti-Black Racism, Health Disparities & Equity in Medicine” in the course Disparities in Health and Health Care, the lecture mentions disparities in green spaces and pollution, but does not make the connection with Baltimore neighborhoods explicitly. In the lecture “History as a Vital tool for Engaging with Structural Racism” as part of the Disparities in Health and Health Care course, the lecture mentions the ethical dilemmas in research for the Grimes vs. Kennedy Krieger Institute case, which was brought up after an experiment was conducted to measure lead paint abatement procedures effects on blood lead levels in children in Baltimore neighborhoods. Finally, during the Student Outreach Resource Center (SOURCE) mobile clinic bus tour of Baltimore, the lecture mentions the Harris Creek Watershed and how flooding had been caused by debris placed in storm drains as well as the use of incinerators for medical waste on Johns Hopkins Medical campus, and the resulting heavy metal deposition in local community areas, especially in the Science and Technology Park area.	

1.13. To what extent does your <u>medical school</u> emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 points)	
This topic was not covered. (0 points)	
Score Assigned:	0
Score explanation: This topic is not covered in elective or core curriculum coursework.	

1.14. Does your <u>medical school</u> curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous populations, and older adults?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 points)	
This topic was **not** covered. (0 points)	
Score Assigned:	2

Score explanation: The Global Health course discusses the public health risks of antibiotic resistance from hospital wastewater released into the water systems of low- or middle-income countries. The course also briefly addresses the morbidity and mortality resulting from household air pollution in low-income settings. The Global Health course was an elective for the Class of 2027 and will become a core course for the Class of 2028.

Curriculum: Sustainability

1.15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 points)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: The promotion of sustainable diets is very briefly mentioned in the "Planetary Health" lecture of the Global Health course. The Global Health course was an elective for the Class of 2027 and will become a core course for the Class of 2028.	

1.16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 points)	
This topic was **not** covered. (0 points)	
Score Assigned:	1
Score explanation: While not directly addressed in the core curriculum, the carbon footprint of healthcare systems is covered in the Planetary Health course, a three-day elective offered annually as part of the first-year public health course. This course includes presentations, Q&As, and reading assignments with some focus on hospital system emissions.	

1.17. Does your medical school curriculum cover these components of sustainable clinical practice in the core curriculum? (points for each)	**Score**
The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment (2 points)	0
The environmental impact of **pharmaceuticals** and over-prescribing as a cause of climate health harm. Alternatively teaching on **deprescribing** where possible and its environmental and health co-benefits would fulfil this metric. (2 points) .	0
The health **and** environmental **co-benefits** of **non-pharmaceutical management** of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK. (1 point)	0
Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how can it be mitigated. (1 point)	0
The impact of **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anaestheisa's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions. (1 point)	0
The impact of **inhalers** on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers. (1 point)	0
Waste production within healthcare **clinics** and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting) (1 point)	0
Score explanation: None of these points are explicitly addressed in the core medical school curriculum; however, the impact of anaesthetic gases is a research topic being explored extracurricularly in the anaesthesia department.	

Curriculum: Clinical Applications

1.18. 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?	
Yes, there are strategies introduced for having conversations with patients about climate change in the **core** curriculum. (2 points)	
Yes, there are strategies introduced for having conversations with patients about climate change in **elective** coursework. (1 points)	
No, there are **not** strategies introduced for having conversations with patients about climate change. (0 points)	
Score Assigned:	0
Score explanation:	

In the Clinical Foundations of Medicine course, a first-year course training students for patient encounters, strategies for discussing the health effects of climate change with patients are not explicitly included in the curriculum.

1.19. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies for taking an environmental history or exposure history?	
Yes, the **core** curriculum includes strategies for taking an environmental history. (2 points)	
Only **elective** coursework includes strategies for taking an environmental history. (1 point)	
No, the curriculum does **not** include strategies for taking an environmental history. (0 points)	
Score Assigned:	2
Score explanation: During the Clinical Foundations of Medicine course in the first year, students receive instruction on conducting a social history, which encompasses questions related to environmental and occupational exposures. They have multiple opportunities to practice this skill with standardized patients. Additionally, the importance of a comprehensive social history is reinforced in the Longitudinal Ambulatory Clerkship, where students work with preceptors in local clinics to refine their history-taking, physical examination, and clinical reasoning abilities.	

Curriculum: Administrative Support for Planetary Health

1.20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?	
Yes, the medical school is currently in the process of making **major** improvements to ESH/planetary health education. (4 points)	
Yes, the medical school is currently in the process of making **minor** improvements to ESH/planetary health education. (2 points)	
No, there are **no** improvements to planetary health education in progress. (0 points)	
Score Assigned:	4
Score explanation: This academic year, the Johns Hopkins Institute for Planetary Health launched a Planetary Health Clinical Fellowship Program. The Institute's stated goals for its clinical program is to integrate Planetary Health into Johns Hopkins University's medical and nursing curricula, expand green healthcare initiatives, and develop a Planetary Health Clinical Fellows Program. The Healthcare Sustainability Working Group, which is open to medical trainees, also began meeting in February 2024. One of the working group's goals is to explore best practice for curricular integration of planetary health in medical education. For more information, visit this site: https://planetaryhealth.jhu.edu/programs-2/clinical/	

1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?	
Planetary health/ESH topics are **well integrated** into the core medical school curriculum. (6 points)	
Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum. (4 points)	
Planetary health/ESH is not integrated and is primarily addressed in **(a) standalone lecture(s).** (2 points)	
There is **minimal/no** education for sustainable healthcare. (0 points)	
Score Assigned:	4
Score explanation: Certain aspects of planetary health are incorporated into the shorter courses in the curriculum, particularly within the Disaster Medicine and Global Health courses. Disaster Medicine and Global Health were electives for the Class of 2027 and will be core courses for the Class of 2028. Longer courses, such as the pulmonary, reproductive, and infectious diseases courses, briefly discuss some planetary health topics such as environmental exposure risks.	

1.22. Does your medical school employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?	
Yes, the **medical school** has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (1 point)	
No, the **medical school** does **not** have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (0 points)	
Score Assigned:	1
Score explanation: One of the Faculty Co-Directors of Clinical Programs at the Johns Hopkins Institute for Planetary Health is also an assistant professor of emergency medicine at the Johns Hopkins University School of Medicine. A stated goal of the institute is to integrate planetary health into the medical curriculum.	

Section Total (42 out of 72)	**58.33%**

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Interdisciplinary Research

Section Overview: ***This section evaluates the quality and quantity of interdisciplinary planetary health research at the 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, institutions 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 emphasised.*

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your institution?	
Yes, there are faculty members at the **institution** who have a **primary** research focus in planetary health **or** sustainable healthcare/vetcare. (3 points)	
Yes, there are individual faculty members at the **institution** who are conducting research **related** to planetary health or healthcare sustainability, OR are part of a national/international sustainability working group, but it is not their primary research focus. (2 points)	
There are sustainability researchers at the **institution**, but not specifically associated with healthcare/vetcare. (1 point)	
No, there are **no** planetary health and/or sustainability researchers at the **institution** at this time. (0 points)	
Score Assigned:	3
Score explanation: Johns Hopkins University is home to several teams that study planetary health: the Institute of Planetary Health, which includes 18 core team members and over 100 affiliated faculty and program staff, and the Department of Environmental Health & Engineering, a cross-divisional department spanning the Bloomberg School of Public Health and the Whiting School of Engineering with 124 primary faculty researching planetary health-related areas. The Institute of Planetary Health's Faculty Co-Director of Clinical Programs is also an assistant professor of Emergency Medicine in the School of Medicine who researches contemporary practice patterns and their role in planetary health initiatives. Faculty at the School of Medicine have also written on the history of disposability in health care and medical waste.	

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?
There is **at least one** dedicated department or institute for interdisciplinary planetary health research. (3 points)

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. (2 points)
There is an **Occupational and Environmental Health department**, but no interdisciplinary department or institute for planetary health research. (1 points)
There is **no** dedicated department or institute. (0 points)

Score Assigned:	3

Score explanation:
The Institute for Planetary Health at Johns Hopkins University in Baltimore, MD is an interdisciplinary collaboration affiliated with the global Planetary Health Alliance, which brings together faculty, students, and staff across schools to address global challenges related to planetary health. The institute was launched in April 2024 and consists of 18 core team members and over 100 affiliated faculty and program staff who are working towards 4 major programs: Education, Clinical, Policy, and Innovation and Implementation.

2.3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your institution?
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. (3 points)
Yes, there is a process in which community members impacted by climate and environmental injustice **advise** the climate + environmental research agenda. (2 points)
No, but there are **current efforts** to establish a process for community members to advise or make decisions on the research agenda. (1 points)
There is **no** process, and **no** efforts to create such a process. (0 points)

Score Assigned:	2

Score explanation:
The Office of Climate & Sustainability at Johns Hopkins University published the Climate Action & Sustainability Plan in October 2024, after receiving input from over 1,500 university students, faculty, staff, alumni, and community members. One of the six main action areas is Environmental Justice. The plan was led by several committees including the Community Advisory Group which includes Baltimore representatives serving as local community stakeholders throughout the process of developing this plan. While initial engagement through a survey and town hall were open to university affiliates and community partners, subsequent town halls were limited to university affiliates. The role that community members who are impacted by climate and environmental injustice play includes advising, but it is not clear whether decision-making power is extended to community members.

Within the action area of Environmental Justice, there are several efforts currently being undertaken to involve community members in the climate and environmental research agenda. The Sustainability Leadership Council's Environmental Justice Working Group, Office of Diversity & Inclusion, and CHARMED center (Community Health: Addressing Regional Maryland

Environmental Determinants of Disease) all serve to address community health disparities. In particular, CHARMED aims to build capacity in community-engaged research. Community Partners include Black Yield Institute, South Baltimore Community Land Trust, Baltimore Compost Collective, and Zero Waste Network.

The Johns Hopkins Department of Environmental Health and Engineering describes their mission to promote public health and a healthy environment in Baltimore, partnering with community-based organizations and local/state agencies to work towards a healthy and just environment.

None of these initiatives directly mention decision-making power for community members, however.

2.4. Does your institution have a planetary health website that centralises ongoing and past research related to health and the environment?	
There is an **easy-to-use, adequately comprehensive** website that **centralises** 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. (3 points)	
There is a website that **attempts to centralise** various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive. (2 points)	
The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment. (1 point)	
There is **no** website. (0 points)	
Score Assigned:	3
Score explanation: The Institute for Planetary Health has its own website, https://planetaryhealth.jhu.edu/, that is dedicated specifically to planetary health programs, news, events, faculty and staff, and ways to get involved. This website was created in the past year to mark the launch of the institute in April 2024. The main landing page for all sustainability activities at Johns Hopkins University is centralized at https://sustainability.jhu.edu/.	

2.5. Has your institution recently hosted a conference or symposium on topics related to planetary health?
Yes, the **institution** has hosted at least one conference or symposium on topics related to planetary health in the past year. (4 points)
Yes, the **institution** has hosted at least one conference or symposium on topics related to sustainable healthcare/vetcare in the past year. (3 points)

Yes, the **institution** has hosted a conference on topics related to planetary health / sustainable healthcare/vetcare in the past three years. (2 points)
The **institution** has not hosted any conferences directly, but they have provided financial support for a local planetary health event. (1 point)
No, the **institution** has not hosted a conference on topics related to planetary health in the past three years. (0 points)

Score Assigned:	4

Score explanation:
The Sustainability Leadership Council of the Office of Climate & Sustainability at Johns Hopkins University hosted the 5th Annual Sustainability Symposium on April 3, 2024. The symposium included over 75 speakers, 18 panel sessions, and 20 research posters. Sessions included: Sustainable Healthcare Practices, Medical Waste, Planetary Health Curriculums, Environmental Justice, and Campus as a Living Lab. The next Sustainability Symposium is scheduled for April 2, 2025.

The Johns Hopkins University Bloomberg Center in Washington, DC, co-hosted the Our Planet, Our Health 2025 Climate Action Convention on March 1-4, 2025, which featured planetary health topics.

2.6. Is your institution a member of a national or international planetary health or ESH/ESV organisation?
Yes, the institution is a member of a national or international planetary health **or** ESH/ESV organisation. (1 points)
No, the institution is **not** a member of such an organisation. (0 points)

Score Assigned:	1

Score explanation:
The Institute for Planetary Health at Johns Hopkins University is affiliated with the Planetary Health Alliance, the global backbone for the Planetary Health community.

Section Total (16 out of 17)	**94.12%**

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Community Outreach and Advocacy

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

3.1. Does your institution partner with community organisations to promote planetary health?	
Yes, the **institution** meaningfully partners with **multiple** community organisations to promote planetary and environmental health. (3 points)	
Yes, the **institution** meaningfully partners with **one** community organisation to promote planetary and environmental health. (2 points)	
The **institution** does not partner with community organisations, but participates in community focused events relating to planetary health. (1 point)	
No, there is **no** such meaningful community partnership. (0 points)	
Score Assigned:	3
Score explanation: The Johns Hopkins University School of Medicine partners with SOURCE, a Johns Hopkins community engagement and service learning center for East Baltimore campuses. SOURCE partners with organizations, including environmentally focused organizations, in Baltimore to provide service learning opportunities for students, faculty, and staff. SOURCE connects School of Medicine students to these organizations through in-person information and recruiting fairs, application-based programs, and a weekly newsletter. Additionally, the Community Health: Addressing Regional Maryland Environmental Determinants of Disease, CHARMED, Center at Johns Hopkins School of Public Health partners with community-based organizations across the state of Maryland and the broader DC, Maryland, and Virginia region to build capacity in community-engaged research with a focus on understanding the mechanistic links between environmental exposures and adverse health outcomes and translate these findings into action to improve the health and well-being of vulnerable individuals in communities across the greater Maryland region.	

3.2. Does your institution offer community-facing courses or events regarding planetary health?

The **institution** offers community-facing courses or events at least once every year. (3 points)
The **institution** offers courses or events open to the community at least once per year, but they are not primarily created for a community audience. (2 points)
The **institution** has promoted community-facing courses or events, but was not involved in planning those courses or events. (1 point)
The **institution** has not offered such community-facing courses or events. (0 points)

Score Assigned:	3

Score explanation:
The Johns Hopkins Institute for Planetary Health regularly hosts events for the community aimed at increasing understanding on the topic and garnering interest in intersectional content matter relating to Planetary Health.

3.3. Does your <u>institution</u> have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?
Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare. (2 points)
Yes, planetary health and/or sustainable healthcare topics are regularly included in communication updates to **some courses**. (1 point)
Students **do not** receive communications about planetary health or sustainable healthcare. (0 points)

Score Assigned:	1

Score explanation:
Weekly and daily Johns Hopkins newsletters (such as Inside Hopkins, Johns Hopkins University Communications, and SOURCE) provide information on institutionally related news, research, and institutionally hosted events, some of which may be related to planetary health and sustainable healthcare. Johns Hopkins Global Health Now is an opt-in newsletter nonspecific to the community but one that regularly covers environmental health topics. Additionally, the Johns Hopkins Institute for Planetary Health has an opt-in newsletter for events.

3.4. Does the <u>institution</u> or <u>main affiliated hospital trust</u> 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?
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. (2 points)

Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers. (1 point)	
There are **no** such accessible courses for post-graduate providers. (0 points)	
Score Assigned:	2
Score explanation: There is the Leadership in Planetary Health (LiPH) Fellowship in the Department of Emergency Medicine, with an inaugural fellow selected and prepared to start in Summer 2025. The Johns Hopkins Institute for Planetary Health has presented at department Grand Rounds.	

3.5. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?	
Yes, the **institution** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)	
Some affiliated hospitals have accessible educational materials for patients. (1 point)	
No affiliated hospitals have accessible educational materials for patients. (0 points)	
Score Assigned:	2
Score explanation: The Johns Hopkins Medicine website has a variety of accessible educational materials for patients about environmental health exposures, including webpages about asbestos, air quality, and asthma and tobacco smoke.	

3.6. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?	
Yes, the **institution** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)	
Some affiliated hospitals have accessible educational materials for patients. (1 point)	
No affiliated hospitals have accessible educational materials for patients. (0 points)	
Score Assigned:	0
Score explanation: Some clinicians regularly use ClimateRX badge accessories but none are known to be contributed from the institution/health network specifically. To our knowledge, Johns Hopkins Medicine does not provide accessible educational materials for patients about the health impacts of climate change.	

Section Total (11 out of 14)	**78.57%**

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Support for Student-Led Planetary Health Initiatives

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

4.1. Does your institution offer support for students interested in enacting a sustainability initiative/QI project?	
Yes, the **institution** *either* offers grants for students to enact sustainability initiatives/QI projects *or* sustainability QI projects are part of the core curriculum. (2 points)	
The **institution** encourages sustainability QI projects (to fulfil 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. (1 point)	
No, the **institution** does not offer opportunities or support for sustainability initiatives or QI projects. (0 points)	
Score Assigned:	2
Score explanation: Annual grants of up to $10,000 are available to student researchers at Johns Hopkins University (undergraduate, graduate or doctoral students are eligible) for projects relating to climate and sustainability. These grants are available to students at Johns Hopkins University School of Medicine, and have been awarded in the past to students in the School of Medicine.	

4.2. Does your institution offer opportunities for students to do research related to planetary health and/or sustainable healthcare/vetcare?	
The **institution** has a **specific** research program or fellowship for students interested in doing planetary health/sustainable healthcare/vetcare research. (2 points)	
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. (1 point)	
There are **no opportunities** for students to engage in planetary health/sustainable healthcare research. (0 points)	
Score Assigned:	1
Score explanation: While Johns Hopkins University School of Medicine does not have a specific research or fellowship program for medical students interested in planetary health or sustainable healthcare, there are several avenues for interested students to get involved with such work. Examples of Johns	

Hopkins-specific institutes with faculty researchers exploring such topics include: the Institute for Planetary Health, the Center for a Livable Future, the Program on Global Sustainability and Health (Bloomberg School of Public Health/Whiting School of Engineering), and the Water Institute (Bloomberg School of Public Health).

4.3. Does the <u>institution</u> have a webpage where students can find specific information related to planetary health and/or sustainable healthcare/vetcare activities and mentors within the institution? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.	
The institution has a webpage with specific information related to planetary health or sustainable healthcare/vetcare that includes up-to-date information on relevant initiatives and contact information of potential mentors. (2 points)	
There is an institution webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the institution, but it lacks key information. (1 point)	
There is **no institution** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors. (0 points)	
Score Assigned:	0
Score explanation: While there is an informative Johns Hopkins University Institute for Planetary Health website, the website does not have a webpage specifically for locating planetary health and/or sustainable healthcare projects or mentors.	

4.4. Does your <u>institution</u> have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?	
Yes, there is a student organisation **with faculty support** at my institution dedicated to planetary health or sustainability in healthcare. (2 points)	
Yes, there is a student organisation at my institution dedicated to planetary health or sustainability in healthcare but it **lacks faculty support.** (1 point)	
No, there is **not** a student organisation at my institution dedicated to planetary health or sustainability in healthcare. (0 points)	
Score Assigned:	2
Score explanation: The Planetary Health Interest Group (PHIG) at Johns Hopkins University School of Medicine is a student organization aimed at expanding advocacy, education, and research on environmental health and sustainability. This organization receives institutional funding through the Medical	

School Senate (MSS) and has a faculty mentor. The PHIG conducts an elective course available to first-year students.

4.5. Is there a student liaison representing sustainability interests who serves on a department or institutional decision-making council to advocate for curriculum reform and/or sustainability best practices?	
Yes, there is a student representative that serves on a department or institutional decision-making council/committee. (1 point)	
No, there is no such student representative. (0 points)	
Score Assigned:	1
Score explanation: Johns Hopkins has a university-wide Sustainability Leadership Council affiliated with the Office of Sustainability. Students can serve on the Research & Academics Committee, Operations Committee, or Environmental Justice Committee. Undergraduate students can join the Student Government Association's Health, Safety, and Sustainability Committee to promote sustainability efforts on campus.	

4.6. 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)	**Score**
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 organise hiking, backpacking, kayaking, or other outings for students)	1
Score explanation: The Johns Hopkins Center for a Livable Future has several ongoing projects relating to food security, sustainability, and agriculture. The Planetary Health Interest Group, a medical-student-run initiative, has hosted panel discussions relating to planetary health in the past year. SOURCE, a	

community engagement and service-learning center for various Johns Hopkins graduate schools including the School of Medicine, has organized volunteer opportunities and speaker events relating to sustainability for interested students. The Office of Experiential Education also promotes outdoor day trips in the Mid-Atlantic region, kayak clinics, and outdoor equipment rentals. Medical student members of the Planetary Health Interest Group have created artwork relating to planetary health and sustainability that will be displayed for an intended audience of students, among others.

Section Total (12 out of 15)	**80%**

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Campus Sustainability

Section Overview: ***This section evaluates the support and engagement in sustainability initiatives by the 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 endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising 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 minimising environmental impact.*

5.1. Does your institution have an Office of Sustainability?	
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. (3 points)	
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 hospital sustainability. (2 points)	
There are **no salaried sustainability staff,** but there is a sustainability task force or committee. (1 point)	
There are **no** staff members **or** task force responsible for overseeing campus sustainability. (0 points)	
Score Assigned:	3
Score explanation: Johns Hopkins University founded the Office of Climate & Sustainability in 2006. Within this team of >10 staff, there is a dedicated divisional staff member with the role of Sustainability and Engineering Project Manager, Johns Hopkins Health System, who is focused on balancing patient care and sustainability in the hospital. Additionally, Johns Hopkins Hospital has its own General Services Office of Sustainability focused on hospital sustainability. This office works closely with the Green Team, which is a grassroots group of employees who work to build a greener community within The Johns Hopkins Hospital.	

5.2. How ambitious is your institution's plan to reduce its own carbon footprint?
The institution has a **written and approved plan** to achieve carbon neutrality by **2030** (5 points)
The institution has a **written and approved plan** to achieve carbon neutrality by **2040** (3 points)
The institution has a stated goal of carbon neutrality by **2040** but has **not created a plan** to reach that goal or the **plan is inadequate** (1 point)
The institution does **not** meet any of the requirements listed above (0 points)

Score Assigned:	3
Score explanation: The Johns Hopkins University Climate Action and Sustainability Plan released in 2024 commits to achieving net-zero emissions by 2040. The plan involves phasing out on-campus fossil fuels and transforming the design and operation of both new and existing buildings. Additionally, Johns Hopkins University commits to purchasing 100% of its energy from solar and other renewable sources by 2030. The institution has already achieved a 57% reduction in greenhouse gas emissions to date since 2007.	

5.3. Do buildings/infrastructure used by the institution for teaching (not including the hospital) utilize renewable energy?	
Yes, institution buildings are **100%** powered by renewable energy. (3 points)	
Institution buildings source **>80%** of energy needs from off-site and/or on-site renewable energy. (2 points)	
Institution buildings source **>20%** of energy needs from off-site and/or on-site renewable energy. (1 point)	
Institution buildings source **<20%** of energy needs from off-site and/or on-site renewable energy. (0 points)	
Score Assigned:	1
Score explanation: The Skipjack Solar Center produces 250,000 MWh of power for Johns Hopkins University each year–enough power to supply 2/3 of the university's electricity needs. The university also uses rooftop solar panels on several campus buildings to generate power. They have also committed to purchasing 100% of their energy from solar and other renewable sources by 2030.	

5.4. Are sustainable building practices utilised for new and old buildings on the institution's campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?	
Yes, sustainable building practices are utilised for new buildings on the institution's campus and the **majority** of old buildings **have been retrofitted** to be more sustainable. (3 points)	
Sustainable building practices are utilised for new buildings on the institution's campus, but most old buildings have **not been retrofitted.** (2 points)	
Sustainable building practices are **inadequately or incompletely** implemented for new buildings. (1 point)	
Sustainability is **not considered** in the construction of new buildings. (0 points)	
Score Assigned:	3

Score explanation: The Johns Hopkins University Climate Action and Sustainability Plan released in 2024 commits to transforming the design and operation of both new and existing buildings. All construction and renovations will now comply with a set of High-Performance and Healthy Building Requirements, which are based on LEED certification and designed to reduce energy consumption and emissions. Accordingly, the new student center, which will open next year, is being built using mass timber (a low-carbon building material). Existing facilities are also responsible for about 90% of the university's greenhouse gases, so more sustainable management is being strongly pursued for old buildings.

5.5. Has the institution implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
Yes, the institution has implemented strategies to encourage and provide **environmentally-friendly transportation options** such as safe active transport, public transport, or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default. (2 points)	
The institution has implemented **some** strategies to provide environmentally-friendly transportation options, but the options are **unsatisfactorily** accessible or advertised. (1 point)	
The institution has **not** implemented strategies to encourage and provide environmentally-friendly transportation options. (0 points)	
Score Assigned:	2
Score explanation: Johns Hopkins University provides excellent widespread access to free bus and shuttle routes for students. The school's busiest route between the Homewood and Johns Hopkins Medicine campuses will be served starting in 2025 by five electric buses to replace the current diesel, increasing to ten by 2026. However, access to many clinical sites requires almost all students to utilize cars and drive.	

5.6. Does your institution have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?	
Yes, the institution has **both** compost **and** recycling programs accessible to students and faculty. (2 points)	
The institution has **either** recycling **or** compost programs accessible to students and faculty, but not both. (1 point)	
There is **no** compost or recycling program at the institution. (0 points)	
Score Assigned:	2
Score explanation:	

The institution and medical school buildings have multiple waste bins available for trash, recycling, and composting. These bins are conveniently and frequently accessed by students and faculty.

5.7. Does the institution apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
Yes, the institution has a**dequate s**ustainability requirements for food and beverages, including meat-free days or no red-meat, and **is engaged** in efforts to increase food and beverage sustainability. (3 points)	
There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution **is engaged** in efforts to increase food and beverage sustainability. (2 points)	
There are sustainability guidelines for food and beverages, but they are **insufficient or optional.** The institution is **not** engaged in efforts to increase food and beverage sustainability. (1 point)	
There are **no** sustainability guidelines for food and beverages. (0 points)	
Score Assigned:	2
Score explanation: Under the new 2024 Johns Hopkins University Climate Action and Sustainability Plan, the university will eliminate the sale of plastic water bottles and expand access to bottle filling stations. They also plan to source 40% of Hopkins Dining food locally by 2030. There is work being done to improve food and beverage sustainability, but this has not yet been fully implemented.	

5.8. Does the institution apply sustainability criteria when making decisions about supply procurement?	
Yes, the institution has **adequate** sustainability requirements for supply procurement **and** is **engaged** in efforts to increase sustainability of procurement. (3 points)	
There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The institution is **engaged** in efforts to increase sustainability of procurement. (2 points)	
There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The institution is **not engaged** in efforts to increase sustainability of procurement. (1 point)	
There are **no** sustainability guidelines for supply procurement. (0 points)	
Score Assigned:	2
Score explanation: Johns Hopkins does have optional best practices and guidelines available for supply procurement, but there are no requirements in place. The 2024 Johns Hopkins University Climate Action and Sustainability Plan does emphasize integrating sustainability practices into areas of procurement, food systems, and waste management.	

5.9. Are there sustainability requirements or guidelines for events hosted at the institution?	
Every event hosted at the institution **must** abide by sustainability criteria. (2 points)	
The institution **strongly recommends or incentivizes** sustainability measures, but they are **not required.** (1 point)	
There are **no** sustainability guidelines for institution events. (0 points)	
Score Assigned:	1
Score explanation: There are sustainability guidelines available which explain how to hold a zero-waste event, including having composting and recycling bins in place and using a Preferred Green Caterer which provides all compostable service-ware and serves food in bulk. However, events are not required to abide by these guidelines.	

5.10. Does your institution have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
Yes, the institution has **programs** and **initiatives** to assist with making lab spaces more environmentally sustainable. (2 points)	
There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives. (1 point)	
There are **no** efforts at the institution to make lab spaces more sustainable. (0 points)	
Score Assigned:	2
Score explanation: The Office of Climate & Sustainability and the Sustainability Leadership Council have implemented several Johns Hopkins University Green Labs initiatives, which aim to minimize waste and improve resource efficiency.	

5.11. Does your institution's endowment portfolio investments include fossil-fuel companies?
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. (4 points)
The institution is **entirely divested** from fossil fuels. (3 points)
The institution has **partially divested** from fossil fuel companies **or** has made a **commitment to fully divest**, but **currently** still has fossil fuel investments. (2 points)

The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organised advocacy** for divestment. (1 point)	
Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that. (0 points)	
Score Assigned:	2
Score explanation: In 2017, Johns Hopkins University divested from thermal coal. They continue to invest with other fossil-fuel companies and have not at this time made a commitment to full divestment.	

Section Total (23 out of 32)	**71.88%**

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(42/72) x 100 = 58.33%	C+
Interdisciplinary Research (17.5%)	(16/17) x 100 = 94.12%	A
Community Outreach and Advocacy (17.5%)	(11/14) x 100 = 78.57%	B+
Support for Student-led Planetary Health Initiatives (17.5%)	(12/15) x 100 = 80%	A-
Campus Sustainability (17.5%)	(23/32) x 100 = 71.88%	B
Institutional Grade	**(58x0.3 + 95x0.175 + 78x0.175 + 80x0.175 + 72x0.175) = 74%**	**B**

Report Card Trends

Section Overview
This graph demonstrates trends in overall and section grades for the years in which Johns Hopkins University School of Medicine has participated in the Planetary Health Report Card initiative.