Planetary Health Report Card (Medicine):

Oregon Health & Science University

2024-2025 Contributing Team:

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Land acknowledgment: We acknowledge the original inhabitants and traditional village sites of the land Oregon Health & Science University is occupying and built upon: the Multnomah, Kathlamet, Clackamas, Tumwater, Watlala bands of the Chinook, the Tualatin Kalapuya, Molalla, Wasco and many Indigenous nations of the Willamette Valley and Columbia River Plateau. We take this opportunity to thank the original caretakers of this land - past, present, and future.

Summary of Findings

Overall Grade	B-

Curriculum	A

- OHSU continues to make improvements to its planetary health curriculum, adding a new required clinical skills lab (CSL), "*Introduction to Climate Change and Environmental Health Over a Lifespan*," in addition to its existing touch points throughout the didactic and clinical curriculum. There are now multiple lectures dedicated to planetary health, healthcare sustainability, and climate justice. The interprofessional elective also continues to offer more in-depth education for those interested
- **Recommendations:** Address specific weak points (mental health, global health, indigenous knowledge). Provide paid administrative support for the climate curriculum, allowing for further integration.

Interdisciplinary Research	C

- OHSU has a growing community of faculty, resident, and student researchers exploring planetary health, healthcare sustainability, and climate justice. The Center for Primary Care Research and Innovation is creating the Primary Care Climate Change and Health Program with the goal of building climate change resilience within local communities through education, public health policy and practice, research and innovation, and healthcare sustainability.
- **Recommendations**: Direct resources to create a more established interdisciplinary research group that focuses on planetary health research. Create a website that collates and highlights such work.

Community Outreach and Advocacy	C-

- OHSU SOM offers few community-facing courses or events regarding planetary health.
- Recommendations: Create accessible, standardized educational materials for patients about environmental health exposures and the health impacts of climate change to be made available to patients. Leverage opportunities to connect with community groups for advocacy and education efforts.

Support for Student-Led Initiatives	C

- OHSU has a student group in the form of Students for a Sustainable Future (S4SF) as well as opportunities for research and involvement in the faculty-led Climate Curriculum and Education Taskforce. Students may pursue planetary health and sustainability QI projects for their required Scholarly Project and there are a number of ongoing projects related to these topics both among students and faculty, there are no grants, fellowships, or programs specifically related to planetary health and climate change through which students are able to utilize existing infrastructure.
- **Recommendations**: Provide a centralized database or resources to assist students who wish to engage in planetary health research and opportunities. Offer more events and workshops related to planetary health.

Campus Sustainability	C

- While OHSU excels in some aspects of campus sustainability (transportation, construction, procurement), there are no salaried sustainability staff and no formal guidelines to improve sustainability in labs and during events. OHSU's endowment is still partially invested in fossil fuels and the institution as a whole can be more ambitious regarding its carbon footprint and sustainability actions.
- **Recommendations**: Create an office or full-time position dedicated to sustainability. Formalize guidelines to improve sustainability in all sections, including labs and events. Divest fully from fossil fuels.

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 school's institutional priorities do not reflect the urgency of this danger to human health.

As future health professionals, we must be prepared to address the impacts of human-caused environmental changes on our patients' health. 'This preparation is in the hands of the institutions providing our 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, 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:	2
Score explanation: In winter term 2021 OHSU started offering an annual interdisciplinary elective available to medical students (in addition to students from various other schools, such as Dentistry and Nursing), which is entitled Climate Change and Human Health. The syllabus includes topics such as planetary health, healthcare ecological footprint, and vector and water-borne diseases. This interdisciplinary elective is currently underway in its second year with 50 students from the School of Medicine, the School of Nursing, the School of Public Health, and more.	

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:	3

Score explanation:

- As of 2023, in the core curriculum for preclinical students, during the Cardio-Pulmonary-Renal (CPR) block, a lecture titled *"An Introduction to Planetary Health"* included multiple slides on extreme heat, heat-related illness, and urban heat islands. It is addressed as a learning objective within the lecture. It explores the physiology of heat acclimatization, risk factors, a case study on heat illness, urban heat islands, and clinically relevant skills for addressing heat related illness (questions to ask during H&P).
- In the core curriculum for preclinical students, during the Cardio-Pulmonary-Renal (CPR) block, a lecture titled *"Progression of Chronic Kidney Disease"* included a few slides referenced areas of high rates of chronic kidney disease globally with a reference to a paper called "Mesoamerican Nephropathy or Global Warming Nephropathy" by Jimenez et al.
- Starting in 2022, as part of the required core curriculum, all M4s in the Transition to Residency course receive a one-hour lecture on Climate Change and Human Health. This lecture discusses extreme heat, climate change, air pollution and associated health risks, including mental health effects, as well as climate justice, the carbon footprint of healthcare, and ways to make clinical practice more sustainable and/or get involved with advocacy.
- As part of the required Cancer and Infectious Disease intersessions that students are enrolled in for either M2 or M3 as part of the clinical curriculum, they receive one-hour lectures on the health risks of climate change. These lectures include small group discussion. This discussion also focuses on student reflections on required pre-work, which includes reviewing an interactive online module on climate change published by the New England Journal of Medicine (NEJM).
- As part of the Family Medicine Core Rotation, students receive a lecture on Planetary Health that includes a discussion of extreme heat, health risks, and climate change both globally and locally.
- Starting in 2024, students participate in a required Clinical Skills Lab (CSL) during the Developing Human (reproductive health) block titled, *"Introduction to Climate Change and Environmental Health Over a Lifespan."* CSL sessions include lecture, discussion, and practice case review components. Learning goals for this CSL include understanding the relationship between climate change and medical outcomes across the lifespan, how climate-related stressors like extreme heat and weather contribute to mental illness, the increased risk vulnerable populations face with respect to climate change and health, and resources and strategies to mitigate the health impacts of climate change. Cases included pregnancy and heat stress, neurodevelopment and air pollution, post-disaster post-traumatic stress disorder, and childhood leukemia and air pollution.

1.3. Does your medical school 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:	3

Score explanation:

- In the core curriculum for preclinical students, during the Cardio-Pulmonary-Renal (CPR) block, a lecture titled *"An Introduction to Planetary Health"* included a few slides on impacts on extreme heat events and climate change on health. It briefly mentions other types of extreme weather events but does not go into detail.
- As part of the required core curriculum, all M4s in the Transition to Residency course receive a one-hour lecture on Climate Change and Human Health. This lecture discusses extreme weather events and their effects.
- As part of the required Cancer and Infectious Disease intersessions that students are enrolled in for either M2 or M3, the required pre-work includes reviewing an interactive online module on climate change published by the New England Journal of Medicine, which discusses extreme weather events.
- As part of the Family Medicine Core Rotation, students receive a lecture on Planetary Health that includes a discussion of extreme heat events, wildfires, and other extreme weather events.
- The impact of extreme weather events on health is discussed during the Clinical Skills Lab, described in more detail in section 1.2.

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:	3

Score explanation:

- The Infection Intersession has a full lecture on climate change and changing patterns of disease including vector-borne diseases, water-borne diseases, and harmful algal blooms.
- The Transition to Residency course's lecture on Climate Change and Human Health has one slide on how changes in ecology due to climate change affect vector borne diseases, such as the increasing range of Lyme disease. In the required Cancer and Infectious Disease intersessions the NEJM interactive online module has a section on infectious diseases.

1.5. Does your <u>medical school</u> 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 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3

Score explanation:

- The Family Medicine Core Rotation lecture presents a clinical case related to heat and respiratory illness before diving into wildfires, air pollution, and adaptation measures.
- The Transition to Residency course's lecture on Climate Change and Human Health has one slide on air pollution, and the lecturer discusses causes of air pollution and the health effects, focusing on the high mortality. In the Cancer and Infectious Disease intersessions, the NEJM interactive online module has a section on air pollution.
- In the core curriculum for preclinical students, during the Cardio-Pulmonary-Renal (CPR) block, a lecture titled *"An Introduction to Planetary Health"* included a few slides on air pollution including effects on inhaled small particles on blood vessels, causes of death associated with air pollution, and well as the association between increased heat and ozone pollution. It is addressed as a learning objective within the lecture.
- Additionally, lectures on *"COPD", "Interstitial Lung Disease"*, and "*Asthma*" all mention air pollution as a contributing factor for exacerbating symptoms.

1.6. Does your <u>medical school</u> 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 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3

Score explanation:

- In the core curriculum for preclinical students, during the Cardio-Pulmonary-Renal (CPR) block, a lecture titled *"An Introduction to Planetary Health"* included slides on cardiovascular response to heat events. For example it details how vasodilatory effects of heat impact venous return, heart rate and impacts risk of CV pathology as well as interactions with the renal system.
- The Family Medicine Core Rotation lecture includes an in-depth discussion of the cardiovascular health effects of climate change including extreme heat, wildfires, and more.
- The Cancer and Infectious Disease intersessions NEJM interactive online module has a section on how climate change results in damaging cardiovascular effects.

- The impact of heat on health is discussed during the Clinical Skills Lab, described in detail in section 1.2.

1.7. Does your <u>medical school</u> 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 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2

Score explanation:

- During the Clinical Skills Lab, *"Introduction to Climate Change and Environmental Health Over a Lifespan,"* students work through a case on post-climate disaster post-traumatic stress disorder.
- One of lecturers for the CPR lecture *"An Introduction to Planetary Health"* is a trained psychiatrist and discussed some of the impacts climate change has on mental health including mentions of PTSD, depression, schizophrenia, and more.
- The Transition to Residency course lecture on Climate Change and Human Health has one slide on the mental health effects of climate change, including a bullet point on neurotoxicants.
- As part of the required Cognitive Intersession, M2 or M3 students receive a lecture on lead poisoning, which includes discussion of environmental degradation but does not incorporate climate change.

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 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3

Score explanation:

- In the core curriculum for preclinical students, in the Fundamentals block, a lecture about gram-negative rods briefly discusses the epidemiology of Yersinia involving animal reservoirs affected by food and water contamination.

- In the core curriculum for preclinical students, in the Blood and Host Defense (BLHD) block, a lecture about parasitology briefly describes the utility of simple water filtration in decreasing the burden of neglected tropical diseases.
- In the core curriculum for preclinical students, in the Skin, Bones, and Musculature (SBM) block, a lecture about skin parasites briefly describes how individuals in rural, deprived, and isolated communities depending on open stagnant surface water are at increased risk of Dracunculiasis (a neglected tropical disease).
- The Infection Intersession has a full lecture on climate change and changing patterns of disease including vector-borne diseases, water-borne diseases, and harmful algal blooms.
- In the Climate Change and Human Health elective, one out of the ten weeks in the course is dedicated to discussing food systems and climate change, and another week focuses on vector and waterborne disease, including discussion of water security and how severe weather events can threaten it. The elective also discusses ecosystem health in detail as part of the first week, which covers planetary health.
- Two lectures during the didactic phase of our curriculum discuss the relationship between climate change and increasing food insecurity, including *"Pediatric Well Child Care, Growth, & Developmental Milestones"* and *"Sustainable Diets for Health.*"

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 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3

Score explanation:

- In the core curriculum for preclinical students, in the Fundamentals block, a lecture about health disparities and social determinants of health briefly lists poverty and inequity as social determinants of health, citing the impact of climate change as an example
- As of 2023, the core curriculum for preclinical students, during the Cardio-Pulmonary-Renal (CPR) block, a lecture titled *"An Introduction to Planetary Health"* included a learning objective and associated slides related to the disproportionate impact of climate change on marginalized communities and those related to environmental justice. The lecture covers redlining, environmental racism and its physiological consequences. The session specifically explored these topics using Portland, OR as a regional example and compared it regionally to other urban areas.

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 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: ● In the Cancer Intersession, there is a brief discussion of climate justice and the unequal regional impacts of air pollution on airway cancers and respiratory-related deaths. ● In the Climate Change and Human Health elective, there is in-depth discussion of this topic through several assigned readings and lectures in week 1 (topic: planetary health and introduction to climate change) that specifically discuss OECD and non-OECD countries, including their carbon footprints and the effects of climate change on them.	

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 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: ● This topic is briefly mentioned in the core curriculum, primarily in the Developing Human block. On, on one slide in a lecture on infertility during the preclinical Developing Human didactic block that all M2s take. The slide has one bullet point that mentions environmental toxins as a cause of teratozoospermia. ● The previously mentioned CSL touches on the ways in which climate change affects pregnancies and fetal development, but does not specifically address the role of industry-related environmental toxins.	

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 point)
This topic was **not** covered. (0 points)

Score Assigned:	3

Score explanation:

- In the core curriculum for preclinical students, during the Cardio-Pulmonary-Renal (CPR) block, a lecture titled *"An Introduction to Planetary Health"* the lecture covers redlining, environmental racism and its physiological consequences. The session specifically explored these topics using Portland, OR as a regional example and compared it regionally to other urban areas. It also touches upon the impact of recent local extreme weather events such as the 2020 wildfires and the 2021 heat dome in Portland and the Pacific NW.
- In the core curriculum for preclinical students, during the Cardio-Pulmonary-Renal (CPR) block, a Pulmonary Pharmacology lecture has a few slides focusing on asthma, showing maps of the local area, and discussing links between asthma and freeways. The Transition to Residency lecture on Climate Change and Human Health includes a slide on air pollution. The lecturer discussed local wildfires that have affected local air quality levels during the past few years.
- In the Family Medicine Core Rotation lecture, there is an in-depth discussion of human-caused environmental effects on the local Portland and Oregon community such as extreme heat events, wildfires and air quality, algal blooms, etc.
- The abovementioned environmental threats are touched upon throughout the core curriculum in occasional lectures, the family medicine core rotation lecture, and the Infection and Cancer Intersessions.

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 point)
This topic was **not** covered. (0 points)

Score Assigned:	1

Score explanation:

- In the Climate Change and Human Health elective, week 1 includes a lecture and panel discussion with guests from Health in Harmony. This nonprofit international organization focuses on rainforest communities and uses their Indigenous knowledge and expertise about the rainforest to drive climate solutions. In a medical school specific elective on Native American and Alaskan Native Health, there is course content from and discussion around Indigenous perspectives on land and activism, including traditional ways of using land. For example, there is a required Native American Health Seminar series talk by Tara Houska, J.D. entitled "Climate, Identity, and our Health: Indigenous Lessons and Voice from the Front Lines to Prevent Climate Collapse".

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 point)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3

Score explanation:

- In the core curriculum for preclinical students, during the Cardio-Pulmonary-Renal (CPR) block, a lecture titled "*An Introduction to Planetary Health"* included a section on Environmental Justice, explaining how climate change exacerbates existing health disparities and vulnerabilities. This section included topics of outsized impacts on BIPOC and low-income communities, environmental sacrifice zones, environmental racism, and climate gentrification.
- In a required Clinical Skills Lab during the preclinical curriculum, a session on Race, Ethnicity, and Religion briefly discusses how the overwhelming majority of health disparities are accounted for by differences in socioeconomic opportunities and avoidance of environmental toxins.
- The Family Medicine Core Rotation lecture includes a discussion of urban heat islands, unequal air pollution exposure,
- The Transition to Residency lecture on Climate Change and Human Health has two slides on Climate Justice, discussing the inequitable impacts of aspects of climate change such as pollution and displacement.

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 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2

Score explanation:

- In the Developing Human block of the preclinical curriculum, a lecture entitled *"Nutrition for Wellness*" includes discussion of a healthy diet including plant-based proteins, but did not specify any environmental benefits of such a diet.
- In the Hormones and Digestion block of the preclinical curriculum, a lecture entitled *"Sustainable Diets for Health"* discusses the planetary health diet and its health and environmental benefits.

- The Transition to Residency lecture on Climate Change and Human Health has one slide on promoting a plant-based diet, and a bullet point describing that there are co-benefits for cardiovascular health and the environment. There is an attached figure showing the carbon footprint for various food items (types of meat, eggs, plants, etc.).
- The Climate Change and Human Health elective includes an intensive exploration of the planetary health diet and the impact of food production on planetary resources.

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:	3
Score explanation: ● The Family Medicine Core Rotation discusses in-depth the carbon footprint of healthcare systems, how we can build more sustainable health care systems, and some adaptations to clinical practice to create a greener clinic space. ● The Transition to Residency lecture on Climate Change and Human Health has two slides on how healthcare contributes to carbon emissions, including discussion of different aspects (travel, delivery, anesthetic gasses, etc.).	

1.17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	**Score**
The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment (2 points)	2
The environmental impact of **pharmaceuticals** and over-prescribing as a cause of climate health harm. Alternatively teaching on **deprescribing** where possible and its environmental and health co-benefits would 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)	1
Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how can it be mitigated. (1 point)	1
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	1

less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions. (1 point)	
The impact of **inhalers** on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers. (1 point)	1
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)	1

Score explanation:

- The Family Medicine Core rotation lecture discusses the environmental benefits of non-pharmaceutical management of conditions such as exercise, yoga, etc. and it also discusses reducing excessive healthcare utilization in general. The health benefits of both avoiding over-medicalization, healthcare utilization, and non-pharmaceutical training is addressed more in-depth throughout the didactic curriculum.
- The Transition to Residency lecture on Climate Change and Human Health has a few slides on adapting clinical practice, with the main one discussing "green medications" such as metered dose inhalers, "green" anesthesia, reduction of waste, evidence-based PPE usage, "green procedures", and preventive medicine such as effective chronic disease management in a primary care setting. This lecture also includes a discussion on the environmental consequences of surgical procedures and multiple slides on "greening" the operating room.
- Throughout the curriculum, there is emphasis on deprescribing where possible and avoiding over-medicalization or over-investigation, such as with a Choosing Wisely course. However, these generally discuss the health benefits of such actions without any mention of environmental benefit.
- The "*Introduction to Climate Change and Environmental Health Over a Lifespan"* CSL case discussions and learning objectives include learning about the ways in which healthcare systems and communities can mitigate climate-related impacts on health, accounting for social determinants of health.

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
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:	2

Score explanation:

- During the *"An Introduction to Planetary Health"* lecture strategies on communicating to patients regarding the impacts of climate change were explored using the case as a framework. Examples of these recommendations (in the context of an extreme heat event)

include improving adaptive capacity, importance of hydration and potentially skin wetting, and options for reducing exposure such as fans or cooling centers. The lecture detailed clinically relevant questions that could be explored during an encounter such as "do the windows in her home close tightly?".

- The "*Introduction to Climate Change and Environmental Health Over a Lifespan"* CSL addresses how to take a social and environmental history.
- The Transition to Residency lecture on Climate Change and Human Health has one slide on how to protect vulnerable patients, which mentions addressing patients about heat safety and air conditioning, hazardous air quality (particularly for patients with asthma and COPD), and planning for natural disasters. At the end of the lecture there is a link to an American College of Physicians Climate Change toolkit with education on how to talk to patients. Similar information is covered in the Family Medicine Core rotation lecture and the Interdisciplinary Climate Change and Human Health elective.

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:

- The required Clinical Skills Labs in which all students learn history taking skills do not include strategies for taking an environmental history. However, the Climate Change and Human Health elective (described in question 1) has a week dedicated to Communication, in which there is a 25-minute lecture on how to take a clinical environmental and exposure history. In the core curriculum for preclinical students, during the Cardio-Pulmonary-Renal (CPR) block, a lecture titled "An Introduction to Planetary Health" included an interactive activity where students assess a case of an older adult with complex medical history anticipating a forecasted heat wave and discuss possible recommendations. While the lecture provided some strategies on exploring a climate health history, in this case it was heat-exposure specific. Strategies on taking a broader climate-related history were not explored.
- The required CSL, *"Introduction to Climate Change and Environmental Health Over a Lifespan"* relies on case-based discussion to review how to take an environmental history and pertinent questions to ask.

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:

- There are medical students who are in the process of integrating longitudinal climate education throughout the didactic and clinical phase curricula to build upon existing materials. They are collaborating with the OHSU Climate Health and Education Taskforce to work on this project, this taskforce is a group of members of OHSU. To this end, they are doing a dedicated review of the curricula and developing a report to recommend additions to the curricula that would create a more robust coverage of climate change.
- In 2023, a medical student advocated for the addition and successfully integrated a lecture into the core didactic curricula titled "Introduction to Planetary Health" during the Cardiology, Pulmonary, Renal Block and led the session alongside two faculty members. This lecture is planned for its 3rd iteration in 2025.
- In 2024, a medical student advocated for the addition and successfully integrated a required clinical skills lab (CSL) *"Introduction to Climate Change and Environmental Health Over a Lifespan"* into the Developing Human block.
- The Climate Change Curricula and Education taskforce is part of the larger OHSU Sustainability Steering Committee and is composed of an interdisciplinary team of faculty, fellows, residents, and students developing and teaching curricula on climate change and human health. They have been expanding their lectures, recently incorporating standalone lectures on Climate Change into the Infectious Disease and Cancer intersessions (required components of the clinical curriculum for medical students, as described in prior questions) and into the required Transition to Residency course taken by M4s. They continue to expand, planning for incorporation of a similar lecture into the Cognitive Impairment intersession. In January of 2021, they started a new elective entitled Climate Change and Human Health, which is interdisciplinary and offered to all students, including medical students. In July of 2022 they created a lecture for the Family Medicine Core Rotation that is attended by all students in the rotation.
- Student interest is also driving planetary health education. OHSU Students for a Sustainable Future organize optional talks such as a panel on environmental health and an environmental health journal club are also organized by OHSU Students for a Sustainable Future.

1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> 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:

- Due to strides made within the last few years certain topics such as extreme heat exposure, air pollution/wildfires, infectious disease, and waste produced by the health sector have been incorporated more thoroughly throughout the core curriculum. This includes brief mentions in first-year lectures as well as a dedicated lecture *"Introduction to Planetary Health,"* and a newly integrated required clinical skills lab (CSL), "*Introduction to Climate Change and Environmental Health Over a Lifespan,"* followed by more robust exploration in clinical years and the Transition to Residency course. That being said, there is still room for further integration and exploration of these topics in the core curriculum.
- There are currently 6 major touch-points with full lectures devoted to these topics throughout the core curriculum with an optional elective and briefer mentions throughout.
- In 2023, a medical student advocated for the addition and successfully integrated a dedicated independent climate health lecture into the core didactic curricula titled *"Introduction to Planetary Health"* during the Cardiology, Pulmonary, Renal Block. They led the session alongside two faculty members that introduced the subject of planetary health to all medical students; it explored a case, detailed the impacts of air pollution and extreme heat on human physiology, explored environmental justice, and provided clinical recommendations regarding climate-related patient encounters.
- There are some faculty members that briefly explore climate related factors and how they impact physiology in their lectures, case in point the pulmonary pathology lectures explore air pollution as an exacerbating factor for chronic lung disease.

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:	0

Score explanation:
OHSU as an institution has a faculty-led Climate Change Curricula and Education taskforce that has been making changes as described in question 20. Faculty who have been on this taskforce have been incorporating planetary health into the curriculum, but on a voluntary basis. No faculty members are specifically employed to oversee this work.

Section Total (61 out of 72)	**84.7%**

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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: There are a number of faculty and residents at OHSU actively conducting research regarding planetary health, climate change, and healthcare sustainability. One interprofessional research group has published five academic articles in the last two years on the climate impact of virtual vs. in-person interviews for residency and improving awareness and knowledge among health professional students of the impact of climate change. Members of the Primary Care Climate Change and Health Program also conduct research on air quality, extreme heat, and the use of health information technology to improve climate-related health outcomes.	

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:	2

Score explanation:

- The Center for Primary Care Research and Innovation is in the process of creating the Primary Care Climate Change and Health Program that promotes research and multidisciplinary education. This center, headed by OHSU physicians and faculty, hopes to establish a network of climate and health focused researchers and medical providers to build climate change resilience within our local communities through education, public health policy and practice, research and innovation, and healthcare sustainability. While this center and proposed program is not an official department of OHSU, it is closely affiliated and has plans to serve as a center for interdisciplinary planetary health research at OHSU and beyond. https://bridgetoinnovation.org/our-initiatives/primary-care-climate-change-health-program/
- OHSU is home to the Oregon Institute of Occupational Health Sciences. This institute does include research into planetary health, but is also (and perhaps more primarily) focused on occupational exposures and workplace safety.

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 <u>institution</u>?
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:	0

Score explanation: Per the Senior Associate Dean of Research at OHSU, there is no such process.

2.4. Does your <u>institution</u> 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:	1

Score explanation:

- Through the Center for Primary Care Research and Innovation, there was a recently developed web page regarding research and education surrounding climate change at OHSU: https://bridgetoinnovation.org/our-initiatives/primary-care-climate-change-health-program/

2.5. Has your <u>institution</u> 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:	2

Score explanation: In April 2022 it hosted the <u>"Social and Environmental Exposures and the Developmental Origins of Health Disparities"</u> conference (brought to us by the Harvard T.H. Chan School of Public Health), bringing together social and environmental scientists interested in the interrelationships between social and environmental factors and their joint impact on health and wellbeing. The medical school has not itself hosted any symposia.

2.6. Is your <u>institution</u> 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: OHSU SOM is a member of the Global Consortium on Climate and Health Education and signed on to the HHS Health Sector Pledge in its first year.	

Section Total (9 out of 17)	**52.9%**

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Community Outreach and Advocacy

Section Overview: ***This section evaluates institutional 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 and 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:	2
Score explanation: ● OHSU partners with Health Care Without Harm, which tracks and supports the school's efforts to source fair-trade, organic, sustainable, and locally grown products. This is institution-wide, not specific to the SOM, but the SOM is included in this sourcing. ● Health in Harmony has a global and planetary health lecture that is a regular part of the OHSU SOM elective course on Climate Change and Human Health, but this is not directed at the community; IPE is taken by enrolled students. Their online module on Planetary Health is approved as a CE credit, which could be taken by the community, but it is primarily marketed to enrolled students.	

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:	1
Score explanation: While OHSU has offered lectures in the past, some of these courses were not offered more recently and they tend to be catered more towards students and staff in healthcare	

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: While there is no regular communication about planetary health and/or sustainable healthcare topics, OHSU sends out daily emails ("OHSU Now") with occasional articles on things like the Primary Care Climate Change and Health Program or the new efforts of a taskforce aimed at improving sustainability at the institution.	

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 provider. (1 point)	
There are **no** such accessible courses for post-graduate providers. (0 points)	
Score Assigned:	2
Score explanation: The Oregon Institute of Occupational Health Sciences' regular courses and seminars of regular opportunities to keep planetary health and sustainability knowledge up to date, however they are not generally "specifically" targeted to planetary health. Rather, they discuss planetary health from the occupational health perspective. In May 2021 they held a symposium called "Adapting to	

Climate Change for Worker Safety, Health, and Well-being" and the recording remains available online. Over the past few years there have been a handful of Grand Rounds eligible for CME credit that focused on effects of climate change on health. There are also regular continuing professional development opportunities coordinated by OHSU including climate content including this year in the 56th Annual Primary Care Review a lecture titled Tropical Diseases Heading North Due to Climate Change in 2025.

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:	0
Score explanation: As of right now, there are no readily accessible educational materials for patients regarding environmental health exposures to our knowledge.	

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 individual physicians cover climate change and health impact topics during their appointments (such as providing a handout on the Planetary Health diet to patients), but this is on an individual basis and this educational material is not regularly provided or made accessible to patients. Otherwise, there are no readily accessible educational materials for patients regarding environmental health exposures.	

Section Total (6 out of 14)	**42.86%**

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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:	1
Score explanation: There is no specific QI project requirement in the core curriculum. However, there is a general Scholarly Project requirement, which can be fulfilled by nearly any type of project, ranging from QI to clinical research to community outreach efforts. As such, a student pursuing a sustainability quality improvement initiative for Scholarly Project will be supported, and can apply for general funding available to students (i.e. Student Senate funding). Many students have taken this opportunity to explore research in sustainability and planetary health. There are no existing grants or requirements regarding sustainability-focused QI.	

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:	

There are no specific research programs or fellowships for students interested in Planetary Health However, as above, there is a general Scholarly Project requirement, which can be fulfilled by nearly any type of project, including research related to planetary health and/or sustainable healthcare. As such, a student pursuing a sustainability initiative for Scholarly Project will be supported, and can apply for general funding available to students (i.e. Student Senate funding). Many students have taken this opportunity to explore research in sustainability and planetary health. There are a number of faculty in the School of Medicine as well as residents at OHSU who participate in this kind of research and welcome student involvement. Students can reach out for mentorship and research on their own initiative.

4.3. Does the institution 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:	1
Score explanation: The website for the OHSU Primary Care Climate Change and Health Program includes a tab titled "research" that includes the abstracts and PIs for a couple of ongoing studies with links to their official bios, but there is no contact information and it is not comprehensive.	

4.4. Does your institution 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 medical school 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: OHSU's chapter of Students for a Sustainable Future (S4SF) is a student group aimed at increasing interest in and knowledge of the relationship between planetary and human health and is a local chapter of Medical Students for a Sustainable Future. The group receives substantial faculty support, including a faculty advisor and a close relationship with the faculty-led Climate Education and Curriculum Taskforce. The group is involved in many sustainability initiatives hosting Climate Cafes and offering sustainability and planetary health opportunities such as participation in the PHRC.

4.5. Is there a student liaison representing sustainability interests who serves on a <u>department or institutional</u> 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 points)	
No, there is no such student representative. (0 points)	
Score Assigned:	1
Score explanation: The OHSU Climate Curriculum and Education Taskforce welcomes student representatives to join in their meetings. While there is not a single student that attends these meetings, there is a rotating group of students who attend and provide a student voice to discussions around strategic planning, curriculum reform, and sustainability goals for the school. Students were also invited to take part in an interview with a new taskforce aimed at improving sustainability at the institution.	

4.6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	**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.	0
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.	0
Cultural arts events, installations or performances related to planetary health that have students as an intended audience.	0
Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.	0

Wilderness or outdoors programs (e.g., that organise hiking, backpacking, kayaking, or other outings for students)	1
Score explanation: The OHSU S4SF chapter hosts events during required enrichment weeks for preclinical students and hosted Climate Cafes alongside the Climate Change Curriculum and Education Taskforce faculty for all students. There are also a variety of other interest groups and clubs (ex: Wilderness Medicine Interest Group, Fly Fishing Interest Group, OHSU Climbing Club) that host events encouraging students to get outdoors.	

Section Total (8 out of 15)	**53.3%**

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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:	1
Score explanation: There is a current sustainability taskforce that has been at work over the past year to assess campus sustainability, but there is no salaried staff or full-time member of staff dedicated to this cause.	

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:	1
Score explanation:	

OHSU formally committed to reducing carbon emissions in November of 2022 with a plan to, at a minimum, reduce organizational emissions by 50% by 2030 (from a baseline of 2008) and achieve net-zero by 2050, publicly accounting for progress on this goal every year. This includes ● Publicly sharing strategies for reducing on-site emissions (where relevant addressing sources related to on-site energy usage, waste anesthetic gasses, vehicle fleets and refrigerants)

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:	2
Score explanation: Per a report, in 2019 OHSU partnered with Portland General Electric and other customers to build Pachwaywit FIelds, a 162-megawatt solar and battery facility in Oregon which opened in 2022. In 2023, OHSU projected to purchase 87% of its power from carbon-free sources and of set 3% of emissions from power through solar of sets. OHSU is on track to buy 100% of its power from PGE's carbon-free renewable resources by 2035.	

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:	2
Score explanation:	

● OHSU is designing and constructing all new buildings to aim for LEED Gold certification ● The Knight Cancer Research Building was LEED Platinum certified on April 4, 2019. ● The Center for Health and Healing 2 (CHH2) was LEED Gold certified on July 8, 2019. ● The Elk's Children's Eye Clinic was LEED Gold certified on April 22, 2022. ● The OHSU Inpatient Addition is on-track for LEED Silver certification. ● The Doernbecher Children's Hospital Addition is in design for LEED Gold

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: OHSU plans to reduce single-occupancy vehicle commuting below 30% by 2027. Pre-COVID, alternative transportation accounted for a total of 823,983 saved trips, avoiding nearly 3 million pounds of CO2 production. OHSU has currently implemented multiple strategies including alternative commuting incentives (ex: $1.50/day for every bike commute), organizing the "largest bike parking lot" and valet (Go By Bike) for students and employees that also offers repairs and tune-ups, including bike infrastructure in building design, and providing free or discounted public transportation options for students and faculty.	

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:	

OHSU offers composting and recycling in all buildings. As part of its composting program, OHSU composts approx. 200,000 pounds of food waste each year.· Despite the challenges of the rapidly changing recycling market, OHSU continues to increase its recycling rate, diverting 26% of solid waste from the landfills. By recycling single-use medical devices for reuse, OHSU diverted 18,000 pounds of waste from the landfill.

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: 50% of the meat purchased by OHSU is locally raised without the use of sub-therapeutic antibiotics and 15% of produce is locally grown. A regular onsite farmers market on campus also provides sustainable food options for patients, visitors and staff . That being said, there are no "meat-free days" and there is significant room for improvement.	

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: There is a "Commitment to Sustainable Solid Waste Management, Reduction and Recycling" document that went into effect on 10/22/2010 where there is a bullet point for "environmentally	

preferable purchasing" that says: "The procurement of goods and services that have a reduced impact on human health and the environment as compared to other goods and services servicing the same people." There are a number of individuals working to improve the sustainability of utilized supplies.

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:	0
Score explanation: We do not have any sustainability requirements for events that planners must meet.	

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:	0
Score explanation: We found evidence of upgrading controls in lab buildings over the past several years to make them more energy efficient and reduce the amount of air flowing through the labs, reducing energy consumption for heating, fan power and cooling. Labs in two buildings have been upgraded and a project in another lab building is currently being wrapped up.	

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: The OHSU Foundation currently has 2-3% of its endowment invested in oil and gas, but due to the Students for a Sustainable Future divestment campaign they have agreed to partially divest and anticipate less than 1% investment in the future. That being said, OHSU incorporates environmental, social and governance (ESG) considerations into its long-term investment strategy; as of March 2022, ESG investments total $890 million or 63% of university-held investment assets. OHSU utilizes investment strategies and managers that encourage corporations to reduce carbon footprints by explicitly incorporating ESG scoring in their investment evaluation process	

Section Total (16 out of 32)	**50%**

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Energy and Water Conservation:

- In 2010, OHSU established an Energy Reserve Account (ERA), into which OHSU reinvests half of all energy cost savings to support energy efficiency projects.
- As of 2023, energy investments have saved OHSU roughly $9.8 million to date. o Savings in 2021 is estimated at more than 15 million kWh, 1.2 million therms of natural gas, and 11 million gallons of water.
- Between 2010 and 2023, OHSU earned $3.6M in incentives from the Energy Trust of Oregon for efficiency projects

Wildlife Habitat

- OHSU owns and maintains over 50 acres of natural area in the West Willamette wildlife corridor. OHSU committed 30 acres of this to a conservation easement protecting this land from development in perpetuity.
- Green Roofs and Stormwater Mitigation: Portland has a combined sewer outfall, meaning that in times of unusually heavy rainfall, building sewage runs into the stormwater system and directly into the Willamette River. Since 2007, OHSU has installed over 135,000 square feet of green roofs in new buildings and on existing buildings to reduce the impact of stormwater runoff on fish habitat.
- In 2017, OHSU's Schnitzer Campus achieved Salmon-Safe Certification demonstrating OHSU's commitment to protecting water quality, maintaining watershed health, and restoring habitat.

Climate Resiliency Planning

- In 2017 and 2020, wildfires in Oregon, Washington and California created prolonged air quality impacts to the Portland area. Building ventilation systems were adjusted to minimize the introduction of outside air, and portable air scrubbers were distributed within buildings to minimize the smell of smoke. All critical buildings have high efficiency (MERV >13) air filters to remove more than 95% of contaminant particles. Sensitive areas, such as Oncology, use HEPA filters in the building HVAC system.
- OHSU reduces fire hazards on campus by managing vegetation and reducing flammable landscape mulch.
- OHSU has installed real-time air quality monitoring at several building air intakes, and has developed response plans for the building operations teams to adjust outside air ventilation rates and distribute portable air cleaners as needed.

Power Grids

- Regional power grids are vulnerable to failure from high winds, storms, and wildfires. o OHSU has worked closely with Portland General Electric to move campus electrical feeds underground, or install “tree wire” that is protected from tree branches blowing in high winds.
- OHSU is continually improving the backup generator network, and during a widespread power outage in the summer of 2019, they were able to run hospitals and other critical buildings completely off-grid for several hours

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(61/72) x 100 = 84.7%	A
Interdisciplinary Research (17.5%)	(9/17) x 100 = 52.9%	C
Community Outreach and Advocacy (17.5%)	(6/14) x 100 = 42.9%	C-
Support for Student-led Planetary Health Initiatives (17.5%)	(8/15) x 100= 53.3%	C
Campus Sustainability (17.5%)	(16/32) x 100 = 50%	C
Institutional Grade	**(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = 60.3%**	**B-**

Report Card Trends

Section Overview

This graph demonstrates trends in overall and section grades for the years in which **Oregon Health & Science University (OHSU)** has participated in the Planetary Health Report Card initiative.