Planetary Health Report Card (Medicine):

University of Hawai‘i

John A. Burns School of Medicine

2024-2025 Contributing Team:

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We would like to acknowledge the Native Hawaiian people (kānaka ‘ōiwi), who possess multigenerational knowledge of sustainable health and on whose land JABSOM sits upon.

Summary of Findings

Overall Grade	B

Curriculum	B

- Strengths: JABSOM has successfully expanded its core curriculum by integrating testable learning objectives that address how climate change impacts various aspects of patient health. Students also benefit from numerous activities, programs, and clubs focused on sustainability and global health.
- Weaknesses: The core curriculum lacks sufficient focus on (1) the global impacts of climate change, (2) sustainable clinical practices, and (3) taking an environmental history. While progress has been made, deeper longitudinal integration of climate change topics is still needed.
- **Recommendations**: JABSOM should further develop its PBL cases and clinical skills training to include environmental history and incorporate sustainable clinical practices into Learning Communities to encourage future-oriented thinking about sustainability in healthcare.

Interdisciplinary Research	A

- JABSOM remains committed to planetary health and actively participates in planetary health organizations. However, further efforts are needed to streamline and increase medical student involvement in these initiatives.
- **Recommendations:** JABSOM should organize a research meet-and-greet event to connect its researchers as well as researchers from other disciplines at the University of Hawaii such as Public Health and SOEST (School of Ocean and Earth Science and Technology) who are doing work connected with Climate Change with medical students. This would help foster collaboration and help students better understand the opportunities available in sustainable research.

Community Outreach and Advocacy	B-

- JABSOM has continued to be involved with several local organizations such as the Climate Change and Health Advocacy working group, a multidisciplinary group consisting of members of academia, government, nonprofits and grassroots community organizations. A MS4SF faculty is on the steering committee and the Hawaii MS4SF members attend meetings. The institution also holds multiple community-facing events that allow the general public and providers to learn more about climate advocacy and aspects of planetary health.
- **Recommendations**: JABSOM should maintain its collaborations with the organizations it has worked with and look for ways for students to help expand communications about planetary health and sustainable healthcare.

Support for Student-Led Initiatives	B

- JABSOM supports Student-Led initiatives and co-curricular activities. Specifically, JABSOM supports the OneHealth Certificate of Distinction and the Medical Students for a Sustainable Future (MS4SF) organization. The MS4SF students organize a required once yearly 3 hr Climate Change Medical Student Symposium which is supported by the Office of Medical Education.
- **Recommendations**: JABSOM should continue to expand ways for students to communicate their sustainability ideas and foster collaborations between different interest groups to implement initiatives. One specific recommendation that we believe will be easy to initiate and useful for future goals is a website dedicated to sustainability, which currently does not exist. This website would detail available research

projects, involved faculty, MS4SF information and upcoming events/initiatives. As part of the website information, we would like to make more accessible details of funding available for sustainability projects and how to access these opportunities; there is currently funding available, but sources/application processes/requirements are unclear. Additionally, we recommend continuing to increase focus on sustainability in the curriculum, including creating a dedicated Dean's Certificate of Distinction, or expanding the One Health Certificate to encompass sustainability. This process should begin with appointing a member of MS4SF to liaise with the student council Curriculum Representative in order to bring sustainability to the curriculum more conspicuously, with the long-term goal of a dedicated sustainability representative to the school decision-makers.

Campus Sustainability	**C+**

- The John A. Burns School of Medicine does have a few efforts in place with the goal of providing a more sustainable campus such as transportation services, recycling options, water refill stations, as well as a naturally powered cooling system.
- **Recommendations:** Areas of improvement would be the infrastructure and utilizing more renewable energy sources, discouraging use of one time use plastics and plastic water bottles as well as trying to work with our food vendors to incorporate more sustainability.
- The medical school can implement their own plan to reduce its carbon footprint. Along the same lines, a letter can be sent to the administration regarding the request to fund more renewable energy sources. In addition, compost bins could also be a new facility of the campus. Lastly, we could also develop a certification to incentivize "eco-friendly" events held at the school.

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

As future health professionals, we must be prepared to address the impacts of human-caused environmental changes on our patients' health. This preparation is in the hands of the institutions providing our medical training. It is imperative that we hold our institutions accountable for educating medical students about the health impacts of climate change and other anthropogenic environmental changes, generating research to better understand health impacts and solutions, supporting related student initiatives, embracing sustainable practices as much as possible, and engaging with surrounding communities that are most affected by environmental threats. Because climate change and environmental threats disproportionately affect vulnerable populations (for example, communities of colour, older adults sensitive to health threats, and individuals in low-resource settings), these issues are inherently ones of equity and justice.

With the purpose of increasing planetary health awareness and accountability among health professional schools, we have created a Planetary Health Report Card that students internationally can use to grade and compare their institutions on an annual basis. This student-driven initiative aims to compare health professional schools nationally and internationally on the basis of discrete metrics in five main category areas: 1) planetary health curriculum, 2) interdisciplinary research in health and environment, 3) university support for student planetary health initiatives, and 4) community outreach centred on environmental health impacts 5) medical school campus sustainability.

Instructions for Completing the PHRC

Thank you! We are really pleased to have you and your team on board to complete the PHRC at your institution. Many of you will have already been part of a completed report card or even lead the team at your school but please take a moment to read the instructions below.

For a full comprehensive step-by-step guide to completing your report card please refer to the PHRC User Guide. This page serves as a brief overview of the important methodology.

Completing the report card:

The Planetary Health Report Card is a self assessment tool designed to identify an institution's strengths and areas in need of improvement in regards to its planetary health education. The metric-based report card consists of five sections; 1. Curriculum, 2. Interdisciplinary Research, 3. Community Outreach, 4. Support for Student-Led Initiatives and 5. Campus Sustainability.

- **Metrics.** There are roughly 55 metrics (depending on your discipline). Sections 2-5 are the same across all disciplines. Each metric has different criteria for either scoring 1, 2 or 3 points. Participants should read each metric carefully and answer the question with as much accuracy as possible, drawing upon multiple sources where possible. It is vital sufficient investigation is completed for each metric to give a fair and accurate representation of your institution.

  Most of the Curriculum metrics are graded by inclusion in **elective** coursework, **brief** coverage in the **core curriculum** or **in depth** coverage in the **core curriculum.**

  > **Elective coursework:** This score applies to material that is actively selected by the students such as a module choice, or additional lecture series. By implication, only a given proportion of the cohort will receive this taught material.
  >
  > **Brief** coverage in the **core curriculum**: This score applies where a topic is covered only briefly in a core curriculum session. This implies that the entire cohort receives the same material. Brief inclusion would qualify as inclusion in a single lecture slide in a single year.
  >
  > **In depth** coverage in the **core curriculum:** This score applies where a topic is taught in significant detail or where a topic is repeatedly brought up in different years. This might look like several dedicated lecture slides, or inclusion of the same topic in different lectures and teaching formats. Please consider amongst your team that this is the highest score awarded and a subjective decision must be made as to whether the topic should be awarded this score.
  >
  > (A full list of definitions is provided on the below pages)

- **Types of evidence.** Acceptable forms of evidence include: lecture titles, learning objectives, module descriptions, descriptions of the intended learning, case titles, seminar titles, project titles, webpages, researcher profiles / biographies, news articles, publications, social media output, institutional policy documents. Please be as specific as possible.

  It is essential that you have clearly justified the score for each metric, outlining in the box provided the specific content delivered in your curriculum and why you have assigned the

score. Each report card is reviewed by a member of the leadership team for accuracy and consistency across report cards. An example of the sufficient level of evidence is provided below each metric.

Please do not include **lecturers' names** without permission. The title of the lecture or module with a brief description of the material will suffice.

Where material is publicly available via an institution's website, please include hyperlinks to the webpages.

- **Evidence deadline.** Any material from the previous academic year and the current academic year up to the draft deadline of the **17th February 2025** may be included in this report card. Any teaching planned after this date should not be scored in this report card but can be included in the 2025/26 report. You may wish to make a note of any such teaching for your colleagues producing next year's report card.

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 medical school 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 medical student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.

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

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

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

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

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

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

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

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

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

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

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

- **Anthropogenic:** Created through human activity

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

Other considerations:

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

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

Planetary Health Curriculum

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

Curriculum: General

1.1. Did your medical school offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
Yes, the medical school has offered **more than one** elective whose primary focus is ESH/planetary health in the past year. (3 points)	
Yes, the medical school has offered **one** elective whose primary focus is ESH/planetary health in the past year. (2 points)	
The medical school does **not** have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a **lecture** on planetary health. (1 points)	
No, the medical school has **not** offered any electives on planetary health or electives that include ESH/planetary health topics in the past year. (0 points)	
Score Assigned:	3
Score explanation:"Native Hawaiian Health: Past, Present, and Future" community health elective offers lectures and activities that engage students with environmental topics and volunteering. Furthermore, One Health offers both a certificate of distinction and an extracurricular club that allows students to study the interdependence of human medicine, veterinary medicine, and ecosystem health, including that of wildlife.	

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: At JABSOM, the cardiovascular and pulmonary unit includes a PBL case that discusses the impact and mechanism of heat-related illnesses. "Explain the mechanism of heat-related illnesses. Summarize and describe the signs, symptoms and treatment of heat-related illnesses." This learning objective prompts students to explore the effects of climate change, such as rising global temperature levels, on health. JABSOM also includes a lecture focused on heat-related illnesses: "One Health: Heat-related illness". This lecture explained climate change and global warming, how humans contributed to these phenomena, impacts of climate change on human health, the types of heat-related illness a physician may encounter, high-risk groups for heat-related illness and other risk factors associated with heat-related illness, and what clinicians can do to protect their patients from heat-related illness. It also included an activity where students worked in small groups to explore heat-related illnesses as a result of rising global temperatures due to climate change.	

1.3. Does your <u>medical school</u> curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	3
Score explanation: At JABSOM, there is a required MS1/MS2 Symposium: Climate Change and Health which in 2024 addressed the 2023 Maui Wildfire. This included a panel on the Maui wildfires, a devastating and extreme weather event, and its effects on the Maui community and mental health and healthcare infrastructure.	

1.4. Does your <u>medical school</u> curriculum address the impact of climate change on the changing patterns of infectious diseases?	
This topic was explored **in depth** by the **core** curriculum. (3 points)	
This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: JABSOM has an MD5 elective course that discusses the impact of climate change on infectious diseases. JABSOM also includes PBL learning objectives in the	

gastrointestinal and endocrine unit. Climate-related learning issues in this unit centered on infectious disease in LMICs vs HICs, risk factors, and climate migration and sea level rise impacts on islands in the Pacific.

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:	2
Score explanation: JABSOM's core curriculum includes a learning objective "Summarize the risk factors of chronic bronchitis and pneumonia," which explores the effects of irritants such as air pollutants on the prevalence and general epidemiology of chronic bronchitis and pneumonia. There is also a PBL case that focuses on interstitial lung diseases and how they are affected by pollutants.	

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: At JABSOM, the cardiovascular and pulmonary unit has a PBL case that focuses on how heat can affect the cardiovascular system, specifically myocardial infarctions. The learning objective in this case is "Summarize and describe the signs, symptoms and treatment of heat-related illnesses."	

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: At JABSOM, the Lahaina wildfire required medical student symposium included presentations and talks about the psychological, socio-economical and environmental impact of the recent Maui wildfires. However, JABSOM does not include a PBL case in their core curriculum regarding environmental degradation and its neuropsychological impacts.	

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:	2
Score explanation: At the beginning of medical school, students are sorted into a learning community (a.k.a. Moku which is a traditional Native Hawaiian land division). This year, students visited their assigned moku area of the island, where they learned about issues including food and water security, sustainability, ecosystem health, conservation, and climate change as it pertains to their moku. This topic is also extensively addressed in the Native Hawaiian Health past, present and future elective.	

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:	2

Score explanation: At JABSOM, in the MD3 PBL course, a case briefly mentions the impact of climate change on the increased immigration to Hawaii from those living in the pacific islands. The same case focuses on two patients that are houseless and how it has impacted their health, specifically the lack thereof, leading to pyelonephritis and previously undiagnosed VUR. There is also an MD4 PBL case that addresses sea level rise, salt water inundation of fresh water sources and climate refugees from Pacific Islands who become marginalized, low SES communities in Hawaii.

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:	3
Score explanation: There is an MD4 PBL case that addresses sea level rise, salt water inundation of fresh water sources and climate refugees from Pacific Islands who are unjustly, disparately impacted by climate change and their immigration to Hawaii and elsewhere resulting in being members of marginalized, low SES communities in Hawaii. *Research Opportunities by JABSOM's Department of Tropical Medicine, Medical Microbiology, and Pharmacology offers a transnational look at how regions in the Pacific are uniquely affected by climate change and its impacts on community health.*	

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: At JABSOM, the PBL core curriculum focuses on teratogenic substances during embryology lectures in the introductory (MD1), life cycle (MD7), and endocrine unit (MD4). However, their relation to air pollutants, pesticides, and other factors contributing to climate change are briefly talked about.	

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:	2
Score explanation: At JABSOM, there are required colloquia that discuss the environmental threats relevant to our surrounding community, specifically, the effects of overfishing and coral reef destruction on local fishing practices. The "Native Hawaiian Health: Past, Present and Future" elective also explores this subject. Furthermore, at the beginning of medical school, students are sorted into a learning community (a.k.a. moku), and this year students visited their assigned moku, area of the island, where some learned about environmental topics relating to that community.	

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:	3
Score explanation: So far, JABSOM stands out as one of the few medical schools in the U.S. to feature a department focused on Indigenous health, specifically the Department of Native Hawaiian Health. The school's core curriculum extensively covers Native Hawaiian health disparities, integrating these topics into community health workshops, lectures and problem-based learning (PBL) cases. The School acknowledges the importance of indigenous knowledge systems. The philosophy of Native Hawaiian health is deeply connected to environmental health. Additionally, students have the option to explore these subjects further through electives, research opportunities, and the chance to earn a certificate of distinction in Native Hawaiian Health.	

1.14. Does your <u>medical school</u> curriculum address the outsized impact of anthropogenic environmental toxins on marginalised populations such as those with low SES, women, communities of colour, children, homeless populations, Indigenous populations, and older adults?
This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)	
This topic was covered in **elective** coursework. (1 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: As part of the standard PBL curriculum, there are cases that hint at the vulnerabilities of certain at-risk populations to anthropogenic environmental toxins. Students are encouraged to explore the consequences of such exposures. In MD4 PBL case one learning objective is: "describe what phthalates are, list potential sources of phthalates, and describe effects of phthalate exposure on endocrine function." Additionally, a lecture given by Mālama Mākua in the "Native Hawaiian Health: Past, Present, and Future" community health elective talked about possible health impacts of environmental pollution from military activities such as bombing and dumping in the underserved community of Waianae on Oahu.	

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:	3
Score explanation: A core community health lecture given by a Kokua Kalihi Valley representative addressed the importance of food security and resilience for Hawaii, as well as the implications this has for both human and environmental health. Multiple excursions into the community lo`i (taro patches) in the "Native Hawaiian Health: Past, Present, and Future" community health electives also emphasize this point. In their first years, medical students are strongly encouraged to complete nutrition modules and participate in certain diets, including plant-based diets. Certain lectures given, for instance, by Ekahi Health, also speak to the health benefits of a plant-based diet. Optional virtual events and talks hosted by JABSOM Blue Zones or the Lifestyle Medicine Interest Group also encouraged participation in a plant-based diet and conveyed its environmental benefits as well.	

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 point)	
This topic was **not** covered. (0 points)	
Score Assigned:	2
Score explanation: MD1: HCP5–Cases discusses how health centers in Hawaii are finding ways to promote sustainability, such as Kaiser-West Oahu's Clinic. It states: "You are so happy to be based at the multi-specialty Kaiser West-Oahu clinic, because you grew up on the WestSide and feel connected to this community. The clinic is state of the art and also has a lot of features that make it an extra sustainable facility, including its own power grid powered through photovoltaic panels." This part of a case encourages students to consider "sustainable facilities," as well as what makes a facility "sustainable," and learn about photovoltaic panels.	

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)	0
The environmental impact of **pharmaceuticals** and over-prescribing as a cause of climate health harm. Alternatively teaching on **deprescribing** where possible and its environmental and health co-benefits would fulfil this metric. (2 points) .	0
The health **and** environmental **co-benefits** of **non-pharmaceutical management** of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK. (1 point)	1
Environmental impact of **surgical** healthcare on planetary health and the climate crisis, and how can it be mitigated. (1 point)	0
The impact of **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anaestheisa's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions. (1 point)	0
The impact of **inhalers** on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers. (1 point)	0
Waste production within healthcare **clinics** and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting) (1 point)	0
Score explanation: A required Institute for Healthcare Improvement (IHI) module addressed waste production within the healthcare system. More lifestyle medicine or social prescribing approaches are being introduced to the curriculum, but so far the MD1 Health and Illness unit does include a "Healthy Living" lecture on exercise, diet, and weight control.	

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: An example of training for this topic in the curriculum was in "Lecture - MD1 One Health: Heat-related illness" on 09/13/24. This lecture included an activity where students worked in small groups to explore heat-related illnesses as a result of rising global temperatures due to climate change, including how to talk to a patient about how his health was affected by climate change.	

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:	0
Score explanation: JABSOM does not currently implement strategies for taking an environmental history or exposure history.	

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:	2

Score explanation: One Health has a certificate of distinction and the One Health initiative aims to equip medical students with a foundational understanding of One Health principles, enabling them to apply this knowledge to interconnected issues affecting human, animal, and environmental health. Additionally, students are encouraged to share their insights with peers by contributing to the medical education curriculum or presenting their research findings to the JABSOM community, we are working on adding and improving to this COD as well as implementing an interdisciplinary panel/symposium that shines a light on this opportunity and encourages students to get involved with ONE Health. There is a goal to have at least one PBL case per 8-10 week unit address some aspect of climate change. Some units could have that increase to up to 2 cases. Faculty are currently reviewing cases to see which can be adapted to introduce climate change topics.	

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: Topics are included in PBL in each block across the two years, furthermore, to obtain a One Health certificate of distinction, one must engage with the curriculum throughout all four years.	

1.22. Does your <u>medical school</u> employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?
Yes, the **medical school** has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (1 point)
No, the **medical school** does **not** have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (0 points)

Score Assigned:	1
Score explanation: At JABSOM, there are three faculty members focused on planetary health and sustainable healthcare. Dr. Omori, Dr. Kamaka, and Dr. McMillan. They ensure that there are incorporations of planetary health and sustainable healthcare across the PBL cases and medical school curriculum.	

Section Total (49 out of 72)	**68%**

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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: Researchers have been actively engaged in sustainability and climate research within the past year. In August 2024, "One Health in Medical Education: A Proposed Framework" was published by JABSOM faculty and medical students offering an analysis of how certificates of distinction, outreach activities, and electives related to planetary and human health can be further integrated into the JABSOM curriculum. *Specific researchers in our Department of Topical Medicine, Medical Microbiology, & Pharmacology are Dr. Sandra Chang who studies OneHealth Education and Dr. Jennifer Honda who studies environmental, host, and microbial factors driving nontuberculous mycobacterial lung disease emergence.* *In addition, Dr. Alika Maunakea is doing a longitudinal 5 year study of health impacts (physical esp pulmonary and exposure to heavy metal, mental and social) on Lahaina wildfire survivors (MauiWES). Several JABSOM students have been involved with screening activities in the study.*	

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

There is **not currently** a department or institute for interdisciplinary planetary health research, but there are **plans** to open one in the next 3 years. (2 points)
There is an **Occupational and Environmental Health department**, but no interdisciplinary department or institute for planetary health research. (1 points)
There is **no** dedicated department or institute. (0 points)

Score Assigned:	3

Score explanation: JABSOM has a Department of Tropical Medicine, Medical Microbiology, and Pharmacology whose primary mission is "Development of a program addressing the linkages between environmental and human health directly benefits ecological and human health in Hawai'i and the Pacific region, and complements the biomedical research component of the School of Medicine's vision, and has both direct and indirect economic benefits that will generate research results applicable to addressing environmental and human health problems worldwide." Key faculty members (Chang, McMillan) are active members (Dr. Chang is a subcommittee chair) of the multidisciplinary and multi-institutional Climate Change and Health Working Group.

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:	3

Score explanation:
JABSOM faculty are involved in the community listening groups occurring with the Climate Change and health working group. Several have occurred in rural, primarily Native Hawaiian communities on Oahu and plans are being made to include neighbor island communities. Listening groups enable the group to hear community concerns and is resulting in increased advocacy and encouraging research initiatives (initial interest is coming from the UH schools of nursing and public health) and advocacy for these issues. JABSOM Certificate of Distinction in Native Hawaiian Health students are being encouraged to pursue these topics as well.
In our annual climate symposium this year, we invited speakers from the community who were personally affected by the Lahaina fires in Maui. One of our main panelists was Tina Boteilho, is a Maui resident and is a Licensed Marriage & Family Therapist. Since the Lahaina fires, she has helped coordinate psychological support and treatment for first responders and survivors. Further, she helped develop Malama Na Keiki, a program that provides mobile counseling to children who have been affected by the wildfires.

2.4. Does your institution have a planetary health website that centralises ongoing and past research related to health and the environment?	
There is an **easy-to-use, adequately comprehensive** website that **centralises** various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities. (3 points)	
There is a website that **attempts to centralise** various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive. (2 points)	
The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment. (1 point)	
There is **no** website. (0 points)	
Score Assigned:	3
Score explanation: The Institute for Sustainability and Resilience at Manoa serves as the University of Hawaii's central resource for all students and faculty. The page includes all information regarding the institution's events, research, outreach, and academics regarding sustainability, global health, and interdisciplinary programs.	

2.5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
Yes, the **institution** has hosted at least one conference or symposium on topics related to planetary health in the past year. (4 points)	
Yes, the **institution** has hosted at least one conference or symposium on topics related to sustainable healthcare/vetcare in the past year. (3 points)	
Yes, the **institution** has hosted a conference on topics related to planetary health / sustainable healthcare/vetcare in the past three years. (2 points)	
The **institution** has not hosted any conferences directly, but they have provided financial support for a local planetary health event. (1 point)	
No, the **institution** has not hosted a conference on topics related to planetary health in the past three years. (0 points)	
Score Assigned:	3
Score explanation: Alongside our annual climate symposium, JABSOM co-sponsored along with the National Council of Asian Pacific Islander Physicians and the Ahahui o na Kauka (Association of Native Hawaiian Physicians), a symposium "ALOHA 'ĀINA: HE HULIAU I KA PONO, A Turning Point for Planetary Prosperity" that was a two-day educational (CME) and advocacy training conference for physicians and healthcare providers with the goal of addressing climate change and health issues in Pacific communities.	

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: The University of Hawaii is a member of the Consortium of Universities on Global Health since 2021 as well as the Global Consortium on Climate and Health education. Members of the MS4SF faculty are members of the Medical Society Consortium on Climate and Health and National Academy of Medicine climate change, human health and equity.	

Section Total (16 out of 17)	**94%**

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Community Outreach and Advocacy

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

3.1. Does your institution partner with community organisations to promote planetary 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 has participating in community focused events relating to planetary health. (1 point)	
No, there is **no** such meaningful community partnership. (0 points)	
Score Assigned:	3
Score explanation: JABSOM has partnered with multiple community groups to promote environmental health. Some of these organizations include Kokua Kalihi Valley, Ka‘ala Farms, Papahana Kuaola, Paepae He‘eia, Kako‘o ‘Ōiwi, Kamakau School (Hawaiian Language immersion school), Ma‘o Farms, Blue Zones, and 808Cleanups.	

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/medical school** have not offered such community-facing courses or events. (0 points)

Score Assigned:	3

Score explanation: UH Mānoa's educational efforts extend past the campus and students to the community through annual events that highlight sustainability and provide information to the community about planetary health and the environment. One such event is the Agriculture and Environmental Awareness Day, hosted by UH Mānoa's College of Tropical Agriculture and Human Resources. The institution also has a speaker series called the UH Better Tomorrow Speaker Series, which features recorded events about climate action.
Another community-facing event is ALOHA 'ĀINA: HE HULIAU I KA PONO, A Turning Point for Planetary Prosperity, which was hosted by 'Ahahui o nā Kauka (Association of Native Hawaiian Physicians) as well as other organizations, including JABSOM. The conference provided education and advocacy training for physicians and healthcare providers to address climate change and health issues in our Pacific communities.
JABSOM offered a native plant sale with education. JABSOM also had a film screening of the "Infected Earth" Documentary and panel discussion, which was open to the public.
Finally the, JABSOM students taking the Native Hawaiian Health Past, Present, Future course teach about climate change and heat illness as well as sea level rise and severe weather to high school students at Kamakau School (a public charter Native Hawaiian language immersion school)

3.3. Does your institution 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:	0

Score explanation: JABSOM does not provide regular coverage of issues related to planetary health and/or sustainable healthcare. Several JABSOM student groups have visited the Kaiser Kapolei clinic which is GOLD LEED certified (has its own solar powered microgrid, recycles some water, etc) and learned about the importance of sustainable healthcare on those tours/visits. This coverage has the potential to be a student-led initiative.

3.4. Does the institution or main affiliated hospital trust engage in professional education activities targeting individuals post graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?

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:	1

Score explanation: JABSOM does not regularly offer CME courses on planetary health and sustainable healthcare topics. However, in January 2025, JABSOM offered CME for a climate change and health conference called ALOHA ʻĀINA: HE HULIAU I KA PONO, A Turning Point for Planetary Prosperity. The major focus of the conference was to examine how climate change and health issues impact Pacific communities. This training was aimed at physicians and healthcare providers. Plans are underway to offer it on a yearly or biennial basis.
In addition, internal medicine residents in the Kaiser Permanente program (a JABSOM teaching partner institution) are introduced to their GOLD LEED certified Kaiser Kapolei clinic (Kipukaoha) which features its own microgrid and reusable water system. The institution generously offers tours to JABSOM and community organizations. The focus is on how their institution has made changes to achieve this status

3.5. Does your <u>institution</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about environmental health exposures?
Yes, the **medical school** or **<u>all</u> affiliated hospitals** have accessible educational materials for patients. (2 points)
Some affiliated hospitals have accessible educational materials for patients. (1 point)
No affiliated medical centres have accessible educational materials for patients. (0 points)

Score Assigned:	1

Score explanation: JABSOM does not have a dedicated medical center, but it does work closely with affiliated teaching hospital systems across the state. One such hospital system is Hawaii Pacific Health (HPH), which regularly publishes articles on various topics, including the dangers of environmental exposure. Kaiser Permanente Hawaii, which is also affiliated with JABSOM, also has resources on environmental exposures.

3.6. Does your <u>institution</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about the health impacts of climate change?
Yes, the **medical school** or **<u>all</u> 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:	1

Score explanation: Kaiser Permanente Hawaii provides resources and online materials concerning the human health impacts of climate change. The Department of Health has made heat illness brochures and other climate related material readily available to JABSOM and other healthcare providers and healthcare facilities.

Section Total (9 out of 14)	**64%**

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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, **neither** the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects. (0 points)	
Score Assigned:	2
Score explanation: JABSOM encourages students to consider pursuing sustainability focused projects or research via the One Health Certificate of Distinction. There is the opportunity to receive funding for sustainability initiatives via programs such as the Medical Innovation and Design Certificate of Distinction, however there is no requirement that these projects relate to sustainability, and funding is via wider University Grants (not only within the medical school). JABSOM offers funding support for aspects of certain initiatives, such as prizes for the Climate Change and Health symposium. Sustainability is not part of the core curriculum. *Funding is available for any student pursuing a Native Hawaiian Health Certificate of Distinction should they elect to pursue a sustainability project that would benefit our community.*	

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: JABSOM offers graduation Dean's Certificates of Distinction in One Health, Native Hawaiian Health, and Research, all of which may encompass planetary health/sustainable healthcare if the students chooses. Research is completed as part of a specific Certificate program, however finding projects/mentors requires student initiative and projects must be completed outside of regular academics. There is no specific research program dedicated to only sustainability.

4.3. Does the <u>institution</u> have a webpage where students can find specific information related to planetary health and/or sustainable healthcare/vetcare activities and mentors within the institution? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.	
The institution has a webpage with specific information related to planetary health or sustainable healthcare/vetcare that includes up-to-date information on relevant initiatives and contact information of potential mentors. (2 points)	
There is an institution webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information. (1 point)	
There is **no institution** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors. (0 points)	
Score Assigned:	0
Score explanation: There is no webpage related to planetary health or sustainability. This will be a recommendation for an initiative to introduce this year.	

4.4. Does your <u>institution</u> have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?	
Yes, there is a student organisation **with faculty support** at my medical school 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: The Hawaii Chapter of Medical Student for a Sustainable Future was founded in 2021, and has continued with the support of dedicated faculty members. Future goals should include growing membership and presence on campus, and recruiting the support of several more faculty members.	

4.5. Is there a student liaison representing sustainability interests who serves on a department or institutional decision-making council to advocate for curriculum reform and/or sustainability best practices?	
Yes, there is a student representative that serves on a department or institutional decision-making council/committee. (1 points)	
No, there is no such student representative. (0 points)	
Score Assigned:	0
Score explanation: JABSOM currently takes input from only one Student Council Curriculum representative for each class. Future goals should include assigning a MS4SF member to liaise with the Curriculum representative in order to have sustainability interests represented to the institution, with the long-term intent to create a dedicated sustainability representative to the institution.	

4.6. In the past year, has the institution had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	**Score**
Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.	1
Panels, speaker series, or similar events related to planetary health that have students as an intended audience.	1
Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.	1
Cultural arts events, installations or performances related to planetary health that have students as an intended audience.	1
Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.	1
Wilderness or outdoors programs (e.g., that organise hiking, backpacking, kayaking, or other outings for students)	0
Score explanation: *1. JABSOM students work with many local sustainability organizations and projects, such as organic farms, Lo'i, beach cleanups and fisheries. JABSOM also holds work-days in the school's on-campus Māla (Hawaiian healing plant garden). Recent student-led initiatives included a work-day at Kaiser West Oahu/Kapoloei Kipukaoha clinic working in the community garden located on site.* *2. JABSOM holds an annual Climate Change and Health symposium for first- and second-year students with expert local speakers and panelists.*	

3. Included in the Climate Change and Health symposium are local experts in the environmental justice community, such as Dr. Alika Maunakea and Tina Boteilho who shared their expertise and experience of the Aug 2023 wildfires in Lahaina.

4. Recent cultural events include a movie screening related to planetary health during the 2023-2024 year. Upcoming plans include an essay contest and another movie screening.

5. Students join beach clean ups, visit Kaiser West Oahu's Kipukaoha Clinic, model for sustainable healthcare, for workdays, and volunteer at organic farms, Lo'i, beach cleanups and fisheries

5. Students have the opportunity to volunteer with the MauiWES study which is looking at long term health impacts of the Maui/Lahaina wildfire survivors such as heavy metal exposure, pulmonary impacts, mental health impacts, etc.

6. Students were invited to volunteer for, and attend for free, the January ALOHA 'ĀINA: HE HULIAU I KA PONO, A Turning Point for Planetary Prosperity climate change conference.

7. There is a Wilderness Medicine interest group at JABSOM, however this group functions independently from MS4SF and does not place a focus on sustainability-related activities.

Section Total (10 out of 15)	**67%**

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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:	2
Score explanation: There is an Office of Sustainability at the University of Hawaii led by Director of Energy Management, Miles Topping, however there is no specific member dedicated to sustainability efforts at the hospitals or medical school. Please note that JABOM does NOT have a teaching hospital. Clinical education occurs with partnerships with community hospitals such as Queens Healthcare Systems, Hawaii Pacific Health, Kaiser Permanente, Kuakini Hospital and Tripler Army Medical Center. https://www.hawaii.edu/news/2023/09/19/5-campuses-bronze-rating/	

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/medical school does **not** meet any of the requirements listed above (0 points)

Score Assigned:	0
Score explanation: The University of Hawaii has in place the Energy and Sustainability Vertically Integrated Project (VIP) that states a commitment to achieving net-zero energy by 2035 and carbon neutrality by 2050. JABSOM has not yet created a plan to reach this goal. https://sites.google.com/hawaii.edu/uh-energy-and-sustainability/home?authuser=0	

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:	0
Score explanation: As of 2024, the University of Hawaii has achieved 11% of net zero energy use goal with 17 million kWh generated in that year alone. There was a 20% increase in renewable energy generation from 2023 to 2024. The medical school does have a cooling system supplied by the naturally cool seawater pumped from the sea wells. However, the John A. Burns School of Medicine itself does not utilize at least 20% of their energy consumption derived from renewable energy. https://www.hawaii.edu/sustainability/energy/dashboard/	

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

Score explanation: The JABSOM Kakaako Waterfront Park campus is a LEED Certified, multi-structure education and research complex. It incorporates eco-friendly and biophilic design principles and it is situated on a remediated brownfield site. The entire campus was recently constructed in 2005, so there were no older buildings present to be remodeled.

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: There is a "Biki" bike share stop conveniently located right next to the JABSOM campus. There are electric vehicle charging stations available in one of the JABSOM parking lots. The campus is conveniently located near the main CityBus routes (one block walk to the bus stop). However, the medical school still largely relies on commuting via individual passenger vehicles. Due to high costs of parking, students do sometimes carpool. However, the school has not yet implemented any strategies with the intent to encourage and provide accessible environmentally-friendly transportation for students.	

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 medical school. (0 points)	
Score Assigned:	1
Score explanation: JABSOM has bins located on campus that allow students to recycle aluminum, plastic, and paper, but there is no compost program available to students and faculty. It should be noted that all of the medical school's waste is collected by H-POWER. This facility processes the garbage by burning it in furnaces and utilizes the steam to drive a turbine generator to create renewable energy.	

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: JABSOM has some sustainability guidelines for the food and beverage vendors. They are required to provide compostable food and beverage containers and utensils for food and beverages. It is required that vendors also offer meat-free options. JABSOM also encourages use of reusable water bottles and has placed easily accessible water refill stations on each floor of the building.	

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: In the construction of the JABSOM campus, a construction waste management plan was implemented that recycled materials to be used for manufacturing. 20% of the materials used to build the campus were manufactured locally, thereby reducing transportation and environmental cost. It is unclear whether a sustainability criteria currently exists for general 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: JABSOM does not currently have sustainability guidelines for medical school events.	

5.10. Does your institution have programs and initiatives to assist with making lab spaces more environmentally sustainable?	
Yes, the institution has **programs** and **initiatives** to assist with making lab spaces more environmentally sustainable. (2 points)	
There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives. (1 point)	
There are **no** efforts at the institution to make lab spaces more sustainable. (0 points)	
Score Assigned:	2
Score explanation: JABSOM's anatomy and research lab spaces use low-flow fixtures and occupant sensors to reduce electricity and water demand by more than 20%, respectively. Furthermore, the cleaning products in the lab spaces are "green certified," meaning they are non-toxic and biodegradable.	

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:	4
Score explanation: The Board of Regents for UH voted to divest from fossil fuels for all 10 campuses in 2015. UH is now recognized as a fully divested educational institution. It also established an Office of Energy Management to increase investments in alternative energy production.	

Section Total (18 out of 32)	**56%**

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Grading

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

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

**Within each grade bracket, a score in the top 5% (_5 to_9%), receives a "+", and a score in the bottom 5% (_0-_4%) receives a "--". For example, a percentage score of 78% would be a B+.*

Planetary Health Grades for the University of Hawai'i John A. Burns School of Medicine
The following table presents the individual section grades and overall institutional grade for the University of Hawai'i John A. Burns School of Medicine on this medical-school-specific Planetary Health Report Card.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(49/72) x 100 = 68%	B
Interdisciplinary Research (17.5%)	(16/17) x 100 = 94%	A
Community Outreach and Advocacy (17.5%)	(9/14) x 100 = 64%	B-
Support for Student-led Planetary Health Initiatives (17.5%)	(10/15) x 100= 67%	B
Campus Sustainability (17.5%)	(18/32) x 100 = 56%	C+
Institutional Grade	**(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = 69.65%**	**B**

Report Card Trends

Section Overview
This graph demonstrates trends in overall and section grades for the years in which the University of Hawai‘i John A. Burns School of Medicine has participated in the Planetary Health Report Card initiative.