



Planetary Health Report Card:

*University of Hawai`i, John A. Burns
School of Medicine*



2020-2021 Contributing Team:

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Summary of Findings

Curriculum	C-
<ul style="list-style-type: none"> • Environmental health is a large component of Native Hawaiian health philosophy. Planetary health topics are addressed in community health electives and required lectures in the core curriculum. A ‘one health’ course that covers planetary health topics is offered at UH Mānoa, however, it is not possible for medical students to take this course. • Planetary health is not directly addressed in the core problem-based learning curriculum at JABSOM, however, it would be possible to incorporate planetary health topics into cases in the future. 	
Interdisciplinary Research	C
<ul style="list-style-type: none"> • The UH institution offers potential research opportunities in planetary health through the Institute for Sustainability and Resilience and UH affiliated organizations like the East-West Center. • However, there is no dedicated department for planetary health research at JABSOM, nor is funding available for students pursuing planetary health research currently. 	
Community Outreach and Advocacy	C-
<ul style="list-style-type: none"> • The UH institution puts on planetary health-related events, such as the Hā O Ke Kai Climate Conference and the Agriculture and Environmental Awareness Day, for the community; JABSOM did include planetary health topics in the Humanism, Empathy, Social Justice and Global Health Symposium. • JABSOM also volunteers with a few environmental organizations, especially for community health electives in students’ MS1 years. 	
Support for Student-Led Initiatives	C
<ul style="list-style-type: none"> • Overall, the administration appears supportive of student-led planetary health initiatives, as evidenced by their willingness to meet with students and openness to making changes to curriculum. • The administration could further support this initiative by facilitating connections between research mentors and students and eventually incorporating an elective with a primary focus on planetary health. 	
Sustainability	C
<ul style="list-style-type: none"> • JABSOM’s main building on campus achieved LEED certification. • The state of Hawaii set a goal of carbon neutrality by 2045. The UH institution has plans to incrementally reduce its carbon footprint to achieve neutrality by 2050, but it is unclear if JABSOM also has plans to achieve neutrality. • UH divested from fossil fuels and established an Office of Energy Management to reinvest in alternative energies. • JABSOM could improve its sustainability by implementing a compost program accessible to campus users. • The UH institution could potentially look into hiring a full-time staff member to oversee the sustainability efforts of the schools. 	

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance defines planetary health as “a field focused on characterizing the human health impacts of human-caused disruptions of Earth's natural systems.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanization, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change “the greatest threat to global health in the 21st century,” many medical school’s institutional priorities do not reflect the urgency of this danger to human health.

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

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

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 change. Therefore, it is critical that medical students are trained to understand the health effects of climate change, as well as planetary health more broadly. Topics like the changing geography of vector-borne diseases, the health consequences of air pollution, environmental health inequities, and disaster response principles must be part of every medical school's core curriculum.

Curriculum: General

1. Did your medical school offer elective courses to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3*	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>There are many elective courses offered throughout the preclinical years at the John A. Burns School of Medicine (JABSOM). The “Native Hawaiian Health: Past, Present, and Future” community health elective offers lectures and activities that engage students with environmental topics and volunteering. The emphasis of the course is that personal and family health and wellness cannot be separated from the health of the environment or the community. Other elective courses have potential connections with planetary health, such as nutrition, biostatistics, and epidemiology. However, there are no electives that focus entirely on planetary health issues. A new ‘one health’ course is offered at the UH Mānoa institution, however, it does not appear feasible for medical students to take this course.</i></p>	

Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme temperature health risks and climate change, as well as the socioeconomic/racial disparities in extreme heat exposure?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Socioeconomic and racial disparities were covered through multiple lectures and modules during the preclinical years, however, their explicit relationship to extreme temperatures and climate change were not addressed.</i></p>	

3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>There are not yet any lectures or electives that address the impacts of extreme weather events on individual health and healthcare systems.</i></p>	

4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>The community health elective titled “Native Hawaiian Health: Past, Present Future” addresses the impact of climate change on infectious disease patterns in Hawaii. Students are taught about diseases that are intertwined with environmental resources. This topic is also briefly addressed through lectures or PBL cases during the MD4 gastrointestinal and endocrine unit; however, due to the accessibility of this document to potential future classes at JABSOM, specifics cannot be mentioned.</i></p>	

5. Does your medical school curriculum address the cardiorespiratory health effects of climate change, including air pollution?	
3	This topic was explored in depth by the core curriculum.

2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>During the “MD2” cardiovascular and pulmonary unit, lectures briefly mentioned the relationship between cardiorespiratory health and occupational or environmental exposure to toxic substances. However, there was no lecture or coursework solely dedicated to discussing the effects of climate change and air pollution on cardiorespiratory health.</i></p>	

6. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Community health colloquia, along with the “Native Hawaiian Health: Past, Present, and Future” community health elective, both had lectures on the cultural and historical trauma indigenous peoples suffered as a result of loss of land and a separation from traditional ways of caring for the environment during colonization. These lectures addressed the degradation of the lo‘i (taro patches), which severely crippled the water quality and sustainable food systems that had previously existed. It also talked about pollution that impacted fishponds and reef systems, and invasive species that overran native species. These lectures made a point to say that this trauma led to mental health impacts, including depression and self-destructive behavior.</i></p>	

7. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>There was a core community health lecture given by a representative from Kokua Kalihi Valley that addressed the importance of food and water security and resilience for Hawaii, as well as the implications this has for both human and environmental health. This point is also addressed by Ka‘ala farms, Papahana Kualoa, and other community partners that work with students in the “Native Hawaiian Health: Past, Present, and Future” community health elective.</i></p>	

8. Does your medical school curriculum address the outsized impact of climate change on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, and older adults?

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

The standard core curriculum at JABSOM does not yet address the disproportionate impacts of climate change on marginalized populations.

9. Does your medical school curriculum address the unequal health impacts of climate change globally?

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

The standard core curriculum at JABSOM does address health disparities both locally, nationally, and internationally; however, these impacts' relationships to climate change are not explicitly mentioned.

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

10. Does your medical school curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?

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

The standard core curriculum at JABSOM does cover teratogenic substances in "MD1" embryology lectures, the "MD 7" life cycle unit, and the "MD 4" endocrine unit, but these teratogens are not currently discussed in relation to the environment. However, a lecture given by Mālama Mākua in the

“Native Hawaiian Health: Past, Present, and Future” community health elective mentioned possible health impacts of environmental pollution in the underserved community of Waianae on Oahu, including reproductive health impacts.

11. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university’s surrounding community?

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

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 explores this subject, as does the Department of Native Hawaiian Health colloquia, a series of four lectures during the first year called “Interaction of Culture and Medicine”. For example, in the colloquia, faculty, as well as guest speakers Donald Froning (MA) and Malina Kaulukukui (MSW), discuss specific examples of local environmental threats.

12. Does your medical school curriculum address the unique climate and environmental health challenges that have impacted and are impacting Indigenous communities?

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

JABSOM’s core curriculum addresses Native Hawaiian health disparities in great depth through both core community health lectures and PBL cases. Additional webinars offered through UH Mānoa, such as the “Connecting Racism, the Climate Crisis, and Indigenous Knowledge” talk by the UH Truth, Racial Healing, and Transformation Campus Center, also address this topic. Native Hawaiian health philosophy is closely intertwined with environmental health. There are optional opportunities to engage in these topics through electives and research as well.

13. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, and older adults?

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

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. 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 in the underserved community of Waianae on Oahu.

Curriculum: Sustainability

14. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

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 elective 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 student interest groups also encouraged participation in plant-based diets.

15. Does your medical school curriculum highlight the waste generated by the healthcare system and identify ways to advocate for and implement sustainable best practices in health care?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.

This year, there was a brief and timely discussion with third year medical students regarding waste generated by the healthcare system, particularly within the context of COVID-19 and safely reusing PPE.

Curriculum: Clinical Applications

16. In training for patient encounters, does your medical school’s curriculum introduce strategies to have conversations with patients about the health effects of climate change?

2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change

JABSOM’s curriculum does not yet introduce strategies to have conversations with patients about the effects of climate changes.

17. In training for patient encounters, does your medical school’s curriculum introduce strategies for taking an environmental history or exposure history?

2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.

During their third year, students are taught strategies on how to take an environmental or exposure history.

Curriculum: Administrative Support for Planetary Health

18. Is your medical school currently in the process of improving Education for Sustainable Healthcare (ESH)/planetary health education?

4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.
<i>JABSOM has had discussions on how to improve ESH/planetary health education, but improvements to the curriculum or extracurricular options have yet to be implemented. However, faculty and administration are both receptive to student input and appear willing to make changes.</i>	

19. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?	
6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s).
0	There is minimal/no education for sustainable healthcare.
<i>There are no planetary health/ESH topics integrated longitudinally into the core curriculum, however, this could potentially be part of future changes to the curriculum.</i>	

20. Bonus: Does your medical school have a program that offers incentives for faculty/departments to develop new planetary health/ESH courses and/or incorporate planetary health/ESH into existing courses?	
1*	Yes, the medical school has an incentive program.
0	No, the medical school does not have an incentive program.
<i>There are no known incentives for faculty to develop new planetary health courses or to incorporate planetary health into existing courses.</i>	

Section Total (26 out of 58)	26
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Are there additional curriculum resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
4	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health and healthcare sustainability.
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in a planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>There are currently no JABSOM faculty engaged in planetary health research and healthcare sustainability research, but there are planetary health researchers at UH Mānoa and affiliated organizations like the East-West Center. A list of researchers involved in planetary health at UH Mānoa may be found under the “Search for an Expert” section here.</i></p>	

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

The Institute for Sustainability and Resilience (ISR) at UH Mānoa is a department dedicated to multidisciplinary environmental research, including planetary health research. The ISR aims to provide campus-wide programs in instruction and research relating to sustainability in Hawaii. The graduate medical program within JABSOM also has a committee for occupational or environmental health.

3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your medical school?

3	Yes, there is a process in which community members impacted by climate and environmental injustice have decision-making power in the climate + environmental research agenda.
2	Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda.
1	No, but there are current efforts to establish a process for community members to advise or make decisions on the research agenda.
0	There is no process, and no efforts to create such a process.

There has been discussion about developing a process by which community members can have input on the research agenda at JABSOM, but no concrete action has been taken yet.

4. Does your institution have a planetary health website, or a website centralizing various campus resources related to health and the environment?

3	There is an easy-to-use, adequately comprehensive website that centralizes various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that attempts to centralize various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
1	The institution has an Office of Sustainability website that includes some resources related to health and the environment.
0	There is no website.

UH Mānoa has a website that can be accessed [here](#) that provides resources that pertain to environmental sustainability. There are portions of the website dedicated to the various student-led groups at UH Mānoa that promote health and sustainability, descriptions for sustainability-based courses, and information about the UH Mānoa Sustainability Council.

5. Has your institution recently hosted a conference or symposium on topics related to planetary

health?	
4	Yes, the institution has hosted more than one conference or symposium on topics related to planetary health in the past year, including at least one on climate change.
3	Yes, the institution has hosted one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>On February 14, 2020, JABSOM hosted the Humanism, Empathy, Social Justice and Global Health Symposium, which included both panels and poster presentations. The symposium covered a broad range of topics, with one of the talks specifically addressing “Environmental Racism in Nanakuli,” an underserved community on the island of Oahu. UH Mānoa also put on the Hā O Ke Kai climate conference on January 13–14, 2020, which took a multidisciplinary approach to discussing climate change issues.</i></p>	

6. Has your institution or medical school joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?	
2	Yes, the medical school has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education.
1	Yes, the institution has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education, but the medical school specifically has not.
0	No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.
<p><i>JABSOM has not yet joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.</i></p>	

Section Total (10 out of 19)	10
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Are there additional research resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Community Outreach and Advocacy

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

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>JABSOM has partnered with numerous community organizations to promote environmental health. Some of these organizations include Kokua Kalihi Valley, Ka'ala Farms, Papahana Kuaola, Paepae He'eia, Ma'o Farms, and Blue Zones.</i></p>	

2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The medical school has not offered such community-facing courses or events.
<p><i>UH Mānoa expands its educational efforts past the campus and students to the community through annual events that focus on highlighting sustainability and provides information to the community about planetary health and the environment. One such annual event is the Agriculture and</i></p>	

Environmental Awareness Day hosted by UH Mānoa's College of Tropical Agriculture and Human Resources. More can be found out about the event [here](#). The [Hā O Ke Kai climate conference](#) was also open to the public.

3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?

2	Yes, all students regularly receive communication updates dedicated to planetary health and/or sustainable healthcare.
1	Yes, planetary health and/or sustainable healthcare topics are sometimes included in communication updates.
0	Students do not regularly receive communications about planetary health or sustainable healthcare.

Our medical school does not provide regular coverage of issues related to planetary health and/or sustainable healthcare.

4. Does the medical school offer continuing medical education (CME) courses that address planetary health and/or sustainable healthcare?

2	Yes, multiple in-person or online CME courses relating to planetary health and/or sustainable healthcare are offered, including at least one with a primary focus of planetary health.
1	Yes, one in-person or online CME course related to planetary health and/or sustainable healthcare is offered.
0	There are no CME courses on planetary health or sustainable healthcare topics.

JABSOM does not regularly offer any CME courses on planetary health and sustainable healthcare topics. In July 2018, JABSOM offered CME for an international indigenous health conference in Hilo (Pacific Region Indigenous Doctors Congress) whose primary theme and major focus was to look at the relationship with indigenous health and the health of our lands (environment). This was a five day conference offering CME each day.

5. Do hospitals affiliated with your medical school have accessible educational materials for patients about environmental health exposures?

2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centers have accessible educational materials for patients.

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). HPH regularly publishes articles on a variety of topics, including the dangers of environmental exposure. Kaiser Permanente in Hawaii, which is also affiliated with JABSOM, has resources on environmental exposures as well.

6. Do hospitals affiliated with your medical school have accessible educational materials for patients about climate change and health impacts?

2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.

Kaiser Permanente Hawaii does provide resources and online materials concerning the human health impacts of climate change.

Section Total (6 out of 14)	6
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Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Support for Student-Led Planetary Health Initiatives

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

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

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
3*	The institution offers an explicit paid fellowship for medical students to do research related to planetary health and/or sustainable healthcare.
2	The institution offers paid research opportunities for students and planetary health/sustainable healthcare projects would be considered eligible.
1	There are unfunded research opportunities for students to perform research related to planetary health/sustainable healthcare.
0	There are no opportunities for students to receive funding for planetary health/sustainable healthcare research.
<i>JABSOM does not offer a funded research fellowship dedicated to planetary health research, but there are potential unfunded research opportunities related to planetary health research with the institution if students choose to seek them out.</i>	

3. Does the medical school have a webpage where medical students can find specific information

related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.

2	The medical school has a webpage with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a medical school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
0	There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.

While JABSOM does not have a specific webpage for planetary health and sustainable healthcare projects, it does have a web page dedicated to global health and international medicine, which lists some mentors and related activities and programs.

4. Does your medical school have funded, registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?

2	Yes, there is a funded student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support and/or funding.
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.

There are currently no funded student groups or organizations at JABSOM that have planetary health or sustainability in healthcare as their primary concern, but there are interest groups focused on global health, social justice, and indigenous health.

5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional decision-making council to advocate for sustainability best practices?

1	Yes, there is a student representative that serves on a medical school or institutional decision-making council.
0	No, there is no such student representative.

There are no student representatives that serve on the institution's decision-making council advocating for sustainability best practices.

6. In the past year, has the institution had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)

1	Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.

JABSOM has many of its students participate in volunteering with organic food systems and fisheries through community health electives that visit different farms or sites across the island. It also has an on-campus Māla, or Hawaiian healing plant garden, that students can volunteer to maintain.

The [Hā O Ke Kai climate conference](#) had panels, speakers, and workshops that related to climate change and planetary health. This conference was open to the public, and several of the attendees were students of the institution.

An exhibit at the UH Mānoa art gallery featured an exhibit called "[Inundation: Art and Climate Change in the Pacific](#)" from January 19–February 28, 2020. This art exhibition was accompanied by climate justice talks and workshops that were open to the public.

JABSOM has a wilderness medicine interest group that organizes outdoors activities, and the "Native Hawaiian Health: Past, Present, and Future" elective organizes a hike to Makua Valley with emphasis on respecting the environment. The organization (Mālama Mākua) that hosted the hike is closely associated with environmental justice organizations such as EarthJustice.

JABSOM students have traveled via limited access to the Island of Kahoolawe where they camp and hike, during which Leave No Trace principles were followed.

Section Total (8 out of 15)

8

Are there additional student-led initiative resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Campus Sustainability

Section Overview: This section evaluates the support and engagement in sustainability initiatives by the medical school and/or institution. The healthcare industry is a major contributor to greenhouse gas emissions as well as pollution that harms local, regional, and global ecosystems. While healthcare is, by nature, a resource-intensive endeavor, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinizing every aspect of how our systems operate, from where we source our energy, to how we build our infrastructure, to what companies we invest in. Our medical schools, clinics, and hospitals must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimizing environmental impact.

1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff, but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>UH Mānoa has an Office of Sustainability that integrates sustainability across its operations, education, research, and campus & community engagement. However, it does not have any full-time staff dedicated to sustainability at its medical school or affiliated hospitals.</i></p>	

2. Does your medical school and/or institution have a stated goal of carbon neutrality by 2050?	
4*	The medical school is already carbon neutral.
3	Yes, there is a stated carbon neutrality goal and the medical school has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal, but the medical school has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.
<p><i>In 2015, the state of Hawaii set a goal of carbon neutrality by 2045. That same year, UH Mānoa implemented a policy that set targets for reducing energy consumption and increasing usage of renewable energy in 5-year increments, with a goal of reaching carbon neutrality by 2050. UH Mānoa</i></p>	

began the “Carbon Neutrality Challenge” that aims to reduce the state’s carbon footprint through forest restoration. JABSOM has not yet created a plan to reach this goal.

3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital) utilize renewable energy?

3*	Yes medical school buildings are 100% powered by renewable energy
2	Medical school buildings source >80% of energy needs from off-site and/or on-site renewable energy.
1	Medical school buildings source >20% of energy needs from off-site and/or on-site renewable energy.
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.

While JABSOM has implemented strategies to reduce energy consumption, it does not yet source its energy from renewable resources.

4. Are sustainable building practices utilized for new and old buildings on the medical school campus, with design and construction of new buildings and remodeling of old buildings conforming to a published rating system or sustainable building code/guideline?

3	Yes, sustainable building practices are utilized for new buildings on the medical school campus and the majority of old buildings have been retrofitted to be more sustainable.
2	Sustainable building practices are utilized for new buildings on the medical school campus, but most old buildings have not been retrofitted.
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.

The JABSOM Kakaako Waterfront Park campus is a LEED Certified, multi-structure education and research complex. It incorporates eco-friendly and biophilic design principles that can be read about [here](#), and it is situated on a remediated brownfield site.

5. Has the medical school implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?

2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or
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	carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<p><i>There is a “Biki” bike share stop conveniently located right next to the JABSOM campus. Medical students are also able to obtain a bus pass from UH at a reduced price; however, many students are unaware of this option. There is an electric vehicle charging station available in one of the parking lots near campus. 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.</i></p>	

6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?	
2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	The medical school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the medical school.
<p><i>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.</i></p>	

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections?	
3	Yes, the medical school has adequate sustainability requirements for food and beverages and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.

JABSOM does not appear to have any sustainability guidelines for food and beverages. However, many of its vendors provide compostable food and beverage containers and utensils.

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

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

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.

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

2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required.
0	There are no sustainability guidelines for medical school events.

JABSOM does not currently have sustainability guidelines for medical school events.

10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?

2	Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the medical school to make lab spaces more sustainable.

JABSOM does not have programs or initiatives to assist with making lab spaces more environmentally sustainable.

11. Does your institution's endowment portfolio investments include fossil-fuel companies?

4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	No, the institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil-fuel companies.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.

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 (15 out of 29)	15
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Are there additional sustainability resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Grading

Section Overview

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

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

Planetary Health Grades for the John A. Burns School of Medicine

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

Section	Raw Score	Grade
Planetary Health Curriculum (30%)	26 / 58 = 45%	C-
Interdisciplinary Research (17.5%)	10 / 19 = 53%	C
Community Outreach and Advocacy (17.5%)	6 / 14 = 43%	C-
Support for Student-led Planetary Health Initiatives (17.5%)	8 / 15 = 53%	C
Campus Sustainability (17.5%)	15 / 29 = 52%	C
Institutional Grade	49%	C