



Planetary Health Report Card (Medicine): *Nagasaki University*



2022-2023 Contributing Team:

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Summary of Findings

Overall	C
<u>Curriculum</u>	C
<ul style="list-style-type: none"> Nagasaki University School of Medicine has many core curriculum subjects related to medicine. Although there are subjects that explain the relationship between the environment and disease, there seem to be few subjects that introduce them in depth. Also, like last year, we haven't had a chance to learn about the impact of medical care on the environment. Recommendations: At Nagasaki University, there is a TBL class in which students deepen their learning through team discussions. Using this teaching method and treating the environment and illness as the theme will increase the student's knowledge and understanding of the relationship between the environment and disease. 	
<u>Interdisciplinary Research</u>	A-
<ul style="list-style-type: none"> In Nagasaki University, the Planetary Health Promotion Division has been promoting initiatives such as holding public lectures. With the establishment of Nagasaki University Interfaculty Initiative in Planetary Health in October 2022, we expect more researchers to focus on planetary health. Recommendations: It is necessary to enhance the website so that faculty members, students, and citizens can easily access the research results and learn more about planetary health. 	
<u>Community Outreach and Advocacy</u>	D+
<ul style="list-style-type: none"> At the Nagasaki University School of Medicine,, there is a series of lectures on local initiatives related to planetary health. Not only students but citizens can also participate in this course. In addition, a Japanese translation of "PLANETARY HEALTH" was released, making it easier for citizens to learn about planetary health. However, like last year, the collaboration between local public health centres and medical institutions is for conventional medical and nursing education purposes, not for planetary health education. Recommendations: We think that efforts to promote global health in the community will increase and that the existing cooperation with medical institutions and connections with remote islands will be improved by including the purpose of planetary health education. 	
<u>Support for Student-Led Initiatives</u>	B-
<ul style="list-style-type: none"> Nagasaki University has an environment that supports the research of students interested in planetary health and the activities of student groups, making it a great place to deepen your knowledge of planetary health. However, it is rare for these to be made public to all students, and events that all students can participate in are not held, which led to this evaluation. Recommendations: We believe that all students will be able to learn about global health research and student activities by introducing them in class and posting them on our website and SNS. 	
<u>Campus Sustainability</u>	C-
<ul style="list-style-type: none"> We are working on the environment based on the country's basic policy and consideration for the transportation environment. In addition, Nagasaki University's unique efforts, such as food and recycling, which were not last year, have improved, such as providing vegetarian meals in the cafeteria. Recommendations: Student participation is essential for these efforts. New student-centered efforts, such as coordinating student cafeteria menus with co-ops and holding events where students present food waste, are highly beneficial. 	

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance describes planetary health as “a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth’s natural systems on human health and all life on Earth.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanization, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment, and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change “the greatest threat to global health in the 21st century,” many medical 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 nationally and internationally on the basis of discrete metrics in five main category areas: 1) planetary health curriculum, 2) interdisciplinary research in health and environment, 3) university support for student planetary health initiatives, and 4) community outreach centered on environmental health impacts 5) medical school campus sustainability.

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 vs. Institution:** When “medical school” is specified in the report card, this only refers to curriculum and resources offered by the School 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. 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 providers 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 mold 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.
- **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.
- **Clerkship:** 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 or placements.

Other considerations:

- If there are more than one "tracks" at your medical school 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).

Added to our resources last year, the Planetary Health Report Card [Literature Review by Metric](#) collates the evidence behind each of the metrics in the Planetary Health Report Card. It serves as a collection of references for further learning and a resource for those advocating for increased planetary health engagement at their institutions.

Planetary Health Curriculum

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

Curriculum: General

1. Did your <u>medical school</u> offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year
Score explanation: Nagasaki University Medical School has no elective courses in planetary health/ESH" and score 0 points.	

Curriculum: Health Effects of Climate Change

2. Does your <u>medical school</u> curriculum address the relationship between extreme heat, health risks, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
Score explanation: There are lectures on the lecture of Medical Society about epidemics such as heat stroke and accidental hypothermia, what weather and environmental conditions cause them, how they are conceptualized and classified, as well as their prevention, symptoms, and treatment.	

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

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

Score explanation: Heat stroke and its damage are dealt with in a lecture on Public Health in the fourth year of medical school at Nagasaki University. Other lectures have been given in the course "Surgical Therapeutics" on the topic of "Environmental Abnormalities. and Biological Reactions". From this, it can be said that medical students can gain a deep understanding of abnormal weather and other topics through these courses in the core curriculum. This would be awarded 3 points.

4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?

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

Score explanation: Nagasaki University School of Medicine has classes on "Infectious Diseases Systems" with themes such as "Infectious Diseases in the World and Japan" and "Global Health and Infectious Diseases" that deal with content related to infectious diseases and its connection with planetary health such as the lecture. This would be awarded 3 points.

5. Does your medical school curriculum address the respiratory health effects of climate change and air pollution?

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

Score explanation: The third-year "Respiratory System" class at Nagasaki University School of Medicine deals with COPD, which is caused by passive smoking, and dust pneumonia, which is caused by inhaling dust. It also explains the workplaces where the disease tends to occur and the social movements related to this disease. This would be awarded 3 points.

6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?

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

Score explanation: Lectures on the cardiovascular system at Nagasaki University mainly describe the characteristics of each disease, with few diagnostic lectures emphasising the influence of the environment on pathogenesis. The cardiovascular health effects of climate change are not addressed

7. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?

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

Score explanation: This topic is not covered in the "Psychiatry Systems" class at Nagasaki University School of Medicine.

8. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?

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

Score explanation: Nutrition courses at Nagasaki University do not cover topics related to the environment.

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

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: In a lecture called "Medical Seminar" (an elective class) in the Department of Urology, it is explained that that hygiene is closely related to the incidence of penile cancer.. Therefore, although the incidence of penile cancer is currently low in Japan, the lecture states that climate change may lead to lower crop yields and higher food prices on a global scale, which may lead to an increase in the number of vulnerable people with poor hygiene, which in turn may lead to an increase in penile cancer. This would be awarded 1 point.</i></p>	

10. Does your <u>medical school</u> curriculum address the unequal regional health impacts of climate change globally?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: In the aforementioned "Medicine and Society," there are many classes that deal with the issue of regional disparities in medical care in Nagasaki's "remote island medical care" and issues related to infectious diseases in the world. For example, in the first year, there is a lecture about tropical diseases in Medicine and Society which explains the relationship between infectious disease and climate change. This would be awarded 3 points.</i></p>	

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

11. Does your <u>medical school</u> 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.
<p><i>Score explanation: This lecture is given in the Nagasaki University School of Medicine "Public Health" class on the reproductive effects of human exposure to endocrine-disrupting chemicals in our surroundings. Students will be able to understand the relevant topic by connecting it to their learning in the lectures on the endocrine and reproductive systems. This would be awarded 3 points.</i></p>	

12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?	
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3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: The Nagasaki University School of Medicine (formerly Nagasaki Medical School) is the only medical school in the world that was exposed to the atomic bomb. The awareness of nuclear abolition, which is common among citizens, led to the establishment of the Institute for Post Atomic Bomb Medical Care and the inclusion of classes on peace and the atomic bomb in the curriculum. This could be awarded 3 points.

13. To what extent does your <u>medical school</u> emphasize the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?	
3	Indigenous knowledge and value systems are integrated throughout the medical school's planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework.
0	This topic was not covered.

Score explanation: There is no course which covers this topic.

14. Does your <u>medical school</u> curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, Indigenous populations, and older adults?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not co

Score explanation: In teaching "Global Warming," The professor used graphs and diagrams to illustrate that the loss of land due to sea level rise could be serious in the future, either in offshore island nations or along continental coasts. This could be awarded 2 points.

Curriculum: Sustainability

15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?

3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation: We cannot find lectures addressing this issue.</i>	

16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored in depth by the core curriculum
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered
<i>Score explanation: This topic was not covered</i>	

17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	
2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfill this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)

	<i>Score explanation: Surgical Therapeutics at Nagasaki University lectures on the use of intravenous anaesthetics as much as possible, with lectures on not using laughing gas and reducing the frequency of use of inhalation anaesthetics because of their greenhouse gas effect.</i>
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Curriculum: Clinical Applications

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?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
<i>Score explanation: We could not find any.</i>	

19. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.
<i>Score explanation: At Nagasaki University School of Medicine, we repeatedly teach the importance of medical interviewing about the history of exposure to asbestos, which is a causative agent of interstitial pneumonia and lung cancer, the history of occupational dust exposure, and the living environment at home, as well as practical methods using medical questionnaires, etc., during clinical clerkship (medical interviewing during medical examination at outpatient clinics and wards) and lectures on each theory. This would be awarded 2 points.</i>	

Curriculum: Administrative Support for Planetary Health

20. Is your <u>medical school</u> currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?	
4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.

0	No, there are no improvements to planetary health education in progress.
<p><i>Score explanation: At Nagasaki University, as the activities of the PHRC became more widely known, the curriculum was improved to include topics related to the environment, such as surgical therapeutics. In the lecture of surgical therapeutics and other courses before the clinical training, they try to include the topics related to Planetary Health. In addition, in the lecture of Medicine and Society, some teacher try to mention planetary health and explain the relationship of their field and planetary health from this year. This would be 4 points.</i></p>	

21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> curriculum?	
6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s) .
0	There is minimal/no education for sustainable healthcare.
<p><i>Score explanation: At Nagasaki University, "Introduction to Planetary Health" is a compulsory subject in the first semester of the first year, and the curriculum is designed to allow students to learn about specialised medical knowledge after studying this subject. This would be awarded 4 points.</i></p>	

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?	
1	Yes , the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	No , the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.
<p><i>Score explanation: Nagasaki University has a "Planetary Health Promotion Headquarters" composed of faculty members, which exists within the university and promotes various initiatives related to planetary health. This would be awarded 1 point.</i></p>	

Section Total (35 out of 72)	35
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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 <u>medical school</u> ?	
3	Yes, there are faculty members at the medical school who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the medical school who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution , but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation: Nagasaki University School of Medicine has an organization called the Institute of Tropical Medicine, which conducts research on diseases in the tropics, with a focus on infectious diseases. Researchers at the Kenya base of the Institute of Tropical Medicine are involved in research and educational activities related to planetary health. This would be awarded 2 points.</i></p>	

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your <u>institution</u> ?	
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.
<p><i>Score explanation: In October of last year, a new graduate school called the Planetary Health Studies Program was established. The goal is to solve problems that affect human health and society, such as emerging infectious diseases, climate change, and ecosystem destruction, at the global ecosystem level. This would be awarded 2 points</i></p> <p><i>In addition, Nagasaki University has a Planetary Health Promotion Division (tentative name) consisting of several faculty members, two (M.D., Ph.D.) of whom are in the School of Medicine and conducting research related to planetary health and healthcare sustainability, but it is not their primary research focus.</i></p>	

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

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

Score explanation: There is currently no process to establish such a meeting for the exchange of opinions within Nagasaki University.

On the other hand, during the 2011 nuclear disaster, Nagasaki University School of Medicine hosted a meeting to exchange opinions between citizens and experts.

This would be awarded 2 points.

4. Does your institution have a planetary health website that centralizes ongoing and past research related to health and the environment?

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

Score explanation: Nagasaki University has a website that summarizes the content on planetary health. The website includes the significance of contributing to planetary health and a message from the President on planetary health.(following URL) This would be awarded 3 points. <https://www.nagasaki-u.ac.jp/en/guidance/planetaryhealth/index.html>

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

4	Yes, the medical school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.

2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>Score explanation: Nagasaki University held six "Relay Lectures" for the general public this fiscal year, in which lectures were given on planetary health from the perspectives of medicine, economics, and peace.</i></p>	

6. Is your <u>medical school</u> a member of a national or international planetary health or ESH organization?	
1	Yes, the medical school is a member of a national or international planetary health or ESH organization
0	No, the medical school is not a member of such an organization
<p><i>Score explanation: Nagasaki University joined the Planetary Health Alliance in August 2020. This would be awarded 1 point.</i></p>	

Section Total (14 out of 17)	14
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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.
<i>Score explanation: : We cannot find the partnership</i>	

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 institution/medical school have not offered such community-facing courses or events.
<i>Score explanation: The the Relay Lectures also applies to this question. This would be awarded 1 point</i>	

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 receive communications about planetary health or sustainable healthcare.
<i>Score explanation: The president of Nagasaki University sends out regular emails, explaining information about planetary health and its connection to various fields.</i>	

4. Does the <u>institution</u> or <u>main affiliated hospital trust</u> engage in professional education activities targeting individuals post graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?	
2	Yes, the institution or main affiliated hospital trust offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the institution or main affiliated hospital trust offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are no such accessible courses for post-graduate providers
<i>Score explanation: We cannot find such accessible courses for post-graduate providers.</i>	

5. Does your <u>medical school</u> or its <u>primary affiliated hospital</u> 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.
<i>Score explanation: With the exception of the translations discussed below, we cannot find the relevant material.</i>	

6. Does your <u>medical school</u> or its <u>primary affiliated hospital</u> 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.
<i>Score explanation: Nagasaki University published a translated book on PLANETARY HEALTH last year. This is used not only as a textbook for the Introduction of Planetary Health but as a book for citizens(patients) to understand planetary health.</i>	

Section Total (5 out of 14)	5
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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 medical school or your institution offer support for medical students interested in enacting a sustainability initiative/QI project?

2	Yes, the medical school or institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school or institution encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, neither the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.

Score explanation: Score explanation: Nagasaki University has a program called the "PHASE program" as part of its educational activities for planetary health. The PHASE program offers short or long term study abroad programs in Kenya, or a two-week intensive course, both of which are designed to help medical students learn about planetary health. Funding is available for these programs. This would be awarded 2 points

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?

2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.

Score explanation: : Last year, Nagasaki University held a Planetary Health Idea Contest on the theme of "What We Can Do for Planetary Health". There, students conducted research activities with the aim of solving problems related to planetary health. This would be awarded 1 point.

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.
<i>Score explanation: We could not find that website.</i>	

4. Does your <u>medical school</u> have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?	
2	Yes, there is a student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support .
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.
<i>Score explanation: At Nagasaki University, there is a student group called "Shishinoko Project", which is working on the theme of solving social issues including planetary health. This group is under the guidance of Assistant Professor Taeko Moriyasu of the Institute of Tropical Medicine. This would be awarded 2 points</i>	

5. Is there a student liaison representing sustainability interests who serves on a <u>medical school</u> or <u>institutional</u> decision-making council to advocate for curriculum reform and/or sustainability best practices?	
1	Yes, there is a student representative that serves on a medical school or institutional decision-making council/committee.
0	No, there is no such student representative.
<i>Score explanation: At Nagasaki University, student representatives participate as official members of the Curriculum Evaluation Committee, which discusses the curriculum for the next year and beyond. This would be awarded 1 point.</i>	

6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	
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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)
<p><i>Score explanation: Insert explanation here.</i></p> <p>2 <i>The aforementioned relay lectures</i></p> <p>3 <i>There is a program at Nagasaki University to visit Tsushima, far from the mainland, to learn about planetary health in the region.</i></p> <p>6 <i>Nagasaki University students who are interested in the environment can participate in outdoor programs after enrollment.</i></p>	

Section Total (9 out of 15)	9
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Are there additional student-led initiative resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Campus Sustainability

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

1. Does your <u>medical school</u> and/or <u>institution</u> have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff , but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation: Nagasaki University has established the "Environment and Facilities Management Committee" as a university-wide committee, which collects information from each department and manages the environment at the university by preparing environmental reports that address improvements in environmental impact. This would be awarded 2 points.</i></p>	

2. How ambitious is your <u>institution/medical school</u> plan to reduce its own carbon footprint?	
5	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2030
3	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2040
1	The institution/medical school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate
0	The institution/medical school does not meet any of the requirements listed above
<p><i>Score explanation: In accordance with the government's basic policy, efforts were made to conclude contracts that take into consideration the reduction of greenhouse gas and other emissions, where possible. In this way, we are making efforts to reduce carbon dioxide emissions every year in accordance with the government policy. This would be awarded 1 points.</i></p>	

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

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

Score explanation: The Sakamoto Campus, where the Nagasaki University School of Medicine is located, is equipped with photovoltaic power generation systems, but the percentage of these systems is less than 1% of the total supply.

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

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

Score explanation: We could not find any sustainable building practices

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

2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.

Score explanation: The Bunkyo and Sakamoto campuses, the home campuses for Nagasaki University medical students, are located in the centre of the city and it is possible to travel between the campuses by bicycle or on foot, and public transportation in the form of buses and streetcars is well provided. As

parking spaces are limited at each campus, priority is given to disabled people, expectant mothers, and staff and students who commute from far away, resulting in an environmentally friendly strategy. This would be awarded 2 points.

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.

Score explanation: At the Bunkyo Campus and Sakamoto Campus, which are the home campuses for Nagasaki University medical students, there are no garbage cans for composting, but there are three sets of garbage cans for combustible, non-combustible, and recycling. Trash cans are placed at the entrance of the building, in front of the changing rooms, and in the dining area, so that students can properly sort and dispose of their trash before moving. In addition, information on class schedules and classrooms used is shared by the person in charge of cleaning. This would be awarded 1 point.

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?

3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.

Score explanation: The School of Medicine is working to reduce in-store food waste and food loss by providing the Co-op with information regarding the annual schedule and changes in online medical care. The company is working to reduce in-store food and cafeteria food loss. This would be awarded 1 point.

8. Does the medical school or 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.
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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.
<i>Score explanation: We could not find any criteria</i>	

9. Are there sustainability requirements or guidelines for events hosted at the <u>medical school</u> ?	
2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required .
0	There are no sustainability guidelines for medical school events.
<i>Score explanation: For events such as the Open Campus of the School of Medicine, private cars are not allowed in principle to avoid congestion on the campus and to contribute to the reduction of environmental impact. This would be awarded 1 point.</i>	

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

11. Does your <u>institution's</u> 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	The institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest , but currently still has fossil fuel investments.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.

0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
<p><i>Score explanation: Nagasaki University's endowment portfolio investment does not include fossil fuel companies. Nagasaki University's proposal for research on the coexistence of shore wind power generation and offshore aquaculture has been selected for a 2018 research grant from the Mitsui Bussan Environmental Fund to create a society that leads to the future. The research is expected to revive the fishery industry through sustainable aquaculture and create a full-fledged of shore wind power industry, and is being promoted for three years starting in fiscal 2019. This would be awarded 4 points.</i></p>	

Section Total (13 out of 32)	13
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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%

**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 Nagasaki University School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(35/72) \times 100 = 48.614\%$	C
Interdisciplinary Research (17.5%)	$(14/17) \times 100 = 70.6\%$	A-
Community Outreach and Advocacy (17.5%)	$(5/14) \times 100 = 35.7\%$	D+
Support for Student-led Planetary Health Initiatives (17.5%)	$(9/15) \times 100 = 60\%$	B-
Campus Sustainability (17.5%)	$(13/32) \times 100 = 40.6\%$	C-
Institutional Grade	$76/150 = 52.95\%$	C

