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# Planetary Health Report Card:

## *Albert Einstein College of Medicine*

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Albert Einstein College of Medicine

2021-2022 Contributing Team:

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## Summary of Findings

Overall	D+
<u>Curriculum</u>	C
<ul style="list-style-type: none"> <li>• While Einstein includes planetary health (PH) topics in its curriculum, they are mainly covered in a standalone overview lecture in the Health Systems and Health Equity course with little integration in systems courses, though environmental contributions to respiratory health are discussed in the pulmonary course.</li> <li>• <b>Recommendations:</b> Students can be taught to discuss the health effects of climate change with patients and take an environmental history, best suited to the Communication Skills Module of the Introduction to Clinical Medicine course. Topics covered in the Health Systems and Health Equity course should be expanded to provide more in-depth coverage. Greater integration into the system courses is also essential.</li> </ul>	
<u>Interdisciplinary Research</u>	D-
<ul style="list-style-type: none"> <li>• There are some researchers primarily engaged in PH research. However, no department for interdisciplinary research exists and there is no institutional website consolidating information about health and the environment.</li> <li>• <b>Recommendations:</b> 1) Development of an institutional website including information about resources and research relating to PH. 2) Einstein could hold a conference related to PH. 3) Consider joining a national or international PH organization. 4) Consider implementing a process in which community members impacted by environmental injustice can provide input regarding the environmental research agenda.</li> </ul>	
<u>Community Outreach and Advocacy</u>	D
<ul style="list-style-type: none"> <li>• Einstein’s affiliated hospitals have educational materials about environmental health exposures. A student group on campus partners with a community organization to promote environmental health.</li> <li>• <b>Recommendations:</b> More community partnerships in PH should be established. Einstein or affiliated hospitals should also develop educational materials about the health effects of climate change. Einstein should consider offering PH events for the community or PH courses for post-graduate providers, as well as regularly communicate with students about efforts and updates regarding PH and sustainable healthcare.</li> </ul>	
<u>Support for Student-Led Initiatives</u>	C
<ul style="list-style-type: none"> <li>• Einstein Sustainability Club is dedicated to PH and sustainability in healthcare and has faculty support. There are a variety of other PH programs, such as gardens, community supported agriculture, speaker series for students, and wilderness programs for students. There is also a fellowship opportunity related to PH research.</li> <li>• <b>Recommendations:</b> Information regarding research, projects, and mentors relating to PH or sustainable healthcare should be added to the Office of Energy and Sustainability website or a new website created.</li> </ul>	
<u>Campus Sustainability</u>	D
<ul style="list-style-type: none"> <li>• Einstein offers and promotes lower-carbon transportation options and has robust recycling programs.</li> <li>• <b>Recommendations:</b> We recommend that Einstein divest from fossil fuels and state a CO2 emission target, specifically a carbon neutrality goal by 2040. Moreover, sustainability guidelines should be established for events, food purchases, and laboratory spaces. Recycling should be expanded and composting introduced.</li> </ul>	

# 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 “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”. 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.
- **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 (for example, undergraduate departments (USA), other related departments eg 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 example).

#### **Literature review:**

Added to our resources this 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*

<b>1. Did your medical school offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?</b>	
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: Einstein does not offer electives on these topics.	

## *Curriculum: Health Effects of Climate Change*

<b>2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?</b>	
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: In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” briefly discusses the relationship between extreme heat and associated health risks, such as its impact on access to water and infectious disease.	

**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: In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” discusses the impacts of extreme weather events on both individual health and healthcare systems. The lecturer explains that extreme weather events can impact mental health, lead to violent conflict, or contribute to poverty and homelessness. Health systems may experience disruptions to care and public health infrastructure. The lecturer also uses Hurricane Maria as an example, describing how it led to increasing deaths in the following months, inability to access basic medical care, and economic damages. In addition to increased mortality, there are downstream impacts as well, such as unemployment, loss of livelihood and educational opportunities, and mental health effects.*

**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: In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” mentions that climate change will increase the prevalence of certain diseases, such as vector borne diseases. Infographics are provided to illustrate increasing dengue risk and increased tick reproduction associated with increasing temperatures. A second-year lecture titled “Introduction to Fungal Pathogenesis” includes a slide that lists climate change and environmental encroachment as contributors to fungal pathogen emergence. Another second-year lecture titled “Emerging Infections and Prions” includes a slide mentioning that changing interactions between humans and the environment, including climate change and ecological destruction, contribute to emergence of infections.*

**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.
<p><i>Score explanation: In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” mentions how air pollution contributes negatively to respiratory health, such as asthma, COPD, and allergies. In the pulmonary course, a lecture on “Asthma” identifies air and industrial pollutants as a trigger of asthma. Another lecture on “COPD” identifies outdoor air pollution, indoor air pollution from heating and cooking with biomass, and occupational dust as environmental exposures that can increase risk of COPD.</i></p>	

<b>6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?</b>	
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 Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” briefly mentions that air pollution raises the risk of cardiovascular events.</i></p>	

<b>7. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?</b>	
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 Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” briefly mentions that extreme weather events can impact mental health.</i></p>	



**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: In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” briefly discusses how climate change will affect access to food and water; for instance, by reducing nutritional value of crops, worsening malnutrition, increasing gastrointestinal pathogen likelihood in warmer waters, and driving algal blooms.*

**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.

*Score explanation: In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” includes several slides focused on how climate change has and will continue to disproportionately affect vulnerable communities. The lecturer discusses how climate change acts as a risk multiplier by worsening existing inequalities. An infographic provides examples of how communities of color, children, older adults, and low income communities are at increased risk for the effects of climate change.*

**10. Does your medical school 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.

*Score explanation: In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” includes an infographic depicting that countries with fewer emissions typically suffer the greatest consequences of climate change. Another slide discusses how effects on health life years due to climate change is significantly greater in African countries than European countries, highlighting inequities in climate change vulnerabilities globally.*

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

**11. 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.

*Score explanation: This topic is not covered in the core curriculum.*

**12. 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.

*Score explanation: In the pulmonary course, a lecture on “Asthma” briefly discusses how the local Cross Bronx Expressway not only significantly contributes to air pollution, but is also situated near residential areas, playgrounds, and schools. The lecturer mentions that constant inhalation of these pollutants can increase risk of asthma and asthma attacks.*

**13. To what extent does your medical school 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.
<i>Score explanation: This topic is not covered in the core curriculum.</i>	

<b>14. 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, Indigenous populations, and older adults?</b>	
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: In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” includes an infographic demonstrating that some communities of color live in areas where there is increased risk for exposure to pollutants.</i>	

***Curriculum: Sustainability***

<b>15. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?</b>	
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: In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” briefly mentions that decreased meat consumption and increased plant-based consumption has both environmental and health co-benefits. An elective titled “Nutrition and Health: Patients and Populations” discusses plant-based diets, but not in the context of its environmental benefits.</i>	

<b>16. Does your medical school curriculum address the carbon footprint of healthcare systems?</b>	
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: In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” briefly mentions that the US healthcare system is a major contributor of emissions.</i>	

<b>17. Does your medical school curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (1 point each)</b>	
1	Waste production within the healthcare system and strategies for reducing waste in clinical activities, such as in the operating room
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
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 anaesthetic gas options with reduced greenhouse gas emissions
1	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 for obesity. This is commonly known as social prescribing in the UK.
1	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
<i>Score explanation: 5. In the Health Systems and Health Equity course, a lecture titled “Climate Change and Health Equity” mentions the benefits of reduced meat consumption on cardiovascular health and the environment. Other lectures describe health benefits of such activities, but not their environmental benefits. (In the Molecular and Cellular Foundations of Medicine course for first years, a lecture titled “Introduction to Pharmacology, Physiology, and Pathology” discusses how lifestyle changes should be considered prior to drug prescription. A second-year lecture titled “Nutrition and Diabetes” mentions the benefits of exercise in type 1 diabetes. A lecture on “Fatty Liver Diseases” includes a slide discussing that lifestyle changes, such as alcohol cessation, exercise, and diet modification, are crucial in management of nonalcoholic fatty liver disease.)</i>	

*Curriculum: Clinical Applications*

<b>18. In training for patient encounters, does your medical school’s curriculum introduce strategies to have conversations with patients about the health effects of climate change?</b>	
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
<p><i>Score explanation: Students learn to take a social history in the Introduction to Clinical Medicine course, but strategies for having conversations about the health effects of climate change are not covered.</i></p>	

<b>19. In training for patient encounters, does your medical school’s curriculum introduce strategies for taking an environmental history or exposure history?</b>	
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.
<p><i>Score explanation: Students learn to take a social history in the Introduction to Clinical Medicine course, however strategies for taking an environmental or exposure history are not covered.</i></p>	

*Curriculum: Administrative Support for Planetary Health*

<b>20. Is your medical school currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?</b>	
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.

*Score explanation: Einstein is in the process of expanding climate health education in the preclinical curriculum, particularly in the Health Systems and Health Equity course. These efforts are mainly student-led, but administration and faculty have been generally supportive. Einstein is also in the process of developing a new global health elective, set to begin in April 2022, that includes content on planetary health.*

**21. 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.

*Score explanation: Planetary health and ESH topics are mainly covered in the “Climate Change and Health Equity” lecture in the Health Systems and Health Equity course as a standalone lecture. Although there is brief mention of environmental and occupational exposures in other courses, these lectures do not provide adequate coverage or depth of these topics.*

**22. Does your medical school employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?**

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.

*Score explanation: There is no faculty member who holds this responsibility.*

**Section Total (35 out of 69)**

**C**

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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.*

<b>1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?</b>	
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in 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>Score explanation: There are several faculty members who investigate the effects of pollutants on human health. Dr. H. Dean Hosgood is an Associate Professor in the Department of Epidemiology and Population Health whose research studies how environmental exposures influence cancer susceptibility, developing the <a href="#">Household Air Pollution Consortium</a> to collect data exploring the relationship between household air pollution and lung cancer death. Dr. Michael Aschner is a Professor of Molecular Pharmacology at Einstein whose research studies the effects of metals on the brain, such as the neurotoxicity of manganese.</i></p>	

<b>2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?</b>	
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.

*Score explanation: Einstein's Environmental Health and Safety department promotes environmental safety by requiring proper waste management and reducing environmental exposure. However, there is no department or institute dedicated to interdisciplinary planetary health research.*

**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: No such process exists at Einstein. To our knowledge, there are no efforts to create such a process.*

**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: Einstein has a website for [the Office of Energy and Sustainability](#), but it does not include adequate information about resources or research related to health and the environment.*

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

4	Yes, the <b>medical school</b> has hosted at least one conference or symposium on topics related to planetary health in the past year.
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3	Yes, the <b>institution</b> 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: Einstein has not recently hosted a conference or symposium on topics related to planetary health. A conference called <a href="#">Application of the One Health Approach to Global Health Centers</a> was held in December 2018, focusing on the interconnectedness of health and the environment, however this event occurred over three years ago.</i></p>	

<b>6. Is your medical school a member of a national or international planetary health or ESH organization?</b>	
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: Einstein is not a member of such an organization.</i></p>	

<b>Section Total (4 out of 17)</b>	<b>D-</b>
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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.*

<b>1. Does your medical school partner with community organizations to promote planetary and environmental health?</b>	
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>Score explanation: Through Einstein's Food Justice and Medicine club, students can volunteer with the Friends of Mosholu Parkland Edible Garden, which works to promote sustainable behaviors with positive environmental impacts.</i></p>	

<b>2. Does your medical school offer community-facing courses or events regarding planetary health?</b>	
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>Score explanation: Einstein has not offered community-facing courses or events regarding planetary health.</i></p>	

**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.

*Score explanation: Einstein does not send out regular communications relating to planetary health or sustainable healthcare.*

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

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

*Score explanation: No such courses were found using this [resource](#).*

**5. Does your medical school or its primary affiliated hospital 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.

*Score explanation: The Montefiore Health System, affiliated with Einstein, has a website explaining environmental illness and describing examples of both indoor and outdoor air pollutants. The website can be found [here](#).*

**6. Does your medical school or its primary affiliated hospital 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: No such educational materials were found from either Einstein or affiliated hospitals.</i>	

<b>Section Total (4 out of 14)</b>	<b>D</b>
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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.

<b>1. Does your institution offer support for medical students interested in enacting a sustainability initiative/QI project?</b>	
2	Yes, the 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 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, the institution does not offer opportunities or support for sustainability initiatives or QI projects.
<i>Score explanation: Einstein does not offer opportunities or support for these initiatives.</i>	

<b>2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?</b>	
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.
<i>Score explanation: Einstein offers a Global Health Fellowship involving clinical research with Dr. H. Dean Hosgood, studying the health impacts of wood smoke exposure. More information on the project can be found <a href="#">here</a>. Einstein's Medical Student Research Directory shows two available research projects focused on identifying waste production and carbon emissions during retina surgery. One is a summer opportunity and the other is a year-long opportunity, but both projects would require students to perform this research in their own time.</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.

*Score explanation: Einstein does not have a webpage consolidating information related to planetary health/sustainable healthcare activities or contact information of potential mentors.*

**4. Does your medical school 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.

*Score explanation: The Einstein Sustainability Club is affiliated with Medical Students for a Sustainable Future and is supported by two faculty mentors.*

**5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional 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.

*Score explanation: Einstein has no such representative.*

<b>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)</b>	
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: Einstein has a student-run garden on campus that donates produce to the ECHO Free Clinic and a local food pantry. Through the Einstein's Food Justice and Medicine club, students can volunteer with the Friends of Mosholu Parkland Edible Garden. The Beautiful Bronx Project is a student-led volunteer group that focuses on cleaning up litter in the Bronx. Einstein also has a community supported agriculture program. As a part of the Global Health Lecture Series in April to May 2021, a seminar discussed how our relationship with the environment contributes to emerging infectious disease. The Einstein Outdoor and Climbing Club organizes wilderness or outdoor programs for students.</i></p>	

<b>Section Total (7 out of 15)</b>	<b>C</b>
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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 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>Score explanation: Einstein's Office of Energy and Sustainability is made up of 1 full-time sustainability staff member, who serves as the Director of Energy and Sustainability. Einstein is not affiliated with an undergraduate campus, but the Montefiore Health System, affiliated with Einstein, has multiple full-time sustainability staff members.</i></p>	

2. How ambitious is your medical school/institution's plan to reduce its own carbon footprint?	
4	The institution has a stated goal of carbon neutrality by 2030 or earlier and the medical school / institution has a well-defined and adequate plan in place to achieve this goal.
3	Yes, there is a stated carbon neutrality goal by at least 2040 and the medical school/institution has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal by at least 2040, but the medical school/institution 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>Score explanation: Einstein does not have a clear CO2 emission target.</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: About 10% of Einstein's electricity comes from ReCharge New York Hydropower, referring to firm hydroelectric power from the Niagara Project and St. Lawrence Project.*

**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: Since we have not built a new building in the past fifteen years, we are answering this question only as it applies to old buildings. Old buildings have not been retrofitted, though when adding major new equipment to older buildings, this must comply with NYC energy code.*

**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.
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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.
<i>Score explanation: A shuttle system transports students between campuses and to a nearby subway station. Einstein participates in 511NY Rideshare, a carpooling program. Bicycle racks are also located in multiple areas of campus, as well as overnight in the parking garage.</i>	

<b>6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?</b>	
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.
<i>Score explanation: There are waste bins for trash and recycling throughout campus and in student housing, but no compost programs. However, multiple faculty members and students have expressed that recycling is relatively inaccessible and should be expanded.</i>	

<b>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)?</b>	
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.
<i>Score explanation: To our knowledge, no such guidelines exist for making decisions about food or beverage selections.</i>	

<b>8. Does the medical school or associated institution apply sustainability criteria when making decisions about supply procurement?</b>	
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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.
<i>Score explanation: Einstein has an Environmentally Preferable Procurement Policy, found <a href="#">here</a>. It explains that while procurement will make efforts to increase sustainability, it is only done so when practical.</i>	

<b>9. Are there sustainability requirements or guidelines for events hosted at the medical school?</b>	
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: To our knowledge, no sustainability guidelines exist for medical school events.</i>	

<b>10. Does your medical school have programs and initiatives to assist with making lab spaces more environmentally sustainable?</b>	
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: The website for <a href="#">the Office of Energy and Sustainability</a> includes a Environmentally Preferable Procurement Policy, suggesting that departments consider more environmentally sustainable products and equipment. However, to our knowledge, no programs or initiatives focus on making lab spaces more environmentally sustainable.</i>	

<b>11. Does your institution's endowment portfolio investments include fossil-fuel companies?</b>	
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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 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.
<i>Score explanation: Einstein has investments with fossil-fuel companies. To our knowledge, there have been no efforts to change that.</i>	

<b>Section Total (10 out of 31)</b>	<b>D</b>
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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 Albert Einstein College of Medicine

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

Section	Raw Score	Letter Grade
<b>Planetary Health Curriculum (30%)</b>	$(35 / 69) \times 100 = 51\%$	C
<b>Interdisciplinary Research (17.5%)</b>	$(4 / 17) \times 100 = 24\%$	D-
<b>Community Outreach and Advocacy (17.5%)</b>	$(4 / 14) \times 100 = 29\%$	D
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	$(7 / 15) \times 100 = 47\%$	C
<b>Campus Sustainability (17.5%)</b>	$(10 / 31) \times 100 = 32\%$	D
<b>Institutional Grade</b>	<b>38%</b>	<b>D+</b>