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# **Planetary Health Report Card:**

## *Tufts University School of Medicine*

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***2019-2020 Contributing Team:***

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# Statement of Purpose

*Planetary health is human health.*

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

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

With the purpose of increasing planetary health awareness and accountability among medical schools, we have created a standardized and reproducible Planetary Health Report Card that medical students nationally can use to grade and compare their home institutions. This medical-student-driven initiative aims to compare medical schools on the basis of discrete metrics in four 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. This project is inspired by the [Racial Justice Report Card](#), an initiative from White Coats 4 Black Lives that has led to substantial impactful change at medical schools around the country.

# Planetary Health Curriculum

**Section Overview:** This section evaluates the integration of relevant planetary health topics into the medical school curriculum.

Metric	Points	Descriptor
1.1 Did your medical school offer elective courses to engage students in planetary health in the last year?	1	Yes, the medical school has offered such elective courses in the last year.
	0	<b>No, the medical school has not offered such elective courses in the last year.</b>
1.2 Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?	2	<b>The metric is met by the core curriculum.</b>
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.3 Does your medical school curriculum address the environmental co-benefits of a plant-based diet in its nutrition lectures?	2	The metric is met by the core curriculum.
	1	<b>The metric is met by elective coursework.</b>
	0	The metric is not met.
1.4 Does your medical school curriculum address the potential mental health effects of environmental degradation and climate change?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	<b>The metric is not met.</b>
1.5 Does your medical school curriculum address the effects of industry-related environmental exposures (e.g. air pollution, pesticides) on pregnancy?	2	<b>The metric is met by the core curriculum.</b>
	1	The metric is met by elective coursework.
	0	The metric is not met.

1.6 Does your medical school curriculum address endocrine disrupting chemicals and their effects?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	<b>The metric is not met.</b>
1.7 Does your medical school curriculum address the relationships between individual patient food security, ecosystem health, and climate change?	2	The metric is met by the core curriculum.
	1	The metric is met by elective coursework.
	0	<b>The metric is not met.</b>
1.8 Does your medical school curriculum address the effect of air pollution on respiratory and cardiovascular health?	2	<b>The metric is met by the core curriculum.</b>
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.9 Does your medical school curriculum address the relationship between heat-related illnesses and climate change?	2	The metric is met by the core curriculum.
	1	<b>The metric is met by elective coursework.</b>
	0	The metric is not met.
1.10 Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins and climate change on vulnerable populations such as those with low SES, women, minorities, indigenous communities, children, and the elderly?	2	<b>The metric is met by the core curriculum.</b>
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.11 Does your medical school curriculum identify ways to advocate for and implement sustainable best practices in health	2	The metric is met by the core curriculum
	1	The metric is met by elective coursework.

care? (for example, avoiding unnecessary OR waste)	0	<b>The metric is not met.</b>
1.12 Does your medical school curriculum address important environmental threats that are relevant to the university's surrounding community? (for example, fires in California)	2	<b>The metric is met by the core curriculum.</b>
	1	The metric is met by elective coursework.
	0	The metric is not met.
1.13 Does your institution have graduate or non-medical undergraduate level courses on planetary health open to medical student enrollment free of charge?	2	There are graduate or undergraduate level courses open to free medical student enrollment.
	1	<b>There are graduate or undergraduate level courses but they are not open to free medical student enrollment.</b>
	0	There are no graduate level courses related to planetary health
1.14 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?	1	Yes, there are strategies introduced for having conversations with patients about climate change.
	0	<b>No, there are no strategies introduced for having conversations with patients about climate change.</b>
1.15 In training for patient encounters, does your institution's curriculum introduce strategies for taking an environmental history or exposure history?	1	Yes, the curriculum includes strategies for taking an environmental history.
	0	<b>No, the curriculum does not include strategies for taking an environmental history.</b>
1.16 Does your medical school have an ongoing program that offers incentives for	1	Yes, the medical school has an incentive program.

faculty/departments to develop new planetary health courses and/or incorporate planetary health into existing courses?	0	No, the medical school does not have an incentive program.
Section Total (out of 28)	13	

## Score explanations:

### 1.1 Elective Courses

*Electives are only available to fourth year medical students, who claim no planetary health focused courses are available.*

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### 1.2 Infectious Disease

*The core curriculum briefly covers the expanded reach of diseases such as Zika and fungal infections.*

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### 1.3 Diet and Sustainability

*Information about diet and sustainability is covered in the course syllabus (which is part of a portfolio of resources for students) but not in the lectures and not explicitly tested on. Professors plan to include lectures on this topic next year.*

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### 1.4 Mental Health

*Maine track is open to learning more and including lectures on this topic next year. Boston track may consider including relevant content in future years.*

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### 1.5 Environmental Exposures in Pregnancy

*Issues related to the environment and pregnancy are covered in the reproductive unit.*

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### 1.6 Endocrine Disrupting Chemicals

*Not currently covered, but faculty are open to having it be included in a separate mandatory course on SDOH next year.*

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### 1.7 Food Security

*Not covered.*

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### **1.8 Air Pollution**

*The curriculum covers the effects of air pollution on respiratory diseases, but not on cardiovascular health.*

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### **1.9 Heat-Related Illnesses**

*Heat-induced kidney illness is mentioned in an elective lecture. Cardiovascular professors are considering adding heat-induced dehydration as a cause for circulatory shock.*

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### **1.10 Environmental Determinants of Health**

*There is a case regarding the health effects of an environmental carcinogen in a required Problem-Based Learning small group discussion session. Air pollution in Chinatown (the neighborhood adjacent to Tufts) due its proximity to a large interstate was covered in a Population Health course. Sound pollution from the Boston public transportation trains were covered in a tour of Chinatown. First-year students had to read *What The Eyes Don't See* by Mona Hanna-Attisha (about the Flint water crisis) before the beginning of 1st year classes. As part of the population health course, students are required to do a Community Engagement Project, looking into health disparities among local neighborhoods. Although planetary health is not an explicit focus of the project, students can choose to focus on these issues for their project.*

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### **1.11 How to Advocate for Sustainable Practices**

*Not in the curriculum. However, the Tufts Office of Sustainability emails out weekly tips for more sustainable medical practice.*

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### **1.12 Area-Specific Environmental Threats**

*Pollution in Chinatown (surrounding area of Tufts School of Medicine) was covered in the Population Health course. Students received a tour of Chinatown, learning about the history and environmental changes that have occurred throughout the past few decades. Sound pollution from the Boston public transportation trains was covered in a tour of Chinatown.*

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### **1.13 Graduate-Level Planetary Health Courses**

*Tufts Friedman School of Nutrition (a building across the street from the medical school) has graduate courses, but these are not open to medical students.*

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### **1.14 Patient Encounters**

*In third year clinical rotations, there are opportunities to learn strategies in the internal medicine and family medicine rotations. However, it is uncertain how formal these conversations are. The Clinical*

*Apprenticeship Program (2nd year students' introduction to clinical practice in an outpatient primary care setting) is open to including a one-pager containing strategies for approaching patients on this topic in the supplemental materials for the course. MIDPR (introduction to patient-interviewing course) contains general strategies in approaching patients, but no specific climate change and environmental topics.*

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### **1.15 Environmental History**

*Not covered. Clinical Apprenticeship Program (2nd year students' introduction to clinical practice in an outpatient primary care setting) is open to including a one-pager containing strategies for approaching patients on this topic in the supplemental materials for the course.*

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### **1.16 Faculty Incentives**

*No specific incentives. However, medical school administrators are open to having faculty attend a lecture on incorporating climate change content into their curriculums. As of summer 2020, receptive faculty have begun to incorporate training on climate change learning goals.*

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### **Miscellaneous**

A core curricular class on social determinants of health contained a lot of material related to climate change but was not a mandatory or graded course this year. However, it is set to become a graded course next year, which will increase the amount of climate change related content in the core curriculum.

As referenced in 1.4, Tufts currently has two tracks for its medical students: Boston track, which learns in Boston for all 4 years, and Maine track, which trains in Maine for the last 3 years of medical school.

# Interdisciplinary Research in Health and Environment

**Section Overview:** This section evaluates the quality and quantity of interdisciplinary research in health and environment at the medical school.

Metric	Points	Description
<a href="#">2.1</a> Does your institution have a planetary health website, or a website centralizing various campus resources related to health and the environment?	1	<b>There is a website that centralizes various campus resources related to health and the environment.</b>
	0	There is no website.
<a href="#">2.2</a> Has your institution hosted a conference on planetary health in the past 3 years?	1	<b>Yes, the institution has hosted a conference on planetary health in the past three years.</b>
	0	No, the institution has not hosted an interdisciplinary health conference in the past three years.
<a href="#">2.3</a> Are there researchers engaged in planetary health research at your institution?	3	<b>Yes, there is a department, institute, or center devoted to planetary health.</b>
	2	Yes, there are individual faculty members who are doing research on topics immersed in planetary health.
	1	Yes, there are individual faculty members who are doing research that is related to planetary health.
	0	No, there is no research on planetary health at this time.
<a href="#">2.4</a> Is there a dedicated department or institute for multidisciplinary environmental and planetary health research?	1	<b>There is a dedicated department or institute.</b>
	0	There is no dedicated department or institute.
<a href="#">2.5</a> Is there active recruitment of researchers who focus on planetary health issues?	1	There is active recruitment.
	0	<b>No recruitment efforts are made.</b>

2.6 Is there quantitatively and qualitatively meaningful research that has been authored or co-authored by researchers from your institution on planetary health issues?	2	Yes, researchers from my institution have produced a substantial body of impactful research related to planetary health.
	1	<b>There has been some research related to planetary health generated by researchers from my institution, but it is lacking in quantity and/or quality.</b>
	0	There are no studies authored or co-authored by university researchers on these issues.
2.7 Has your institution joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?	1	<b>Yes, the institution has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education.</b>
	0	No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.
Section Total (out of 10)	8	

## Score Explanations

### 2.1 Planetary Health Website

The Tufts Office of Sustainability, based in the undergraduate campus, has a [website](#).

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### 2.2 Planetary Health Conference

Tufts has hosted an annual [Energy Conference](#) for 15 years, accessible to all students, including medical students, for a low cost. However, the conference is not as publicized to medical students as it could be.

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### 2.3 Planetary Health Individual Researchers

[Tufts Institute of the Environment](#) is an institution that operates across all of Tufts. Faculty adjacent to the medical school and affiliated with this institution are doing planetary health [research](#) (i.e. on the epidemiology of environmental toxicants and occupational and environmental health).

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### 2.4 Institute for Multidisciplinary Research on Health and the Environment

Although it is not a dedicated department at the medical school, [Tufts Institute of the Environment](#) is an institution that operates across all of Tufts, is open to medical student involvement, and attends the medical school specific activity fair.

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## **2.5 Recruitment of Planetary Health Researchers**

*We were unable to find information on the recruitment of researchers at Tufts, those involved in Planetary Health research and otherwise. Tufts Health Sciences campus has growing research programs that medical students may participate in, as well as clinical research programs at Maine Medical Center (a Tufts affiliate hospital), and through the undergraduate and graduate schools. To our knowledge, based on a limited search, there is some degree of research being done related to planetary health issues.*

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## **2.6 Meaningful research**

*Within the growing research programs at the medical school and Tufts Public Health, research has been conducted about air pollutants in the community, endocrine-disrupting chemicals, environmental exposures on pediatric and neonatal outcomes, and research in the area of OneHealth.*

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## **2.7 Planetary Health Alliance**

*Tufts University School of Medicine is part of the Global Consortium.*

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# Community Outreach and Advocacy in Environment and Health

**Section Overview:** This section evaluates the quality of medical school engagement in community programming and outreach and advocacy efforts associated with the environment and health.

Metric	Points	Description
3.1 How often does your institution offer community-facing courses or events regarding planetary health and the environment?	2	The institution offers such community-facing courses or events at least once every year.
	1	The institution offers such community-facing courses or events less than once per year.
	<b>0</b>	<b>The institution does not offer such community-facing courses.</b>
3.2 Does your institution interface with community organizations to promote planetary and environmental health?	1	Yes, the institution formally interfaces with one or more community organizations to promote planetary and environmental health.
	<b>0</b>	<b>No, there is no such community partnership.</b>
3.3 Does your institution have regular coverage of issues related to planetary health in its primary campus magazine?	2	Yes, there is an article related to planetary health in the majority of issues.
	1	In the past year, there has been at least one article related to planetary health.
	<b>0</b>	<b>There has been no mention of planetary health in the last year in the campus magazine</b>
3.4 Does the institution offer continuing medical education courses that address planetary health?	2	Yes, one or more in-person CME courses are offered.
	1	Yes, one or more online CME courses are offered.
	<b>0</b>	<b>There are no courses.</b>
3.5 Does your institution provide opportunities for medical student engagement in developing community resilience to anthropogenic	1	Yes, the institution has provided opportunities.
	<b>0</b>	<b>No, the institution has not provided opportunities.</b>

environmental impacts?		
3.6 Does institutional marketing (posters, billboards, etc) address climate change or the relationship between health and the environment?	1	Yes, institutional marketing addresses the intersections between climate and health.
	0	<b>No, institutional marketing does not address these intersections.</b>
3.7 Does your medical center have accessible educational materials for patients about environmental health exposures?	1	Yes, the medical center has accessible educational materials.
	0	<b>No, the medical center does not have accessible educational materials.</b>
3.8 Does your institution's endowment portfolio investments include fossil-fuel companies?	3	No, the institution is entirely divested from fossil fuels.
	2	The institution has partially divested from fossil-fuel companies.
	1	<b>The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.</b>
	0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
Section Total (out of 12)	1	

## Score Explanations

### 3.1 Community-facing courses

*At this time, Tufts University School of Medicine does not offer community-facing courses or events regarding planetary health and the environment.*

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### 3.2 Community organizations

*Most Tufts University School of Medicine students participate in Community Service Learning projects that require them to engage and interface with different community organizations, but, at this time, there are not any projects that specifically focus on planetary health. This is a goal topic for future projects.*

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### 3.3 Coverage in campus magazine

The primary campus magazine, [Tufts Medicine](#), has not covered issues of planetary health in the past year.

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### **3.4 Continuing education courses**

Tufts University School of Medicine does not offer any continuing medical education (CME) courses that address planetary health.

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### **3.5 Community outreach**

Tufts University School of Medicine does not provide opportunities for medical student engagement in developing community resilience to anthropogenic environmental impacts. However, this is a goal topic for future Community Service Learning projects.

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### **3.6 Marketing**

Tufts University School of Medicine does not have institutional marketing to address climate change or the relationship between health and the environment.

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### **3.7 Patient educational materials**

We are not aware of accessible patient educational materials about environmental exposures at Tufts Medical Center .

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### **3.8 Investments**

The institution has not divested from fossil fuels. However, as of early 2020, Tufts University is [revisiting fossil fuel investment](#) in response to student activism.

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# University Support for Student-Led Planetary Health Initiatives

**Section Overview:** This section evaluates the extent and quality of institutional support for student-led planetary health initiatives, such as funding, programming, etc.

Metric	Points	Description
4.1 Does your medical school offer a year-long fellowship for medical students to enact an initiative related to planetary health?	1	<b>The medical school offers an explicit year-long fellowship for medical students to enact an initiative related to planetary health.</b>
	0	There is no explicit practicum or year-long planetary health fellowship open to medical students.
4.2 Does your medical school have a website where medical students can learn about applying for funding for planetary health initiatives?	1	<b>Yes, there is a website where medical students can learn about applying for funding for initiatives related to planetary health.</b>
	0	No, there is no such website.
4.3 Does your institution have a website where medical students can find the contact information of mentors for planetary health initiatives?	2	<b>The institution has a webpage that lists faculty involved in planetary health.</b>
	1	The institution has a general website or directory that lists faculty and staff members' research and/or academic interests, but is not planetary health specific.
	0	There is no simple means of locating potential mentors for planetary health initiatives.
4.4 Does your medical school have funded, registered student groups dedicated towards fostering a culture of planetary health engagement and scholarship on campus, supported by faculty advisors?	2	<b>Yes, there is a funded student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.</b>
	1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support and/or funding.
	0	No, there is not a funded student organization at my institution dedicated to planetary health or sustainability in healthcare.

<p><a href="#">4.5</a> 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)</p>	0	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	<b>Conferences, speaker series, symposia or similar events related to planetary health that have students as the intended audience.</b>
	0	Cultural arts events, installations or performances related to planetary health that have students as the intended audience.
	1	<b>Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.</b>
Section Total (out of 10)	8	

## Score Explanations

### 4.1 Fellowship opportunity

*Tufts Institute of the Environment is an “interdisciplinary, university-wide institution that initiates, facilitates, and promotes environmental education, service, and research. They have an [Environmental Research Fellowship](#) open to all Tufts University graduate students. It is not specific to the Tufts School of Medicine, however there are currently medical students involved in the fellowship. The funded fellowship runs from April - April each year, with an intensive summer research period and “collaborative activities” throughout the fall and spring semesters.*

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### 4.2 Funding application website

*Tufts Institute of the Environment has a [webpage](#) that identifies funding opportunities open to all members of the Tufts community. Funding opportunities include the [Environmental Research Fellowship](#) detailed in [4.1](#), co-sponsored internships, event sponsorships, travel grants, and other resources available for students.*

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### 4.3 Mentor contact information

*Tufts Institute of the Environment has a comprehensive list of Affiliated Faculty who “support TIE’s initiatives, advise [their] educational programs, facilitate research opportunities, and are available for exclusive funding opportunities”. A portion of the [webpage](#) is dedicated to faculty specifically from Tufts School of Medicine.*

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#### 4.4 Registered student group

*There is an active Tufts Medical Students for a Sustainable Future group that was founded in 2020 and has held multiple club meetings and events, in which the group had access to funding. There is faculty support available for the group.*

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#### 4.5 Miscellaneous programs and initiatives

- **Garden:** *Tufts University School of Medicine students did receive notifications from our Office of Student Affairs about registering for [New Entry CSA](#), an initiative of the Friedman School of nutrition at Tufts University. There are pick-up options available for medical students at the Tufts Health Science Campus.*

*There are no obvious examples of Tufts School of Medicine students having opportunities to be directly involved in agriculture that were apparent to us. However, there may be additional opportunities surrounding agriculture available that we were not able to identify during our search.*

- **Conferences, speaker series, symposia, or similar events:** *Tufts School of Medicine has hosted speakers who discussed planetary health. For example, one Global Health Seminar cosponsored by multiple Tufts groups was entitled “Climate Change and Public Health”, and was well-attended by medical students.*
- **Cultural arts events, installations, or performances:** *There are no obvious examples of cultural arts events, installations or performances related to planetary health that have Tufts School of Medicine students as the intended audience. However, there may be additional opportunities surrounding this topic available that we were not able to identify during our search.*
- **Wilderness or outdoor programs:** *Tufts Mountain Club has a lodge in the mountains of New Hampshire accessible to medical students who join the Tufts Mountain Club. The lodge serves as a home base for outdoor activities in the area.*

*There are also active clubs specific to Tufts School of Medicine that facilitate wilderness/outdoor activities; these include a wilderness medicine club, a running club, and an alpine club.*

*There is an annual one-month MMC Wilderness and Environmental Medicine with 5 spots reserved for 4th year Tufts School of Medicine students. The elective does not focus exclusively on environmental health and primarily centers around topics related to wilderness medicine. Of note, the elective is temporarily on hold with plans to return in Fall 2020.*

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# Grading

## Section Overview

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

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

## Planetary Health Grades for the Tufts University School of Medicine

The following table presents the individual section grades and overall institutional grade for the Tufts University School of Medicine on this medical-school-specific planetary health report card.

Section	Raw Score	Grade
<b>Planetary Health Curriculum</b>	13 / 28 = 46%	C
<b>Interdisciplinary Research in Health and Environment</b>	8 / 10 = 80%	A-
<b>Community Outreach and Advocacy in Environment and Health</b>	1 / 12 = 8%	F
<b>University Support for Student-led Planetary Health Initiatives</b>	8 / 10 = 80%	A-
<b>Institutional Grade</b>	<b>Average of four scores above= 54%</b>	<b>C</b>