



Planetary Health Report Card (Medicine) 2026:

*University of Massachusetts
T.H. Chan School of Medicine*



UMass Chan
MEDICAL SCHOOL

2025-2026 Contributing Team:

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Land acknowledgment:

The University of Massachusetts T.H. Chan School of Medicine is located on the traditional ancestral homelands of the Nipmuc Nation, who have stewarded the lands and waters of this region since long before recorded history and continue to do so today. We recognize that our campus, our lecture halls, our clinics, and our laboratories exist because of a history of colonization, displacement, and environmental disruption that disproportionately harms Indigenous communities and other marginalized peoples.

Planetary health reminds us that the health of humans is inseparable from the health of the Earth we all share. As an academic health sciences center, we affirm our responsibility to learn from Indigenous knowledge systems that honor reciprocity, interdependence, and care for all living beings.

We invite all members of the UMass Chan and the Greater Worcester communities to reflect on their roles in this work and to join in transforming our institution so that it contributes meaningfully to a just, sustainable, and healthy future for all beings and for the planet we share.

Summary of Findings

Overall Grade	B
Curriculum	B-
<ul style="list-style-type: none"> • The medical school has made substantial strides in integrating climate, planetary, and human health topics into the core curriculum, in lectures, modules, and experiential learning opportunities. However, integration of climate-related topics remains inconsistent across curriculum blocks, with several areas only partially addressing the impact of climate on health. • Recommendations: UMass Chan should consider integrating more education on tangible sustainable healthcare practices in both the pre-clinical and clinical years (e.g. environmental history taking, physician advocacy, healthcare waste, etc). More work remains to be done on adding more climate and human health topics into the core curriculum for all students. 	
Interdisciplinary Research	B
<ul style="list-style-type: none"> • UMass Chan faculty members and researchers across various fields have interests in planetary health and healthcare sustainability. Faculty members at the larger University of Massachusetts institution have primary interests in planetary health research, but these opportunities are underutilized by students in the medical school. They have hosted conferences that have platformed planetary health subjects. • Recommendations: UMass Chan should increase visibility of faculty at other campuses involved in planetary and health care research. The school should centralize information on past, current, and future climate health related research to allow students to learn about opportunities to become involved. 	
Community Outreach and Advocacy	B
<ul style="list-style-type: none"> • The medical school has cultivated multiple partnerships with local organizations to further planetary health goals. These opportunities allow students to engage in climate advocacy and deepen their knowledge of environmental justice in their communities. UMass Chan’s main hospital affiliations provide readily accessible online patient libraries that effectively educate patients on environmental exposures and the impact of climate change on health. • Recommendations: UMass Chan should continue to seek out and cultivate partnerships with additional local, climate-minded organizations. Given health providers’ roles as essential advocates for patient health, UMass Chan should develop continuing education materials addressing the impact of climate change on health for its postgraduate providers and on the role of physicians as advocates for their patients and communities. 	
Support for Student-Led Initiatives	B
<ul style="list-style-type: none"> • The institution hosts a climate change organization, the Climate Coalition, which includes medical students supported by faculty. The Coalition is currently in its seventh year of operation and actively supports various student-led initiatives, including a thriving community garden and a popular climate change-related optional elective course. • Recommendations: UMass should develop and support student led initiatives in climate health research and advocacy. UMass faculty members and administration interested in planetary health should be more active in working with the Climate Coalition. 	

Campus Sustainability

B

- The Sustainability Office offers robust support for student-led initiatives around climate and health and is actively working with vendors to increase the sustainability of procurements. The institution has detailed a plan for decarbonization by 2040 which includes actively investigating several onsite locations for solar arrays and monitoring developments in cleaner fuel options as technologies continue to mature to market readiness. The institution has also retrofitted the majority of the older buildings to comply with newer sustainability standards. Over the last year, the institution has also begun making improvements in terms of keeping lab spaces more environmentally sustainable.
- **Recommendations:** We recommend continuing to focus on making lab spaces even more sustainable. The school should introduce sustainable guidelines for events and procurement. UMass Chan should also keep exploring ways to increase the proportion of renewable energy usage across its academic and research buildings as well as ways to increase recycling and composting across its various sites.

Statement of Purpose

Planetary health is human health.

The Planetary Health Alliance describes planetary health as “a solutions-oriented, transdisciplinary field and social movement focused on analysing and addressing the impacts of human disruptions to Earth’s natural systems on human health and all life on Earth.” This definition is intentionally broad, intended to encompass the multitude of ways that the environment can affect health, including water scarcity, changing food systems, urbanisation, biodiversity shifts, natural disasters, climate change, changing land use and land cover, global pollution, and changing biogeochemical flows. The health of humanity is dependent on our environment, and our environment is changing rapidly and in disastrous ways. Although the World Health Organization has called climate change “the greatest threat to global health in the 21st century,” many health professional 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 health professional training. It is imperative that we hold our institutions accountable for educating health professional students about the health impacts of climate change and other anthropogenic environmental changes, generating research to better understand health impacts and solutions, supporting related student initiatives, embracing sustainable practices as much as possible, and engaging with surrounding communities that are most affected by environmental threats. Because climate change and environmental threats disproportionately affect vulnerable populations (for example, communities of colour, older adults sensitive to health threats, and individuals in low-resource settings), these issues are inherently ones of equity and justice.

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

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as “the health of human civilisation and the state of the natural systems on which it depends.” For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional ‘environmental health’ examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of health professional education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term “planetary health” to satisfy the metric.
- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimises use of healthcare services.
- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:
 1. Describe how the environment and human health interact at different levels.
 2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
 3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.
- **Medical School/Department vs. Institution:** When “Medical school” is specified in the report card, this only refers to curriculum and resources offered by the School/department of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments). In contrast, when “institution” is specified in the report card, we are referring to the university more broadly

including all of its campuses. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is specifically targeted for medical students, can meet this metric.

- **Environmental history (Curriculum Section):** This is a series of questions students are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mould after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution. Please be as specific as possible when providing evidence for this metric.
- **Elective:** The word "elective" refers to an optional course or lecture series that a student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.
- **Core Curriculum:** This refers to the taught material that is delivered to the entire cohort of students in one year.
- **Clerkship / Outreach:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations, outreach or placements. This is a relatively short (approximately 4-8 weeks) period of study and patient-centred clinical experience that takes place as part of the undergraduate programme.
- **Clinical rotation:** This is a term used to refer to placements that students go on (e.g., ophthalmology, surgery, cardiology).
- **Physiotherapy vs Physical Therapy:** For the purposes of this report card these terms are considered interchangeable. However, physiotherapy will be used primarily.
- **Community organisations:** For most institutions, there are existing groups that are not directly affiliated with the university and exist as a product of what the community the institution exists in cares about or needs. These specific community organisations relevant to this report include those that are focused around some aspect of climate and health preservation. These community organisations can include but are not limited to local mutual aid initiatives, underserved-resource distribution groups, clean-up and nature conservation groups, community gardeners, and other environmental-related organisations. If your institution does not have access to local volunteerships with community groups, please report any community organisations your institution or school has collaborated with.
- **Climate justice:** The idea that certain population groups and geographical locations which are disproportionately more impacted by climate change are already

economically and socially disadvantaged. This double vulnerability sits alongside pre-existing social justice concerns and should therefore shift policy and practice to mitigate the inequitable effects of the climate crisis.

- **Extractivism:** The removal of natural resources typically in large quantities. Within anthropology this term is often used in the context of colonialism to refer to the historic seizing of natural resources, a practice which has developed business models tied to ecological degradation and loss of biodiversity.
- **Global South:** Nations that often have less economic and industrial development and are typically in the southern hemisphere. These nations have been found to be disproportionately impacted by the climate crisis.
- **Low socioeconomic status (SES):** An individual or geographical area that across a variety of socioeconomic factors (e.g., income, education, race/ethnicity) is considered vulnerable. This vulnerability has been correlated to more adverse health outcomes often as a consequence of encountering more barriers in accessing and receiving healthcare.
- **Low and Middle-Income Countries (LMIC):** Countries that have lower degrees of economic affluence.
- **Anthropogenic:** Created through human activity
- **Marginalized communities:** Groups excluded from mainstream economic, educational, social, and/or cultural experiences due to race, gender identity, sexual orientation, age, physical ability, language, and/or immigration status (Sevelius et al., 2020).

Scoring Matrix

- Elective coursework (1 point): This score applies to material that is actively selected by the students such as a module choice, or additional lecture series. By implication, only a given proportion of the cohort will receive this taught material.
- Brief coverage in the core curriculum (2 points): This score applies where a topic is covered only briefly in a core curriculum session. This implies that the entire cohort receives the same material. At minimum brief inclusion would qualify as inclusion in a single lecture slide in a single year.
- In depth coverage in the core curriculum (3 points): This score applies where a topic is taught in significant detail or where a topic is repeatedly brought up in different years. This might look like several dedicated lecture slides, or inclusion of the same topic in different lectures and teaching formats.

Other considerations:

- If there are more than one “tracks” at your institution with two different curricula (for example, Harvard Medical School has a Pathways and HST curriculum track), you can choose to fill out a report card for each track, or fill out just one report card and average the scores received by each track in cases where the scores are different (see the 2021 Harvard or Oxford report cards as

examples). Where possible please indicate the proportion of students that are on each track.

Updated in 2025, a complete literature review by metric is available for the 2024/25 Medicine Report Card Template. This largely translates across disciplines although we are hoping to expand this process across all of our covered disciplines. A link to the 2025 literature review by metric is available [here](#).

Planetary Health Curriculum

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

Curriculum: General

1.1. Did your <u>medical school</u> offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year. (3 points)	
Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year. (2 points)	
The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health. (1 point)	
No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year. (0 points)	
Score Assigned:	3
<p><i>Score explanation: All medical students at UMass Chan have the opportunity to enroll in Optional Enrichment Electives (OEEs), which are non-credit-bearing, student-led and faculty-supported courses aiming to enhance medical student knowledge in a specialized area. One such elective offered in the fall of 2025, "Climate Health & Action," enabled students to participate in a six-week live lecture series detailing the numerous intersections of climate and healthcare. Additionally, the school has implemented a one-week-long Flexible Professional Experience (FPE) called "Healthcare Sustainability," where third-year students can explore healthcare sustainability on their clinical rotations. Given the presence of more than one optional elective that primarily focuses on climate change and/or planetary health, we are awarding three points.</i></p>	

Curriculum: Health Effects of Climate Change

1.2. Does your <u>medical school</u> curriculum address the relationship between extreme heat, health risks, and climate change?	
This topic was explored in depth by the core curriculum. (3 points)	

This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>Score explanation: The relationship between extreme heat, health risks, and climate change was comprehensively addressed in the core curriculum, with an in-depth independent learning module (ILM) titled “Social Determinants of Health” that dedicated two of eight modules to “Built Environment, Climate Change, and Environmental Exposure” as part of the “Principles 2” block. This ILM detailed the factors relating to the environment and climate change that harm human health. This topic was also addressed in the “Blood, Immunity, Infection” curriculum block in the lecture titled “Climate Change, Vectorborne, and Waterborne Diseases”, which summarized data on global warming and the subsequent impacts on epidemiology of vectorborne and waterborne disease. Additionally, the lecture “Fungi I” attributed the rise of fungal infections partly to the expansion of endemic fungi into new regions as a result of climate change. In the cardiovascular block, the lecture titled “Shock I” also featured a slide explicitly linking heat stroke to climate change. In the respiratory system block, the lecture entitled “Asthma” included a slide discussing impacts of particulate matter from climate-induced events on the prevalence and presentation of asthma.</i></p>	

1.3. Does your <u>medical school</u> curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<p><i>Score explanation: In the UMass Chan Medical School’s required first-year Vista Curriculum “Principles 1” Course, course directors formulated a case study that explicitly delineated how extreme weather events exacerbated by human-caused climate change pose a danger to human health. Specifically, one pathway contributing to this harmful relationship occurred through the rise of harmful algal blooms containing cyanobacteria. Additionally, the core block also highlighted the mechanism through which the environment can influence gene expression: lectures identified that anthropogenic factors, wildfires, rising temperatures, increased UV radiation, and increased polycyclic aromatic hydrocarbon (PAH) emissions can contribute to epigenetic modifications that negatively impact health. Professors also included a discussion on extreme weather and wildfires on health in the core curriculum “Principles 2” block with a lecture titled</i></p>	

“SDOH Climate Change and Human Health.” Finally, in the “Climate Health and Action” OEE, multiple speakers addressed disruptions in healthcare delivery and healthcare systems caused by extreme weather events and how some hospitals are taking action to address it.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

3

Score explanation: This topic was explored in depth within the core curriculum, where “Fungi I” and “Fungal Infections,” lectures given in the first and second years, respectively, each feature a slide on how climate change represents a driving factor for the rise of fungal infections and the spread of endemic fungi to new regions. This topic was also mentioned in the lecture titled “Vector Borne Borrelia, Rickettsia, Y. pestis, Francisella” which emphasized how climate change contributes dramatically to changes in the epidemiology and range of vector borne diseases carried by mosquitoes and ticks. Students were also able to explore the topic in a “Medicine and the Human Experience” lecture titled “Climate Change, Vectorborne and Waterborne Diseases,” as part of the “Blood, Immunity, and Infection” block. This lecture highlighted the potential impacts of climate change on major arboviral vectors, as well as how rising sea levels and surface temperatures have influenced waterborne diseases. Additionally, in the optional enrichment elective “Climate Action and Health,” an infectious disease physician spoke on the effects of climate change on infectious diseases, both in the U.S. and globally.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

3

Score explanation: In the first-year core Principles I and II blocks, the curriculum briefly discusses the effect that wildfires, PAH emissions, fossil fuel emissions, and other forms of air pollution have on respiratory illness in various sessions such as “Epigenetics Overview” and the modules “Built Environment, Climate Change, and Environmental Exposure” in the “Social Determinants of Health” ILM. In the respiratory system block as part of the core curriculum for second year, a lecture entitled “Social and Environmental Determinants of Respiratory Health” is taught. This lecture discusses the impacts of air pollution on asthma and COPD, specifically addressing the uneven exposure to air pollution depending on race, education level, poverty level, and geographic location. Further, the rising prevalence and disease burden of asthma was explored in the context of climate change and increasing air pollution. Additionally, in a lecture entitled “Asthma” a slide focusing on the impact of particulate matter exposure from climate-related events was included.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

Score explanation: In the second-year “Cardiovascular System” block, the “Shock I” lecture briefly addressed heat stroke and explicitly drew a connection between climate change and heat stroke. However, this topic was not further explored within the core curriculum.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

0

Score explanation: To the best of our knowledge, this topic was not covered in either the core or elective curriculum.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

3

Score explanation: Multiple lectures and activities in the core curriculum, including “Social Determinants of Health Independent Learning Module,” “The Physician Role in Addressing SDOH,” “Climate Change, Vectorborne, and Waterborne Diseases”, a “Principles 1” Physiology case study on cyanobacteria and algal blooms, and a “Community Vital Signs” case study explored the relationships between health, individual patient food security, ecosystem health, and climate change. Students also learned about the direct and indirect impact of food insecurity in the second-year course “Patients Two” material on social determinants of health (SDOH). In addition, during the “Early Clinical Learning” course, which integrates pre-clinical course content with clinical applicability, students participated in a Social History taking session addressing the relationships between health, individual patient food and water security, and climate change. Finally, students in the Population Urban and Rural Community Health (PURCH) track engaged with multiple community speakers who addressed these topics in weekly lectures. While PURCH speakers further highlighted the relationship between food insecurity and climate change in this lecture series, we recommend these topics also be addressed in lectures targeting the entire medical student body.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

Score explanation: In the first-year core curriculum, students are introduced to the social determinants of health and their impact on the Worcester community, highlighting the intersectionality of factors such as race, gender, age, socioeconomic status, cultural background,

and environmental health. Additionally, second-year students also attend a lecture titled “Social and Environmental Determinants of Respiratory Health” that emphasize the disproportionate impact of climate change on marginalized populations’ respiratory health. However, while the second-year core respiratory block effectively addressed the influence of climate change on these populations of interest, other blocks in the curriculum could benefit from more content related to this topic. Finally, PURCH students also heard from multiple speakers addressing the impact of climate change on marginalized populations, yet these lectures and discussions were not available to the medical student body at-large.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

Score explanation: In the second year core curriculum unit on the respiratory system, there is a lecture entitled “Social and Environmental Determinants of Respiratory Health” which covers uneven exposure to air pollution based on geographic location. In the lecture there are two slides which explicitly discuss the fact that countries with higher incomes are exposed to less air pollution than countries with lower incomes. Further, a slide discussing the global trends of mortality and disability adjusted life years related to asthma makes the point that low and middle income nations contribute to the vast majority of the disease burden. This lecture also discusses geographic differences within the United States, with slides focusing on the “Asthma Alley” in the Bronx and Queens where asthma hospitalizations are 5-20x the national average and “Cancer/Death Alley” in Louisiana where 150 chemical plants increased the risk of getting cancer from pollutants by 95%.

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

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:	2
<p><i>Score explanation: This was addressed briefly in the “Male Infertility” lecture, which drew the connection between pollutants, pesticides, and male infertility. The lecture “Fossil Fuels and Human and Planetary Health” also mentions that burning fossil fuels can contribute to low birth weight, high blood pressure, stillbirths, and preterm births in pregnant people. This topic was also addressed in the “Plastic Pollution” session within the “Climate and Health Action” OEE, where the lecturer discusses how infants in the womb are particularly vulnerable to plastic chemicals and their negative health effects, including brain damage and birth defects.</i></p>	

<p>1.12. Does your <u>medical school</u> curriculum address important human-caused environmental threats that are relevant to the university’s surrounding community?</p>	
<p>This topic was explored in depth by the core curriculum. (3 points)</p>	
<p>This topic was briefly covered in the core curriculum. (2 points)</p>	
<p>This topic was covered in elective coursework. (1 point)</p>	
<p>This topic was not covered. (0 points)</p>	
Score Assigned:	2
<p><i>Score explanation: In the first-year problem-based learning module on lead poisoning, the lecturer briefly mentions that children in Worcester are particularly exposed to lead paint. However, the influence of human-caused environmental threats on the surrounding Worcester or Springfield communities is not explored further within the core curriculum. In the “Climate Health & Action” Optional Enrichment Elective, several lecturers do discuss the impact of medical waste on the health of the community surrounding the hospital; however, these lectures are completely optional given their specific focus on climate change and planetary health, thus they tend to attract a limited medical student audience.</i></p>	

<p>1.13. To what extent does your <u>medical school</u> emphasise the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?</p>	
<p>This topic was explored in depth by the core curriculum. (3 points)</p>	
<p>This topic was briefly covered in the core curriculum. (2 points)</p>	
<p>This topic was covered in elective coursework. (1 point)</p>	
<p>This topic was not covered. (0 points)</p>	
Score Assigned:	0

Score explanation: To the best of our knowledge, this topic was not covered in either the core or elective curriculum.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

Score explanation: In the second-year respiratory block core curriculum, students learn about the disproportionate impact of environmental toxins on interstitial and obstructive lung disease in marginalized populations such as those listed above. These topics are covered comprehensively in lectures titled “SDOH Factors in Respiratory Disease” and “Environmental Determinants of Disease.” However, while this subject matter was addressed in the respiratory block, other curricular blocks could benefit from more in depth exploration and discussion of these topics. Outside the core curriculum, within the “Climate Health & Action” optional elective, multiple lectures, including one on plastic pollution, addressed the inequitable effects of environmental pollutants on marginalized communities by illustrating that plastic pollution, fracking, and other similarly harmful practices tend to be concentrated in poorer areas.

Curriculum: Sustainability

1.15. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 point)

Score Assigned:

2

Score explanation: In the first-year course “Principles II,” during the Epidemiology-Biostatistics block, students read and review an article titled “Healthy Eating and Risks of Total and

Cause-Specific Death among Low-Income Populations of African-Americans and Other Adults in the Southeastern United States: A prospective Cohort Study” (Yu et al., 2015). As part of this discussion, students were asked about any additional factors related to a changing climate and other environmental exposures that could have affected the conclusions of the study. The subsequent class discussion on this question tackled the health benefits of a plant-based diet. Additionally, in the second-year curriculum, the “Early Clinical Learning” course covers nutritional counseling that emphasizes the health benefits of a plant-based diet as part of multiple sessions. However, while the curriculum does address the health benefits of a plant-based diet, it fails to mention the environmental benefits such a diet can provide.

1.16. Does your medical school curriculum address the carbon footprint of healthcare systems?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

Score explanation: During the radiology rotation, which includes mandatory didactic sessions for all third year students, the carbon footprint of energy-intensive high resolution computers is explored. Special attention is paid to the enormous amount of energy that can be wasted when computers in the radiology room are accidentally left on, and students are encouraged to form the sustainable habit of double-checking that their computers are fully shut off at the end of every day in the reading room.

1.17. Does your medical school curriculum cover these components of sustainable clinical practice in the core curriculum? (points for each)

Score

The health **and** environmental **co-benefits** of **avoiding** over-medicalisation, over-investigation and/or over-treatment (2 points)

0

The environmental impact of **pharmaceuticals** and over-prescribing as a cause of climate health harm. Alternatively teaching on **deprescribing** where possible and its environmental and health co-benefits would fulfil this metric. (2 points) .

0

The health **and** environmental **co-benefits** of **non-pharmaceutical management** of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK. (1 point)

0

Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated. (1 point)	0
The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anaesthesia's environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions. (1 point)	0
The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers. (1 point)	0
Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting) (1 point)	0
<p><i>Score explanation: To the best of our knowledge, none of these topics were covered in the core curriculum. However, students enrolled in the Optional Enrichment Elective "Climate Health and Action" were exposed to several of these topics as part of sessions titled "Advancing Climate Change Action from the Operating Room" and "Clinical Waste Audits and Interventions for Clinical Sustainability." Overall, healthcare sustainability remains one of the largest gaps in the core curriculum at UMass Chan Medical School.</i></p>	

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum. (2 points)	
Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework. (1 point)	
No, there are not strategies introduced for having conversations with patients about climate change. (0 points)	
Score Assigned:	1
<p><i>Score explanation: Formerly, a lecture entitled "SDOH Climate Change and Human Health" addressed the value of primary care physicians as a trusted source of information for people across the political spectrum. The lecture presents a strategy medical students can use to begin conversations about the health effects of climate change by bringing up six key facts ("It's real, It's us, Experts agree, It's bad, There's hope, Others care"). However, the guest speaker who presented this lecture was unavailable this year. The student-run elective "Climate Health & Action" does address strategies for incorporating climate health into patient encounters. We recommend incorporating this topic into modules such as "Early Clinical Learning" for all students to reinforce this critical topic.</i></p>	

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

Yes, the **core** curriculum includes strategies for taking an environmental history. (2 points)

Only **elective** coursework includes strategies for taking an environmental history. (1 point)

No, the curriculum does **not** include strategies for taking an environmental history. (0 points)

Score Assigned:

2

Score explanation: The UMass Chan “Early Clinical Learning” curriculum, which primarily teaches students history-taking and doctoring skills, includes strategies for effectively taking an environmental history. Additionally, the session titled, “Social History and Social Determinants of Health” teaches students how to ask about a patient’s living arrangement, workplace, and workplace exposures to assess a wide spectrum of potential environmental exposures. Additionally, in the first year curriculum, there were several “Problem-Based Learning” sessions in the Principles 1 block, highlighting the importance of exposure history and risk factors. In this session, first-year students were presented with a patient that required them to make a differential diagnosis of lead poisoning based on the patient’s exposures and clinical presentation. In subsequent debrief sessions, the lecturer highlighted how children in the Worcester community are exposed to and assessed for lead poisoning. This session emphasized the importance of taking a thorough history in order to see if a child was at risk for lead exposure through sources such as lead paint in older houses.

Curriculum: Administrative Support for Planetary Health

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

Yes, the medical school is currently in the process of making **major** improvements to ESH/planetary health education. (4 points)

Yes, the medical school is currently in the process of making **minor** improvements to ESH/planetary health education. (2 points)

No, there are **no** improvements to planetary health education in progress. (0 points)

Score Assigned:

4

Score explanation: The University of Massachusetts Chan Medical School is in the process of making significant improvements to planetary health education. Notably, the medical school has a website solely dedicated to climate and health education, which outlines the climate curriculum’s goals and objectives. The website is still undergoing development, with next steps involving tagging climate content through each of the preclinical curriculum subjects.

Additionally, UMass rolled out a new, “Vista” curriculum in 2023, wherein climate change is specifically emphasized through the “Societal Forces Impacting Health and Disease” longitudinal

focus topic and its core domain, “Environmental forces,” which requires course directors to address climate change trends, its impact on health and disease, disaster prevention and preparedness, and environmental justice in each pre-clinical curricular block. In addition to this faculty committee directly responsible for overseeing the integration of climate topics into the core curriculum, in 2023, the school also established a Climate Change Curriculum Taskforce dedicated to further integrating planetary health into the core curriculum. This committee includes both faculty and student members who communicate directly with course leaders. Additionally, the school launched the “Medicine in Human Experience” taskforce which works to integrate topics such as the impact of climate on health further into the core curriculum for all medical students.

1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the <u>core</u> curriculum?	
Planetary health/ESH topics are well integrated into the core medical school curriculum. (6 points)	
Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum. (4 points)	
Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s) . (2 points)	
There is minimal/no education for sustainable healthcare. (0 points)	
Score Assigned:	4
<p><i>Score explanation: Currently, the topics mentioned are well-interspaced into the first- and second-year curriculum, with lectures in physiology (e.g., mechanism of saxitoxin in the body as a result of exposure due to rising algal blooms as a direct result of ocean warming and acidification due to climate change), genetics (e.g., effects of pollutants on DNA methylation patterns), respiratory health, epidemiology and biostatistics. Currently, however, the majority of the information related to planetary health and climate change is presented within the first- and second-year curriculum, although efforts are now underway to increase integration throughout the third and fourth years. Given this lack of climate and health education within the clinical years curriculum, we are awarding four points.</i></p>	

1.22. 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?

Yes, the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (1 point)

No, the medical school does **not** have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare. (0 points)

Score Assigned:

1

Score explanation: One of the pillars of the medical school's Vista curriculum is the "Medicine and the Human Experience" committee which includes "Environmental Factors & Climate Change" as one of its core domains. This group of faculty, students, and administrators works to integrate various themes and topics into the core curriculum of the school. With regards to planetary health, the MHE committee requires each course director to address climate change trends and integrate relevant climate-related topics within their respective curricular blocks (e.g., cardiovascular block, respiratory block, etc.).

1.23. Does your health professional curriculum include teaching on civic engagement/advocacy to address the environmental and structural determinants of health?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

Score explanation: The curriculum addresses the environmental and structural determinants of health through lectures and throughout the "Early Clinical Learning" course in the first and second years. Notably, there is a strong focus on social determinants of health and the role of healthcare professionals as patient advocates in the "Principles II" block of the first year. Throughout this block, lectures including "Social-Determinants of Health - Warfarin" and "Social Determinants of Health Through the Lens of Physician, Professor, and Retired Commissioner of Health and Human Services," focused on topics such as environmental justice, healthcare access, and ways healthcare professionals can advocate for patients outside of clinical care. For example, the latter lecture highlights ways physicians can be involved through community outreach and healthcare education. The "Early Clinical Learning" course emphasizes the importance of taking a social history and asking questions related to the social determinants of health. Notably, students are taught to ask about access to food, housing, transportation, and financial strain during the patient interview. The course further acknowledges the importance for healthcare professionals in

advocating for patients by encouraging students to learn about resources in the community in the event that a patient reveals concerns about accessing the previously mentioned areas. In the fourth year curriculum, dedicated sessions on “Physicians as Advocates” were held for the PURCH students. However, such educational sessions were not available to the wider student body.

Section Total (48 out of 75)

64.00%

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Interdisciplinary Research

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

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <u>institution</u>?	
Yes, there are faculty members at the institution who have a primary research focus in planetary health or sustainable healthcare/vetcare. (3 points)	
Yes, there are individual faculty members at the institution who are conducting research related to planetary health or healthcare sustainability, OR are part of a national/international sustainability working group, but it is not their primary research focus. (2 points)	
There are sustainability researchers at the institution , but not specifically associated with healthcare/vetcare. (1 point)	
No, there are no planetary health and/or sustainability researchers at the institution at this time. (0 points)	
Score Assigned:	3
<p><i>Score explanation: We carefully reviewed the University of Massachusetts' research network. Across all of its schools and colleges, over 400 faculty members are actively involved in interdisciplinary environment and sustainability research. The institution harbors multiple centers and institutes (e.g., <u>Northeast Climate Adaptation Science Center</u>) dedicated to research that addresses the intersection of the natural environment, human health, and food systems. For example, the University of Massachusetts - Lowell campus has a dedicated <u>Safe Home Care and Hospitals Research Team</u> within the <u>Sustainable Hospitals Program</u>, dedicated to identifying sustainable practices that mitigate environmental hazards and provide environmental benefits. While opportunities at other campuses are available to medical students by virtue of the school being under the umbrella of the larger University of Massachusetts, these opportunities are seldom advertised to students, and there is a sense that students are limited to working on opportunities offered by UMass Chan Medical School.</i></p> <p><i>The UMass Chan Medical School has over 300 basic-science faculty in various appointments and over 3200 associated clinical faculty. While we were unable to identify faculty at the Medical School whose primary research or interdisciplinary endeavors focused on planetary health and/or healthcare sustainability, there are several faculty members whose research interests include climate change and sustainability. Most projects are clinical, and funding primarily derives from</i></p>	

there. In the emergency department, initiatives include trash audits and a Pathways project that seeks to explore the switch from reusable blood pressure cuffs to disposable ones, and trying to switch back. Other initiatives include dry powder inhalers, reducing waste from surgical kits in dermatology surgery and other sustainability clinical side projects. Dr. Riley Mclean, wires for the pulse ox, decommissioned nitrous oxide and other anesthetic use in the OR. Dr. David Dosa of the geriatric division is also planning on applying for funding for research.

To address healthcare sustainability, a UMass faculty member in the field of dermatology is collaborating with medical students on projects to increase education and awareness of the carbon footprint of inhaler options and to increase signage in the operating room to ensure appropriate waste sorting and collection. The faculty member has conducted research on tray utilization in Mohs surgery and perceptions of sustainability among Mohs surgeons. The results of her research efforts will likely be published in subsequent months. This same faculty member in the dermatology department has historically offered students the opportunity to participate in a summer research project on environmental sustainability in medicine, examining what measures hospital departments can take to increase their environmental awareness and sustainability. This project included a curriculum of lectures, journal reviews on environmental sustainability, and an opportunity to shadow clinicians to observe potential areas for sustainable intervention. In the field of emergency medicine, faculty members are partnering with students to conduct emergency department waste audits.

To promote planetary health and climate resilience, researchers at the Prevention Research Center have been heavily involved in the revision of the Building Resilience and Climate Equity (BRACE) framework. This framework was developed by the CDC to protect human health in the context of climate change. The revision incorporated lessons from health departments, scientific literature, experts, and community members to help communities assess climate and health threats, develop effective interventions, and promote climate resilience.

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?

There is **at least one** dedicated department or institute for interdisciplinary planetary health research. (3 points)

There is **not currently** a department or institute for interdisciplinary planetary health research, but there are **plans** to open one in the next 3 years. (2 points)

There is an **Occupational and Environmental Health department**, but no interdisciplinary department or institute for planetary health research. (1 point)

There is **no** dedicated department or institute. (0 points)

Score Assigned:

0

Score explanation: UMass Chan Medical School's official departments and centers directory does not list a dedicated planetary health/climate-and-health research institute or department. UMass does host programs that intersect with climate and health, such as a Prevention Research Center

(PRC) that is part of the CDC-funded national PRC network, and it also has substantial operational sustainability and environment justice programming. However, these are not presented as a dedicated interdisciplinary planetary health research department or institute.

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

Yes, there is a process in which community members impacted by climate and environmental injustice have **decision-making power** in the climate + environmental research agenda. (3 points)

Yes, there is a process in which community members impacted by climate and environmental injustice **advise** the climate + environmental research agenda. (2 points)

No, but there are **current efforts** to establish a process for community members to advise or make decisions on the research agenda. (1 point)

There is **no** process, and **no** efforts to create such a process. (0 points)

Score Assigned:

3

Score explanation: Since 2011, researchers at the Prevention Research Center (PRC) have pioneered, developed, and revised the Building Resilience and Climate Equity (BRACE) framework. In the most recent update from July of 2025, titled A Flexible Framework for Urgent Public Health Climate Action and published in the American Journal of Public Health in, Joseph et al describes an “implementation guide [that] can be used by state, territorial, local, and Tribal health departments to galvanize or expand their engagement with public health climate action...” The BRACE framework heavily emphasizes community involvement and partnerships aimed to guide progress. Specifically, the authors cite the importance of “working with a wide range of partners to identify goals, codesign approaches and actions, and achieve common aims and equitable, community-driven outcomes.”

Led by the Prevention Research Center (PRC) in collaboration with UMass Chan Medical School and the Coalition for a Healthy Greater Worcester, the Neighborhood Connect program is a second research program that directly engages community members to help shape decisions in their neighborhoods and environment. Community members may become involved at their discretion via a sign up link, participate in web-based action planning meetings, and be direct decision-makers for community environmental change.

In the 2024-2025 academic year, UMass Chan introduced an Environmental Justice program, featuring a part-time, funded position focused on building the program, ensuring its longevity and system-wide adoption. The person in this role is responsible for designing the program, including defining environmental justice at UMass Chan, engaging with local communities, and exploring ways to involve them in various projects. Additionally, the position will involve upkeeping a LibGuide on the library website to allow for community involvement and organizing webinars on topics such as Indigenous health and other environmental justice issues.

Finally, the 2024 Community Health Assessment initiative, developed by the Worcester Division of Public Health, was a survey initiative that assessed needs and health of various Worcester communities. Surveys specifically addressed 7 categories: access to healthcare, neighborhood safety, access to healthy food, education, green space, housing, and workforce development. The results of this public survey have informed various public and climate related health research initiatives at UMass Chan Medical School.

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

There is an **easy-to-use, adequately comprehensive** website that **centralises** various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities. (3 points)

There is a website that **attempts to centralise** various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive. (2 points)

The **institution** has an **Office of Sustainability website** that includes **some** resources related to health and the environment. (1 point)

There is **no** website. (0 points)

Score Assigned:

1

Score explanation: No unified institutional website dedicated to announcing and communicating resources about Planetary Health or Health Care Sustainability research was identified at the University of Massachusetts. The University of Massachusetts Chan Medical School does have an Office of Sustainability website with some resources and project updates but does not share information about ongoing and past research related to health and the environment. The University of Massachusetts Chan Medical School also has a Prevention Research Center website that highlights some ongoing and past initiatives and projects, but is not specific to planetary health.

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

Yes, the **institution** has hosted at least one conference or symposium on topics related to planetary health in the past year. (4 points)

Yes, the **institution** has hosted at least one conference or symposium on topics related to sustainable healthcare/vetcare in the past year. (3 points)

Yes, the **institution** has hosted a conference on topics related to planetary health / sustainable healthcare/vetcare in the past three years. (2 points)

The **institution** has not hosted any conferences directly, but they have provided financial support for a local planetary health event. (1 point)

No, the **institution** has not hosted a conference on topics related to planetary health in the past three years. (0 points)

Score Assigned:

4

Score explanation: UMass Chan has hosted the New England Wilderness Medicine Conference (NEWMC) and Women's History Month symposium which both included sessions and talks addressing planetary health. NEWMC featured four tracks, one of which was focused on climate change. A speaker at the event also focused on the relationship between wilderness medicine, disasters, and climate change. At the Women's History Month symposium, a lecture was given that focused on medical waste, trash audits, and other climate related topics.

In March 2025, the University of Massachusetts Boston held the ResilientMass Summit on Climate Mitigation, Adaptation & Societal Transformation, focused on a coalition of state officials, mayors, community leaders, researchers, Indigenous leaders, philanthropists, and entrepreneurs collaborating on developing comprehensive climate resilience strategies. In April 2025, the University of Massachusetts Amherst hosted the Energy Transition Symposium, where students, faculty, and staff from the Amherst campus presented their research on topics such as clean energy, conservation, and decarbonization. In April 2025, UMass Lowell co-hosted the Medtech Sustainability Forum, where students, faculty, and staff from the Lowell campus presented their research on topics such as circular economy, medical plastics, and waste reduction. The conference also presented integrated solutions that mitigate food insecurity and promote sustainability to improve health outcomes.

2.6. Is your institution a member of a national or international planetary health or ESH/ESV organisation?

Yes, the institution is a member of a national or international planetary health or ESH/ESV organisation. (1 point)

No, the institution is **not** a member of such an organisation. (0 points)

Score Assigned:

1

Score explanation: UMass appears on the official Global Consortium on Climate and Health Education (GCCHE) Global Member Network list as a member institution, establishing membership in at least one international climate/planetary-health-adjacent education network. UMass is also a member of Practice Green Health and the Medical Society Consortium of Climate and Health.

Section Total (12 out of 17)

70.59%

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Community Outreach and Advocacy

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

3.1. Does your <u>institution</u> partner with community organisations to promote planetary and health?	
Yes, the institution meaningfully partners with multiple community organisations to promote planetary and environmental health. (3 points)	
Yes, the institution meaningfully partners with one community organisation to promote planetary and environmental health. (2 points)	
The institution does not partner with community organisations, but participates in community focused events relating to planetary health. (1 point)	
No, there is no such meaningful community partnership. (0 points)	
Score Assigned:	3
<p><i>Score explanation: The University of Massachusetts is a <u>Health Promoting University</u> that works closely with both <u>public and private partners</u> to build sustainable places that promote health for both humans and the planet.</i></p> <p><i>At UMass Chan Medical School, third-year medical students have access to a two-week <u>Population and Community Health Clerkship (PCHC)</u> where they can work directly with Worcester-, Springfield-, and Massachusetts-based organizations, some of which focus on planetary and environmental health. For example, one of these two-week experiences, entitled "Climate Change and Public Health: Advocacy in Action," teaches students about the health impacts of climate change and immerses them in local climate advocacy efforts: students meet with local environmental advocacy groups (e.g., Sierra Club, Climate Code Blue, Elders Climate Action, Gas Leaks Allies, etc.) as well as Massachusetts state senators, representatives, and local lobbyists to advocate for specific green initiatives. Additionally, students in the Population Urban and Rural Health (PURCH) track can also participate in similar, two-week, climate-focused experiences, where they engage directly with ReGreen Springfield, a local organization that promotes urban tree planting and that examines and addresses environmental injustice in the Springfield community. These experiences empower students to work alongside community leaders during dedicated curriculum time and culminate in end-of-clerkship project presentations of their work to the larger</i></p>	

medical student class. In April 2026, UMass Chan Medical School will launch a new clerkship focused on environmental justice.

UMass Chan also partners with (1) the Regional Environmental Council in support of a Community Garden located on the medical school's main campus and (2) 2Gether We Eat, a local nonprofit, to maintain a Wellness Farm focusing on sustainable, hydroponic, urban agriculture. The farm harvest is donated to local communities and to the university's own food pantry, the Max Baker Resource Center. Upcoming additions to this project include the university's very first solar array, as well as sustainable landscaping features.

UMass also introduced an Environmental Justice program, in collaboration with Second Nature, responsible for creating opportunities to engage with local communities in the context of climate change and justice. This program includes the development and upkeep of an online LibGuide on the library website to advertise and encourage community involvement in environmental justice issues.

Other community partners include the Department of Energy Resources to discuss impacts of energy policy on human health, NextDine to explore reusable takeaway container options for the Albert Sherman Center dining area, Partners for World Health to donate surplus medical supplies, and Worcester Regional Transit Authority regarding travel training and how to help individuals use public transportation.

During the Office of Sustainability's Earth Month 2025 events, the institution partnered with several community-based organizations (i.e., Partners for World Health, Materials Recycling Facility, City of Worcester's Department of Sustainability and Resilience, etc.) to host an electronics recycling drive, a community park clean-up, and webinars, including one focused on environmental justice .

3.2. Does your institution offer community-facing courses or events regarding planetary health?

The **institution** offers community-facing courses or events at least once every year. (3 points)

The **institution** offers courses or events open to the community at least once per year, but they are not primarily created for a community audience. (2 points)

The **institution** has promoted community-facing courses or events, but was not involved in planning those courses or events. (1 point)

The **institution** has not offered such community-facing courses or events. (0 points)

Score Assigned:

3

Score explanation: As part of Earth Month 2025, on April 15th 2025, UMass Chan Medical School Office of Sustainability partnered with a local recycling company to host an annual "Drive-up Home Recycling Collection." This provided an accessible and free opportunity for the general

public to recycle home electronics, large and small appliances, batteries, and related equipment that would otherwise be difficult to recycle. Other Earth Month 2025 events organized by the school were limited to the school community.

UMass Chan's Lamar Soutter Library employed an environmental justice intern who, during an August to October 2025 project, produced a detailed definition of and plan for environmental justice in collaboration with local community members. These community members were able to give input during four listening sessions. Online, in collaboration with UMass Chan's Diversity and Inclusion and Sustainability Offices, the library hosts a publicly-available environmental justice guide with Massachusetts-specific resources and contact information.

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

Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare. (2 points)

Yes, planetary health and/or sustainable healthcare topics are regularly included in communication updates to **some courses**. (1 point)

Students **do not** receive communications about planetary health or sustainable healthcare. (0 points)

Score Assigned:

1

Score explanation: Institution-wide communication regarding planetary health does not occur at the University of Massachusetts system level. Instead, each school within the undergraduate and graduate campuses is responsible for its own communication with students. The degree and consistency of communication varies by school. For example, within the School of Public Health and Health Sciences, students do not automatically receive regular updates regarding sustainable healthcare as part of newsletters or school-wide communications. This remains notable given the strong connection between public health and sustainability.

At UMass Chan Medical School, sustainability communication is more structured. The Office of Sustainability distributes a campus-wide newsletter approximately every other month, titled the "Office of Sustainability Newsletter". This newsletter highlights sustainability initiatives, campus projects, upcoming events, and opportunities for engagement. While the newsletter reaches the campus community multiple times per year, increasing its frequency could further strengthen visibility and engagement.

In addition to the newsletter, the Office of Sustainability maintains an active and highly visible webpage that includes archived articles and updates. Sustainability events and announcements are also shared through Viva Engage, the university's internal communication and engagement platform, increasing accessibility and real-time visibility for students, faculty, and staff. Furthermore, sustainability related information is regularly shared through student and faculty bulletins, often accompanied by digital flyers to broaden outreach.

Although communication within UMass Chan Medical School is consistent and multi-platform, the larger university system does not provide coordinated, institution-wide sustainability updates across all schools. In conclusion, because communication efforts are strong within the medical school but not unified across the broader institution, we are awarding 1 point instead of 2.

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

Yes, the **institution** or **main affiliated hospital trust** offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health. (2 points)

Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers. (1 point)

There are **no** such accessible courses for post-graduate providers. (0 points)

Score Assigned:

0

Score explanation: UMass Chan does not currently offer any planetary health or sustainable healthcare courses for post-graduate providers.

3.5. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?

Yes, the **institution** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)

Some affiliated hospitals have accessible educational materials for patients. (1 point)

No affiliated medical centres have accessible educational materials for patients. (0 points)

Score Assigned:

2

Score explanation: The UMass Chan Medical School Lamar Soutter Library a publicly-available, online environmental justice guide with Massachusetts-specific resources and contact information. UMass Chan Medical School's affiliated hospitals are primarily the UMass Memorial Health System sites, Baystate Health, and Lahey Hospital. Clinical rotation sites may also include Cape Cod Hospital, Berkshire Health System, and St. Vincent Hospital.

Each of the three primary hospital affiliates publish educational, patient-facing articles online that include topics such as environmental health exposures. For example, UMass Memorial's patient

education website describes considerations for pesticide usage, the effects of pollution on childhood asthma, and environmental risk factors for lead poisoning. Baystate Health discusses asthma, the role of the patient's environment in asthma, and local support resources for asthma patients. Lahey Hospital details the links between environmental exposure and lung cancer in patients who have never smoked. Cape Cod Hospital publishes its online "Cape Cod Health News," which reports on the effects of wildfire smoke on allergies. Berkshire Health System's website often links patients to articles written by their physicians that include discussion of environmental concerns, such as the role of airborne pollutants in triggering COPD. St. Vincent Hospital offers a free, digital newsletter for patients that includes topics such as excess sun and heat exposure during heatwaves.

3.6. Does your institution or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?

Yes, the **institution** or **all affiliated hospitals** have accessible educational materials for patients. (2 points)

Some affiliated hospitals have accessible educational materials for patients. (1 point)

No affiliated hospitals have accessible educational materials for patients. (0 points)

Score Assigned:

1

Score explanation: The UMass Memorial system offers information on the impact of climate change on health and recommendations on how to lower the risks of adverse health outcomes due to environmental factors. They also provide a comprehensive library with health topics ranging from weight loss to injuries and emergencies that may be affected by environmental factors. Within each of these topics, there are resources and links to government affiliated websites for further information on patient education and recommendations for medical management. This would include patient-facing articles on important climate-related topics such as "What Are the Health Effects of Air Pollution?" and "First Aid: Heat Exposure" that provide actionable advice for those in the community seeking help. The Baystate Medical Center patient library similarly links to a resource on climate change through the National Library of Medicine. Lahey Hospital also provides an article discussing the impact of climate provisions on heart and lung health.

At this time, Milford Hospital, Berkshire Medical Center, and St. Vincent Hospital do not offer patient education on the effects of climate and environmental factors affecting health.

Section Total (10 out of 14)

71.43%

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Support for Student-Led Planetary Health Initiatives

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

4.1. Does your <u>institution</u> offer support for students interested in enacting a sustainability initiative/QI project?	
Yes, the institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects or sustainability QI projects are part of the core curriculum. (2 points)	
The institution encourages sustainability QI projects (to fulfil clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate. (1 point)	
No, the institution does not offer opportunities or support for sustainability initiatives or QI projects. (0 points)	
Score Assigned:	1
<p><i>Score explanation: The University of Massachusetts School of Earth and Sustainability offers <u>multiple grants and scholarships</u> to both undergraduate and graduate students pursuing projects in sustainability. For example, a grant of up to \$10,000 is offered each year as part of the <u>Seed Grant Funds Program</u> to fund research initiatives in the field of sustainability. However, while those funds are available to graduate students, that does not include medical students.</i></p> <p><i>At the UMass Chan Medical School, funding is available through the Student Body Committee, which distributes funds to registered student organizations, such as the UMass Chan Climate Coalition. Using these funds, the Coalition has sponsored the creation and upkeep of an on-campus community garden. Students also have access to other resources through grant applications. While grants are not specifically designated for sustainability initiatives, students may use them for projects related to sustainability. However, one of the main student funds for independent service projects, the MLK Jr. Semester of Service Student Award, has been discontinued this year.</i></p> <p><i>UMass Chan provides institutional support and infrastructure for student sustainability engagement through the Office of Sustainability (formal avenues to get involved, volunteer/Green Rep roles, and direct staff contact). Recent sustainability strategy work explicitly incorporated student input and is expanding campus sustainability programming (e.g., green lab/office certification and green events guidance). However, we did not find clear evidence of a dedicated student sustainability grant program or required time within the medical curriculum that would automatically fulfill the 2-point criterion.</i></p>	

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

The **institution** has a **specific** research program or fellowship for students interested in doing planetary health/sustainable healthcare/vetcare research. (2 points)

There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these **require student initiative** to seek them out and carry them out in their spare time. (1 point)

There are **no opportunities** for students to engage in planetary health/sustainable healthcare research. (0 points)

Score Assigned:

1

Score explanation: Each year, the University of Massachusetts Amherst offers the Herschel G. Abbott Natural Resources Conservation Award to a graduate or undergraduate student in the Department of Environmental Conservation. The award may be made as a fellowship upon receiving it. The School of Earth and Sustainability also offers an ELEVATE fellowship supported by the National Science Foundations, wherein students conduct research on energy, equity, and climate change. Additionally, the University of Massachusetts - Lowell offers an Office of Energy Transformation Fellowship program, wherein students contribute to clean energy initiatives in Massachusetts. However, opportunities are solely available to graduate students at the Amherst campus and not to those at UMass Chan Medical School.

At UMass Chan Medical School, various groups of individuals conduct research related to planetary health. Moreover, in 2024, the UMass Preventive Research Center, a joint collaboration with the Centers for Disease Control and Prevention, revised its Building Resilience and Climate Equity (BRACE) framework to better address human health needs in the context of climate health through research. However, there is no or little institutional advertisement for current or future projects to the student body at-large. Students interested in getting involved in climate-related research must seek out these opportunities independently through mentorship, the Office of Sustainability, or by connecting with the student-led Climate Coalition.

4.3. Does the institution have a webpage where students can find specific information related to planetary health and/or sustainable healthcare/vetcare activities and mentors within the institution? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.

The institution has a webpage with specific information related to planetary health or sustainable healthcare/vetcare that includes up-to-date information on relevant initiatives and contact information of potential mentors. (2 points)

There is an institution webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the institution, but it lacks key information. (1 point)

There is **no institution** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors. (0 points)

Score Assigned:

1

Score explanation: The University of Massachusetts does have a webpage with current projects and initiatives. However, while this webpage contains a staff directory, these individuals tend to be involved in the administrative realm rather than research and mentorship. The UMass Chan Medical School does have a comprehensive website for its Office of Sustainability that is frequently updated with current sustainability projects, transportation and campus initiatives, ways to get involved, and the institution's 2021-2026 Climate Action Plan.

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

Yes, there is a student organisation **with faculty support** at my institution dedicated to planetary health or sustainability in healthcare. (2 points)

Yes, there is a student organisation at my institution dedicated to planetary health or sustainability in healthcare but it **lacks faculty support**. (1 point)

No, there is **not** a student organisation at my institution dedicated to planetary health or sustainability in healthcare. (0 points)

Score Assigned:

1

Score explanation: The University of Massachusetts - Lowell hosts dozens of registered student groups involved in sustainability efforts. Additionally, the University of Massachusetts - Amherst also hosts the UMass Green Building Council (USGBC) Student Chapter and The Wildlife Society. At UMass Chan Medical School, the UMMS Climate Coalition is a school-funded student organization consisting of student members. The Coalition is dedicated to supporting planetary health and sustainability in healthcare through various student-led activities, such as the Climate Change & Action Optional Enrichment Elective that facilitates conversations surrounding climate advocacy and policy as well as the annual clothing swap.

4.5. Is there a student liaison representing sustainability interests who serves on a department or institutional decision-making council to advocate for curriculum reform and/or sustainability best practices?

Yes, there is a student representative who serves on a department or institutional decision-making council/committee. (1 point)

No, there is no such student representative. (0 points)

Score Assigned:	1
<p><i>Score explanation: The UMass Chan Medical School Sustainability and Climate Action Plan for 2021-2026 called for the creation of three focus groups on which medical students can serve as representatives: Grounds and Transportation, Materials and Management, and Buildings and Energy. These groups actively recruit medical students interested in brainstorming ideas that support sustainable solutions in these three areas of focus. These meetings are run by the Office of Sustainability in the Facilities Department.</i></p> <p><i>UMass Chan Medical School has also transitioned to a new curriculum model, VISTA, wherein a <u>climate change curriculum taskforce</u> has been organized to integrate climate-related topics into the 9 blocks of the preclinical medical education years. For each of these 9 blocks, one student and one faculty representative are tasked with researching and integrating current climate topics and their health-related impacts into the curriculum. However, this is still an ongoing process and the institution of these topics into the curriculum is not complete.</i></p> <p><i>Student-led organizations, including the UMass Chan Coalition for Climate Action, also work alongside institutional leadership and peer groups to promote awareness of climate-related health issues and encourage initiatives that advance environmental sustainability within the medical school and surrounding community.</i></p>	

4.6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	Score
Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.	1
Panels, speaker series, or similar events related to planetary health that have students as an intended audience.	1
Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.	1
Cultural arts events, installations or performances related to planetary health that have students as an intended audience.	0
Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.	1
Wilderness or outdoors programs (e.g., that organise hiking, backpacking, kayaking, or other outings for students)	1
<ul style="list-style-type: none"> <i>The Community Garden Interest Group maintains a community garden located on the main campus, providing opportunities for students to participate in planting, harvesting, and sustainable food system education while contributing fresh produce to the broader UMass</i> 	

community. Institutional sustainability initiatives also include efforts by the Pollinator Association towards a pollinator-friendly campus certification through collaboration with Bee City USA, as well as campus farmers' markets that promote access to local food systems and awareness of sustainable agriculture practices.

- Student-led initiatives continue to play a central role in planetary health engagement. The UMass Chan Coalition for Climate Action leads recurring programming focused on climate and health education and advocacy targeted toward medical students. These activities include student-organized speaker events and educational programming addressing the intersection of healthcare delivery, climate change, and public health. Additionally, curriculum-integrated opportunities such as climate- and advocacy-focused Population and Community Health clerkship activities provide students with opportunities to engage directly with local and Massachusetts-based environmental justice organizations.
- Institutional programming has also supported educational events related to environmental justice and planetary health. Recent collaborations between institutional offices and external partners have hosted talks addressing environmental justice as a public health issue, including discussions of climate impacts on structurally marginalized communities and the role of healthcare professionals in advancing equity-focused climate responses.
- UMass Chan provides experiential learning opportunities related to outdoor environments and resilience through educational offerings such as the Wilderness Medicine elective, which incorporates outdoor skills training and exposure to medical care in low-resource and wilderness settings.
- The Office of Sustainability continues to organize annual Earth Month programming that includes sustainability-focused events (e.g., clothing swaps), environmental justice discussions, community volunteer initiatives (e.g., park clean-ups), seed share fairs, and other activities aimed at promoting climate literacy and community engagement. Student-developed initiatives, such as local community education programs addressing the environmental impacts on health, further expand opportunities for student involvement.

Section Total (10 out of 15)

66.67%

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Campus Sustainability

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

5.1. Does your <u>institution</u> have an Office of Sustainability?	
Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital. (3 points)	
There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of hospital sustainability. (2 points)	
There are no salaried sustainability staff , but there is a sustainability task force or committee. (1 point)	
There are no staff members or task force responsible for overseeing campus sustainability. (0 points)	
Score Assigned:	3
<i>Score explanation: The University of Massachusetts Office of the President does have a <u>Sustainability Initiative</u> that publishes reports each year on the institution's sustainability progress. The University of Massachusetts Chan Medical School has an Office of Sustainability with two full time employees: one Sustainability and Energy Manager and one Associate Director of Sustainability & Campus Services. During the summer, personnel also include a temporary intern. The Office of Sustainability is specific to the UMass Medical School campus but does collaborate with the sustainability offices at other UMass campuses for institution-wide initiatives or Earth Week celebrations. In addition, the medical school has a Climate Change Curriculum Taskforce, established in 2023 and composed of both faculty and students. Lastly, the UMass Memorial hospital system created a new role in 2023, Medical Director of Green Initiatives. This role, held by Dr. Riley McLean, is intended to lead sustainability efforts and help involve students in ongoing climate health research.</i>	

5.2. How ambitious is your institution's plan to reduce its own carbon footprint?

The institution has a **written and approved plan** to achieve carbon neutrality by **2030** (5 points)

The institution has a **written and approved plan** to achieve carbon neutrality by 2040 (3 points)

The institution has a stated goal of carbon neutrality by **2040** but has **not created a plan** to reach that goal or the **plan is inadequate** (1 point)

The institution does **not** meet any of the requirements listed above (0 points)

Score Assigned:

3

Score explanation: The University of Massachusetts plans to achieve 100% renewable energy for the campus energy system by 2032. This is ahead of the 2050 deadline set by the state of Massachusetts through Executive Order 594. The UMass Chan Medical School Office of Sustainability has stated a goal of reducing Scope 1 and Scope 2 greenhouse gas emissions by 15% by 2026 and has a detailed 5-year plan to achieve this. Some of these efforts, including incremental replacement of inefficient HVAC equipment, increasing use of a heat exchanger in the Lazare Research Building to reclaim excess energy, and conversion to electric chillers, are already underway. Discussions are also underway to deploy micro-nuclear reactors by 2032. In February of 2024, the UMass Chan Office of Sustainability published a decarbonization plan detailing the pathway to reach carbon neutrality by 2050. However, since the larger institution's plan is to achieve net-zero emissions by 2032, we are awarding 3 points.

5.3. Do buildings/infrastructure used by the institution for teaching (not including the hospital) utilize renewable energy?

Yes, institution buildings are **100%** powered by renewable energy. (3 points)

Institution buildings source **>80%** of energy needs from off-site and/or on-site renewable energy. (2 points)

Institution buildings source **>20%** of energy needs from off-site and/or on-site renewable energy. (1 point)

Institution buildings source **<20%** of energy needs from off-site and/or on-site renewable energy. (0 points)

Score Assigned:

0

Score explanation: Select buildings at the institution use primarily renewable energy. For example, Crotty Hall on the Amherst campus was the first net-zero energy building on this particular campus. While various campuses have retrofitted multiple buildings to utilize less energy or more renewable energy, there is still room for improvement in this area. A new academic research building and associated geothermal system were completed in 2024, achieving LEED Gold certification. The geothermal system provides 88% of the heat for offices, laboratories, and

educational and public spaces and 50% of the cooling needs for the building. Approximately, 10% of UMass's energy requirement is purchased from the grid, of which the gridmix is greater than 23.7% renewable. The Office of Sustainability is currently exploring the possibility of nuclear energy for the medical school campus in the near future.

5.4. Are sustainable building practices utilised for new and old buildings on the institution's campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?

Yes, sustainable building practices are utilised for new buildings on the institution's campus and the **majority** of old buildings **have been retrofitted** to be more sustainable. (3 points)

Sustainable building practices are utilised for new buildings on the institution's campus, but most old buildings have **not been retrofitted**. (2 points)

Sustainable building practices are **inadequately or incompletely** implemented for new buildings. (1 point)

Sustainability is **not considered** in the construction of new buildings. (0 points)

Score Assigned:

3

*Score explanation: Sustainable building practices are utilized for the construction of new buildings. For example, as mentioned, Crotty Hall became the first net-zero building on the UMass Amherst campus. In 2022, the University of Massachusetts won the 'Lead by Example' award from the Massachusetts Department of Energy Resources for its cross-campus work in decarbonization. At UMass Lowell, three buildings are certified LEED Gold and six LEED Silver. At the medical school, a new research building was completed in 2024 and is partially powered by a 75-well geothermal system. This building is LEED gold certified and contains sustainability features such as LED occupancy censored lighting and specialized solar reflective paint. The second most recently constructed building, the Albert Sherman Center, is LEED gold certified as well. The building was designed for thermal optimization and 95% of the steel used was made from recycled material. The medical school follows "LEED plus 2.0" building standards for new constructions as required by Massachusetts executive order 594. In 2024, Facilities Management published *The Sustainability and Resiliency Guidelines*, based on the US Green Building Council best standards, for building in partnership with the Office of Sustainability. Extensive recommissioning has been undertaken and the majority of old buildings at the medical school have been retrofitted to be more sustainable. UMass Chan recently completed an ASHRAE Level II audit of its Medical School Building and Albert Sherman Center, a process that is now continuing for the Lazare Research Building. This audit identifies energy conservation measures that will improve the operation and energy footprint of the campus. Using the measures provided in these audits, UMass Chan's energy projects team is undergoing an agreement with National Grid to collaboratively implement these measures through rigorous planning and robust utility incentives.*

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

Yes, the institution has implemented strategies to encourage and provide **environmentally-friendly transportation options** such as safe active transport, public transport, or carpooling and these options are well-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default. (2 points)

The institution has implemented **some** strategies to provide environmentally-friendly transportation options, but the options are **unsatisfactorily** accessible or advertised. (1 point)

The institution has **not** implemented strategies to encourage and provide environmentally-friendly transportation options. (0 points)

Score Assigned:

2

Score explanation: Across its campuses, the University of Massachusetts has established incentives for sustainable transportation. At the medical school, many students live close to campus and choose to walk to school, although single occupancy vehicles remain the primary means of student transportation (61% of students). There are currently 98 electric vehicle charging ports on campus. UMass has developed a variety of incentives to encourage commuting by bike, including by providing covered bicycle parking in the parking garages and placing bike racks outside of most campus buildings. Additionally, the new bicycle registry allows cycling commuters to use locker and shower facilities. UMass does have a shuttle system and one new electric shuttle bus was added this year.

With respect to public transportation, the Worcester Regional Transit Authority serves the UMass campus and connects it to all major local routes in addition to providing access to the local commuter rail stop for access to Boston. There are two bus stops on campus and the university offers travel training to educate new riders on how to make use of the public transportation system. Employees can also choose to carpool, for which they are allowed to split one parking permit and access parking spots that are closer to the entrance. In 2024, this carpool parking permit program was expanded with over 70 students now taking advantage of the offering. Additionally, the university is encouraging use of the free GoMassCommute app which allows commuters to find carpool and public transportation options for their commute with incentive rewards like gift cards and coupons for using these options.

Multiple other campuses (e.g., Lowell, Amherst) have similarly implemented carpool permit options or other transportation incentives.

5.6. Does your institution have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?

Yes, the institution has **both** compost **and** recycling programs accessible to students and faculty. (2 points)

The institution has **either** recycling **or** compost programs accessible to students and faculty, but not both. (1 point)

There is **no** compost or recycling program at the institution. (0 points)

Score Assigned:

1

Score explanation: Several campuses of University of Massachusetts have successful composting programs, yet those resources are unavailable to medical students because campuses are spread across the state. UMass Chan Medical School does currently have a composting program; however, at the moment, this is only available to the kitchen staff. The UMass food provider, NexDine, purchased a small composting unit in 2024, which utilizes kitchen scraps to help nourish their herb garden. A student-led project to divert animal bedding from the laboratory buildings was underway, yet this program hit a roadblock when the UMass Chan waste hauler would not deliver waste to the corporation that was willing to accept the bedding because the corporation's space was leased and not owned.

UMass Chan switched waste hauling companies in 2025 to a company more focused on sustainability and recycling medical waste. The new waste management company may also charge increased rates for elevated levels of contamination, which would incentivize improved recycling efforts; the institution's current contamination rate is 13%. The school does have a recycling program, and 33% of our waste as a university is single stream recycling, of which a majority comes from the Albert Sherman Center building. The Office of Sustainability facilitated a tour of our local recycling plant in 2024 to help community members understand the life cycle of our recyclables. Lastly, there is an ongoing effort to consolidate our trash bins with a goal of reducing the number of trash bins by two thirds.

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

Yes, the institution has **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. (3 points)

There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution **is engaged** in efforts to increase food and beverage sustainability. (2 points)

There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution is **not** engaged in efforts to increase food and beverage sustainability. (1 point)

There are **no** sustainability guidelines for food and beverages. (0 points)

Score Assigned:

3

Score explanation: Sustainable food purchasing requirements are included in the contract language with the UMass food provider, NexDine. Specific language includes "maximizing the purchase and utilization of foods within a 200-mile radius of Worcester, minimizing waste, and prioritizing the

use of plant-based foods”. NexDine filters cooking oil to reduce overall usage by 35%. The on-campus Albert Sherman Center dining facility is the only Green Certified Restaurant in the Worcester area and hosts “Meatless Mondays” weekly. In the summer of 2024, UMass offered community supported agriculture (CSA) shares to the community, which resulted in 70+ shares being distributed. Although the CSA initiative was discontinued in 2025, a weekly farmers’ market will continue to operate on campus from spring through fall. UMass’ main campus also hosts a student-run Community Garden which includes two gardens, a sun and shade garden. This was expanded in 2024 to include blueberry bushes and a pollinator garden. The student food pantry also partners with local farms to provide fresh, local produce to students.

5.8. Does the institution apply sustainability criteria when making decisions about supply procurement?

Yes, the institution has **adequate** sustainability requirements for supply procurement **and is engaged** in efforts to increase sustainability of procurement. (3 points)

There are sustainability guidelines for supply procurement, but they are **insufficient or optional**. The institution is **engaged** in efforts to increase sustainability of procurement. (2 points)

There are sustainability guidelines for supply procurement, but they are **insufficient or optional**. The institution is **not engaged** in efforts to increase sustainability of procurement. (1 point)

There are **no** sustainability guidelines for supply procurement. (0 points)

Score Assigned:

2

Score explanation: The UMass Sustainability Council is collaborating with the Unified Procurement Services Team to receive better data to measure success in procuring more environmentally responsible supplies and resources across all UMass campuses using the AASHE STARS data framework. In the 2021-2026 Sustainability and Climate plan, the university set a goal to implement environmentally preferable purchasing guides and standards. To achieve this, a series of strategies are outlined to integrate sustainability language into purchasing documents, support sustainable lab materials purchasing, procuring electric vehicles, and increase partnership with sustainability purchasing organizations. However, UMass currently has a centralized purchasing model meaning that larger purchases have to go through the president's office. The Strategic Climate Energy and Sustainability Working Group, which involves a liaison from every UMass school, works to create an environmental standard at the level of the president's office. At this time, UMass Chan is encouraging more sustainable purchases throughout the IT department which has been an EPEAT certified buyer for the past 2 years. The IT department now includes EPEAT requirements in all of their contracts. In addition to more sustainable electronics, UMass emphasizes purchasing “eco” labelled janitorial supplies and majority recycled paper products.

5.9. Are there sustainability requirements or guidelines for events hosted at the institution?

Every event hosted at the institution **must** abide by sustainability criteria. (2 points)

The institution **strongly recommends or incentivizes** sustainability measures, but they are **not required**. (1 point)

There are **no** sustainability guidelines for institution events. (0 points)

Score Assigned:

1

Score explanation: There are sustainability guidelines available but there are currently no requirements for events hosted at or through the medical school. The student climate health interest group, UMass Chan Climate Coalition, developed a guide to sustainable events in 2025. Sustainability guidelines are now shared with UMass Chan community members on the online room reservation system when booking a room for an event. While these guidelines are now available, there are no current incentives to adhere to the recommendations. Although compliance remains voluntary, groups that submit confirmation of hosting a sustainable event receive public recognition by the Office of Sustainability.

5.10. Does your institution have programs and initiatives to assist with making lab spaces more environmentally sustainable?

Yes, the institution has **programs** and **initiatives** to assist with making lab spaces more environmentally sustainable. (2 points)

There are **guidelines** on how to make lab spaces more environmentally sustainable, but not programs or initiatives. (1 point)

There are **no** efforts at the institution to make lab spaces more sustainable. (0 points)

Score Assigned:

2

Score explanation: Across campuses, such initiatives exist at the University of Massachusetts. UMass Chan has a chemical exchange program targeting unopened chemicals that are still in good condition to reduce waste of unused chemicals. Additionally, the Office of Sustainability has an ongoing "shut the sash" campaign that encourages lab members to lower the sashes of fume hoods to reduce energy usage. UMass Chan extends support for sustainable procurement practices of laboratory chemicals, office supplies, electronics, and other goods. The following supports are also made available to labs: green labs tips flyer (detailing which items can be recycled), free filter cleanings for -80 freezers, encouragement to place -80 freezer maps on the door to minimize open door time, and increasing use of a heat exchanger in the Lazare Research Building to reclaim excess energy from labs. In April 2026, UMass Chan is planning to launch a Green Office and Green Lab Certification program to encourage community members to ensure that their workspace is meeting sustainability standards. Additionally, quarterly office supply swaps, run by the Office of Sustainability, include lab supplies that can be reused.

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

The institution is **entirely divested** from fossil fuels **and** has made a **commitment to reinvest divested funds** into renewable energy companies or renewable energy campus initiatives. (4 points)

The institution is **entirely divested** from fossil fuels. (3 points)

The institution has **partially divested** from fossil fuel companies **or** has made a **commitment to fully divest**, but **currently** still has fossil fuel investments. (2 points)

The institution has **not divested** from fossil-fuel companies, but faculty and/or students are **conducting organised advocacy** for divestment. (1 point)

Yes, the institution has investments with fossil-fuel companies and there have been **no efforts** to change that. (0 points)

Score Assigned:

2

Score explanation: In 2016, the University of Massachusetts system became the first major public university to commit to divesting from direct holdings of fossil fuels. At the time, UMass made a commitment to not only divest but also make additional commitments to clean energy, which to the best of our knowledge has been satisfied and is anticipated to be continued given various campuses' plans to achieve net-zero emissions in the next 20 years. We are categorizing this as a partial divestment given that indirect endowment holdings or endowment holdings not directly held by UMass still include investment in fossil fuels. A 2024 analysis of the University of Massachusetts Foundation, the entity that manages UMass Chan's endowment among others, found that the endowment still held over \$240 million in four exchange-traded funds that include fossil fuel companies.

Section Total (22 out of 32)

68.75%

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Grading

Section Overview

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

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

**Within each grade bracket, a score in the top 5% (_5 to _9%), receives a “+”, and a score in the bottom 5% (_0- _4%) receives a “-”. For example, a percentage score of 78% would be a B+.*

Planetary Health Grades for the UMass Chan Medical School.

The following table presents the individual section grades and overall institutional grade for the UMass Chan Medical School on this Planetary Health Report Card.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(48/75) \times 100 = 64.00\%$	B-
Interdisciplinary Research (17.5%)	$(12/17) \times 100 = 70.59\%$	B
Community Outreach and Advocacy (17.5%)	$(10/14) \times 100 = 71.43\%$	B
Support for Student-led Planetary Health Initiatives (17.5%)	$(10/15) \times 100 = 66.67\%$	B
Campus Sustainability (17.5%)	$(22/32) \times 100 = 68.75\%$	B
Institutional Grade	$(A \times 0.3 + B \times 0.175 + C \times 0.175 + D \times 0.175 + E \times 0.175) = 68.92\%$	B

Report Card Trends

Section Overview

This graph demonstrates trends in overall and section grades for the years in which the University of Massachusetts T.H. Chan School of Medicine has participated in the Planetary Health Report Card initiative.

