



Planetary Health Report Card (Medicine): *University of Connecticut School of Medicine*

UConn
SCHOOL OF MEDICINE



2022-2023 Contributing Team:

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Summary of Findings

Overall	C-
<u>Curriculum</u>	B-
<ul style="list-style-type: none"> The University of Connecticut School of Medicine (UConn SOM) does include planetary health in the curriculum and is actively working on ways to integrate more planetary health topics into the curriculum longitudinally. There are students and faculty currently working on integrating these important topics further into two of the first and second year courses, Case Oriented Essentials (COreE) and Vertically Integrated Teams Aligned in Learning (VITAL). Recommendations: Continue to work planetary health topics into the curriculum longitudinally in addition to incorporating sustainable clinical practices into the core curriculum and increase administrative support for its integration. 	
<u>Interdisciplinary Research</u>	C-
<ul style="list-style-type: none"> UConn SOM does not have dedicated departments for interdisciplinary research regarding planetary health. There are conferences regarding planetary health but they are not directed towards medical students. Recommendations: UConn SOM should organize a conference related to Planetary Health. They could also officially join the Planetary Health Alliance, the Global Consortium on Climate and Health Education, and set up a website with planetary health news with specific discussions relating to the medical field. 	
<u>Community Outreach and Advocacy</u>	D -
<ul style="list-style-type: none"> UConn SOM does not have much in the line of community outreach and advocacy. Few resources are available to patients, institution staff only receive some singular presentations, and there are no ongoing partnerships or educational materials. Recommendations: We recommend that UConn SOM build community partnerships relating to planetary health and that the hospital system focuses on emphasizing planetary health in patient educational materials. 	
<u>Support for Student-Led Initiatives</u>	C-
<ul style="list-style-type: none"> UConn supports student groups dedicated to planetary health. There is one medical group (Sustainability at UConn Health) that works closely with a faculty mentor and allies within the medical school. In addition, UConn offers opportunities for students to participate in planetary health-related research or QI projects. However, these opportunities must be explicitly sought out by students and there is no central website to find information relating to planetary health opportunities for medical students. Recommendations: Offer increased support to students interested in sustainable initiatives. For example, a specific website that advertises mentors or opportunities for students relating to Planetary Health and prioritizes grants for related research. One option for integrating more co-curricular planetary health programs/initiatives is to collaborate more with the DPH, as they have speakers and courses that address the health implications of environmental hazards and climate change. 	
<u>Campus Sustainability</u>	D+
<ul style="list-style-type: none"> UConn SOM has made some efforts to be a sustainable campus. In conjunction with the wider University, sustainable building practices are utilized for new buildings and the majority of old buildings have been retrofitted to be more sustainable. The new food service company, Morrison Healthcare, has sustainability guidelines for food and beverages. The potential for composting in the cafeteria has been discussed as a 	

possibility in the future, but this does not appear to be actively pursued at this time. Additionally, the medical school offers environmentally-friendly transportation options.

- **Recommendations:** A designated staff member and/or committee in charge of medical school and/or hospital sustainability would be an asset in the plans to improve campus/hospital sustainability. We also recommend a more ambitious CO2 emission reduction goal and divesting from fossil-fuel companies. We also recommend focusing on making lab spaces more sustainable, introducing composting on campus, and improving/introducing sustainable guidelines for events and supply procurement.

Statement of Purpose

Planetary health is human health.

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

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

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

Definitions & Other Considerations

Definitions:

- **Planetary Health:** is described by the Planetary Health Alliance as “the health of human civilization and the state of the natural systems on which it depends.” For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional ‘environmental health’ examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of medical school education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term “planetary health” to satisfy the metric.
- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimizes use of healthcare services.
- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:
 1. Describe how the environment and human health interact at different levels.
 2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
 3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.
- **Medical School vs. Institution:** When “medical school” is specified in the report card, this only refers to curriculum and resources offered by the School of Medicine and does not include offerings from other parts of the university (e.g. undergraduate departments (USA), other related departments (e.g. Public Health, Population Health departments). In contrast, when “institution” is specified in the report card, we are referring to the university more broadly. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes

from or if it is specifically targeted for medical students, can meet this metric.

- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions providers are taught to ask during medical encounters that elicit patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mold after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution.
- **Elective:** The word "elective" refers to an optional course or lecture series that a medical student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.
- **Clerkship:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations or placements.

Other considerations:

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

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

Planetary Health Curriculum

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

Curriculum: General

1. Did your <u>medical school</u> offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>Score explanation: Although there is a course in Environmental Health offered through the department of public health sciences, this elective is intended for public health students and is not advertised to medical students. Additionally, this elective course may not be easily accessible to interested medical students as it may conflict with their current courses and clinical duties.</i></p>	

Curriculum: Health Effects of Climate Change

2. Does your <u>medical school</u> curriculum address the relationship between extreme heat, health risks, and climate change?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: The first-year medical school curriculum at UConn contains a session in the required VITAL (Vertically Integrated Teams Aligned in Learning and Scholarship) course entitled "Clinical Implications of Climate Change." One objective of the session reads "describe several key</i></p>	

expected health implications of a warming planet, such as heat related illness, infectious disease, cardiopulmonary, renal, neurological, mental health, malnutrition, and other conditions. It also discusses climate sensitive medical conditions.

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

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

Score explanation: The first-year medical school curriculum at UConn contains a session in the required VITAL (Vertically Integrated Teams Aligned in Learning and Scholarship) course entitled Clinical Implications of Climate Change.” This session discusses the increased incidence of extreme weather events due to climate change. Additionally, there is a first-year medical school course called PACTS (Patient Advocacy in Communities, Teams, and Health Systems) that dedicates an entire session to discussing the role of physicians in natural disasters and disaster preparedness.

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

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

Score explanation: UConn’s VITAL session “Clinical Implications of Climate Change” has a portion of the session that discusses the implications of a warming planet on infectious diseases.

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

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

Score explanation: As part of the Vertically Integrated Teams Aligned in Learning and Scholarship (VITAL) course, UConn has required a session entitled “Particulate matter air pollution: Do we need better regulation to reduce morbidity and mortality?” entirely dedicated to the health impacts of particulate matter, including individual health and global morbidity and mortality. Students are encouraged to think about methods of reducing air pollution on the individual and policy-wide level. Another VITAL session, “Clinical Implications of Climate Change” discusses cardiopulmonary implications of a warming planet.

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

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

Score explanation: The VITAL session “Clinical Implications of Climate Change” discusses the cardiopulmonary implications of a warming planet and how physicians can care for their patients accordingly.

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

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

UConn’s VITAL session “Clinical Implications of Climate Change” discusses the mental health and neurological implications of a warming planet. Additionally, the CORE course has a session with an objective that states “recognize the connection between rising global temperatures and emotional, academic, and interpersonal development for adolescents”.

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

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

0	This topic was not covered.
<i>Score explanation: This is not addressed in the medical school curriculum.</i>	

9. Does your <u>medical school</u> curriculum address the outsized impact of climate change on marginalized populations such as those with low SES, women, communities of color, Indigenous communities, children, homeless populations, and older adults?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation: UConn’s VITAL session “Clinical Implications of Climate Change” discusses the outsized impact of climate change on marginalized populations, with an objective that states “identify vulnerable groups with climate sensitive occupations and medical conditions”. UConn’s PACTS session called “Environmental Health & Justice” similarly discusses the disproportionate effects of pollution and other environmental threats on marginalized communities, focusing on local examples.</i>	

10. Does your <u>medical school</u> curriculum address the unequal regional health impacts of climate change globally?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation: This is not covered in the medical school curriculum.</i>	

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

11. Does your <u>medical school</u> curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: The UConn PACTS session “Environmental Health & Justice” briefly discusses the perfluoroalkyl substances (PFAS) family of chemicals and persistent organic pollutants (POPs) that can have adverse effects on reproduction.

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

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

Score explanation: The UConn PACTS session “Environmental Health & Justice” discusses local bodies of water with fish that can contain contaminants. It also discusses Superfund (polluted areas in the United States (designated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)) that require a long term response to clean up hazardous contaminants) and Brownfield (previously developed land that is not currently in use due to the potential presence of a hazardous substance, pollutant or contaminant) sites in CT. An additional topic discussed in this session is the Hartford Trash Incinerator and the negative health impacts it causes in the community.

13. To what extent does your medical school emphasize the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?

3	Indigenous knowledge and value systems are integrated throughout the medical school’s planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework.
0	This topic was not covered.

Score explanation: The two-course sessions at UConn related to environmental health and climate change in VITAL and PACTS do not touch on Indigenous knowledge and value systems as components of planetary health solutions.

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

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

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: The UConn PACTS session “Environmental Health & Justice” discusses how environmental toxins adversely affect marginalized populations, for example, there is a discussion on the Hartford Trash Incinerator and its placement within a marginalized community. Additionally, the VITAL course “Particulate matter and air pollution: Do we need better regulation to reduce morbidity and mortality?” discusses the impact of air pollution on older individuals.</i></p>	

Curriculum: Sustainability

15. Does your <u>medical school</u> curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: Two of UConn’s required core classes, Case Oriented Essentials (COreE) and Delivery of Clinical Care (DoCC), focus on a plant-based diet. These sessions highlight the environmental benefits and the health co-benefits of consuming a plant-based diet, and encourage students to think about how they would use those benefits to counsel patients on adopting a plant-based diet. The connection between plant-based diets and planetary health, along with individual health, is emphasized.</i></p>	

16. Does your <u>medical school</u> curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored in depth by the core curriculum
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: UConn’s VITAL session “Clinical Implications of Climate Change” briefly discusses the carbon footprint of the U.S. healthcare industry and Health Care Without Harm, a global movement for environmentally responsible health care. The UConn PACTS session “Environmental Health & Justice” briefly discussed UConn Health’s waste production.</i></p>	

17. Does your <u>medical school</u> curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (points for each)	
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2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
2	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on deprescribing where possible and its environmental and health co-benefits would fulfill this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anesthetic gases on the healthcare carbon footprint and ways to reduce anesthesia environmental impacts, such as total intravenous anesthesia or choosing less environmentally harmful anesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
	<i>Score explanation: UConn's VITAL session "Clinical Implications of Climate Change" briefly discusses the carbon footprint of the U.S. healthcare industry and Health Care Without Harm, a global movement for environmentally responsible health care. It also briefly mentions the impact of anesthetic gasses on the atmosphere. Additionally, it touches on counseling about health co-benefits of climate-friendly choices. The DoCC session on nutrition and obesity also discusses co-benefits on non-pharmaceutical management of conditions like diabetes and obesity. The UConn PACTS session "Environmental Health & Justice" briefly discusses the large generation of waste and waste disposal within UConn Health's surgical departments and ORs, as well as UConn Health as a whole.</i>

Curriculum: Clinical Applications

18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
<i>Score explanation: UConn's VITAL session "Clinical Implications of Climate Change" discusses what role the healthcare community should have in conveying climate-related health concerns to the public.</i>	

UConn's Case Oriented Essentials course also asks students to consider how they would counsel a patient on a behavior that has health and environmental co-benefits, such as a plant-based diet.

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

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

Score explanation: UConn's PACTS course session "Environmental Health & Justice" provided materials to learn how to take an environmental/exposure history, encompassing details like present and previous home locations, water supply, and food sources. The DOCC course focused on teaching how to take an occupational history, rather than an environmental/exposure history.

Curriculum: Administrative Support for Planetary Health

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

4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.

Score explanation: At UConn, there are efforts to expand climate health education within the general curriculum. However, this effort is mostly student-driven with the help of Dr. Kirsten Ek. Students have successfully incorporated more discussion of climate change and sustainability into the core curriculum through a course called Case Oriented Essentials, and continue to work on this endeavor. UConn also has a Sustainability Working Group in which faculty, staff, and students come together to discuss how to make the institution more sustainable.

21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?

6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s) .

0	There is minimal/no education for sustainable healthcare.
<p><i>Score explanation: At UConn, ESH and Planetary Health are covered in the first year of preclinical coursework in two VITALs sessions, three PACTS courses, and a few COrE sessions. However, years three and four of the medical school curriculum, do not have any ESH or Planetary Health material currently incorporated. A group of medical students are currently proposing further changes to the COrE curriculum to integrate more ESH topics.</i></p>	

<p>22. Does your <u>medical school</u> employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?</p>	
1	Yes, the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	No, the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.
<p><i>Score explanation: Although we have faculty members who are passionate about these issues, the medical school does not employ a faculty member to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course.</i></p>	

Section Total (46 out of 72)	63.9%
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Back to Summary Page [here](#)

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

Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <u>medical school</u> ?	
3	Yes, there are faculty members at the medical school who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the medical school who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution , but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation: There are no researchers at the School of Medicine whose primary research focus is planetary health or healthcare sustainability. The Department of Public Health Sciences, which falls under the School of Medicine does have a few faculty members whose research goals align with planetary health. For example, Dr. Zamora Dr. Brugge both research air quality and pollution.</i></p>	

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your <u>institution</u> ?	
3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	There is an Occupational and Environmental Health department , but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.
<p><i>Score explanation: We have an occupational and environmental medicine department but no department that is dedicated to interdisciplinary planetary health research. The College of Agriculture, Health, and Natural Resources has a webpage on OneHealth but does not have a specific institute or department dedicated to OneHealth.</i></p>	

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

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

Score explanation: There is no process by which communities disproportionately impacted by climate change are given stakeholder status in research agendas set by the medical school. It would be up to individual investigators to get stakeholder buy-in from these communities.

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

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

Score explanation: There is an Office of Sustainability for UConn as an institution, but this website pertains primarily to the undergraduate campus and does not have specific information relating to sustainability and health at the medical school. <https://sustainability.uconn.edu/>. While it centralizes some information, it does not include current research or funding opportunities.

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

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

2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p><i>Score explanation: Medical students can apply for funding to go to the Conference of the Parties (COP). On Feb. 21-25, 2022 there was the Early Career Workshop on Planetary Health https://dailydigest.uconn.edu/publicEmailSingleStoryView.php?id=193113&cid=75&iid=5697 but it is only available to early career academics (people who were awarded their PhD in the last 8 years). In 2021, UConn hosted a OneHealth conference (https://events.uconn.edu/event/82481/2021-02-06).</i></p>	

6. Is your <u>medical school</u> a member of a national or international planetary health or ESH organization?	
1	Yes, the medical school is a member of a national or international planetary health or ESH organization
0	No, the medical school is not a member of such an organization
<p><i>Score explanation: UConn Health is not a member of any national or international planetary health of education for Sustainable Healthcare organization.</i></p>	

Section Total (7 out of 17)	41.2%
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Back to summary page [here](#)

Community Outreach and Advocacy

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

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation: During the orientation period for new medical students, medical students were required to volunteer with a local organization, including an option at a local community garden. However, given the low frequency of this event, and the low impact, this does not achieve the status of "meaningful partnership" with a community organization. The Sustainability at UConn Health student group leads outings with ORCA to aid in local beach clean-ups and has partnered with a local 4H organization to foster youth sustainability education. Otherwise, there are no outreach programs operated or recognized by the UConn School of Medicine as an institution.</i></p>	

2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The institution/medical school have not offered such community-facing courses or events.

Score explanation: There have been a number of one-off internal events put on by the institution (such as a session put on by the UConn Program in Applied Public Health Sciences). However, none of these events have been intended for the larger community surrounding UConn Health.

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

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

Score explanation: There have been a number of instances of relevant planetary health or sustainable healthcare news included within the regular UConn Health newsletter. There is no regularly scheduled email sent out specifically for the purpose of communicating environmental news.

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

2	Yes, the institution or main affiliated hospital trust offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the institution or main affiliated hospital trust offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are no such accessible courses for post-graduate providers

Score explanation: No sessions are available.

5. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about environmental health exposures?

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

Score explanation: UConn Health providers use the Elsevier patient education content database as a resource to provide specific discharge information to patients who present with health concerns that require consideration of environmental factors. All other affiliated hospitals provide information to patients regarding their diagnoses and relevant factors, including relevant risk factors, on discharge.

Furthermore, all hospitals have an occupational medicine team that provides treatment and patient education regarding occupational and environmental health exposures. Although this information is available to patients of these facilities, there is no publicly available information provided online regarding these environmental health exposures at most facilities.

6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?

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

Score explanation: Some affiliated hospitals have accessible educational materials for patients about climate change and health impacts. Hartford Hospital has information available regarding the connection between climate change, catastrophic weather events, and public health.

Section Total (3 out of 14)	21.4%
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Back to summary page [here](#)

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

Support for Student-Led Planetary Health Initiatives

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

1. Does your medical school or your institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the medical school or institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school or institution encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, neither the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Score explanation: Medical students can apply for a summer research project grant, which could be toward a sustainability QI should the student choose, but there is no grant or fund specific to sustainability initiatives.</i></p>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation: The UConn School of Medicine provides research opportunities to students throughout their four years at school, particularly during the summer between the first and second years. Students can perform research related to planetary health/sustainability if they seek out the opportunities themselves.</i></p>	

3. Does the medical school have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical	
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school and/or contact of information of potential mentors.	
2	The medical school has a web-page with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a medical school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
0	There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.
<p><i>Score explanation: The larger institution of UConn has a webpage devoted to sustainability. On this page, students can find information pertaining to school initiatives, ways to become involved, and who to contact. The School of Medicine does not have a page dedicated to planetary health. However, there is a web page that provides information about the medical and dental student group that is focused on planetary health, Sustainability at UConn Health.</i></p>	

4. Does your medical school have registered student groups dedicated towards fostering a culture of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?	
2	Yes, there is a student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support .
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.
<p><i>Score explanation: Sustainability at UConn Health is an interdisciplinary student group at the University of Connecticut School of Medicine aimed at improving sustainable initiatives and knowledge within the University of Connecticut's health center. The group is student-led with a faculty mentor Dr. Ek.</i></p>	

5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional decision-making council to advocate for curriculum reform and/or sustainability best practices?	
1	Yes, there is a student representative that serves on a medical school or institutional decision-making council/committee.
0	No, there is no such student representative.
<p><i>Score explanation: There is a Sustainability working group which began to meet this year after a hiatus since March 2020 due to COVID-19. The two co-presidents of Sustainability at UConn Health are</i></p>	

invited to attend quarterly meetings. It is unclear how much decision-making capacity the working group possesses.

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

1	Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students)

Score explanation: The Wellness Committee at UConn School of Medicine hosts outdoor programs for the students. There may have been panels at the undergraduate level relating to planetary health but they were not publicized or readily available to medical students.

Section Total (6 out of 15)	40%
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Back to summary page [here](#)

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

Campus Sustainability

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

1. Does your <u>medical school</u> and/or <u>institution</u> have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff , but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation: While the University of Connecticut has an office of sustainability, the School of Medicine and UConn Health does not have a designated staff member. A couple of years ago there was a Sustainability committee for UConn Health. However, this committee has not been active since the start of the Covid19 pandemic.</i></p>	

2. How ambitious is your <u>institution/medical school</u> plan to reduce its own carbon footprint?	
5	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2030
3	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2040
1	The institution/medical school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate
0	The institution/medical school does not meet any of the requirements listed above
<p><i>Score explanation: The University has pledged to achieve carbon neutrality by 2050 and committed to a Climate Action Plan (CAP) in 2010, with nearly 200 recommended measures for</i></p>	

	achieving carbon reduction targets. The CAP was reaffirmed by President Herbst in 2012 and an interim assessment was conducted in 2015. https://sustainability.uconn.edu/climate-action-plan/ .
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3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital) utilize renewable energy?

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

Score explanation: UConn Health does not use any renewable energy.

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

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

Score explanation: The University of Connecticut uses efficiency guidelines with designing and retrofitting existing buildings. There are incentives from the government that UConn has taken advantage of to reduce their energy consumption by using highly efficient systems.

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

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

0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<p><i>Score explanation: The medical school currently has a shuttle that picks up medical students close to common student dwellings. This shuttle also transports students, patients, and employees around the UConn Health campuses (e.g., parking lots, buildings).</i></p>	

6. Does your <u>medical school</u> have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?	
2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	The medical school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the medical school.
<p><i>Score explanation: There are currently bins that are marked to collect recycling located in the classrooms, some hallways, and near the dining hall. The bins in the classrooms look very similar to the trash bins. There is often a lack of signage regarding what is appropriate to recycle and inappropriate items end up contaminating the recycling.</i></p> <p><i>Currently, there is no option to compost at the UConn medical school or health center. Blue Earth is a composting facility that is located nearby (Hartford, CT). Blue Earth provides composting services to a nearby university Trinity College (Hartford, CT). Additionally, Connecticut has an anaerobic digester in Southington, Connecticut called Quantum Biopower. Yale University (New Haven, CT), Wesleyan University (Middletown, CT), parts of the University of Connecticut, and Quinnipiac University (Hamden, CT) have begun to send their food waste products to Quantum Biopower. Opportunities for composting are available. We look forward to collaborating with our institution on implementing a pathway for students, and employees to compost. Education on what is appropriate to compost will also be necessary.</i></p>	

7. Does the <u>medical school</u> apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.
<p><i>Score explanation: The Health Center at the University of Connecticut changed its food service company effective January 1, 2022, to Morrison Healthcare which is part of Compass Group-USA. At</i></p>	

this time there are no designated meat-free days or no red-meat days. However, there are non-meat options available. Morrison Healthcare is open to the idea of increasing sustainable practices such as composting food waste.

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

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

Score explanation: None exist.

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

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

Score explanation: There are expanded recycling guidelines for lab spaces, but no programs or initiatives.

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

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

Score explanation: UConn's President Working Group on Sustainability and the Environment produced a report in May 2021 encouraging the university to divest all UConn Foundation holdings in fossil

fuels and supporting investment in renewable technologies. However, no action (that has been disclosed) has been taken. The Foundation has a statement on divestment that states they only have 2% of their holdings in fossil fuels; however, this still amounts to about 10-12 million dollars. There is also no current responsibility for the Foundation to be transparent or acknowledge if there are indirect investments in fossil fuels.

Section Total (12 out of 32)

37.5%

Back to summary page [here](#)

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

Grading

Section Overview

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

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

**Within each grade bracket, a score in the top 5% (_5 to_9%), receives a “+”, and a score in the bottom 5% (_0-_4%) receives a “--”. For example, a percentage score of 78% would be a B+.*

Planetary Health Grades for the University of Connecticut School of Medicine

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

Section	Raw Score %	Letter Grade
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Planetary Health Curriculum (30%)	$(46/72) \times 100 = 63.9\%$	B-
Interdisciplinary Research (17.5%)	$(7/17) \times 100 = 41.2\%$	C-
Community Outreach and Advocacy (17.5%)	$(3/14) \times 100 = 21.4\%$	D-
Support for Student-led Planetary Health Initiatives (17.5%)	$(6/15) \times 100 = 40\%$	C-
Campus Sustainability (17.5%)	$(12/32) \times 100 = 37.5\%$	D+
Institutional Grade	$(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = F\%$	C-