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# Planetary Health Report Card:

## *Vanderbilt University School of Medicine*

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**VANDERBILT**  
SCHOOL OF MEDICINE

2021-2022 Contributing Team:

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## Summary of Findings

Overall	C -
<u>Curriculum</u>	D
<ul style="list-style-type: none"> <li>The new elective course for medical students, “Ecology and Health: Climate, Food and Justice” covers a broad range of planetary health topics.</li> <li><b>Recommendations:</b> The core MD curriculum does not address planetary health in a way that is organized or intentional. Our suggestion is to develop and propose a curriculum map that addresses climate change/planetary health topics where they are most relevant throughout the four-year MD curriculum (similar to the Race in Medicine proposal).</li> </ul>	
<u>Interdisciplinary Research</u>	D
<ul style="list-style-type: none"> <li>Several Vanderbilt University Medical school faculty, including Dr. Eva Parker, dedicated to planetary health issues in their research and broader careers.</li> <li><b>Recommendations:</b> Vanderbilt University School of Medicine could organize a conference directly related to Planetary Health. They could also join the Planetary Health Alliance and the Global Consortium on Climate and Health Education, and set up a website with planetary health news.</li> </ul>	
<u>Community Outreach and Advocacy</u>	C
<ul style="list-style-type: none"> <li>Medical students have spearheaded recent efforts to engage with the broader community on issues of planetary health. In addition, Vanderbilt University regularly hosts events related to issues of climate change and planetary health, which are open to the broader public.</li> <li><b>Recommendations:</b> We suggest that the medical school partner with Vanderbilt University’s <a href="#">Sustainability and Environmental Management Office (SEMO)</a> to identify additional opportunities for community outreach on the issue of planetary health.</li> </ul>	
<u>Support for Student-Led Initiatives</u>	C
<ul style="list-style-type: none"> <li>Vanderbilt University Medical School supports student-led sustainability efforts through the Social Mission Committee. The administration was particularly supportive of the creation of the new advanced elective, “Ecology and Health: Climate, Food and Justice”.</li> <li><b>Recommendations:</b> We suggest that the administration support and encourage student-led sustainability efforts that align with medical school graduation requirements, including in completion of the research immersion and quality improvement projects. As part of the Social Mission Committee’s ongoing effort to identify health equity related research opportunities for students, there should also be inclusion of research topics related to planetary health. Finally, the medical school should consider adding a “sustainability representative” to the Class Council of Officers, our student government.</li> </ul>	
<u>Campus Sustainability</u>	C
<ul style="list-style-type: none"> <li>Vanderbilt University has made great progress in achieving carbon neutrality and publishing sustainability guidelines through <a href="#">FutureVU</a>.</li> <li><b>Recommendations:</b> The medical school should implement the <a href="#">Sustainable Event Greening Guide</a> for events.</li> </ul>	

# Statement of Purpose

*Planetary health is human health.*

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

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

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

# Definitions & Other Considerations

## Definitions:

- **Planetary Health:** is described by the *Planetary Health Alliance* as “a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth’s natural systems on human health and all life on Earth”. For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional ‘environmental health’ examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of medical school education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term “planetary health” to satisfy the metric.
- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:
  1. Describe how the environment and human health interact at different levels.
  2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.
  3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.
- **Medical School vs. Institution:** When “medical school” is specified in the report card, this only refers to curriculum and resources offered by the School of Medicine and does not include offerings from other parts of the university (for example, undergraduate departments (USA), other related departments eg Public Health, Population Health departments). In contrast, when “institution” is specified in the report card, we are referring to the university more broadly. Any resource reasonably accessible by medical students, no matter where in the institution the resource comes from or if it is specifically targeted for medical students, can meet this metric.
- **Environmental history (Metric 19 in curriculum section):** This is a series of questions

providers are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mold after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution.

- **Elective:** The word “elective” refers to an optional course or lecture series that a medical student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.
- **Clerkship:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations or placements.

#### **Other considerations:**

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

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

# Planetary Health Curriculum

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

## Curriculum: General

1. Did your medical school offer elective courses (student selected modules) to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	<b>Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.</b>
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: Vanderbilt University School of Medicine offers one elective course called "Ecology and Health: Climate, Food and Justice" open to third and fourth year medical students.</i></p>	

## Curriculum: Health Effects of Climate Change

2. Does your medical school 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	<b>This topic was covered in elective coursework.</b>

0	This topic was not covered.
<p><i>Score explanation: As a part of the elective course “Ecology and Health: Climate, Food and Justice” students read and discuss articles entitled “Temperature Related Illnesses and Death” and “Heat Exposure and Maternal Health in the Face of Climate Change.”</i></p>	

<b>3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.
<p><i>Score explanation: As a part of the elective course “Ecology and Health: Climate, Food and Justice” students read and discuss the article entitled “The Shortage of Normal Saline in the Wake of Hurricane Maria.”</i></p>	

<b>4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?</b>	
3	This topic was explored in depth by the core curriculum.
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: Two lectures in the first year core curriculum discussed this topic. The lecture entitled “Tumors, Myocarditis, and Interventions,” discussed the changing pattern of Trypanosoma cruzii and its impact on the epidemiology of myocarditis. The lecture entitled “Introduction to the Microbes and Immunity Block” stated changing climate and weather to affect the emergence of infectious diseases.</i></p>	

**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.
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.

*Score explanation: A few lectures in the first year core curriculum brought up air pollution as a risk factor for respiratory and cardiovascular conditions. These lectures were centered around introductory respiratory physiology, atherosclerosis, and lung cancer. Students in the first year core curriculum also had a Case Based Learning case that discussed COPD, where air pollution was discussed as a risk factor. The pathophysiology behind air pollution and the development of COPD was also discussed.*

**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.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.

*Score explanation: As a part of the elective course “Ecology and Health: Climate, Food and Justice” students read and discuss the article entitled “The 2020 report of The Lancet Countdown on health and climate change: responding to converging crises.” This report addresses the cardiovascular health effects of extreme heat and explores global trends in heat-related deaths.*

**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.
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>



1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: In the Brain, Behavior, and Movement course that first year students take as a part of the core curriculum, this topic was covered in the lecture “Clinical Potpourri”. An increased risk of ADHD with lead exposure was discussed.</i></p>	

<b>8. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.
<p><i>Score explanation: As a part of the elective course “Ecology and Health: Climate, Food and Justice”, there was a discussion focused on Industrialized Food and Alternatives. In preparation for this discussion, students read “How Big Food Subsidizes Poor Health”, “Toward a Civic Agriculture”, and “Combining the Effects of Increased Carbon Dioxide on Protein, Iron, and Zinc Availability and Projected Climate Change on Global Diets: A Modeling Study”. Additionally, another reading for the same course, “The 2020 report of The Lancet countdown on health” summarizes evidence of both terrestrial and marine food insecurity and undernutrition, as well as increasing droughts and flooding as a consequence of global warming.</i></p>	

<b>9. Does your medical school curriculum address the outsized impact of climate change on marginalized populations such as those with low SES, women, communities of color, Indigenous communities, children, homeless populations, and older adults?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.

*Score explanation: As a part of the elective course “Ecology and Health: Climate, Food and Justice” students read and discuss the article entitled “The Effects of Historical Housing Policies on Resident Exposure to Intra-Urban Heat.”*

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

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

*Score explanation: As a part of the elective course “Ecology and Health: Climate, Food and Justice” students read and discuss the article entitled “The 2020 report of The Lancet countdown on health,” which addresses this concept.*

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

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

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

*Score explanation: Through Vanderbilt University’s elective course “Ecology and Health: Climate, Food, and Justice”, there is a reading entitled “Heat Exposure and Maternal Health in the Face of Climate Change”, which discusses the effects of rising temperatures on pregnancies on an international scale. However, there is no discussion with regards to how environmental toxin exposure is detrimental to reproductive health.*

**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	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.

*Score explanation: As a part of the core curriculum, first year students take a “Foundations of the Profession” course. This course discussed differences across Nashville neighborhoods, including redlining and racially motivated public construction projects, but failed to include varying toxin exposures across the city. Students in this course were expected to research different neighborhoods surrounding the school in terms of their “built environment.” Part of this discussion included discussing the differences in accessibility of green spaces. Certain students in the Vanderbilt University School of Medicine and Vanderbilt University School of Nursing have the ability to take a course that is considered part of the core curriculum called Vanderbilt Program in Interprofessional Learning. As a part of this course, students followed a patient and looked at their home environment. Topics that were covered included housing and zoning of neighborhoods, quality of open and green spaces, natural spaces and boundaries, and signs of neighborhood decay. In both courses, it was not explicitly expected for students to discuss human-caused environmental threats, but the required topics lent themselves to allowing students to have that discussion if they chose to do so. This topic is also discussed at length in the elective course, “Ecology and Health: Climate, Food, and Justice”.*

**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	<b>Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework.</b>
0	This topic was not covered.

*Score explanation: This topic is addressed in many discussions in the course “Ecology and Health: Climate, Food, and Justice”. One reading by Naomi Klein (“Sharing the Sky” from her book This Changes Everything) explicitly discusses the Northern Cheyenne Native American tribe fighting coal companies and their threat to traditional way of living.*

**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.
<b>2</b>	<b>This topic was briefly covered in the core curriculum.</b>
1	This topic was covered in elective coursework.
0	This topic was not covered.

*Score explanation: Vanderbilt University School of Medicine has a course titled “Foundations of Healthcare Delivery” built into the core curriculum. Through this course students develop patient care skills through a longitudinal continuity clinic experience in the first year, while also discussing the healthcare delivery system in broader terms. Topics range from conversations about Medicare & Medicaid to Health Equity. First year students had a lecture on health equity titled “Social Determinants of Health”, which explained that the sum total of a person’s health was dependent not only on access to healthcare, but also socioeconomic factors, the physical environment, and health behaviors. In this lecture environmental toxins were an example of one of the components of an individual’s physical environment that can contribute to poorer health outcomes downstream. The lecture discussed that these drivers of health contributed to disparities observed in communities of color and those with low SES.*

**Curriculum: Sustainability**

**15. Does your medical school 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.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.

*Score explanation: As a part of Vanderbilt University’s elective course “Ecology and Health: Climate, Food and Justice” students are assigned the reading “The 2020 report of The Lancet countdown on health”. One section of the report details diet and health co-benefits of a diet that limits red meat consumption.*

**16. Does your medical school 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.
<b>1</b>	<b>This topic was covered in elective coursework.</b>
0	This topic was not covered.
<p><i>Score explanation: As a part of Vanderbilt University's elective course "Ecology and Health: Climate, Food and Justice" students are assigned the reading "Environmental Impacts of the US Healthcare System and Effects on Public Health", which covers this issue in depth.</i></p>	

<b>17. Does your medical school curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (1 point each)</b>	
1	Waste production within the healthcare system and strategies for reducing waste in clinical activities, such as in the operating room
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	The impact of anesthetic gasses on the healthcare carbon footprint and ways to reduce anesthesia environmental impacts, such as total intravenous anesthesia or choosing less environmentally anesthetic gas options with reduced greenhouse gas emissions
1	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on de-prescribing where possible and its environmental and health co-benefits would fulfill this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes for obesity. This is commonly known as social prescribing in the UK.
1	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
<p><i>Score explanation: In the core curriculum for first year students at Vanderbilt University School of Medicine, non-pharmaceutical management of conditions such as diabetes and obesity were covered in the learning objectives for students' Case Based Learning groups as well as lectures on management and treatment of cardiovascular health and risk factors. This topic was also discussed in the students' longitudinal Foundations of Healthcare Delivery course within the context of social drivers of health and access to care. The health benefits of avoiding over-medicalisation were discussed within the</i></p>	

*context of steadily increasing antibiotic resistance during students' Microbes and Immunity course block. This topic was covered in lecture as well as Case Based Learning groups as a means to draw attention to the importance of antibiotic stewardship. However, environmental co-benefits were not mentioned for any of these topics.*

**Curriculum: Clinical Applications**

**18. In training for patient encounters, does your medical school's curriculum introduce strategies to have conversations with patients about the health effects of climate change?**

2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	<b>Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.</b>
0	No, there are not strategies introduced for having conversations with patients about climate change

*Score explanation: First year students at Vanderbilt University take a Physical Diagnosis course, which instructs students' in basic physical exam maneuvers and findings as well as the skill of history taking. There is no discussion during this course about having conversations about the effects of climate change on health. In the elective course, "Ecology and Health: Climate, Food and Justice" there is one class on the topic of Communicating Climate Change. The discussion is geared toward an interdisciplinary group of future care providers (divinity, education, public health, etc.), however the information is highly applicable to the physician-patient relationship.*

**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	<b>No, the curriculum does not include strategies for taking an environmental history.</b>

*Score explanation: First year students at Vanderbilt University take a Physical Diagnosis course, which instructs students' in basic physical exam maneuvers and findings as well as the skill of history*

taking. "Occupational exposures" is listed as a category under "Social History", but there were no specific lectures regarding strategies as to how to assess environmental and 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	<b>Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.</b>
0	No, there are no improvements to planetary health education in progress.

*Score explanation: Vanderbilt University is offering the elective course "Ecology and Health: Climate, Food, and Justice" starting January 2022 for third and fourth year medical students. There are no current plans to revise the core curriculum for first and second year medical students.*

**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	<b>There is minimal/no education for sustainable healthcare.</b>

*Score explanation: At present there are no lectures or Case Based Learning sessions in the core curriculum dedicated to the topic of sustainable healthcare.*

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

1	Yes, the medical school has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	<b>No, the medical school does not have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.</b>
<p><i>Score explanation: At present there is no designated faculty mentor to oversee implementation of the topic of planetary health/sustainable healthcare into the curriculum and it is a largely student-driven effort.</i></p>	

<b>Section Total (24 out of 69)</b>	<b>34.7%</b>
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*Are there additional curriculum resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*



# Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
3	<b>Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health or healthcare sustainability.</b>
2	Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation: Dr. Eva Parker is an assistant professor of Dermatology at Vanderbilt University School of Medicine. Her main research interest is in how climate change affects skin cancer incidence. She published a review article on this topic in 2021. <a href="https://pubmed.ncbi.nlm.nih.gov/33537393/">https://pubmed.ncbi.nlm.nih.gov/33537393/</a></i></p>	

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?	
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	<b>There is an Occupational and Environmental Health department, but no interdisciplinary department or institute for planetary health research.</b>
0	There is no dedicated department or institute.

*Score explanation: There is both an occupational health department and Sustainability and Environmental Management Office (SEMO) within Vanderbilt University, but neither specifically address planetary health research. There is also a Climate Change Research Network at Vanderbilt University, however there is no representation from the medical school and none of the content on their website is health-related.*

<https://law.vanderbilt.edu/academics/academic-programs/environmental-law/climate-change-network/index.php>

**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.
<b>0</b>	<b>There is no process, and no efforts to create such a process.</b>

*Score explanation: This does not exist.*

**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.
<b>1</b>	<b>The institution has an Office of Sustainability website that includes some resources related to health and the environment.</b>
0	There is no website.

*Score explanation: Vanderbilt University's Sustainability and Environmental Management Office (SEMO) has a website that outlines the university's sustainability initiatives, however it has limited resources related to health and the environment. <https://www.vanderbilt.edu/administration/semo/>*

<b>5. Has your institution recently hosted a conference or symposium on topics related to planetary health?</b>	
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 <b>institution</b> has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the <b>institution</b> 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.
<b>0</b>	<b>No, the institution has not hosted a conference on topics related to planetary health in the past three years.</b>
<p><i>Score explanation: There have been individual lectures about planetary health topics as part of a larger conference series, however the institution has never hosted a conference dedicated to the topic of planetary health.</i></p>	

<b>6. Is your medical school a member of a national or international planetary health or ESH organization?</b>	
1	Yes, the medical school is a member of a national or international planetary health or ESH organization
<b>0</b>	<b>No, the medical school is not a member of such an organization</b>
<p><i>Score explanation: Not a member.</i></p>	

<b>Section Total (5 out of 17)</b>	<b>29.4%</b>
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*Are there additional research resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

# Community Outreach and Advocacy

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

<b>1. Does your medical school partner with community organizations to promote planetary and environmental health?</b>	
<b>3</b>	<b>Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.</b>
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: The medical school's Social Mission Committee partnered with the <a href="#">Nashville Tree Foundation</a> for the 2022 MLK day of service event. The plan for the three hour event included tree planting, as well as teaching about the impact of green spaces and environmental justice on health. The event has been postponed to a later date because of the "Commodores Care" guidelines (related to COVID-19), however the event is going to occur sometime in the Spring of 2022. Additionally, medical students in the elective course, "Ecology and health, climate, food and justice" have the option to complete a "Project for Action" for their end of semester capstone. Medical students are required to partner with a classmate from a different discipline and develop a proposal based on a real problem facing a community partner organization, <a href="#">Nashville Food Project</a> or <a href="#">Urban Green Lab</a>.</i></p>	

<b>2. Does your medical school offer community-facing courses or events regarding planetary health?</b>	
3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.

<b>1</b>	<b>The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.</b>
0	The medical school has not offered such community-facing courses or events.
<p><i>Score explanation: Vanderbilt University regularly hosts events focused on planetary health which are open to the community, including School of Medicine students, faculty, and staff. Throughout each academic year, there are many lectures, events, webinars, and speaker series focused on awareness and education around planetary health. These events are open to both the Vanderbilt and broader communities. For example, Lecture Series: VU Climate, Energy, and Environment Forum Spring 2022. Example lecture: Dr. Matthew Elia, "Climate, Apartheid, Race, and the Future of Solidarity." Another example, Webinar: Vanderbilt School of Nursing hosts global climate education initiative April 8 <a href="https://www.vanderbilt.edu/sustainability/2021/04/vanderbilt-school-of-nursing-hosts-global-climate-education-initiative/">https://www.vanderbilt.edu/sustainability/2021/04/vanderbilt-school-of-nursing-hosts-global-climate-education-initiative/</a></i></p>	

<b>3. Does your medical school have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?</b>	
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.
<b>0</b>	<b>Students do not regularly receive communications about planetary health or sustainable healthcare.</b>
<p><i>Score explanation: Communication updates from Vanderbilt University often reference efforts within <a href="#">FutureVU</a>, the university's plan to meet sustainability goals. However, none of these communications discuss human health or the healthcare system, thus we were not able to award points for this section.</i></p>	

<b>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?</b>	
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

<b>0</b>	<b>There are no such accessible courses for post-graduate providers</b>
<p><i>Score explanation: No CME courses on this topic were identified through a search of the VUMC Cloud-CME database.</i></p>	

<b>5. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about environmental health exposures?</b>	
<b>2</b>	<b>Yes, all affiliated hospitals have accessible educational materials for patients.</b>
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centers have accessible educational materials for patients.
<p><i>Score explanation: Vanderbilt Medical school is affiliated with the Nashville VA, which has a specific environmental health coordinator. The VA also has a <a href="#">website for patients</a> about environmental health, especially those related to military exposures. Additionally, VUMC, which includes Vanderbilt University Hospital and Vanderbilt Children’s Hospital, has a <a href="#">patient education website</a>, which links to <a href="#">Krames-on-demand</a>. Within this database there are educational materials for patients that describe heat stress and respiratory hazards.</i></p>	

<b>6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?</b>	
2	Yes, all affiliated hospitals have accessible educational materials for patients.
<b>1</b>	<b>Some affiliated hospitals have accessible educational materials for patients.</b>
0	No affiliated hospitals have accessible educational materials for patients.
<p><i>Score explanation: Vanderbilt Children’s Hospital, Vanderbilt University Hospital and the Nashville VA are the affiliated hospitals of Vanderbilt Medical school. “Vanderbilt Health DNA: Discoveries in Action” is a podcast produced by Vanderbilt Health. There was an episode released on October 4th, 2021 titled, “Climate is us”. These episodes are free online and geared toward the public.</i></p>	

<b>Section Total (7 out of 14)</b>	<b>50%</b>
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*Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

# Support for Student-Led Planetary Health Initiatives

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

<b>1. Does your institution offer support for medical students interested in enacting a sustainability initiative/QI project?</b>	
2	Yes, the institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
<b>0</b>	<b>No, the institution does not offer opportunities or support for sustainability initiatives or QI projects.</b>
<p><i>Score explanation: While it is required as part of the MD curriculum to complete a quality improvement project in the Foundations of Healthcare Delivery course in the third and fourth year, there is no suggestion of completing sustainability QI projects.</i></p>	

<b>2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?</b>	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
<b>1</b>	<b>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.</b>
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation: There is no funding source for students specifically interested in planetary health/sustainable healthcare research. However there are general funding sources for medical student research such as the Medical Scholars Program</i></p>	



*(<https://medschool.vanderbilt.edu/curriculum/medical-scholars-program/>) could likely be applied to a research project related to planetary health.*

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

2	The medical school has a webpage with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a medical school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
<b>0</b>	<b>There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.</b>

*Score explanation: There is no medical-school specific webpage, nor is there a larger institutional planetary health website.*

**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	<b>Yes, there is a student organization with faculty support at my medical school dedicated to planetary health or sustainability in healthcare.</b>
1	Yes, there is a student organization at my medical school dedicated to planetary health or sustainability in healthcare but it lacks faculty support.
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.

*Score explanation: The Social Mission Committee (SMC) at Vanderbilt Medical School is a broad organization that encompasses all student organizations related to service, health equity, etc. There are projects within SMC including the Planetary Health Report Card that are dedicated to planetary health and SMC is affiliated with Medical Students for a Sustainable Future. We have faculty support through Dr. Keith Meador at the Vanderbilt Center for Biomedical Ethics, which also runs the elective course offered to medical students about climate change and health.*

**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?**

<b>1</b>	Yes, there is a student representative that serves on a medical school or institutional decision-making council/committee.
<b>0</b>	No, there is no such student representative.

*Score explanation: None exists.*

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

<b>1</b>	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.
<b>1</b>	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
<b>1</b>	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.
<b>1</b>	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
<b>1</b>	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
<b>1</b>	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students)

*Score explanation: The [Vanderbilt Education Garden Initiative \(VEGI\)](#) is a medical-student-run organization that has planting events open to medical students. On December 9th, 2021, the Shade Tree Clinic Lefkowitz Hour was titled “Environment Health and Justice: The challenges our population is facing” with the intended audience of Vanderbilt medical students. The Social Mission Committee planned a service event with the [Nashville Tree Project](#) for January, 2022, which is currently being rescheduled due to COVID-19. The purpose is for medical students to learn about environmental justice from this community partner and to plant trees in areas lacking green spaces, contributing to the community’s climate resilience. Our medical school has a [Wilderness Medicine Society](#) that organizes wilderness trips open to medical students.*

<b>Section Total (8 out of 15)</b>	<b>53.3%</b>
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*Are there additional student-led initiative resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

# Campus Sustainability

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

1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	<b>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.</b>
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: Vanderbilt University has the <a href="#">Sustainability and Environmental Management Office (SEMO)</a>. SEMO has three full time positions: Director, Environmental Management Systems Coordinator, and Sustainability Outreach Coordinator. They manage campus infrastructure in a sustainable and cost-efficient manner and have an Environmental Advisory Committee (EAC) that advises University administration. However, there is no specific staff or department for sustainability at the medical school. This would be awarded two points.</i></p>	

2. How ambitious is your medical school/institution’s plan to reduce its own carbon footprint?	
4	<b>The institution has a stated goal of carbon neutrality by 2030 or earlier and the medical school / institution has a well-defined and adequate plan in place to achieve this goal.</b>
3	Yes, there is a stated carbon neutrality goal by at least 2040 and the medical school/institution has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal by at least 2040, but the medical school/institution has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.

0	There is no stated goal for reduction of CO2 emissions.
<p><i>Score explanation: Vanderbilt University <a href="#">began a collaboration last year</a> with the nonprofit organization Climate Vault that allowed the university to address the full extent of its carbon footprint, achieving carbon neutrality last year (2021) and decades ahead of its initial goal (2050). The initiative effectively removes carbon pollution permits from regulated carbon markets while simultaneously stimulating research into emerging carbon removal technologies. While the university continues to push action and innovations on several fronts, it identified the near-term opportunity to work with Climate Vault and use the cap-and-trade market—which is designed to limit harmful emissions—to accelerate its impact, allowing it to become the first member of the Association of American Universities to achieve carbon neutrality.</i></p>	

<b>3. Do buildings/infrastructure used by the medical school for teaching (not including the hospital) utilize renewable energy?</b>	
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	<b>Medical school buildings source &gt;20% of energy needs from off-site and/or on-site renewable energy.</b>
0	Medical school buildings source <20% of energy needs from off-site and/or on-site renewable energy.
<p><i>Score explanation: The Eskind Biomedical Library is one of 24 LEED certified buildings on Vanderbilt's campus. Buildings on campus receive energy from both off-site and on-site renewable energy sources:</i></p> <p><i>The campus power plant uses natural gas to produce ~30% of campus electricity. The remaining electricity is purchased from Nashville Electric Service which sells power generated by Tennessee Valley Authority (TVA). The fuel mix for TVA can be found on page 12 of this report: <a href="http://d18rn0p25nwr6d.cloudfront.net/CIK-0001376986/cbc0a24a-d42c-43e4-9a86-b41f7453dd62.htm/#TVE-20200930_HTM_I8F94425A301C4EE5891A2D46100587E0_37">http://d18rn0p25nwr6d.cloudfront.net/CIK-0001376986/cbc0a24a-d42c-43e4-9a86-b41f7453dd62.htm/#TVE-20200930_HTM_I8F94425A301C4EE5891A2D46100587E0_37</a></i></p> <p><i>Vanderbilt currently has a 20kW solar photovoltaic electrical system installed on the roof of Currey Tennis Center with solar panels that generate electricity from the sun's energy. This power is then fed into the Vanderbilt electricity grid, which feeds the entire campus.</i></p> <p><i>Vanderbilt University has entered into an agreement with the Tennessee Valley Authority and Nashville Electric Service through TVA's new <a href="#">Green Invest program</a> to procure off-site large-scale renewable energy to help mitigate the campus' greenhouse gas emissions. Through this partnership, Vanderbilt is</i></p>	

tackling climate change head-on by working towards its goal of powering its campus entirely through renewable energy and committing to carbon neutrality. Vanderbilt is the first customer to partner with a local power company on this type of agreement in the seven-state TVA region. The 20-year agreement will support Vanderbilt's goal to power its campus entirely through renewable energy. The renewable power will come from solar farms to be built in Bedford County, Tennessee, and Tullahoma, Tennessee, by Nashville-based [Silicon Ranch Corporation](#), the U.S. solar platform for Shell and one of the largest independent solar power producers in the country. The two projects will supply enough renewable energy to offset 100 percent of the university's annual indirect greenhouse gas emissions from purchased electricity by fall 2023. Thus, Vanderbilt will reach its renewable energy goal just over four years after the university made its initial commitment in 2019.

**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	<b>Sustainable building practices are utilized for new buildings on the medical school campus, but most old buildings have not been retrofitted.</b>
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: [Vanderbilt's Sustainable Building Standards](#) guide how all buildings on campus are newly built or largely renovated. The Sustainable Building Standards incorporate FutureVU Sustainability Guidelines, Vanderbilt's carbon neutrality goal, BlueSky Vision, Zero Waste goal, ASHRAE 90.1-2016, WELL principles, and other sustainability requirements for materials, etc., apply to all capital projects, and are addressed in all Requests for Proposals issued for new projects and referenced in contracts for architects, design consultants, and construction managers.*

*Vanderbilt has been building infrastructure sustainably for many years back to the 2008 opening of the LEED-certified Commons campus. Vanderbilt builds environmentally responsible, long-lasting, and efficient buildings that will foster healthier and productive learning and working environments. Sustainable building entails design and construction practices that meet specified efficiency, environmental and wellness standards for both indoor and outdoor spaces, resolving much of the negative impact of buildings on their occupants and the environment. A well-designed sustainable building combines reducing environmental impacts, safeguarding, and even improving health of building occupants, and improving economic performance while supporting Vanderbilt's academic mission and strategic goals. Such triple-bottom-line thinking translates into energy savings, financial savings, verified improved building performance, enhanced productivity, increased building value,*

*reduced liability and improved risk management. For Vanderbilt, it means moving into a future where our buildings have a net positive impact.*

*Vanderbilt's goal is to continuously improve our buildings and building standards to achieve increasing levels of performance, sustainability, and positive environmental and health impacts. These Standards include targets for energy use and greenhouse gas emissions, water conservation, indoor environmental quality, outdoor lighting and noise, and materials, resources & waste.*

**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	<b>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.</b>
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.

*Score explanation: Medical students are able to use the [WeGo public transit system](#) for free with their student ID. Additionally, [MoveVU](#) provides a carpool matching tool and daily parking option to promote sustainable campus commuting.*

**6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?**

2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	<b>The medical school has either recycling or compost programs accessible to students and faculty, but not both.</b>
0	There is no compost or recycling program at the medical school.

*Score explanation: Eskind Biomedical Library (EBL) and Light Hall are the two medical school buildings and contain several recycling bins on each floor. However, there are no waste bins specific to*

*composting. Additionally, in the hospital buildings and other clinical learning environments affiliated with VUMC instead of Vanderbilt University, there is little to no recycling available.*

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

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

*Score explanation: There are no guidelines for medical school events.*

**8. Does the medical school or associated institution apply sustainability criteria when making decisions about supply procurement?**

3	Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is engaged in efforts to increase sustainability of procurement.
1	<b>There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is not engaged in efforts to increase sustainability of procurement.</b>
0	There are no sustainability guidelines for supply procurement.

*Score explanation: Vanderbilt's Purchasing Services' Department evaluates our suppliers' use of environmentally preferable products, materials, and sources wherever economically feasible. If two products are competitive in performance characteristics and pricing, the university will favor the more environmentally friendly product or company. Procurement Services has worked closely with preferred office products, janitorial products, and laboratory products suppliers to provide more easily identified environmentally preferable product selections. Read more about [Procurement and Disbursement](#)*



[Services' Green Purchasing Program](#) online or in [Section 9.16 of the Procurement Policies and Procedures Manual](#).

**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.
<b>0</b>	<b>There are no sustainability guidelines for medical school events.</b>

*Score explanation: There are University-wide sustainability guidelines promoted by FutureVU Sustainability, but these are not publicized to medical students.*

**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.
<b>1</b>	<b>There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.</b>
0	There are no efforts at the medical school to make lab spaces more sustainable.

*Score explanation: FutureVU Sustainability is in the process of developing a laboratory greening program. In the meantime, the published [Greening Guides](#) are a great resource for information concerning green office and procurement practices.*

**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	No, the institution is entirely divested from fossil fuels.

2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest, but currently still has fossil fuel investments.
1	<b>The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.</b>
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.
<p><i>Score explanation: There are no institutional commitments to divest from fossil-fuel companies, but students and staff are advocating for divestment. Website: <a href="https://divestvanderbilt.com/">https://divestvanderbilt.com/</a></i></p>	

<b>Section Total (15 out of 31)</b>	<b>48.3%</b>
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*Are there additional sustainability resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.*

# Grading

## Section Overview

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

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

*\*Within each grade bracket, a score in the top 5% (5 to 9%), receives a "+", and a score in the bottom 5% (0-4%) receives a "--". For example, a percentage score of 78% would be a B+.*

## Planetary Health Grades for the Vanderbilt School of Medicine

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

Section	Raw Score	Letter Grade
<b>Planetary Health Curriculum (30%)</b>	$(24 / 69) \times 100 = 34.7\%$	D
<b>Interdisciplinary Research (17.5%)</b>	$(5 / 17) \times 100 = 29.4\%$	D
<b>Community Outreach and Advocacy (17.5%)</b>	$(7 / 14) \times 100 = 50\%$	C
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	$(8 / 15) \times 100 = 53.3\%$	C
<b>Campus Sustainability (17.5%)</b>	$(15 / 31) \times 100 = 48.3\%$	C
<b>Institutional Grade</b>	<b>42%</b>	<b>C -</b>