`

Planetary Health Report Card (Medicine):

Sidney Kimmel Medical College at Thomas Jefferson University

2023-2024 Contributing Team:
● Students: Meryem Guler*, Dan Ansel, Elaine Smith, Jasmine Han, Matthew Owrey, Nikhil Mehta, Leah Owen-Oliner, John Hostetler, Emma Archer, Matthew Driben, Justin Do, Tamanaa Atrafi, Andrew Caleb Vanichkachom, Nicholas Wahba, Alaka Deshpande
● Faculty Mentors: Dr. Kristin DeSimone, Dr. Scott Dale
● *Primary Contact: Meryem Guler (Class of 2026), mcg116@students.jefferson.edu

Summary of Findings

Overall	C

Curriculum	C

- In 2023-2024, Sidney Kimmel Medical College (SKMC) opted to include more planetary health and climate change topics in the medical school curriculum through the Climate Change Curriculum Integration Project (CCCIP). Planetary health is primarily discussed within Phase 1 Foundations of Medicine lectures throughout the first and second year, but they are not brought up within the 3rd and 4th year curriculum.
- **Recommendations:** Further integration of planetary health concepts within the medical school curriculum, especially within the 3rd and 4th year curriculum. This can be done by adding an "Advanced Basic Sciences" elective based on climate change and medicine. Additionally, planetary health questions can be incorporated into the clinical skills curriculum.

Interdisciplinary Research	C -

- SKMC was recently listed as a member of the Global Consortium of Climate and Health Education (GCCHE). There is no office of sustainability at Thomas Jefferson University (TJU) or SKMC. There are individual faculty members pursuing interest in planetary health, but this information is not consolidated and requires individual initiative to seek out.
- **Recommendations**: Research in planetary health and sustainable healthcare can be advertised to students via the existing Scholarly Inquiry track within the medical school curriculum. The creation of a website would allow for the consolidation of all information related to TJU/SKMC's sustainability efforts.

Community Outreach and Advocacy	C +

- Thomas Jefferson University has multiple community partners with opportunities to promote planetary health. However, SKMC does not directly offer events regarding planetary health.
- **Recommendations**: Include a section on SKMC weekly update emails dedicated solely to sustainable healthcare and planetary health. Allow for students, residents, and faculty to participate in Jefferson's Sustainability Leadership Certificate program.

Support for Student-Led Initiatives	B -

- There is no formal support within TJU or SKMC for students to pursue sustainability initiatives. While there are faculty members at TJU, SKMC, and Thomas Jefferson University Hospital (TJUH) that pursue research in those fields, students need to identify these individuals and seek them out on their own. One student organization, JeffEARTH, has faculty support and helps coordinate events and research related to this topic.
- **Recommendations**: Create a website that consolidates all current information regarding planetary health research and sustainability efforts by TJU, TJUH, and SKMC.

Campus Sustainability	F+

- There is only one building within the medical school that is LEED silver certified. There are no sustainability guidelines for medical school events or food and beverages. There are insufficient guidelines for supply procurement. The medical school does offer recycling.
- **Recommendations**: There are significant improvements that can be made in regards to campus sustainability by SKMC. First would be to create a statement/plan for reducing their carbon footprint and formally designating a staff member to address these issues.

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 minimises use of healthcare services.

- **Education for Sustainable Healthcare (ESH):** is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:

    1. Describe how the environment and human health interact at different levels.

    2. Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems.

    3. Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.

- **Medical School 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 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 examples).

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

1.1. 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	Yes, the medical school has offered **one** elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does **not** have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a **lecture** on planetary health.
0	No, the medical school has **not** offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
Score explanation: *At this time, Sidney Kimmel Medical College does not provide any electives that are focused on planetary health nor include information on planetary health.*	

Curriculum: Health Effects of Climate Change

1.2. 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	This topic was covered in **elective** coursework.
0	This topic was **not** covered.
Score explanation: *In a case based learning (CBL) session during Block 3B (Pulmonary block) at SKMC, a learning objective is devoted to exploring the impact of climate change on specific health risks including asthma*	

and allergies. The learning objective states "discuss the impact of environmental factors, including climate change, on obstructive lung disease," and includes a link to an article by the Asthma and Allergy Foundation of America titled "Climate and Health." This article explains how warmer temperatures due to climate change has caused longer allergy seasons, worsening air quality, and stronger airborne allergens with more allergy symptoms. The article and learning objective in this CBL address how extreme heat due to climate change has led to increased health risks and gives specific examples of worsening asthma and allergies. Ultimately, SKMC receives a score of 2 for briefly acknowledging this question in a course outside of lecture material but still as part of the required coursework.

1.3. Does your <u>medical school</u> 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 curriculum at SKMC provides a pathology lecture to 1st year students entitled "Cell Injury and Death: The Role of the Environment". In this lecture a section devoted to climate change identifies that climate change includes a warming climate as well as increased frequency of more severe ("hot and cold, wet and dry") weather events. An accompanying note packet includes a specific example ("A recent, unusually hot and dry spell near Moscow contributed to extreme forest fires, the pollution from which is considered to have been responsible for 10,000 deaths") to illustrate the topics described in the main presentation.

During 2nd year, SKMC students are required to attend a Health Systems Science (HSS) lecture entitled "Impact on Mental Health after Disasters". This lecture includes "natural disasters" as one such type of disaster, with specific mentions of "climatological", "geophysical", "hydrological", and "meteorological" events including floods, extreme temperatures, and drought. The stages of disaster (including pre-impact, impact, and post-impact) and the human responses to each phase are well explicated, from physiological stress responses (e.g., shock/numbness, insomnia, reduced energy, irritability) to positive social responses (e.g., determination and resolve, social connectedness, altruistic helping behaviors). The lecture also discusses the burden that disaster can have on people already suffering from mental health conditions (e.g., medication shortages, exacerbation of pre-existing anxiety) and emphasizes the role of psychological first aid (PFA) in the immediate aftermath of disasters. SKMC received a 2 in this category because, although its curriculum teaches about the mental health impacts as well as some physical impacts of extreme weather events, it does not explicitly discuss the ramifications of such events on the healthcare system (as a societal structure) or even on a given hospital.

1.4. Does your <u>medical school</u> curriculum address the impact of climate change on the changing patterns of infectious diseases?	
3	This topic was explored **in depth** by the **core** curriculum.

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

Score explanation:

In SKMC's 1st year pathology lecture entitled "Cell Injury and Death: The Role of the Environment", the connection between climate change and infectious disease is briefly described. This lecture identifies the "direct effects" of climate change, including increased infectious diseases This lecture also mentions the "indirect effects" of climate change, including contaminated drinking water and thus more water-borne diseases, and an expanded range of animals and plants that carry pathogens. An accompanying notes packet provides several descriptions of "current dangers" that include references to Dengue Fever and West Nile disease as examples of "increased bacterial and other pathogen growth, stimulated by warm weather and water." SKMC receives a score of 2 in this category because there is only 1 slide dedicated to this topic in the curriculum and, although this slide states the relationships, it does not explain the pathophysiology of why such a relationship between climate change and infectious disease exists.

1.5. 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:

In SKMC's 1st year pathology lecture entitled "Cell Injury and Death: The Role of the Environment", three slides are devoted to pollution as the "largest environmental cause of disease and premature death". These slides specifically discuss the types of air particles (namely, carbon) that are inhaled and the pathophysiology of how these particles impact cellular processes (e.g., oxidative stress, impedance of fibrinolysis". Another section also notes how climate change "exacerbates pathogenicity of air pollution" and causes "increased frequency/severity of respiratory and cardiovascular events."

A separate lecture also for 1st year students with the Health System Sciences (HSS) curricular thread entitled "Introduction to Public & Population Health" by Dr. Rosemary Frasso references the Healthy People 2030 program, which is in part based on addressing Structural Determinants of Health (SDOH) that include "polluted air and water."

Additionally, in the Pulmonology block within the 1st year curriculum, there is a learning objective for students to explore the impact of environmental factors, including climate change, on obstructive lung diseases. They also provide a link to a report by the Asthma and Allergy Foundation of America detailing the effects of global warming on allergies (link).

1.6. 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:

In SKMC's 1st year pathology lecture entitled "Cell Injury and Death: The Role of the Environment", there is mention of how climate change "exacerbates pathogenicity of air pollution" and causes "increased frequency/severity of respiratory and cardiovascular events". However, this is the extent to which this connection is discussed and no further explanation is provided regarding the pathophysiology or implications of climate change on cardiovascular health. No mention is made of the relationship between heat and cardiovascular health.

SKMC receives a score of 2 because while there is a brief mention of the effects of air pollution within one lecture, there is no mention of climate change within the Cardiology block of the Phase 1 curriculum.

1.7. Does your <u>medical school</u> 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.

Score explanation:

During 2nd year, SKMC students are required to attend a Health Systems Science (HSS) lecture entitled "Impact on Mental Health after Disasters". This lecture includes "natural disasters" as one such type of disaster, with specific mentions of "climatological", "geophysical", "hydrological", and "meteorological" events including floods, extreme temperatures, and drought. The stages of disaster (including pre-impact, impact, and post-impact) and the human responses to each phase are well explicated, from physiological stress responses (e.g., shock/numbness, insomnia, reduced energy, irritability) to positive social responses (e.g., determination and resolve, social connectedness, altruistic helping behaviors). The lecture also discusses the burden that disaster can have on people already suffering from mental health conditions (e.g., medication shortages, exacerbation of pre-existing anxiety) and emphasizes the role of psychological first aid (PFA) in the immediate aftermath of disasters.

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

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

Score explanation:

In a notes packet accompanying SKMC's 1st year pathology lecture entitled "Cell Injury and Death: The Role of the Environment", there are examples of the impact of climate change on access to food sources, but lecture material does not overtly explicate this connection. The notes packet references examples of dangers related to climate change such as "decreased food production due to altered cycles of male and female flowers, droughts, floods", "contamination of water supplies because of rising ocean levels, leading to unclean water", and "decreased body size of animals used for food (e.g., fish, domestic livestock) as they adapt to warmer temperatures". SKMC receives a score of 2 for its brief mention of such associations in supplementary material of a lecture. However, it would be beneficial to emphasize this information in the primary lecture content as well.

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

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

Score explanation:

There are several lectures in the SKMC curriculum that touch upon this topic. In the 1st year lecture entitled "Racism and Microaggressions," environmental injustice is listed as part of a "culture of racism" against indigenous communities. In this same lecture, a discussion of "historically traumatized populations" highlights "events of war or environmental trauma" as examples of key events demonstrating racism.
A separate lecture entitled "Structural Racism and Health Inequities" given by Dr. Bernard Lopez notes that "structural racism influences the impact of overarching socioeconomic, cultural and environmental conditions experienced by different groups in society."
Finally, a lecture entitled "Introduction to Public and Population Health" includes environmental injustice as part of the "physical environment" component of Social Determinants of Health (SDOH); this lecture also references the Healthy People 2030 program, which includes SDOHs such as "access to nutritious foods and physical activity opportunities", and "polluted air and water".

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

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

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

Score explanation:

At Sidney Kimmel Medical College, there is no evidence that suggests any elements of the curriculum specifically addresses the unequal regional health impacts of climate change globally in depth.

In the 1st year lecture titled "GI Absorption" in the Gastrointestinal System block, there is a study question provided that includes a case of increased incidence of diarrhea in a region following a natural disaster, however the question focuses on the physiological mechanism of diarrhea rather than the global impact of natural disasters. Additionally, in the same block, there is a lecture titled "Infectious Diarrhea" that briefly mentions disparities in low- and middle-income countries, but attributes this due to "inadequate sanitation and hygiene" and does not mention regional differences due to climate change.

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

1.11. 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:

At Sidney Kimmel Medical College, in the first-year Foundations of Medicine Block 1: Introduction to the Study of Medicine, there was a lecture titled "Principles of Teratology". In the lecture, there was a learning objective related to environmental exposures, especially "Predict the potential outcomes of altered developmental processes after exposure to common therapeutic and environmental agents." In the slides and lecture, several environmental teratogens, such as chemicals (PCB, Methyl Mercury, and Dioxin) and Ionizing Radiation were noted as important teratogens.

1.12. Does your <u>medical school</u> 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:

At this time, there is no mention of human-caused environmental threats within the Sidney Kimmel Medical School curriculum.

1.13. To what extent does your <u>medical school</u> 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:

Sidney Kimmel Medical College does not cover Indigenous community knowledge and/or value systems in the context of planetary health systems in their current coursework.

1.14. Does your <u>medical school</u> 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.

Score explanation:

At Sidney Kimmel Medical College, in the Phase 1 Course, Block 2 (Hematology/Oncology): Host Defense/Blood, a lecture in the Health Systems Science thread titled "Social Determinants of Health" discusses how marginalized problems bear the burden of negative environmental exposure through the learning objective "The learners will be prepared to describe non-biomedical influences on individual and community health."

Lecture material contains discussion of Commercial Determinants of Health (CDOH) leading to air pollution and therefore negative health outcomes. In addition, the lecture discusses the effect of the "built environment" on low resourced communities, with notes about the increased pollution and toxic waste sites. In lecture, it was verbally communicated that lower resourced communities were often close to waste dumping or superfund sites.

Curriculum: Sustainability

1.15. 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.

Score explanation:

Within the 2023-2024 school year, the Office of Campus and Community Engagement (OCCE) offered an elective lecture event with a local organization called Sharing Excess and the Green Bronx Machine discussed the environmental and health co-benefits of a plant-based diet. Additionally, later in this school year, OCCE will be hosting an elective event titled "National Nutrition Month - Beyond the Table Health and Wellness Festival" where student organizations such as the Student Nutrition Awareness Council (SNAC), the Dietetics and Nutrition Student Association, and JeffEARTH will be presenting information on these topics. We are counting these as elective coursework because both events are eligible for Asano Humanities & Health Certificate credits, which is part of the Humanities curriculum of Sidney Kimmel Medical College. (link to the Asano Certificate website).

However, based on our team's research, there is no coverage of the environmental and health co-benefits of a plant-based diet within the core curriculum at SKMC. Due to this, we award SKMC 1 point in this category.

1.16. 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.

Score explanation:

Within the 1st year curriculum, there is a lecture by Dr. Scott Dale titled "Climate Change and Health" that covers this content in depth. It states that "Healthcare is responsible for 10% of total US emissions" and continues to compare the emissions of the healthcare industry to other countries. Additionally, Dr. Dale goes in depth into reasons for this trend (materials, energy, chemicals, and food) as well as methods of reducing this waste.

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

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 **anaesthetic** gases on the healthcare carbon footprint and ways to reduce anesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic 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)

Score explanation:

Throughout the Phase 1 curriculum there is an emphasis on the Choosing Wisely initiative (link).This initiative focuses on avoiding unnecessary medical tests, treatments, and procedures to prevent undue harm to patients. However, there is no emphasis on the environmental co-benefits of this initiative throughout the SKMC curriculum or the Choosing Wisely website.

Additionally, there is mention of the effects of over-prescribing of medications such as antibiotics through the Choosing Wisely initiative. It also advocates for deprescribing when possible. However, there is no mention of the environmental impacts/benefits of either of these topics.

In the Phase 1 lecture "Pharmacology of General and Local Anesthetics" there is mention of inhaled anesthetics contributing to air contamination, global warming, and the ozone depletion. However, there is no mention of ways to reduce this effect or sustainable alternatives to inhaled anesthetics.

There is no mention of the environmental impacts of inhaler usage and the sustainable switch to dry inhaled powders instead of metered doses. JeffEARTH, a student-led organization at SKMC (link) focused on the intersection between medicine and healthcare, advocated for the inclusion of a learning objective on this topic within the "Obstructive Lung Disease Therapeutics" pharmacology lecture in the Pulmonology block. However, this has yet to be approved or incorporated.

In the Phase 1 lecture "Climate Change and Health" by Dr. Scott Dale, there is an in-depth discussion of waste management in healthcare systems and provides examples of how to combat this (i.e. avoiding single use items, renewable power, environmentally preferred purchasing). The lecturer also provides an example of a carbon-neutral health system (Kaiser Permanente) and recommended further reading on this topic (Greening Health Care by Kathy Gerwig). Additionally, there is emphasis on how surgical/procedural specialties significantly contribute to waste in hospital systems. The lecturer provides an example of recycling the blue wrap for sterile items meant for use in the OR, rather than throwing them away.

Curriculum: Clinical Applications

1.18. In training for patient encounters, does your <u>medical school's</u> curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
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
Score explanation: *In SKMC's current curriculum, there are no outlines on how to speak about the effects on health that climate change has on health. Although there was a lecture that spoke about identifying adverse outcomes that are a result of climate change, it does not efficiently speak about approaching a clinical conversation. SKMC receives a score of 0 for this category for this reason.*	

1.19. In training for patient encounters, does your <u>medical school's</u> 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: *Included in the Clinical Skill curriculum, a core portion of the Phase I medical curriculum at Sidney Kimmel Medical College, students are trained to take a full history. This includes asking about socioeconomic factors (home environment), occupation, social determinants of health, and recent travel. These aim to identify environmental exposure history.* *However, the Clinical Skill curriculum does not teach students to take a history relevant to environmental exposures due to climate change-related natural disasters (wildfires, air pollution, flooding, etc), resulting in SKMC receiving a score of 2 in this category.*	

Curriculum: Administrative Support for Planetary Health

1.20. Is your <u>medical school</u> 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:

In SKMC's 2023-2024 year, JeffEARTH, a student organization, introduced planetary health and climate change topics into the curriculum through the Climate Change Curriculum Integration Project (CCCIP). This was approved by the faculty team and implemented into the class of 2027's curriculum. Through this change, a total of 19 learning objectives were changed to incorporate topics of environmental health, environmental justice, and climate change.

One learning objective in a case-based learning session discussed the impact of climate change on obstructive lung disease. Furthermore, this object was further supported by a research article, which helped to introduce the topic to students.

Although these changes indicate progress in the curriculum, more could be done to discuss the health impacts of climate change/environmental health into the Phase 1 curriculum, thus resulting in a score of 2 for SKMC.

1.21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?	
6	Planetary health/ESH topics are **well integrated** into the core medical school curriculum.
4	**Some** planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in **(a) standalone lecture(s).**
0	There is **minimal/no** education for sustainable healthcare.

Score explanation:

As stated above, there have been some changes within the SKMC curriculum to further incorporate climate change topics into the medical school curriculum. In the 2023-24 school year, JeffEARTH, a student organization, introduced planetary health and climate change topics into the curriculum through the Climate Change Curriculum Integration Project (CCCIP). This was approved by the faculty team and implemented into the class of 2027's curriculum. Through this change, a total of 19 learning objectives were changed to incorporate topics of environmental health, environmental justice, and climate change.

In the first year of the Phase 1 curriculum, the Pulmonology block included a learning objective that helped to address the impacts of climate change on obstructive lung disease. Earlier in the year, in a lecture titled, "Cell Injury and Death - The Role of the Environment", the longitudinal incorporation of climate change was made into the curriculum. Due to the new initiatives made by SKMC, a score of 4 was warranted. This score was received because although this new learning objective was a positive sign of progress, more longitudinal approaches to ESH and planetary health could be introduced.

1.22. Does your medical school employ a member of faculty to specifically oversee and take responsibility for the incorporation of planetary health and sustainable healthcare as a theme throughout the course?	
1	**Yes,** the **medical school** has a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare
0	**No**, the **medical school** does **not** have a specific faculty/staff member responsible for overseeing curricular integration of planetary health and sustainable healthcare.
Score explanation: *Sidney Kimmel Medical College does not have any specific faculty or staff members responsible for the integration of planetary health and sustainable healthcare. Changes made in the past year through the Climate Change Curriculum Integration Project (CCCIP) were implemented through the entire Phase I curriculum team. When asked, the faculty curriculum team deemed it unlikely for Sidney Kimmel Medical College to appoint a single faculty position for this purpose.*	

Section Total (36 out of 72)	**50%**

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.*

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
3	Yes, there are faculty members at the **medical school** who have a **primary r**esearch 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.

Score explanation:.

Sidney Kimmel Medical College does have some faculty members with an interest in sustainability research (i.e. Dr. Scott Dale, whose name is included in this document with his permission), but planetary health and/or healthcare sustainability are not their primary research foci.

Jefferson University as a whole has researchers performing projects that revolve around the health of the planet, adjacent to healthcare but not directly focused on healthcare sustainability. There are ongoing projects that investigate the effects that climate change is having on healthcare but not on sustainable practices. The planetary health research at the institution focuses on improving sustainability in the fashion industry and reducing impact of human-caused spread of invasive species in the Schuylkill River Valley (link). The undergraduate architectural program also developed a plan to curb climate change-associated rising tides in Venice, Italy (link).

Recommendations: Provide a list of researchers at Thomas Jefferson University, SKMC, or Thomas Jefferson University Hospital that are involved in sustainability research. This list can then be accessed by students to search for mentors in this field of research. Ideally, it would be beneficial to create a research team of providers from various specialties whose primary research focus can be planetary health and sustainability practices across their specialties.

2.2. 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	There is an **Occupational and Environmental Health department**, but no interdisciplinary department or institute for planetary health research.
0	There is **no** dedicated department or institute.

Score explanation:

The Department of Sustainable Environments, under the Sustainability, Energy Efficiency and Design Center (SEED) at Thomas Jefferson University (link) aims to "improve lives through a holistic approach to sustainable design, emphasizing economic prosperity, environmental quality, and community well-being." The Department of Sustainable Environment utilizes an interdisciplinary approach in both their research and degree programs, with the "Nexus Learning approach [using a] ... collaborative, real-world projects across all disciplines in the college." Specific sustainability research is done in research centers such as the Institute for Smart & Healthy Cities and the Lab for Urban & Social Innovation.

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

Based on our team's research, SKMC does not provide a means for community members to give feedback or offer input on research topics being addressed by the medical faculty/students. Additionally, there are no formal current efforts by SKMC to provide this opportunity for feedback from community members. Through internal discussions, it has been brought up that JeffHope (student-led community clinics) does some research with the patient demographics that attend their clinics and discussions with these patients does help inform medical students on what research topics could be explored. However, none of the currently researched topics with JeffHope focus on climate change or environmental health.

<u>Recommendations</u>: In order for this to be a goal of SKMC, this requires more transparency from the medical school to the community on what research topics are being addressed. It may be beneficial to provide this list to the public on the SKMC website, rather than just on the Canvas website. Additionally, as mentioned in other explanations throughout the Interdisciplinary Research topic, it

would be beneficial to provide a consolidated list of medical researchers focused on Planetary Health and sustainability. Additionally, SKMC can host Town Halls during which community members can comment on what occurs within the university from both a community and research standpoint.

2.4. 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:

Thomas Jefferson University and Sidney Kimmel Medical College lack an office of sustainability or any website that centralizes campus resources regarding the environment or sustainability.

Recommendations: Create a website or Canvas page for Sidney Kimmel Medical College focused on their sustainability efforts so these are more transparent for current and prospective students.

2.5. 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.

Score explanation: Insert explanation here.

Sidney Kimmel Medical College currently does not host any conferences dedicated to planetary health. There is a yearly conference titled the JeffX Global Health Conference (link to an article about the conference), with the latest conference being in 2023, that has some standalone lectures about

planetary health and the environment in relation to global health. However, since the focus of this conference is more on global health rather than planetary health, we did not award SKMC points for this.

Recommendations: Thomas Jefferson University offers many standalone lectures and events with topics related to planetary health that could be consolidated into one annual or biannual conference.

2.6. Is your medical school 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

Score explanation:

As of 2023, Sidney Kimmel Medical College (SKMC) at Thomas Jefferson University was listed as a member institution of the Global Consortium of Climate and Health Education (GCCHE) among the U.S. medical schools. This membership shows SKMC's commitment to providing increased climate change and sustainability topics within the medical school curriculum as one of the 298 national and international organizations on this list. They can be viewed on the list of members here.

Recommendation: Include more information about their efforts as part of the GCCHE on the SKMC website. When you click on the link to SKMC on the GCCHE member list, there's no mention of this membership or their work as part of this program.

Section Total (7 out of 17)	**41%**

Back to Summary Page here

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.*

3.1. 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.

Score explanation:

In the "Bridging the Gaps (BTG)" program at Sidney Kimmel Medical College, students are paid to engage in a variety of service opportunities for 7 weeks in the summer after their first year of medical school. A possible placement for this program is at Urban Tree Connection which is an organization whose mission is to "build a neighborhood-rooted food and land system through community leadership development based strategies in West Philadelphia". Another possible placement is Sankofa Community Farm at Bartram's Garden, a group whose mission is "creating food sovereignty, promoting community health and supporting youth development. Using an African focus for their work, the farm relies on local leadership to foster connections with the land, increase access to healthy foods and build a sense of belonging for all who walk through its doors." However, no Jefferson students were involved in this particular placement in the summer of 2023.

While the above satisfies this 3 points in this category, our team would like to highlight the below initiatives that could be relevant to this category as well:
First, the "Fresh Rx: Go for the Greens" program is a free weekly market held year-round at Jefferson Einstein Hospital. This initiative targets food insecurity with fresh produce from a volunteer-maintained garden in Norristown.
Additionally, the "Park in a Truck" program was launched by Jefferson's Landscape Architecture program in the College of Architecture and the Built Environment. This program helps communities convert empty lots in Philadelphia into parks. TJUH works with city officials, local developers, and community organizers to identify potential spaces, raise money, and "allow those who live nearby to actually construct and maintain a park of their own.

3.2. Does your <u>medical school</u> 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:

Thomas Jefferson University's "Institute for Smart & Healthy Cities" is designed to support the "research, innovation, and education that is happening across the university focusing on transforming urban environments into healthy cities." According to the website page describing this initiative, part of the mission is to "educate the public about the complex interrelationship of climate change." An annual symposium has been held for the past three years, however the symposium is intended as a "platform for industry experts" and not necessarily geared to, or even accessible to, the greater public. The medical school does not assist with organizing these events.

Additionally, there are no official events offered by the medical school that focus on planetary health, whether geared towards community members or students. There are student-led initiatives and events that focus on these topics, but since they are not events initiated by the medical school faculty/staff, we are unable to award a point to SKMC for this category.

3.3. Does your <u>medical school</u> 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:

SKMC monthly newsletter emails do not regularly contain information about sustainable healthcare in each issue. However, certain weekly SKMC update emails do contain scientific or news articles about sustainability and climate change.

<u>Recommendation</u>: Create a section of the weekly SKMC update emails dedicated solely to sustainable healthcare and planetary health news (whether directly related to SKMC or not).

3.4. Does the <u>institution</u> or <u>main affiliated hospital trust</u> 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:

On October 23, 2023, the Internal Medicine Department at TJUH offered a Grand Rounds presentation titled "Too Hot To Handle: Climate Change and Health." (link) Since this was a one-time lecture, we award SKMC 1 point in this category.

On review of Jefferson's CME listings on their CME website (link), there are no upcoming events or courses relating to environmental or planetary health, climate change, or environmental impacts on health. There were no CME offerings relating to these topics during 2023, either. Outside of the internal medicine grand rounds listed above, we cannot verify whether other non-CME lectures were provided for residents or specific departments given that programs and departments control their own didactic schedule. These lectures are typically board material review sessions, morbidity and mortality conferences, and grand rounds lectures. The topic of climate change was likely broached sporadically, but it was not accessible to individuals outside of that specific program or department.

Recommendations: Allow for current students, faculty, alumni, and residents to be able to complete the existing Jefferson Sustainability Leadership Certificate program (link). Alternatively, they could advertise existing elective courses offered by other institutions (i.e. those offered by the United Nations Climate Change E-Learn website (link)).

3.5. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about environmental health exposures?	
2	Yes, the **medical school** or **all affiliated hospitals** have accessible educational materials for patients.
1	**Some** affiliated hospitals have accessible educational materials for patients.
0	**No** affiliated medical centres have accessible educational materials for patients.

Score explanation:

Patients have access to the Jefferson Medical Library through Elsevier to search keywords and find informational documents and videos. This can be accessed through the Jefferson MyHealth app or website by going to the Menu, Resources, and then clicking "Search Medical Library." An example of a search for pesticides brings up the following article (link). This will also bring up other articles regarding secondhand smoke, radon, lead poisoning, agriculture related injuries, chemical burns, and more. However, there are no general articles regarding environmental exposure or environmental toxins, which could be a helpful addition to this resource. It would be beneficial if this resource was

made available on the Jefferson Health website and accessible by patients outside of the Jefferson Health system. *All patients of Jefferson Health and affiliate hospitals should have access to the above resource using the MyHealth app or website.* *Additionally, during specific natural disaster events, topics such as smog/pollution/wildfire smoke are discussed with patients, but our team was unable to find specific educational material created for patients on these topics.*

3.6. Does your medical school or its affiliated teaching hospitals have accessible educational materials for patients about the health impacts of climate change?	
2	Yes, the **medical school** or **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: *Based on our team's research, Thomas Jefferson University Hospital does not provide information to patients about the health impacts of climate change.* *Patients have access to the Jefferson Medical Library through Elsevier to search keywords and find informational documents and videos. This can be accessed through the Jefferson MyHealth app or website by going to the Menu, Resources, and then clicking "Search Medical Library." An example of a search for pesticides brings up the following article (link). This will also bring up other articles regarding secondhand smoke, radon, lead poisoning, agriculture related injuries, chemical burns, and more. However, there are no articles available on this website about the health impacts of climate change or environmental health.*	

Section Total (8 out of 14)	**57%**

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.*

4.1. 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** *either* offers grants for students to enact sustainability initiatives/QI projects *or* 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.
Score explanation: *Currently, there is no evidence that TJU as an institution actively and specifically encourages sustainability initiatives/QI projects. While there is a portion of the Phase 1 curriculum titled "Scholarly Inquiry," which requires students to start and complete a research project within their first 2 years, there is no information available on this course's website about sustainability QI projects or researchers partaking in such research to work with.* *While Jefferson directs users to grants under the EPA, the institution themselves does not offer any financial incentive or specific sustainability QI projects.* *Moreover, it does not appear to offer any environmentally proactive rotations and electives from the residency programs it offers. Upon combing through all descriptions of Jefferson offered residencies and their respective educational offerings, environmentally based opportunities are either extremely hidden or simply not there:* *https://www.jeffersonhealth.org/about-us/academic-programs/graduate-medical-education/residency-programs*	

4.2. 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.

Score explanation:

At SKMC, there are opportunities for medical students to perform research related to planetary health topics through independent research or Scholarly Inquiry, particularly through certain tracks such as Population Health. However, these opportunities are not strictly environmentally-focused and require student initiative to synthesize and advocate their own sustainability QI project. Furthermore, there is no track specifically delineated for planetary health and/or sustainable healthcare.

While Jefferson directs users to grants under the EPA, the institution does not offer any financial incentive or incentives to specific sustainability QI projects.

Looking more broadly at TJU as an institution, there does appear to be an Infectious Diseases and Environmental Medicine Division under the Department of Medicine. However, review of their recent publications reveals a distinct lack of environmental medicine projects. Moreover, they offer a fellowship for Infectious Diseases but not for Environmental Medicine

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

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

Score explanation:.

Sidney Kimmel Medical College does not have a medical school specific website with information related to planetary health and/or sustainable healthcare activities and mentors within the medical school. However, there is a Thomas Jefferson University Department of Sustainable Environments website (link) that provides faculty, research and community engagement opportunities, and information on graduate degrees that all speak about building sustainable buildings, cities, and landscapes.

There is also a website from the Jefferson Institute for Smart and Healthy Cities (link) which is a collaboration between College of Architecture, College of Population Health, and Kanbar College of Design, Engineering, and Commerce that provides research opportunities, grants, and education on building healthy cities in urban environments in the face of climate change.

Recommendations: On the Scholarly Inquiry page in Canvas, there can be a web page that lists faculty mentors focused on climate change as well as links to Jefferson Institute for Smart and Healthy Cities

and Jefferson's College of Architecture to connect medical students to other aspects in the University that work on sustainable projects.

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

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

Score explanation:

Sidney Kimmel Medical College has one student organization with faculty support called JeffEARTH dedicated to planetary health/sustainability in healthcare. JeffEARTH focuses on educational events and service opportunities to promote sustainability and cost-effective methods in both healthcare and in students' daily lives.

<u>Recommendations</u>: There can be more involvement of sustainability efforts in addressing healthcare waste and management and more work in connecting healthcare workers (i.e., physicians, medical students, nursing students, etc.) with sustainable initiatives and events at the Thomas Jefferson University Hospital.

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

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

Score explanation:

Currently at SKMC, a student liaison team for curricular feedback is present, however, the team is not specific for sustainability best practices. Furthermore, there is no dedicated liaison group that is dedicated to sustainability, which has warranted a score of 1 for SKMC.

<u>Recommendation</u>: The appointment of a student liaison that is responsible for sustainability practices and can help influence future decision making on campus.

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

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:

Currently, SKMC has a multitude of health programs/initiatives that all students are encouraged to participate in.

In terms of agricultural and sustainable food systems projects, Jefferson's landscape architecture program (link) has developed a new way of approaching agriculture and sustainability in education by using innovative tools. Through these tools, students have been able to think across multiple perspectives, which helps address inequalities in agriculture and sustainable food systems. Furthermore, there is the Student Nutritional Awareness Council (SNAC), that raises awareness of nutrition topics to Jefferson students. Lastly, there is a current vertical garden initiative with the Office of Campus and Community Engagement (OCCE, link) and student organization JeffEARTH to help learn about sustainability in urban environments.

Throughout the year, there are panels on planetary health during which lecturers come to speak to students on campus. On January 31, 2023, Britt Wray, an author and broadcaster on the planetary health crisis held a panel that discussed her novel and her research on the topic of climate change and its psychological effects (link). JeffEARTH also had a similar lecture series in the 2023-2024 school year where professionals spoke about environmental health and the impacts of climate change.

JeffEARTH, a student organization, hosted a lecture series this year that introduced topics from a local environmental justice community. Stephen Ritz, the creator of the Green Bronx Machine (link), spoke to Jefferson students, which also paired with the Vertical Garden Initiative. There was also a lecture by Dr. Scott Dale, which spoke about climate change and what we can do as students to combat these issues. Additionally, an OBGYN from UCSF spoke to students about sustainable practices in medicine and in their specialty. Lastly, a researcher from Kaiser Permanente spoke at the JeffEARTH lecture series that spoke about the grave impacts of climate change on patients.

There were unfortunately no cultural arts events related to planetary health at Jefferson, not warranting a point in this category.

At Jefferson, volunteer opportunities about building resilience to environmental impacts were directed to students. Through Jefferson's landscape architecture program, high-quality green spaces were built in under-resourced neighborhoods that are the most impacted by environmental impacts like heat

islands. By reshaping empty lots, Thomas Jefferson University has helped to impact Philadelphia's urban landscape by planting trees and other plants that help address the anthropogenic environmental impacts that disadvantaged communities face. Furthermore, the vertical garden initiative has collaborated with JeffEARTH and OCCE that has helped work with local middle schools by providing vertical gardens as a way to learn about biology while simultaneously teaching about sustainable ways of living. Excess produce from these vertical gardens are donated to local food banks/community organizations. Also, JeffEARTH partakes in community cleanup events every Earth Day. Furthermore, another student organization named Community Action Coalition hosted an event where they created DIY air filters for those living in shelters, as well as hosting events that focused on community action. Lastly, the student organization, SNAC, hosted several experts in the field of nutrition throughout the year to speak about resilience and environmental impacts.

Through Jefferson student organizations like Team Recreation and Expedition Club (TREC), students are offered opportunities to participate in weekend hikes, skiing trips, rock climbing, and other wilderness activities throughout the year. Furthermore, the Wilderness and Disaster Medicine Society at Jefferson hosts an annual conference that provides outdoor trips to train students in wilderness emergency medicine. Lastly, Adventure Club through Jefferson's Recreation and Fitness center, hosts outdoors events that promote student activity and engagement.

Information for JeffEarth, SNAC, TREC, and other student organizations at Jefferson can be found here.

Section Total (9 out of 15)	**60%**

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.*

5.1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is **at least one designated staff member** for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but **no specific staff member** in charge of medical school and/or hospital sustainability.
1	There are **no salaried sustainability staff,** but there is a sustainability task force or committee
0	There are **no** staff members **or** task force responsible for overseeing campus sustainability
Score explanation: *At this time, there are no official task forces responsible for overseeing campus sustainability at Sidney Kimmel Medical College or Thomas Jefferson University. There is one specific faculty member that has been appointed as the head of the Jefferson Sustainability Committee, but this program initiative is still underway and has not yet been officially implemented by the medical school or institution.*	

5.2. How ambitious is your institution/medical school 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
Score explanation: There is carbon-neutral engineering being taught in the Thomas Jefferson University Institute of Smart and Healthy Cities (link), with student project proposals on ways campus could become carbon-neutral, but the University has not made claims to pursue these projects.	

Generally, no goals of being carbon neutral have been announced. There have been internal discussions of a pledge for carbon neutrality by 2050, but this has yet to be formalized. Additionally, Jefferson did not participate in the 2023 Health Sector Climate Pledge from the White House/HSS (link to participating organizations)

5.3. 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:

There is no current sustainability program at Thomas Jefferson University. It has been made aware to our team members that such a program is under development and they are pursuing a Joint Commission Sustainable Healthcare Certification, which focuses on reducing greenhouse gas emissions from three key sources. Thomas Jefferson University's East Falls Campus purchases green-e Renewable Energy Certificates (RECs) as part of the American College & University Presidents' Climate Commitment (ACUPCC) agreement. However, neither the East Falls Campus nor the Center City campus generate renewable energy. Additionally, the Center City Campus and the Thomas Jefferson University Hospital do not procure green-e RECs. Due to this, we awarded SKMC a score of 0 in this category.

5.4. 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:

Based on our team's research, across the Jefferson enterprise there are 7 LEED certified buildings. Within the medical school, there is 1 LEED silver certified building (901 Walnut St). While most of the older buildings within the medical school campus have been renovated to some degree, there are no published specifications online on whether or not these renovations improved sustainability.

Additionally, we were unable to find information about whether or not sustainability was a factor considered in the construction of new buildings for the medical school or institution at large.

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

Score explanation:

Thomas Jefferson University advertises public transportation options on its website, but does not offer free passes for students. Due to being in a city, almost all students walk or bike to on-campus locations. There are some bike racks stationed throughout campus for commuters.

For 3rd and 4th years, transportation to most clinical sites requires the use of a car and it is emphasized during orientation students will require access to their own car. For students with special circumstances (i.e. children at home, lack of valid driver's license, etc), Sidney Kimmel Medical College offers "Public Transit Restrictions" so individuals will not require the use of a car for clinical rotations and instead be placed at locations accessible by public transportation. However, for those on the Public Transit Restriction, there is no financial assistance with public transportation fees. Of note, the Phase 2 staff has emphasized to students that the "lack of a car" or the inability to financially afford a car are not viable excuses to obtain the Public Transit Restriction. SKMC also does not assist with carpooling options – in the past students have put this together themselves.

There is one Jefferson-provided shuttle offered to two sites (Methodist, Navy Yard) that are also accessible by public transportation. No other locations offer this option.

Recommendations: Provide SEPTA Key Advantage UPass for students who apply - at the minimum for 3rd and 4th year students who are in rotations, but ideally 1st and 2nd year students as well. Provide a formal carpool list for 3rd years on rotations with some sort of financial incentive (i.e. Visa card to pay for some of the gas on a monthly basis).

5.6. 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	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.

Score explanation:

Thomas Jefferson University and Sidney Kimmel Medical College has a program that recycles all aluminum, glass, paper, and plastic products. They also bale their cardboard for collection. There are slim Jim blue recycling containers throughout the University for the students and staff so they can discard their recycling with small fact sheets on the recycling bins that tell you what to recycle. Similarly, the Waste Management at Center City and East Falls campuses have active recycling programs through their vendors. The Thomas Jefferson University offices in Scott Memorial Library also have receptacles for both trash and recycling. There is no organics recycling program or compost program at TJUH or Sidney Kimmel Medical College.

Recommendations: Making sure there is a recycling receptacle next to each trash can in the buildings of TJUH and Sidney Kimmel Medical College to make sure students and faculty are aware of recycling options. Additionally, students and faculty should be educated about what items are recyclable based on city requirements, which can be done by posting diagrams near all recycling containers. Possible implementation of a composting program at TJUH or Sidney Kimmel Medical College.

5.7. 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 a**dequate s**ustainability 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.

Score explanation:

At the Thomas Jefferson University East Falls campus, they utilize a vendor called Parkhurst, and they strive to use locally sourced food. This includes plant-based and vegan options and using more recyclable take-out containers. However, at the Thomas Jefferson University Center City campus where Sidney Kimmel Medical College is housed, the University does not have its own food service. The Thomas Jefferson University Hospital's cafeteria utilizes Aramark, and the Thomas Jefferson University uses 3 to 4 different vendors for catering for different campus events depending on event type and menu needed. However, there is no information regarding sustainability guidelines for food and beverages at the Sidney Kimmel Medical College despite reaching out to different school provosts, environmental management, and other leaders in food management and food delivery in the medical

school system. There is also no website or other accessible information for students to learn about sustainability guidelines for food or beverages on the campus.

Recommendations: At Sidney Kimmel Medical College, there can be guidelines for food and beverage options at campus events such as locally grown, meat restrictions, and plant-based options and which vendors to use. At the Thomas Jefferson University Hospital, there can be guidelines for food and beverage options in the hospital for hospital workers and patients that focus on locally grown, meat restrictions, and plant-based options. There should also be guidelines on the containers used for food and beverages and utilizing recyclables instead of Styrofoam plates/containers/cups. There should also be clearly labeled trash and recycling containers with instructions on what to recycle in the cafeteria hospital.

5.8. Does the medical school or 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	There are sustainability guidelines for supply procurement, but they are **insufficient or optional.** The medical school is **not engaged** in efforts to increase sustainability of procurement.
0	There are **no** sustainability guidelines for supply procurement.

Score explanation:

Thomas Jefferson University and Sidney Kimmel Medical College purchase supplies through Premier, an organization that applies environmental impact criteria when selecting medical supply contracts. Jefferson uses many of these contracts. Jefferson purchases many reusable supplies, such as cath lab supplies, DVT sleeves, blades/burrs, surgical energy devices, and nursing storage bins. They use water filtration/coolers instead of purchasing plastic water bottles. They use Service Line Analytics tools to identify supplies that are often wasted in operating rooms. They have a supply standardization program across the entire Jefferson enterprise to consolidate vendors and distributors in order to decrease truckloads delivered to Jefferson. They have started a program to replace all pod/packet coffee machines with bean to cup machines. The Energy Services department is currently pursuing Joint Commission Sustainable Healthcare Certification. The Supply Chain department is not pursuing any formal certification or guidelines, but they have many independent efforts as outlined above.

5.9. 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: *Our team was unable to find any information about incentives for events hosted at Sidney Kimmel Medical College to promote sustainability. Currently there are no sustainability criteria or guidelines for events hosted by the medical school. We did speak with staff within the Office of Student Life and Engagement at Thomas Jefferson University, who confirmed there are no current sustainability guidelines for student organizations or events under their department. However, they are conscious of reusing resources to avoid unnecessary waste and are open to implementing guidelines for the upcoming 2023-2024 school year.*

5.10. 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: *In the "Guide to Laboratory Safety at Thomas Jefferson University" (link) there are guidelines on ways to minimize hazardous waste thus making the lab space more environmentally sustainable. The guide reveals Thomas Jefferson University's moral obligation to "minimize waste volume generated by his/her laboratory," and includes a variety of methods on how to accomplish this waste minimization. Overall, this guideline on how to make the lab space more environmentally friendly earns 1 point. However, there are no existing programs or initiatives by Thomas Jefferson University to make these spaces more environmentally sustainable.*	

5.11. 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: *As of 2021, Thomas Jefferson University reported the value of endowment funds as $1.533 billion, which was a 62.9% increase within that fiscal year. When searching EDGAR on the U.S. Securities and*	

Exchange Commission website (link), there are no publicly reported investments for Thomas Jefferson University or Sidney Kimmel Medical College found within the last 20 years. On the Form 990 submitted to the IRS for the fiscal year ending in June 2022, Thomas Jefferson University listed its total investment income as $19,436,848 (link). Within this amount, $587,172 was listed as " unrelated business income" under Form 990-T. The most recent 990-T form that our team was able to find on the IRS website was for the fiscal year ending in June 2022, which did not list any specific investments or private equity funds made by the institution.

Thomas Jefferson University
Notes to Consolidated Financial Statements
June 30, 2022 and 2021

6. INVESTMENTS

Investments are presented in the consolidated balance sheets under the following classifications (in thousands):

	2022	2021
Short-term investments	$1,350,713	$2,531,594
Assets whose use is limited, current	27,878	737
Long-term investments	2,725,639	1,699,470
Assets whose use is limited, noncurrent	375,694	85,630
	$4,479,924	$4,317,431

A summary of investments at June 30, 2022 and 2021 is as follows (in thousands):

	2022	2021
Cash equivalents	$337,305	$157,044
Equity securities	69,196	21,159
Fixed income securities	437,312	597,004
Funds:		
Global equity	1,481,296	1,570,316
Fixed income	1,142,349	1,070,370
Real estate	135,379	137,356
Other mutual funds	13,086	34,481
Private equity	475,402	324,941
Real estate	2,257	3,309
Hedge funds	101,565	102,255
External trusts	170,202	145,052
Investments subject to equity method and other	114,575	154,144
	$4,479,924	$4,317,431

As of 2022, $475,402 of the university's investments were towards private equity, and $101,565 was towards hedge funds based on the above report (link). However, there is no public information on whether any of these investments are towards fossil fuel companies.

Based on our team's research, Jefferson is not listed on ExxonMobil, Chevron, or Shell's list of philanthropy recipients.

<u>Recommendations:</u> More transparency regarding investments by the institution. Make this information publicly available.

Section Total (5 out of 32)	**16%**

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 Sidney Kimmel Medical College at Thomas Jefferson University
The following table presents the individual section grades and overall institutional grade for the Sidney Kimmel Medical College at Thomas Jefferson University on this medical-school-specific Planetary Health Report Card.

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	(36/72) x 100 = 50%	C
Interdisciplinary Research (17.5%)	(7/17) x 100 = 41.18%	C -
Community Outreach and Advocacy (17.5%)	(8/14) x 100 = 57.14%	C +
Support for Student-led Planetary Health Initiatives (17.5%)	(9/15) x 100= 60.00%	B -
Campus Sustainability (17.5%)	(5/32) x 100 = 15.63%	F+
Institutional Grade	**(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = 45.44%**	**C**