



Planetary Health Report Card:

VCU School of Medicine



VCUHealth

VCU School of Medicine

2020-2021 Contributing Team:

- Students: Lillian Singer, Genevieve Gilson, Danny Walden, Robert Scott
- Faculty Mentors: Dr. Michael Donnenberg, M.D.
- Primary Contact: Danny Walden and Robert Scott, ms4sfvcu@gmail.com

Summary of Findings

Curriculum	F
<ul style="list-style-type: none"> • The pre-clinical curriculum at VCU includes sporadic references to climate change where it affects such discrete topics as vector-borne diseases, asthma, and social justice. The clinical curriculum offers neither elective nor required learning about planetary health. • Curricular administration needs to take action by identifying the impacts of planetary health and mandating that that material be included in learning objectives and lecture material. The clinical curriculum should offer an elective. 	
Interdisciplinary Research	D
<ul style="list-style-type: none"> • VCU’s Center for Environmental Studies includes several researchers and labs that study various aspects of climate change, but none are associated with the medical school or study human health as it relates to the environment. 	
Community Outreach and Advocacy	D
<ul style="list-style-type: none"> • VCU’s Office of Sustainability partners with local organizations to plant community gardens and alleviate urban heat islands and associated heat-related illness, especially in Richmond’s minority communities. The medical school is not involved in these efforts. • Until the School of Medicine can build community partnerships based in environmental health, it should aim to build off of the efforts by the Office of Sustainability by providing information about local events, opportunities for volunteering and education, and support for taking part in these efforts (financial or otherwise). A hub of information, be it a website, newsletter, or forum, could provide opportunities specific to medical students and faculty. 	
Support for Student-Led Initiatives	C
<ul style="list-style-type: none"> • Most student-led initiatives have come from VCU’s main campus, but faculty have been supportive of a new MS4SF chapter at the medical school. Further support would involve the approval of a student-designed environmental elective. 	
Sustainability	D+
<ul style="list-style-type: none"> • VCU School of Medicine encourages students to take part in public transit, offers recycling, and constructs new buildings in concordance with LEED standards. However, as there is no specific position overseeing sustainability at the medical school or the hospital, much remains to be done in making the health system more sustainable. VCU overall has committed to zero greenhouse gas emissions by 2050, but this plan does not include the medical school. • A good start would be creating the position of Sustainability Officer, either for the medical school or, ideally, the entire health system. This person could work towards meaningful change involving renewable energy medical waste. The school can also take steps to improve student and faculty education regarding sustainable actions, especially around food and beverage containers. 	

Statement of Purpose

Planetary health is human health.

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

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

With the purpose of increasing planetary health awareness and accountability among medical schools, we have created a 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 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.

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 change. Therefore, it is critical that medical students are trained to understand the health effects of climate change, as well as planetary health more broadly. Topics like the changing geography of vector-borne diseases, the health consequences of air pollution, environmental health inequities, and disaster response principles must be part of every medical school's core curriculum.

Curriculum: General

1. Did your medical school offer elective courses 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.
<i>Score explanation: VCU School of Medicine does not offer any elective on planetary health or relating to education for sustainable healthcare.</i>	

Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme temperature health risks and climate change, as well as the socioeconomic/racial disparities in extreme heat exposure?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation: VCU does not address extreme temperature health risks or the associated inequity in the medical school curriculum.</i>	

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

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

Score explanation: The impacts of extreme weather events are not covered in the VCU School of Medicine curriculum.

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

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

Score explanation: The changing patterns of Malaria & Lyme Disease (as well as other tick-borne diseases) were briefly mentioned in VCU's M1 Infectious Disease course. Dr. Donowitz also noted the increased prevalence of Vibrio-related illness in the Chesapeake Bay area related to climate change, as well as the favored pathogenicity and risk of exposure to Naegleria fowleri.

5. Does your medical school curriculum address the cardiorespiratory health effects of climate change, including 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: The effects of climate change & air pollution on asthma rates are mentioned in the M2 Pulmonary course. The content of air pollutants are described in the context of environmental health risks during the Foundations of Disease course, but not discussed in the larger context of climate change. This

one-hour lecture represents an area that could easily be reworked to better reflect the role of air pollution in planetary and climate health.

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

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

Score explanation: VCU's curriculum does not cover the mental health or neuropsychological effects of climate change.

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

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

Score explanation: The topic of food deserts and nutritional security was briefly mentioned during the MI Patient, Physician, & Society course in the context of social determinants of health, however not relating to climate change.

8. 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, 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: VCU's curriculum does not address the inequities associated with climate change and health.

9. Does your medical school curriculum address the unequal 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: VCU's curriculum does not address this topic.

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

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

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

Score explanation: Aside from the topic of teratogenic agents, VCU's current curriculum does not mention the reproductive health effects of industry-related environmental toxins.

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

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

Score explanation: The VCU School of Medicine attempts to address the public health disparities in the surrounding communities, however there is no mention of human-caused environmental threats to the greater Richmond area in the curriculum.

12. Does your medical school curriculum address the unique climate and environmental health challenges that have impacted and are impacting Indigenous communities?

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: This topic is not covered in VCU's curriculum.

13. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, 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: This topic is not covered in VCU's curriculum.

Curriculum: Sustainability

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

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

Score explanation: This topic is not covered in VCU's curriculum.

15. Does your medical school curriculum highlight the waste generated by the healthcare system and identify ways to advocate for and implement sustainable best practices in health care?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation: The issue of waste generated by the healthcare system is not addressed in VCU's curriculum.</i>	

Curriculum: Clinical Applications

16. In training for patient encounters, does your medical school's curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
<i>Score explanation: The health effects of climate change are not addressed in any significant way in VCU's current curriculum, and as a result the students are not introduced to strategies for talking to patients about the health impacts.</i>	

17. In training for patient encounters, does your medical school's curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.
<i>Score explanation: VCU's Practice of Clinical Medicine course teaches students how to take a full social history during a patient encounter, which includes inquiring about environmental exposures such as lead paint and carbon monoxide. Additionally, the Pulmonary course addresses the importance of eliciting history of occupational-related exposures such as asbestos and silica.</i>	

Curriculum: Administrative Support for Planetary Health

18. Is your medical school currently in the process of 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.
<p><i>Score explanation: The medical school has a newly-formed chapter of Medical Students for a Sustainable Future that plans to advocate for curriculum changes that incorporate Education for Sustainable Healthcare. Additionally, A curriculum is currently being developed for a planetary health education elective, with hopes of incorporating lecture material into the core curriculum for future classes.</i></p>	

19. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?	
6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s).
0	There is minimal/no education for sustainable healthcare.
<p><i>Score explanation: VCU does not include any substantial Education for Sustainable Healthcare into the core curriculum.</i></p>	

20. Bonus: Does your medical school have a program that offers incentives for faculty/departments to develop new planetary health/ESH courses and/or incorporate planetary health/ESH into existing courses?	
1*	Yes, the medical school has an incentive program.
0	No, the medical school does not have an incentive program.
<p><i>Score explanation: There is currently no incentive program in place for VCU faculty/departments to incorporate planetary health into the curriculum.</i></p>	

Section Total (10 out of 58)	17%
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Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
4	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health and healthcare sustainability.
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in a planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation: Virginia Commonwealth University employs researchers in the field of planetary health, but not through the School of Medicine. Among others, Julie Zinnert, PhD, and her team study the effects of climate change on plant ecosystems, Chris Gough, PhD, studies forest carbon cycling, and Scott Neubauer, PhD, studies the effects of wetlands on climate.</i></p>	

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?	
3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	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: [VCU's Office of Sustainability](#) is dedicated to disseminating information on campus sustainability efforts, connecting students with climate research opportunities, and holding the university accountable to becoming carbon-neutral by 2050. Its influence lies in the undergraduate community far more than in its graduate/health programs. VCU also has a [Center for Environmental Studies](#), which provides academic advising and facilitates research at both the undergraduate and graduate levels.

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

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

Score explanation: VCU does not give communities disproportionately impacted by climate change a voice in making decisions about research conducted at the medical school.

4. Does your institution have a planetary health website, or a website centralizing various campus resources 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: The [VCU Office of Sustainability](#) website provides information about some ongoing projects, opportunities to get involved, and describes ongoing projects and operations at the institution aimed at reducing the carbon footprint. The site is fairly comprehensive but somewhat difficult to navigate and does not provide information for funding opportunities or contact information for leadership.

5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the institution has hosted more than one conference or symposium on topics related to planetary health in the past year, including at least one on climate change.
3	Yes, the institution has hosted 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.
<i>Score explanation: VCU has not hosted any conferences in the past three years related to planetary health.</i>	

6. Has your institution or medical school joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?	
2	Yes, the medical school has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education.
1	Yes, the institution has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education, but the medical school specifically has not.
0	No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.
<i>Score explanation: VCU is not a member of either entity.</i>	

Section Total (4 out of 19)	21%
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Are there additional research resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Community Outreach and Advocacy

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

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p><i>Score explanation: VCU Office of Sustainability partners with numerous community organizations for planetary health projects relating to gardening, forestry, recycling, and transportation. At this time, the medical school is not involved in these partnerships.</i></p>	

2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The medical school has not offered such community-facing courses or events.
<p><i>Score explanation: VCU has provided information on how students can get involved with such community-facing courses or events, such as having the organizers from Shalom Farms, a regional food access and community development project, come speak to the first year medical student class</i></p>	

about opportunities to volunteer at the sustainable farm and in the city. Students are encouraged to consider this activity to fulfill the community service hours requirement, but otherwise there is no regular partnership or events offered by the school.

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

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

Score explanation: There may be occasional mention of planetary health matters or sustainability efforts in the weekly VCU News emails or the Health Sciences Newsletter sent out by the Office of Student Experience, but no regular communications regarding planetary health or sustainable healthcare.

4. Does the medical school offer continuing medical education (CME) courses that address planetary health and/or sustainable healthcare?

2	Yes, multiple in-person or online CME courses relating to planetary health and/or sustainable healthcare are offered, including at least one with a primary focus of planetary health.
1	Yes, one in-person or online CME course related to planetary health and/or sustainable healthcare is offered.
0	There are no CME courses on planetary health or sustainable healthcare topics.

Score explanation: There are no courses relating to planetary health or sustainable healthcare listed on the VCU CME website.

5. Do hospitals affiliated with your medical school have accessible educational materials for patients about environmental health exposures?

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

Score explanation: The VCU Medical Center Health & Wellness Library provides educational resources for patients and could help patients find information relating to environmental health exposures. However, the library is quite small and underutilized by the patient population, and it is located at the main VCU Health campus. Not all affiliated centers have the same access to this resource.

6. Do hospitals affiliated with your medical school have accessible educational materials for patients about climate change and health impacts?

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

Score explanation: The VCU Health & Wellness Librarians could also help patients access information regarding climate change and health impacts, but this resource is not well advertised or universally accessible.

Section Total (4 out of 14)	29%
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Support for Student-Led Planetary Health Initiatives

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

1. Does your institution offer support for medical students interested in enacting a sustainability initiative?	
2	Yes, the institution offers grants available to medical students for students to enact sustainability initiatives.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available.
0	No, the institution does not offer opportunities or support for sustainability initiatives.
<i>Score explanation: VCU encourages sustainability projects and offers resources when available, but does not provide funding for those initiatives.</i>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
3*	The institution offers an explicit paid fellowship for medical students to do research related to planetary health and/or sustainable healthcare.
2	The institution offers paid research opportunities for students and planetary health/sustainable healthcare projects would be considered eligible.
1	There are unfunded research opportunities for students to perform research related to planetary health/sustainable healthcare.
0	There are no opportunities for students to receive funding for planetary health/sustainable healthcare research.
<i>Score explanation: VCU does not offer student funding for planetary health or sustainable healthcare research.</i>	

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	
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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.
<i>Score explanation: VCU Office of Sustainability has a webpage, but there is no such resource specifically for the School of Medicine.</i>	

4. Does your medical school have funded, 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 funded 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 and/or funding.
0	No, there is not a student organization at my institution dedicated to planetary health or sustainability in healthcare.
<i>Score explanation: VCU School of Medicine has a newly-formed chapter of Medical Students for a Sustainable Future as of Fall 2020.</i>	

5. Is there a student liaison representing sustainability interests who serves on a medical school or institutional decision-making council to advocate for sustainability best practices?	
1	Yes, there is a student representative that serves on a medical school or institutional decision-making council.
0	No, there is no such student representative.
<i>Score explanation: The treasurer of the MS4SF chapter at VCU also plays an active role in the school's curricular leadership. Leadership on other councils is not represented.</i>	

6. In the past year, has the institution had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	
1	Projects where students are able to gain experience in organic agriculture and sustainable food systems, such as gardens, farms, community supported agriculture (CSA), fishery programs, or urban agriculture projects.
1	Panels, speaker series, or similar events related to planetary health that have students as an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.
<p><i>Score explanation: VCU encourages its students and faculty to grow their own food and improve access to healthy foods by way of the MCV Community Garden and Monroe Park Campus Learning Garden. VCU's Community Forestry Program facilitates tree planting projects and tree maintenance around Richmond.</i></p> <p><i>VCU's Outdoor Adventure Program hosts day trips to go kayaking, hiking, and biking, weekly community events like trash pick-ups, and bike clinics to promote bike use as primary transportation. The program focuses on Leave No Trace principles and teaches participants how to adhere to them.</i></p>	

Section Total (6 out of 15)	40%
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Are there additional student-led initiative resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Campus Sustainability

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

1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff, but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation: The VCU Office of Sustainability hires staff dedicated to sustainability on the VCU campus, but there is no specific staff member or task force leading sustainability operations for the medical school or hospital system.</i></p>	

2. Does your medical school and/or institution have a stated goal of carbon neutrality by 2050?	
4*	The medical school is already carbon neutral.
3	Yes, there is a stated carbon neutrality goal and the medical school has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal, but the medical school has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.
<p><i>Score explanation: VCU has a Climate Action Plan which states a goal of reducing GHG emissions by 17% by 2025 and 100% by 2050 based on 2008 benchmark levels. There is no concrete description of</i></p>	

plans to reach these goals, and the plans do not specifically address actions to be taken at the medical school.

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: McGlothlin Medical Education Center, the primary building used for teaching at the VCU School of Medicine, sources <1% of energy needs from renewable energy sources.

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 rating system or sustainable 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: Constructed in 2009, the McGlothlin Medical Education Center earned 50 points on the LEED rating system, earning it a Silver rating by LEED standards. The older buildings part of the medical school have not been retrofitted to be more sustainable.

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

2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public
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	transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<i>Score explanation: The VCU School of Medicine encourages environmentally-friendly transportation by supplying students with free bus passes for the public transit system in Richmond. There are also numerous bike racks available around campus to facilitate the use of alternate means of transportation.</i>	

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.
<i>Score explanation: The medical school has numerous bins for traditional recyclables throughout campus, but there is no compost program accessible to students or faculty.</i>	

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections?	
3	Yes, the medical school has adequate sustainability requirements for food and beverages 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.
<i>Score explanation: There are no criteria for food and beverage selections made by the medical school.</i>	

8. Does the medical school or associated institution apply sustainability criteria when making decisions about supply procurement?	
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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.
<p><i>Score explanation: The VCU Office of Procurement Services “strongly encourages” departments to proactively seek out opportunities to make sustainable business decisions and describes required guidelines for general purchase. However, the guidelines are insufficient and not robustly enforced. The medical school is not actively engaged in efforts to improve the sustainability of resource procurement.</i></p>	

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.
<p><i>Score explanation: There are no sustainability requirements or guidelines for events hosted at the medical school.</i></p>	

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.
<p><i>Score explanation: Lab spaces at the medical school have been long-standing, with no recent efforts to enhance their sustainability.</i></p>	

11. Does your institution’s endowment portfolio investments include fossil-fuel companies?	
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4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	No, the institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil-fuel companies.
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.
<p><i>Score explanation: Students organized and held demonstrations in 2016 to campaign for the divestment of VCU funds from fossil-companies, but the institution asserted that they will leave the VCU Investment Management Company (VIMCO) to employ its investment expertise for the good of the University and no significant divestments have been made.</i></p>	

Section Total (11 out of 29)	38%
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Are there additional sustainability resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Grading

Section Overview

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

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

Planetary Health Grades for the Virginia Commonwealth University School of Medicine

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

Section	Raw Score	Grade
Planetary Health Curriculum (30%)	8 / 58 = 14%	F
Interdisciplinary Research (17.5%)	4 / 19 = 21%	D
Community Outreach and Advocacy (17.5%)	4 / 14 = 29%	D
Support for Student-led Planetary Health Initiatives (17.5%)	6 / 15 = 40%	C
Campus Sustainability (17.5%)	11 / 29 = 38%	D+
Institutional Grade	27%	D