



Planetary Health Report Card:

Pharmacy

*Virginia Commonwealth University School of
Pharmacy*



VCU

School of Pharmacy

2022 Contributing Team:

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Summary of Findings

Overall

D

Curriculum	F
<ul style="list-style-type: none"> Planetary health topics are rarely covered in the curriculum. In instances where they are mentioned, they are only briefly mentioned without any depth into the impact of planetary health or patient care and not testable learning material. The school offers no elective courses focused on planetary health. There is, however, an independent study option in which P3 students may research a subject of their choice with the support of a faculty member. 	
Planetary Health Research	B
<ul style="list-style-type: none"> While there are research projects that have potential to discuss impacts on planetary health measures, planetary health is not a priority or focus of any of the research. The School does not make an effort to amplify planetary health learning opportunities that are led by organisations within the School or at the greater institution There is room for growth in developing partnerships with the greater Richmond community, especially those disproportionately impacted by climate change and environmental injustice. 	
Community Outreach and Advocacy	F
<ul style="list-style-type: none"> Student-led organisations of the School are motivated to partner with community organisations to promote planetary health, though there is limited advertising and communication about such events from the School to increase participation. 	
Support for Student-Led Initiatives	C
<ul style="list-style-type: none"> The School offers flexible opportunities for students to create research projects with faculty. Majority of the current projects do not include planetary health to any degree and it is unclear whether the School offers such projects. The greater VCU institution has access to extra-curricular planetary health programs; however, these events are not communicated to the School's student body. Sustainable Pharmacy Project, a student-led organisation, is the source of planetary health information at the School. 	
Campus Sustainability	C
<ul style="list-style-type: none"> There are efforts to increase campus sustainability at the institution, but there is a lack of medical campus involvement/representation resulting in a lag in the promotion of these interventions at the school of pharmacy. The school utilizes paperless assignments and the facilities house recycling receptacles – though the reliability of the recycling procedure itself is questionable. The school of pharmacy building is LEED certified. 	

Planetary Health Curriculum

Section Overview: *This section evaluates the integration of planetary health topics into the pharmacy school curriculum. Today's pharmacy students will be on the frontlines of tackling the health effects of climate and other environmental changes. Therefore, it is critical that pharmacy students understand planetary health issues and principles.*

1. Does your pharmacy school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
3	This topic is explored in depth by the core curriculum.
2	This topic is briefly covered in the core curriculum.
1	This topic is covered in elective coursework.
0	This topic is not covered.
Score explanation: Insert explanation here.	

2. Does your pharmacy school curriculum address the environmental impact of medicines in terms of their pollution, ecological impact and contamination of water systems?	
3	This topic is explored in depth by the core curriculum.
2	This topic is briefly covered in the core curriculum.
1	This topic is covered in elective coursework.
0	This topic is not covered.

Score explanation: Insert explanation here.

In P3 year during the Self-Care module in Lecture Sun Induced Skin Disorders there was brief mention of reef-safe sunscreen. This information was not testable exam material.

3. Does your pharmacy school curriculum address the health effects of pharmaceutical industry- and manufacturing-related environmental toxins?

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

Score explanation: Insert explanation here.

4. Does your pharmacy school curriculum address the carbon footprint of healthcare systems?

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

Score explanation: Insert explanation here.

5. Does your pharmacy school curriculum address the impact of climate change on the changing patterns of infectious diseases and increased antimicrobial resistance?

3	These topics are explored in depth by the core curriculum.
2	These topics are briefly covered in the core curriculum.
1	These topics are covered in elective coursework.
0	These topics are not covered.

Score explanation: Insert explanation here.

During medicinal chemistry lectures in Pharmacognosy and Pharmacokinetics of P1 year, there was mention of antimicrobial resistance mechanisms without discussion surrounding the impact of the environment on the resistance mechanisms.

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

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

Score explanation: Insert explanation here.

In the Respiratory clinical module there are mentions about the impact of air pollution on respiratory health without context to the environmental condition.

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

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

Score explanation: Insert explanation here.

8. Does your pharmacy school curriculum address the relationship between climate change and allergies?

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

Score explanation: Insert explanation here.

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

3	This topic is explored in depth by the core curriculum.
2	This topic is briefly covered in the core curriculum.
1	This topic is covered in elective coursework.
0	This topic is not covered.
<p><i>Score explanation: Insert explanation here.</i></p> <p>There are brief mentions in Neurology and Psychiatry modules about mental health and social determinants of health but not in the context of the environment.</p>	

10. Does your pharmacy school curriculum address the unequal regional health impacts of climate change nationally and globally, including the impact of social inequality?	
3	This topic is explored in depth by the core curriculum.
2	This topic is briefly covered in the core curriculum.
1	This topic is covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: Insert explanation here.</i></p> <p>In the interprofessional course offered to P1s, “Foundations of Interprofessional Collaborative Care” aka IPEC 501, there is mention of social inequality but not in the context of environmental degradation and climate change or on any larger scale beyond the health system.</p> <p>In P1 course Health Promotion and Communication (PHAR 652) there is also brief mention about social inequality and how to communicate with impacted patients on topics related to transportation barriers and food insecurity from a social but not environmental standpoint.</p>	

11. Does your pharmacy school curriculum address the relationship between climate change and social determinants of health (e.g., reduced nutritional value of food)?

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

Score explanation: Insert explanation here.

One guest lecturer in Lecture X in an elective course on Geriatric Pharmacy discussed the impact of redlining and other environmentally inequitable practices on the development of food deserts and lack of green space.

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

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

Score explanation: Insert explanation here.

13. Does your pharmacy school curriculum cover these components of sustainable clinical practice? (1 point each)

1	Waste production within the healthcare system and strategies for reducing waste in clinical activities such as single use plastic and packaging.
1	Patient counselling on safe disposal of medications. For example, what can be disposed of and how to locate recycling schemes, in addition to certain drugs or drug classes that are most important to dispose of properly (e.g. hormonal contraceptives, drugs that are excreted unchanged/active metabolites).
1	The impact of extreme heat, on patients on medications which can interfere with thermoregulation
1	The impact of anaesthetic gases on the healthcare carbon footprint.
1	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively, teaching on de-prescribing where clinically appropriate and its environmental and health co-benefits would fulfil this metric.
1	The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes for obesity. This is commonly known as social prescribing in the UK.
1	The impact and benefits of benign by design pharmaceuticals through exploring medicinal chemistry concepts and/or discussing implications of excretion of active metabolites/unchanged drug products on ecological systems

Please highlight all metrics that apply to your pharmacy school and insert explanations below.

Score explanation:

Importance of non-pharm management for type 2 diabetes is covered extensively in Health Promotion and Communication (PHAR 652) class P1 year through the completion of Prevent T2 certification completed by all students. It is further discussed in Endocrine Therapeutics (PHAR 555) P2 fall.

Patient counselling on safe disposal of medications: P1 year focuses a lot on patient counselling, however there is little to no focus on teaching patients how to dispose of the medication properly.

The environmental impact of pharmaceuticals and over-prescribing: deprescribing to reduce pill burden and improve health outcomes is discussed throughout all years, but there is no focus on the environmental benefit of deprescribing unnecessary therapies.

14. Does your pharmacy school curriculum discuss the environmental implications of various dosage forms, medication delivery devices, and/or excipients?

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

Score explanation: Insert explanation here.

Within the Pharmaceutics and Biopharmaceutics course in P1 year in the Spring semester, there is brief discussion about the history of inhaler development where the history of transitioning from CFCs to other aerosolizing solvents are discussed, but with limited environmental impact on how the current aerosols may behave. Additionally, there are comparisons made between MDI and DPI devices; however, from a more patient and clinical perspective rather than from environmental impact.

Wastefulness of inhalers used in the Emergency Department is addressed in Respiratory Therapeutics to bring awareness to the issue, but no alternative options are provided.

15. In training for patient communication, does your pharmacy school's curriculum introduce strategies for having conversations with patients about the health effects of climate change?

3	Yes, there are clear and detailed strategies introduced for having conversations with patients about climate change in the core curriculum.
2	Yes, having conversations with patients about climate change is briefly mentioned in the core curriculum.
1	Yes, there are some examples of having conversations with patients about climate change in elective coursework.
0	No, there are not strategies or examples for having conversations with patients about climate change
Score explanation: Insert explanation here.	

16. Does your pharmacy school curriculum guide students to consider the environmental impact of medications as a factor in addition to safety, efficacy, cost, and pill burden when comparing equivalent therapies?

3	This topic is explored in depth by the core curriculum.
2	This topic is briefly covered in the core curriculum.
1	This topic is covered in elective coursework.
0	This topic is not covered.
<p>Score explanation: Insert explanation here.</p> <p>Overall combination therapies are talked about from a clinical perspective to reduce pill burden, but not from an environmental perspective. Specifically combo pills for HIV and Parkinsons are discussed to reduce pill burden and cost. Combination therapies were also discussed in Respiratory Therapeutics to decrease the number of inhalers a patient has to administer to reduce confusion.</p>	

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

4	Yes, the school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the 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: Insert explanation here.

18. Does your pharmacy school have a member of faculty to incorporate planetary health and sustainable healthcare as a theme throughout the curriculum ?

4	Yes, there is/are a member(s) of faculty whose role is directly responsible for the incorporation of planetary health and sustainable healthcare as a theme throughout the curriculum
2	Yes, there is/are member(s) of faculty who are incorporating planetary health and sustainable healthcare as a theme throughout the curriculum as well as doing their principle role
0	There are no members of faculty who are incorporating planetary health and sustainable healthcare as a theme throughout the curriculum

Score explanation: Insert explanation here.

There was a previous faculty member with a sustainability elective but was not continued after the faculty member left.

19. Does your pharmacy school curriculum offer clinical practice experiences (for example, IPPE/APPE rotations in the U.S. or placement opportunities in the UK) that allow for the exploration of planetary health topics?

3	There are multiple clinical practice experiences/placements that allow for direct exposure to planetary health topics.
2	There is one available clinical practice experience/placement that allows for direct exposure to planetary health topics.
1	There are available clinical practice experiences/placements that allow for indirect exposure to planetary health topics.
0	No, there are no such clinical practice experiences/placements available through the pharmacy school.

Score explanation: Insert explanation here.

The school allows for students to create their own APPE rotation opportunities if the site and preceptor for such a practice experience exists and qualifies for one of the standards required by the ACPE. All opportunities available are geared toward clinical pharmacy and many students do not undertake the process of finding sites. During IPPE/APPE students can ask their preceptors for more specific projects related to their interests, but opportunities are overall limited to explore planetary health topics.

20. Does your pharmacy school curriculum acknowledge a disparity in the effects of climate change? Specifically, does your curriculum address groups more vulnerable to environmental impacts, such as BIPOC, immigrant groups, low income populations, children, elderly, persons with disabilities, persons with pre-existing or chronic medical conditions?

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

1	This topic is covered in elective coursework.
0	This topic is not covered.
<i>Score explanation: Insert explanation here.</i> This topic is covered more in a social perspective than the impact of climate change on these special populations.	

Section Total (4 out of 63)	6%
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Are there additional curriculum resources offered at your school or institution not yet asked about that you would like to describe? If so, please do so below.

Planetary Health Research

Section Overview: *This section evaluates the quality and quantity of planetary health research at the school and with the broader institution. Interactions between health and the environment are complex and multifactorial. While climate change has been extensively studied from an environmental science perspective, planetary health is an emerging field. Pharmacy schools should support research in areas such as the health effects of climate change, adaptive measures and pharmacy's environmental impact.*

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your pharmacy school?	
3	Yes, there are faculty members at the School of Pharmacy who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Pharmacy 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 pharmacy school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or pharmacy school at this time.
<p><i>Score explanation: Insert explanation here.</i></p> <p>Dr Aaron May, a member of the Medicinal Chemistry Department within the School of Pharmacy conducts research on developing novel antibiotics that avoid the risk of bacteria developing antibiotic resistance to these drugs. Dr. Roman, a member of the Department of Pharmacotherapy & Outcomes Science within the School of Pharmacy conducts research on pharmacogenomic drug design. While he acknowledges these types of drugs have positive environmental impacts, none of his research is not focused in that area.</p>	

2. Has your institution recently provided extra curricular talks or learning opportunities on topics related to planetary health?

4	Yes, the pharmacy school has hosted at least one opportunity for extra learning on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one opportunity for extra learning on topics related to planetary health in the past year.
2	Yes, the institution has provided at least one opportunity for extra learning on topics related to planetary health in the past three years.
1	The institution has not hosted anything directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted anything on topics related to planetary health in the past three years.
<p><i>Score explanation: Insert explanation here.</i></p> <p>The school has approved several student-led events pertaining to planetary health, primarily informative meetings. During the Fall 2021 semester, the school allotted a Dean's Hour to a Global Health Panel featuring planetary health providers. This event was not organized by the school and was planned by the student group Sustainable Pharmacy Project.</p>	

3. Is there a process by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda at your pharmacy 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.
<p><i>Score explanation: Insert explanation here.</i></p>	

There are faculty members at the School, Dr. Salgado and Dr. Dixon along with student researchers, who are currently working through a project with the aim of gaining an understanding of factors that lead to attrition of the Diabetes Prevention Program with the intention to improve recruitment strategies that could be used to increase uptake of the DPP among underserved communities. The project was an undertaking of the School rather than as a result of discussions with the community, but the research method involves qualitatively analysing telephone interviews with participants from underserved communities.

Section Total (6 out of 10)	60%
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Are there additional research resources offered at your 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 pharmacy 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 colour. Institutions should partner with local communities affected by climate change and pollution to share information about environmental health threats, advocate together for change, and provide opportunities for students to be a part of this work.*

1. Does your pharmacy school partner with community organisations to promote planetary and environmental health?

- | | |
|---|---|
| 3 | Yes, the pharmacy school partners with multiple community organisations to promote planetary and environmental health to share opportunities for student involvement. |
| 2 | Yes, the pharmacy school partners with one community organisation to promote planetary and environmental health to share opportunities for student involvement. |
| 1 | The institution partners with community organisations, but the pharmacy school is not part of that partnership. |
| 0 | No, there is no such meaningful community partnership. |

Score explanation: Insert explanation here.

The student organization Sustainable Pharmacy Project (SPP) has collaborated with the local environmental organization Keep Virginia Cozy to pick up trash during a community litter clean up.

VCU SoP's chapter of Student National Pharmaceutical Association (SNPhA) conducts Drug Take Back events for the community. However, these events are more focused on drug diversion rather than the environmental impacts of improper drug disposal – yet, they help nonetheless.

These events were not coordinated by the school and were entirely student-led.

2. Does your pharmacy school have coverage of issues related to planetary health and/or sustainable healthcare in their 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: Insert explanation here.

There is a newsletter disseminated by the student organization Sustainable Pharmacy Project (SPP), but it has no association or support from the SoP.

3. Is your pharmacy school a member of a national or international planetary health or ESH organisation?

1 Yes, the school is a member of a national or international planetary health or ESH organisation

0 No, the school is not a member of such an organisation

Score explanation: Insert explanation here.

Section Total (1 out of 6)

17%

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

Support for Student-Led Planetary Health Initiatives

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

1. Does your institution offer opportunities for pharmacy 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: Insert explanation here.

P3 students are given an opportunity to connect with a faculty member and work on an independent research project available for credit Spring and Fall semesters. The topic is up to the discretion of the faculty mentor and the student. For example, there is a student working on reducing Foundations lab waste.

The school has a program called the Summer Research Fellowship that is available to P1s and P2s interested in conducting research. The student is able to pick a faculty mentor of their choice (that is willing to participate), so the student is able to choose a faculty member involved in planetary health and/or sustainable healthcare if they so choose.

2. Does the pharmacy school provide access for students to specific information related to planetary health and/or sustainable healthcare activities and mentors within the school? For example, a web page detailing projects achieved, current initiatives underway at the pharmacy school and/or contact information for potential mentors.

2 The pharmacy school provides 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 The pharmacy school provides some information on projects and mentors within planetary health and sustainable healthcare within the school, but it lacks key information.

0 There is no pharmacy school specific access to planetary health and/or sustainable healthcare projects or mentors.

Score explanation: Insert explanation here.

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

2 Yes, there is a student organisation with faculty support at my University dedicated to planetary health or sustainability in healthcare.

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

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

Score explanation: Insert explanation here.

The Sustainable Pharmacy Project is a student-created organisation, focused on reducing the impact of pharmaceuticals on the environment through various efforts. During development, there were efforts to recruit

faculty advisors, such as the faculty, Dr. Washington, involved with the Sustainability Elective for P3s, but they were not successful once the faculty member left the university and no other faculty was available for mentorship. The group has operated entirely through student effort and leadership.

4. In the past year, has the institution had one or more extra-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 organise hiking, backpacking, kayaking, or other outings for students) |

Score explanation: Insert explanation here.

All points given are for programs that are institutional wide across both the undergraduate campus and graduate/medical campus of VCU. Pharmacy students have access to both campuses.

Section Total (6 out of 12)	50%
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Are there additional student-led initiative resources offered at your 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 pharmacy 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 endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising every aspect of how our systems operate, from where we source our energy, to how we build our infrastructure, to what companies we invest in. Our pharmacy schools and institutions must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimising environmental impact.

1. Does your University 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 pharmacy 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 pharmacy. |
| 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: Insert explanation here.

VCU has recently put together a development committee in charge of the “ONE VCU Sustainability Plan”. This committee includes faculty and staff from VCU, the VCU health system, VCU’s director of sustainability, an undergraduate student representative, and a medical school student representative. This plan aims to increase our schools sustainability, and will roll out in phases in the next 12-18 months. However, there is no representative from the School of Pharmacy on this committee.

2. How ambitious is your pharmacy school/institution’s plan to reduce its own carbon footprint?

4	The institution has a stated goal of carbon neutrality by 2030 or earlier and the pharmacy school has a well-defined and adequate plan in place to achieve this goal.
3	Yes, there is a stated carbon neutrality goal by at least 2040 and the school has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal by at least 2040, but the pharmacy 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: Insert explanation here.</i></p> <p>The institution recently started the ONE VCU Sustainability Plan , which is a multidisciplinary effort across the undergraduate and graduate campuses to develop a plan in the next 12-18 months to improve sustainability through the university and health system. Currently the initiative has recruited a committee and partnered with a third party consulting group to begin carbon planning.</p> <p>According to their mission, LEED certified buildings are “proven to save money, improve efficiency, lower carbon emissions and create healthier places for people.” They provide sustainability to buildings in and around Richmond. The categories they cover are sustainable sites, water efficiency, the energy and atmosphere of the building, material and resources, indoor environmental quality, and innovation. Based on these categories and their allocated concepts, VCU School of Pharmacy scored a 27/57 and were awarded a “Silver” LEED designation in 2011. Stronger areas included sustainable sites and water efficiency, while the SOP performed poorly specifically with indoor environmental quality and energy & atmosphere.</p>	

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

2	Yes, the pharmacy school has both compost and recycling programs accessible to students and faculty.
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1	The pharmacy 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 pharmacy school.
<p><i>Score explanation: Insert explanation here.</i></p> <p>Recycling is available to students, but we are not sure if recycling is adopted correctly.</p>	

4. Does your pharmacy school provide paperless teaching? e.g. lecture materials, exam papers, hand-outs	
3	The whole course is delivered using online modalities of assignment, lecture, and examination delivery.
2	The majority of the course is delivered using online modalities with exception to few assignments where paper is still encouraged.
1	Some of the course is delivered using online modalities, but the majority of assignments and examinations are on paper.
0	None of the coursework is delivered using online modalities and paper printing is widespread.
<p><i>Score explanation: Insert explanation here.</i></p> <p>Most coursework is turned in online, and most exams are taken through ExamSoft, an online exam proctoring program. However some professors occasionally do require assignments to be printed out and handed in, especially in lab courses. Some exams that require drawing of chemical structures are also given on paper.</p>	

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

2	Yes, the 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 school to make lab spaces more sustainable.
<p><i>Score explanation: Insert explanation here.</i></p> <p>Unofficial efforts to make lab spaces for experiential learning more environmentally sustainable are led by Dr. Caldas, the course coordinator for the Foundations I laboratory course. Efforts include medication reuse and potential medication redistribution. This initiative is not supported by the SoP.</p>	

Section Total (7 out of 14)	50%
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Are there additional sustainability resources offered at your school or institution not yet asked about that you would like to describe? If so, please do so below.

Grading

Section Overview

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

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

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

Planetary Health Grades for the ____VCU____ School of Pharmacy

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

Section	Raw Score	Letter Grade
Planetary Health Curriculum (30%)	$(4 / 66) \times 100 = 6\%$	F
Interdisciplinary Research (17.5%)	$(6 / 10) \times 100 = 60\%$	B
Community Outreach and Advocacy (17.5%)	$(1 / 6) \times 100 = 17\%$	F
Support for Student-led Planetary Health Initiatives (17.5%)	$(6 / 12) \times 100 = 50\%$	C
Campus Sustainability (17.5%)	$(7 / 14) \times 100 = 50\%$	C
Institutional Grade	$(0.06 \times 0.3 + 0.6 \times 0.175 + 0.17 \times 0.175 + 0.5 \times 0.175 + 0.5 \times 0.175) = 33\%$	D