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# Planetary Health Report Card:

## *Indiana University School of Medicine*

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**INDIANA UNIVERSITY**  
SCHOOL OF MEDICINE

2021-2022 Contributing Team:

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# Summary of Findings

<b>Overall</b>	<b>D+</b>
<u><b>Curriculum</b></u>	<b>C-</b>
<ul style="list-style-type: none"> <li>IUSM dedicates a lot of time to social determinants of health in its core curriculum. Students gain an understanding that environmental exposures have a disproportionate impact on marginalized communities. Improvements have been made to Fundamentals of Health and Disease, an MS1 course, to make more explicit connections between climate change and human health.</li> <li><b>Recommendations:</b> Planetary Health connections in the curriculum should be made more explicit, with more dedicated time. The medical school should identify Planetary Health as a priority theme and include that material in learning objectives and test questions. The medical school should offer an elective on Planetary Health for students to gain a more in-depth understanding of the impact of climate change on human health.</li> </ul>	
<u><b>Interdisciplinary Research</b></u>	<b>D+</b>
<ul style="list-style-type: none"> <li>IUSM became a member of the Global Consortium on Climate and Health Education in January 2022.</li> <li>IUSM lacks an institute for interdisciplinary Planetary Health research that emphasizes the impacts of anthropogenic environmental changes on health. IUSM may draw from existing centers and groups such as Richard M. Fairbanks School of Public Health, IU School of Public Health, Paul H. O’Neill School of Public and Environmental Affairs, Center for Urban Health, Sustainable Development Goals Working Group, Environmental Resilience Institute, and its partnership with Moi University.</li> <li><b>Recommendations:</b> The medical school should provide funded planetary health research opportunities for students.</li> </ul>	
<u><b>Community Outreach and Advocacy</b></u>	<b>D-</b>
<ul style="list-style-type: none"> <li>The institution has a centralized Office of Sustainability website that links the sustainability efforts at every IU campus. There is an opportunity to add a section for future Planetary Health initiatives on the website.</li> <li><b>Recommendations:</b> IUSM 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.</li> </ul>	
<u><b>Support for Student-Led Initiatives</b></u>	<b>C</b>
<ul style="list-style-type: none"> <li>The Medical Student Council approved the IUSM chapter of Medical Students for a Sustainable Future in February 2022.</li> <li><b>Recommendations:</b> It would be beneficial for IUSM to have a student liaison representing sustainability interests who serves on a decision-making council.</li> </ul>	
<u><b>Campus Sustainability</b></u>	<b>C</b>
<ul style="list-style-type: none"> <li>IU has implemented robust strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting.</li> <li><b>Recommendations:</b> IUSM has many opportunities to improve its sustainability practices: divest from fossil fuels, implement composting, use renewable energy for campus buildings, and implement programs to make labs more environmentally sustainable.</li> </ul>	

# Statement of Purpose

*Planetary health is human health.*

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

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

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

# Definitions & Other Considerations

## Definitions:

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

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

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

**Other considerations:**

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

**Medical school-specific considerations:**

- Indiana University School of Medicine (“IUSM”) has nine campuses throughout Indiana. Its largest campus is located in Indianapolis, IN.
- For metrics that specify “medical school,” scores were given by reviewing school-wide policies that affect all nine campuses, unless stated otherwise.
- Metrics that specify “institution” refer to Indiana University (“IU”). IU has two core campuses in Bloomington, IN (“IU Bloomington”) and Indianapolis, IN (“IUPUI”). There are seven extension campuses throughout Indiana.

**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

<b>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?</b>	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p><i>Score explanation:</i> IUSM has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year. There are no planetary health electives listed for the 2022-23 academic year.</p>	

## Curriculum: Health Effects of Climate Change

<b>2. Does your medical school curriculum address the relationship between extreme heat, health risks, and climate change?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

*Score explanation:* The M1 course Fundamentals of Health and Disease includes an “Environmental Injury” lecture and small group, which examine the effects of the changing climate on extreme heat exposure. The course director updated the curriculum in 2021 to explore this topic in more depth. Foundations of Clinical Practice 1 includes the lecture “Poverty, Neighborhood, and Environment,” which discusses disparities in exposure to climate change, but unequal exposure to extreme heat does not receive a lot of focus.

**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 M1 course Fundamentals of Health and Disease includes an “Environmental Injury” lecture and small group, which examine the effects of extreme weather events on individual health. The course director updated the curriculum in 2021 to explore this topic in more depth.

**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:* In the M1 course Fundamentals of Health and Disease, there was a 2021 lecture by Dr. Dan Lodge-Rigal titled “Environmental Injury.” This lecture included a very brief discussion on increasing infectious disease due to climate change.

**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.
<p><i>Score explanation:</i> The M1 course Fundamentals of Health and Disease includes an “Environmental Injury” lecture and small group, which examine the respiratory health effects of climate change and air pollution. The course director updated the curriculum in 2021 to explore this topic in more depth. One of the learning objectives for this lecture was to “describe the main types of air pollution and understand the different clinical disease consequences that may occur from exposure.”</p>	

<b>6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i> The M1 course Fundamentals of Health and Disease includes an “Environmental Injury” lecture and small group, which examine the cardiovascular health effects of climate change, including increased heat.. The course director updated the curriculum in 2021 to explore this topic in more depth.</p>	

<b>7. Does your medical school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i> This topic was not covered in IUSM core curriculum or elective coursework.</p>	

<b>8. Does your medical school curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.



1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation:</i> This topic was not covered in IUSM core curriculum or elective coursework.	

<b>9. Does your medical school curriculum address the outsized impact of climate change on marginalized populations such as those with low SES, women, communities of color, Indigenous communities, children, homeless populations, and older adults?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<i>Score explanation:</i> Foundations of Clinical Practice 1 includes modules (didactic and small-group discussion) addressing planetary health/ESH: “Social Determinants of Health” and “Poverty, Neighborhood, and Environment.”	

<b>10. Does your medical school curriculum address the unequal regional health impacts of climate change globally?</b>	
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:</i> This topic was not covered in IUSM core curriculum or elective coursework.	

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

<b>11. Does your medical school curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?</b>	
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:</i> This topic was not covered in IUSM core curriculum or elective coursework.	

<b>12. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university’s surrounding community?</b>	
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:</i> Foundations of Clinical Practice 1 includes modules (didactic and small-group discussion) addressing planetary health/ESH: “Social Determinants of Health” and “Poverty, Neighborhood, and Environment.” Videos and data specific to Indiana were part of the assigned module material. In the past, students used to conduct a neighborhood drive-through to better understand the community local to the medical school. This year it was conducted virtually during the interdisciplinary group meeting/project.	

<b>13. To what extent does your medical school emphasize the importance of Indigenous knowledge and value systems as essential components of planetary health solutions?</b>	
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.
<i>Score explanation:</i> This topic was not covered in IUSM core curriculum or elective coursework.	

<b>14. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, Indigenous populations, and older adults?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i> Foundations of Clinical Practice 1 includes modules (didactic and small-group discussion) addressing planetary health/ESH: “Social Determinants of Health” and “Poverty, Neighborhood, and Environment.” These address the unequal distribution of exposure to anthropogenic environmental pollutants, such that low SES, women, communities of color, children, homeless populations, and older adults are more likely to experience higher exposure rates and adverse effects.</p>	

***Curriculum: Sustainability***

<b>15. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i> This topic was not covered in IUSM core curriculum or elective coursework.</p>	

<b>16. Does your medical school curriculum address the carbon footprint of healthcare systems?</b>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i> This topic was not covered in IUSM core curriculum or elective coursework.</p>	

<b>17. Does your medical school curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (1 point each)</b>	
1	Waste production within the healthcare system and strategies for reducing waste in clinical activities, such as in the operating room

1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	The impact of anesthetic gasses on the healthcare carbon footprint and ways to reduce anesthesia environmental impacts, such as total intravenous anesthesia or choosing less environmentally anesthetic gas options with reduced greenhouse gas emissions
1	The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively teaching on 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 for obesity. This is commonly known as social prescribing in the UK.
1	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment.
<i>Score explanation:</i> Foundations of Clinical Practice includes “lifestyle medicine” lectures. Students learn the health benefits of the activities listed above; however, the environmental benefits are not discussed.	

***Curriculum: Clinical Applications***

<b>18. In training for patient encounters, does your medical school’s curriculum introduce strategies to have conversations with patients about the health effects of climate change?</b>	
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:</i> This topic was not covered in IUSM core curriculum or elective coursework.	

<b>19. In training for patient encounters, does your medical school’s curriculum introduce strategies for taking an environmental history or exposure history?</b>	
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.
<p><i>Score explanation:</i> Students are trained to take a full history, which includes asking about environmental exposure (e.g. through travel, home environment, etc) and occupational exposure, during their Foundations of Clinical Practice 1 course.</p>	

***Curriculum: Administrative Support for Planetary Health***

<b>20. Is your medical school currently in the process of implementing or improving Education for Sustainable Healthcare (ESH)/planetary health education?</b>	
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:</i> The school is in the process of making minor improvements to planetary health education. IUSM MS4SF leadership is working with individual course directors to incorporate planetary health topics into existing curriculum. For example, MS4SF worked with the Fundamentals of Health and Disease course director to update the Environmental Injury lecture and small group.</p> <p>Curriculum Council Steering Committee has approved the development of a core ESH/planetary health curriculum with session objectives, which will be required for each pre-clinical course. An elective is being developed and there have been multiple students interested, however scheduling issues prevented the elective from being completed this year. Additionally, professors from Host Defense have incorporated a brief climate change discussion related to Lyme disease distribution for this year, however it won't happen until March.</p>	

<b>21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?</b>	
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:* Environmental health/climate change are addressed predominantly in two lectures within the curriculum: the Foundations of Clinical Practice 1 lecture “Poverty, Neighborhood, and Environment,” and the Fundamentals of Host and Disease lecture “Environmental Injury.” There are no cases/small groups integrating planetary health effects across various organ systems/in multiple courses.

**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:* IUSM does not employ a planetary health faculty member.

**Section Total (x out of 69)**

**28**

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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.*

<b>1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?</b>	
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health <b>or</b> 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:</i> There are planetary health researchers at the institution. The <a href="#">Center for Urban Health</a> “stimulate[s] collaborative efforts to explore connections between environment, behavior, health, and climate as related to urban environments.” <a href="#">Dr. Gabriel Filippelli</a> is a biogeochemist at IUPUI. His research “focuses on the flow and cycling of elements and chemicals in the environment. This includes his work on pollutant distribution and exposure to human populations, and ways to engage communities to reduce their own exposures.”</p>	

<b>2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?</b>	
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:* IUPUI has the [Richard M. Fairbanks School of Public Health Global Health Research Department](#) which is affiliated with the [Consortium of Universities for Global Health](#) (CUGH), in addition to the [Center for Earth and Environmental Science](#) (CEES). The CEES mission is to “provide interdisciplinary research solutions to environmental challenges facing Central Indiana”. The CUGH partners with academic institutions across the world to “improve the wellbeing of people and the planet through education, research, service, and advocacy”.

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

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

*Score explanation:* There is no process, and no efforts to create such a process.

**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:* The institution has a centralized Office of Sustainability [website](#) that links the sustainability efforts at every IU campus. It provides resources for relevant funding or internship opportunities, directs users to on-going research and press releases, and maintains a calendar of events. There are some resources related to health and environment, but this is not the primary focus of the website.



<b>5. Has your institution recently hosted a conference or symposium on topics related to planetary health?</b>	
4	Yes, the <b>medical school</b> has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the <b>institution</b> has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the 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:</i> No, the institution has not hosted a conference on topics related to planetary health in the past three years.	

<b>6. Is your medical school a member of a national or international planetary health or ESH organization?</b>	
1	Yes, the medical school is a member of a national or international planetary health or ESH organization
0	No, the medical school is not a member of such an organization
<i>Score explanation:</i> IUSM is a member of the Global Consortium on Climate and Health Education.	

<b>Section Total (x out of 17)</b>	<b>6</b>
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# Community Outreach and Advocacy

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

<b>1. Does your medical school partner with community organizations to promote planetary and environmental health?</b>	
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:</i> : IUPUI partners with community organizations to promote environmental health. For example, IUPUI annually hosts the Indianapolis Sustainability and Resilience Conference for sustainability professionals from Indiana. The conference is “designed to showcase local successes, share best practices, engage in place-based problem solving, and facilitate collaboration to advance sustainability in the Hoosier state.”</p>	

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

*Score explanation:* IUSM does not offer community-facing courses or events regarding planetary health. The [Environmental Resilience Institute](#) at IU Bloomington does feature environmental resources for Indiana residents. For example, in June 2021 there was a webinar titled, “Addressing Heat Preparedness in Under-Resourced Communities.”

**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:* Medical students receive weekly communications from IUSM via the INScope newsletter. At times, various sustainable healthcare topics have been part of the newsletter, including LEED building updates and news of the first dining/residence hall to start composting at IUPUI.

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

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

*Score explanation:* The institution or main affiliated hospital do not provide such accessible courses for post-graduate providers.

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

2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.

0	No affiliated medical centers have accessible educational materials for patients.
<i>Score explanation:</i> No affiliated medical centers have accessible educational materials for patients.	

<b>6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?</b>	
2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated hospitals have accessible educational materials for patients.
<i>Score explanation:</i> No affiliated hospitals have accessible educational materials for patients.	

<b>Section Total (x out of 14)</b>	<b>3</b>
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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/QI project?	
2	Yes, the institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available and there is no requirement to participate.
0	No, the institution does not offer opportunities or support for sustainability initiatives or QI projects.
<p><i>Score explanation:</i> The institution does not offer grants for medical students on all nine campuses to enact sustainability initiatives. IUPUI awards \$25,000 annually via the <a href="#">Greening IUPUI Grant</a> to student projects that improve campus sustainability. Only medical students located in Indianapolis are considered IUPUI students. The institution provides elective months to complete QI projects (<a href="#">QI Electives</a>), but they are not specific to sustainability and they are not funded.</p>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.
1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation:</i> Students have opportunities to conduct planetary health / sustainable healthcare by partnering with various members of the IU institution (e.g. School of Public Health). IUSM offers a funded summer research program for medical students, but no Planetary Health projects were included.</p>	

**3. Does the medical school have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical 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:* There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.

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

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

*Score explanation:* IUSM is an affiliate chapter of Medical Students For A Sustainable Future (MS4SF). IUSM MS4SF has faculty support, and students are eligible to request funding from the medical school.

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

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

*Score explanation:* IUSM does not have a student liaison representing sustainability interests who serves on a decision-making council.

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

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

*Score explanation:* Through [IU Sustain](#), there are several student groups that meet this requirement, including a Campus Kitchen (Indianapolis), a student-run food rescue that promotes sustainable food practices. In Bloomington, students can volunteer at a [campus farm](#).

IUPUI hosts an [Indiana Sustainability and Resilience Conference](#), which is an annual gathering for sustainability events. This event is also advertised for students to attend.

The Environmental Resilience Institute’s [McKinney Midwest Climate Project](#) (MMCP) is “... helping to advance the transition to sustainable and climate-friendly practices in Indiana and the Midwest. Through partnerships with communities, businesses, and nonprofits, the project is engaging students in sustainability and environmental career training, and empowering the region to adopt high-impact solutions that address climate change.”

IU Outdoor Adventures (IU Bloomington) follows Leave No Trace principles. IU Bloomington offers training for students to be certified in Leave No Trace.

<b>Section Total (x out of 15)</b>	<b>8</b>
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# 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:</i> There is an institutional <a href="#">Office of Sustainability</a> 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.</p>	

2. How ambitious is your medical 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 medical school / institution 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 medical school/institution has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal by at least 2040, but the medical school/institution has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.



*Score explanation:* [IU Sustain](#) (Bloomington) stated its campus goal to “... initiate climate action of resilience planning that creates a pathway to the IPC minimum of 45% GHG reduction by 2030 and carbon neutrality by 2050,” but no detailed plan was published.

**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:* IUSM buildings do not source energy needs from off-site or on-site renewable energy.

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

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

*Score explanation:* According to [IU Sustain](#), 69% of eligible newly constructed or renovated building spaces that are LEED certified.

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

2	Yes, the medical school has implemented strategies to encourage and provide environmentally-friendly transportation options such as safe active transport, public transport, or
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	carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.
1	The medical school has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised.
0	The medical school has not implemented strategies to encourage and provide environmentally-friendly transportation options.
<p><i>Score explanation:</i> Students are provided access to a shuttle system for <a href="#">transportation around campus</a>, and either discounted or free bus passes for the surrounding city in Indianapolis and Bloomington are available to students. There are bike racks and bike paths on several IUSM campuses to encourage alternative modes of transportation.</p>	

<b>6. Does your medical school have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass)?</b>	
2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	The medical school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the medical school.
<p><i>Score explanation:</i> There are conventional recycling bins present on campus. For example, there are plastic recycling bins in the Ruth Lilly Medical Library (IUSM Indianapolis Campus).</p>	

<b>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)?</b>	
3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.
<p><i>Score explanation:</i> In 2013, the first IU Food Summit was held, during which it was decided to use the Real Food Challenge framework to assess and develop <a href="#">sustainable food purchasing practices</a> at the Institution. The <a href="#">institution</a> has a goal to purchase 25% of its food locally and Fair Trade or certified</p>	

ecologically sound by 2025. The medical school itself does not offer any dining options, and no data could be found regarding sustainable food purchasing for events hosted by the medical school.

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

3	Yes, the medical school has adequate sustainability requirements for supply procurement and is engaged in efforts to increase sustainability of procurement.
2	There are sustainability guidelines for supply procurement, but they are insufficient or optional. The medical school is engaged in efforts to increase sustainability of procurement.
1	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:* There are [guidelines](#) in place for purchasing of building materials, landscaping/lawn care, office supplies, and vehicles.

**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:* [Guidelines](#) for hosting green events have been published to address sustainable practices in food/beverage, advertising, decorating, etc. The institution encourages student interest groups to certify their event as a "Green Event" with the University by filling out a short application. However, there is no incentive or requirement to do so.

**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:* IUSM does not have programs and initiatives to assist with making lab spaces more environmentally sustainable.

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

4	The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives.
3	No, the institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest, but currently still has fossil fuel investments.
1	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:* In November 2014, the [All University Student Association](#) passed a resolution stating that the University should divest from the top 200 fossil fuel companies within five years; however, the institution has not divested from fossil-fuel companies. Most recently, in February 2022, activists from [Sunrise Bloomington](#) (which includes IU students) lobbied Indiana University to divest from fossil fuels.

<b>Section Total (x out of 31)</b>	<b>14</b>
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# 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 Indiana University School of Medicine

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

Section	Raw Score	Letter Grade
<b>Planetary Health Curriculum (30%)</b>	41%	C-
<b>Interdisciplinary Research (17.5%)</b>	35%	D+
<b>Community Outreach and Advocacy (17.5%)</b>	21%	D-
<b>Support for Student-led Planetary Health Initiatives (17.5%)</b>	53%	C
<b>Campus Sustainability (17.5%)</b>	45%	C
<b>Institutional Grade</b>	<b>39%</b>	<b>D+</b>

# Report Card Trends

## Section Overview

This graph demonstrates trends in overall and section grades for the years in which Indiana University School of Medicine has participated in the Planetary Health Report Card initiative.

