

Planetary Health Report Card: Norwich Medical School



2021-2022 Contributing Team:

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Summary of Findings

Overall	
<u>Curriculum</u>	D-
Overall, the medical school's curriculum doesn't have a focus on planetary health and education for sustainability in healthcare. The metion to explore these subjects arise from the 2 student selected component themes which are elective and available only in years 1 and 3. The includes few clear objectives aiming to educate in matters surrounding climate injustice, planetary health and the links to human health objectives are covered during year 1 of study with very few being covered in the later years. Recommendations : Integrate more learning objectives throughout the curriculum within the relevant modules when studying different of climate anxiety in module 4C or the link of air pollution with low birth weights in module 4A). An online lecture series on the uneque change has on marginalized groups and the health inequalities that arise would prove very beneficial if it was to be made available on a groups. Including some consultations skills training to equip students with different strategies on how to approach the topic of climate and explain the impact on human health. Introducing a virtual sustainability page on Blackboard with resources including upcoming events on would be a very efficient way to reach students. A reading list for student themselves further on certain topics around planetary and global health.	ajority of opportunities the core curriculum the majority of those t specialties (eg. Link ual impact that climate Blackboard to all year change with patients vents or nts that wish to educate
Interdisciplinary Research	С
Overall there are various opportunities for involvement in interdisciplinary research within the UEA as an institution. However the No doesn't appear to have any clear involvement in the research being done. Recommendations : We recommend encouragement for the medical school as an institution to take a more active role in interdisciplin encourage staff and faculty to get involved within specific projects that interest them.	rwich Medical School ary research and also to
Community Outreach and Advocacy	F
The medical school should aim to build direct partnerships in the future with local primary schools; medical students can teach younge importance of climate change and how it may affect future generations. Recommendations : A placement module could be dedicated in each year where community based initiatives can liaise with medical s how community based organizations can impact on health and for students to demonstrate awareness of the social, economic and envir of health. For instance CHAIN (climate health action in Norfolk). More efforts may need to be invested into communicating and updat planetary health. Introducing "Continuing professional development" course on planetary health. In the future it is paramount that the directly with under – resourced populations who are disproportionately affected by climate change problems largely created by wealth should not solely rely on student-led initiatives such as SFGH who have worked hard to get directly involved in the local community.	er students about the students to understand conmental determinants ting students about Medical School works y communities and
Support for Student-Led Initiatives	С
The University of East Anglia supports student groups dedicated to planetary health. However, there is a lack of engagement from the grants or financial support is available to societies or students, moreover, any research opportunities in planetary health have to be sout themselves, rather than being advocated by the medical school as an area of importance. Recommendations : Support for student-led initiatives mostly comes from the wider University rather than the Medical School. We re school offers increased support to students and societies interested in planetary health. For example, the medical school could elect a st officer to liaise with the school and societies. Financial support/ grants could be offered to encourage students to carry out research in the medical school needs to engage with these issues and demonstrate this to students clearly.	medical school. No ght out by students commend the medical tudent sustainability sustainable healthcare.
Campus Sustainability	В
University of East Anglia has taken initiative to maintain and improve sustainability on campus. This includes the University divesting 2017 and ensuring that new buildings are sustainable and lower carbon footprints. New initiatives including the new NetZeroUEA car have also been very promising in improving sustainability on campus. Recommendations : The sustainability goals and initiatives are targeted for the whole institution but more needs to be done to designa hospital or medical school. Old buildings such as the medical school has not been developed or remodeled to utilize renewable energy. sustainability guidelines for medical school events, which should be looked further into to create new guidelines for the future.	from fossil fuels since bon management plan te a staff member at the Currently there are no

Statement of Purpose

Planetary health is human health.

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

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

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

Definitions & Other Considerations

Definitions:

- Planetary Health: is described by the *Planetary Health Alliance* as "a solutions-oriented, transdisciplinary field and social movement focused on analyzing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth." For example, topics such as climate change, declining biodiversity, shortages of arable land and freshwater, and pollution would all fall under the realm of planetary health. Both planetary health and traditional 'environmental health' examine the relationship between human health and the external environment, including extreme temperatures, chemicals, vector-borne diseases, etc. Planetary health explicitly concerns itself with the potential health harms associated with human-caused perturbations of natural systems. Therefore, the human health focus of planetary health makes the field well-adapted for the context of medical school education. Throughout this report card, we use the term planetary health to refer to this broad swath of topics, but resources do not need to explicitly include the term "planetary health" to satisfy the metric.
- Education for Sustainable Healthcare (ESH): is defined as the process of equipping current and future health professionals with the knowledge, attitudes, skills and capacity to provide environmentally sustainable services through health professional education, thus working to decrease the enormous environmental impact of the healthcare industry. Planetary Health Education is an integral part of this education rather than an end in itself. This is because knowledge on Planetary Health is required to be able to fully understand the necessity of sustainable healthcare as well as being part of the broader knowledge needed to fully protect and promote health. In summary, ESH is covered by the three Priority Learning Outcomes of the Centre of Sustainable Healthcare below, and Planetary Health Education is embraced in the first learning objective and is a fundamental requirement to achieve learning outcomes 2 and 3:
 - 1. Describe how the environment and human health interact at different levels.

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

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

• Medical School vs. Institution: When "medical school" is specified in the report card, this only refers to curriculum and resources offered by the School of Medicine and does not include offerings from other parts of the university (for example, undergraduate departments (USA), other related departments eg Public Health, Population Health departments). In contrast, when "institution" is specified in the report card, we are referring to the university more broadly. Any resource reasonably accessible by medical students, no matter where in the institution the

resource comes from or if it is specifically targeted for medical students, can meet this metric.

- Environmental history (Metric 19 in curriculum section): This is a series of questions providers are taught to ask during medical encounters that elicits patients' exposures and environmental risk factors. Historically, this has included consideration of exposures like pesticides, asbestos, and lead, though in the modern era shaped by climate change, it can be expanded to include things like wildfire smoke exposure, air pollution and mold after flooding. Key components include place of residence over the lifecourse, occupational history, food and water sources (e.g. meat from industrial feeding operations, regular fishing in contaminated water, access to clean drinking water), and exposure to air pollution.
- **Elective:** The word "elective" refers to an optional course or lecture series that a medical student can opt to take part in but is not a requirement in the core curriculum. Generally, these elective courses take place in the preclinical curriculum but vary by school.
- **Clerkship:** This is a term used in the USA to refer to placements that medical students go on e.g. Pediatrics, General medicine, Psychiatry. In the UK these are referred to as rotations or placements.

Other considerations:

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

Added to our resources this year, the Planetary Health Report Card <u>Literature Review by Metric</u> 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

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

Curriculum: General

1. Di Edu	d your medical school offer elective courses (student selected modules) to engage students in cation for Sustainable Healthcare or Planetary Health in the last year?
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
Norw and I (SSC) litera effec whic Inequ	vich Medical School this year has offered two elective courses in order to engage students in ESH Planetary health; there is a Public Health elective course under the Student Selected Component () that is offered to year 1 and year 3 students. The Public Health SSC involves the appraisal of ature around a topic the student has chosen (which is related to epidemiology) and the tiveness of public health actions. This year a new SSC elective course in Sociology was added th challenged students to explore two main themes; in year 1 the theme is "The Sociology of ualities in Health" and in year 3 the theme is "Improving Equity in Health".

Curriculum: Health Effects of Climate Change

2. Do risks	bes your medical school curriculum address the relationship between extreme heat, health s, and climate change?
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.

1 This topic was covered in elective coursework.

0 This topic was not covered.

Norwich Medical School operates using a Problem-Based Learning model, this means that students are given weekly learning objectives as well as a clinical scenario that all related to the theme of the week and the specialty that each module covers. Students are then instructed to cover these objectives and discuss them and the clinical scenario in groups of 10 once a week. The learning objectives can be subjective at times which allows for different interpretations by the various small groups of students. There have been some learning objectives that have covered the topic above:

- In year 1: there is a learning objective under the Public Health theme asking students to discuss the impact of climate change on human health (no mention about the relationship between extreme heat). There is also an objective covering how environmental factors can contribute to disability which is open to interpretation should the student wish to discuss climate change and extreme heat.
- 2) It is worth noting that there was a curriculum change this year which resulted in a learning objective in module 2A (previously module 3) being removed from the curriculum. This objective covered the relationship of extreme heat and IV exposure on skin disease.

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.
The	tonic was not included in the mandatory curriculum however there was s

The topic was not included in the mandatory curriculum however there was scope for it to be covered electively within the Public Health Student Selected Component (SSC) in years 1 and 3.

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.

There is no specific core curriculum content covering the link between climate change and infectious disease however there is an elective Public Health Student Selected Component and there is opportunity to cover this theme should the student wish to know more.

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.

The previous learning objective addressing air pollution and extreme weather conditions and their impact on respiratory disease (particularly asthma and COPD) were removed this year as there was a change in the curriculum. However the option of pursuing a Public Health SSC and covering evaluating research on the topic voluntarily in years 1 and 3 is available.

6. Do chan	6. Does your medical school curriculum address the cardiovascular health effects of climate change, including increased heat?	
3	This topic was explored in depth by the core curriculum.	
2	This topic was briefly covered in the core curriculum.	
1	This topic was covered in elective coursework.	
0	This topic was not covered.	
This	This topic is not explicitly covered in any learning objectives or lectures as part of the core curriculum.	

This topic is not explicitly covered in any learning objectives or lectures as part of the core curriculum. However it is potentially an option within the Public Health SCC in years 1 and 3 should students wish to explore the research on the topic.

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

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

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

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

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

The topic is covered under the Public Health learning objectives in year one that encourage students to explore the relationship between health and the environment, climate change and health, and the concept of health inequalities and determinants of health.

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

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

This topic was covered under the year 1 Public Health learning objectives. These objectives focus on the barriers to health for LGBT and BAME individuals. There are also some objectives on how health needs differ in LGBT and BAME individuals. There is a learning objective on the impact of climate change on human health which is very general but leaves room for this topic to be covered by the students. There are also learning objectives covering health inequalities and determinants of health where the link between climate change and marginalized populations can be covered, There are no objectives that explicitly cover the inequality in the impact of climate change on all the above marginalized populations. 10. Does your medical school curriculum address the unequal regional health impacts of climate change globally?

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

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

In the public health objectives in year 1, there is a learning objective on the impact of climate change on human health and health services and there is another objective on health inequalities in the UK and globally. However, there is no learning objective that specifically covers this topic.

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

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

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

This topic is not covered in the learning objectives or the lectures of the Gynecology or Urology modules or any other part of the Norwich Medical School curriculum. There were reports from last year's 4th year students that the topic was briefly discussed in some lectures however this has not been the case from current students that did the module this year. Even if it was briefly discussed by curtained lecturers there are no designated lectures on the topic and no learning objectives that address the issue.

12. I threa	12. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university's surrounding community?	
3	This topic was explored in depth by the core curriculum.	
2	This topic was briefly covered in the core curriculum.	
1	This topic was covered in elective coursework.	
0	This topic was not covered.	

This topic was not included in any part of Norwich Medical Schools curriculum. There are other university student-run societies like Student's for Global Health and ClimateUEA that address the topic but not the medical school.

13. T and	To what extent does your medical school emphasize the importance of Indigenous knowledge value systems as essential components of planetary health solutions?
3	Indigenous knowledge and value systems are integrated throughout the medical school's planetary health education
2	Indigenous knowledge and value systems as essential components of planetary health solutions are included briefly in the core curriculum.
1	Indigenous knowledge and value systems as essential components of planetary health solutions are included in elective coursework.
0	This topic was not covered.
Ther curri	e is no emphasis on the importance of Indigenous knowledge and value systems in the NMA iculum.

14. E envii com	14. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, Indigenous populations, and older adults?	
3	This topic was explored in depth by the core curriculum.	
2	This topic was briefly covered in the core curriculum.	
1	This topic was covered in elective coursework.	
0	This topic was not covered.	
Ther popu	e is no specific mention on the impact of man-made environmental toxins on marginalized lations in the NMS curriculum.	

Curriculum: Sustainability

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

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

2 This topic was briefly covered in the core curriculum.	overed in the core curriculum.
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1 This topic was covered in elective coursework.

0 This topic was not covered.

There is a Lifestyle Medicine SSC topic where students are specifically encouraged to research the benefits of a plant-based dietary lifestyle and its use as a therapeutic modality for management of chronic disease. However there is no mention on the positive impact of plant based diets on the environment.

16. Does your medical school curriculum address the carbon footprint of healthcare systems?	
3	This topic was explored in depth by the core curriculum
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
This topic is not covered within the curriculum.	

17. Does your medical school curriculum cover these components of sustainable clinical practice in the <u>core</u> curriculum? (1 point each)	
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

None of the above are part of the core curriculum. There has been mention of social prescribing by health professionals on hospital and community placements but not as part of the core curriculum.

Curriculum: Clinical Applications

18. In training for patient encounters, does your medical school's curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	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
Students received extensive consultation skills training throughout the 5 years of the degree as part of the curriculum and there is teaching on how to take a social history from a patient but there has been	

19. In training for patient encounters, does your medical school's curriculum introduce strategies for taking an environmental history or exposure history?

no training on how to discuss the impact of climate change on health and vice versa.

the occupational and/or social history.

2	Yes, the core curriculum includes strategies for taking an environmental history.	
1	Only elective coursework includes strategies for taking an environmental history.	
0	No, the curriculum does not include strategies for taking an environmental history.	
Students at Norwich Medical School are taught how to ask patients about previous exposures as part of		

Curriculum: Administrative Support for Planetary Health

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

- 4 Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
- 2 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.

There was a revision of the curriculum across all the first 4 years at the Norwich medical School as of this year and various previous learning objectives that included teaching on planetary health have been removed from the core curriculum. The only valuable addition of note is an SSC topic on Sociology of Inequalities in Health which was added this year but is elective.

21. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?

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

Planetary Health and ESH are not particularly prominent in the core curriculum apart from very few objectives in year 1 out of 5 in the course. However there are various spread out mentions of the topics in lectures or in placement by medical professionals independently from the core curriculum.

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.

We have not been made aware nor did we come across a dedicated faculty member during our research as of date.

Section Total (x out of 69)

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

Interdisciplinary Research

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

1.Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
There are various UEA organizations such as ClimateUEA and the Tyndall Centre that have faculty	

There are various UEA organizations such as ClimateUEA and the Tyndall Centre that have faculty performing research on planetary health however there is no such research occurring within the medical school itself.

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?

3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.
1	There is an Occupational and Environmental Health department, but no interdisciplinary department or institute for planetary health research.
0	There is no dedicated department or institute.

The Tyndall Center is an interdisciplinary department dedicated to planetary and climatic research that encourages contributions and the involvement various other faculties within the university as well as external organizations.

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?

- ³Yes, 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.

A process such as the one described is not currently established by the medical school – however they have been supportive of the ongoing global Health projects carried out by Professor Max Bachman in South Africa on HIV. This section will receive a score of 1.

4. Does your institution have a planetary health website that centralizes ongoing and past research related to health and the environment?

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.
- The institution has an Office of Sustainability website that includes some resources related to health and the environment.
- 0 There is no website.

The university has an easily accessible website committed to the ClimateUEA organization. This website has updated information on ongoing research projects, current news and events, UEA timeline of Climate change research and ground breaking work by pioneering climate change researchers. The website has links to social media pages. Part of the University website is dedicated to sustainability, known as the "Sustainable UEA" page which outlines projects that are currently active and campus initiatives to make the university more suitable.

5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the medical school has hosted at least one conference or symposium on topics related to planetary health in the past year.
3	Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
Norwich medical school has not hosted or been involved in any conferences in the past three years related to planetary health.	

6. Is your medical school a member of a national or international planetary health or ESH organization?

- 1 Yes, the medical school is a member of a national or international planetary health or ESH organization
- 0 No, the medical school is not a member of such an organization

The medical school is not a member of a national or international planetary health or ESH organization.

Section Total (x out of 17)

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Community Outreach and Advocacy

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

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
Alth dire cha imp Clir the inst Sch	hough the Medical school does encourage participation in community outreach projects there is no ect involvement, which only targets a minority group who may be already interested in climate nge. The university is involved directly; there is a center dedicated to the analysis of climate pacts, risks and adaptation options as well as "emission reduction" called the Tyndall Center for mate change and Research. There is also an organization called "the role of the Southern Ocean in Earth System" – ROSES. These organizations are very much intertwined with other School itutions at UEA such as International development – it may be worthwhile to create links between ools to encourage and raise awareness of organizations. Center for climate change and social

transformations. For this reason, the score will be a one.

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

- 1 The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
- 0 The medical school has not offered such community-facing courses or events.

The medical School has not been directly involved in the assistance of student-led initiatives such as the Student for Global Health "Let's talk about" webinars. These are primarily targeted for university students and not necessarily a local community audience. There have been podcasts set up by the UEA institution "tyndall talks" etc which are available on all podcast streaming sites and are accessible to the local public, however the medical school has not been directly involved in planning the course / events. Therefore this section will be receiving a 1.

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.

Currently, we receive no updates on a regular basis and there is very little planetary health or sustainable healthcare dialogue between medical students and the medical school. It may sometimes be included in communication updates but the institution has a "climate UEA" page dedicated to these updates. Thus, this section receives a 0.

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?

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.

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

Currently there are no such accessible courses under "continuing professional development) regarding climate change and health care. therefore this section will be awarded 0 points.

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 centres have accessible educational materials for patients.

No educational leaflets / booklets available for patients about environmental health exposure. This section will receive 0.

6. Does your medical school or its primary affiliated hospital have accessible educational materials for patients about climate change and health impacts?

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

1 Some affiliated hospitals have accessible educational materials for patients.

0 No affiliated hospitals have accessible educational materials for patients.

There are no accessible educational materials for patients about climate change and health impacts. This section will receive a 0.

Section Total (x out of 14)	2
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Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Support for Student-Led Planetary Health Initiatives

<u>Section Overview:</u> 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 *either* offers grants for students to enact sustainability initiatives/QI projects *or* sustainability QI projects are part of the core curriculum.
- 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.

In the medical school there is no obvious point of contact or information as to where students can get opportunities or support for sustainability initiatives, and thus is not part of the core curriculum.

Source:

https://www.uea.ac.uk/about/university-information/sustainability/initiatives/sustainable-societies

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.

The medical school has three themes of research, one of which is Public Health and Health Services. The team supports researchers and research students to undertake research which is related to environmental epidemiology, health inequalities and sustainable healthcare. It is funded externally from the National Institute for Health Research, major charities, and other funders.

Sources:

https://www.uea.ac.uk/web/about/norwich-medical-school/research/public-health-and-health-services

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.

The UEA website has a page dedicated to up-to-date research about human and natural environments, addressing issues and associations between rapid climate change, health, antibiotic resistance and loss of biodiversity. There is nothing available on the public medical school webpage, or blackboard site for students, about sustainability, up-to-date research or finding mentors in regards to planetary health or sustainable healthcare.

Sources:

https://www.uea.ac.uk/about/university-information/sustainability

https://www.uea.ac.uk/research/explore/research-themes/understanding-human-and-natural-environme nts

https://www.uea.ac.uk/about/norwich-medical-school

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.

There are multiple societies at UEA which campaign and advocate for planetary health, for example, Sustainability Society, UEA Green Society, Students for Global Health UEA, and many more who contribute to the collective 'Sustainability Network'. However, no society is directly linked to the medical school or receives any support from the medical school faculty.

Source:

https://www.uea.ac.uk/about/university-information/sustainability/initiatives/sustainable-societies

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.

Sophie Atherton is the Campaigns and Democracy Officer and is the officer on sustainability, ethical, and environmental issues. Eva Korczynksi is the elected Environment Officer. No role within the medical school itself.

Source:

https://www.uea.su/campaigns/sustainability/

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 a 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)			
Sustainable food system projects – UEA Green Growers and Veg Box society. Planetary Health / cultural events – UEA COP26 festival entailed two weeks of panel, speakers, lectures, art and cultural events related to climate change and global health. Wilderness or outdoors programs – UEA Wildlife and Conservation Society organises trips to local wildlife sites and walks. These are all university-wide initiatives, rather than anything specific or supported by the medical school. Sources: https://www.uea.su/opportunities/society/6833/				
https://www.uea.su/campaigns/sustainability/events/				

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Section Total (x out of 15)

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Are there additional student-led initiative resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Campus Sustainability

<u>Section Overview:</u> 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?

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.

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

UEA has a sustainability board is made up of 3 members of the Executive team. The board meets quarterly to discuss initiatives to improve performance. The Sustainability Board reports to UEA Council, the executive governing body of the University, but there is no specific staff member in charge of medical school.

Sources:

https://www.uea.ac.uk/web/about/university-information/sustainability/strategy-policy-and-complia nce

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.

UEA have developed a new NetZeroUEA carbon management plan which was implemented after replacing the 2015-2020 Energy and Carbon Reduction Programme, that expired in July 2021. The Campus Development Programme is a key part of our NetZeroUEA plan by improving energy efficiency of the original 1960s-built Lasdun Wall and reducing the footprint of the campus

In October 2021, the Sustainability Board approved the following targets:

- By July 2030, reduce kgCO2e from direct emissions by 80% (absolute emissions) over 2015 levels.
- *By July 2045, achieve net zero kgCO2e emissions*

Sources:

https://www.uea.ac.uk/about/university-information/sustainability/strategy-policy-and-compliance/ ecrp

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.	
The NetZeroUEA plan includes goals to prioritise renewable energy generation and supply to build a fossil-fuel free campus. Medical school buildings such as The Enterprise Centre is carbon neutral and also extremely energy efficient. In 2015-16, The Enterprise Centre generated 30% of its consumed electricity though its rooftop solar panels. But more medical school buildings need to use renewable energy.		
Sources:		
https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/our- buildings https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/net- zero-uea		

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? Yes, sustainable building practices are utilized for new buildings on the medical school 3 campus and the majority of old buildings have been retrofitted to be more sustainable. Sustainable building practices are utilized for new buildings on the medical school 2 campus, but most old buildings have not been retrofitted. Sustainable building practices are inadequately or incompletely implemented for new 1 buildings. 0 Sustainability is not considered in the construction of new buildings. Steps have been taken to reduce energy and carbon usage. One significant area of work is an energy efficiency campaign in the Faculty of Science, starting in the School of Biological Sciences. Other newly-built buildings such as Thomas Paine Study Centre (2009), Julian Study Centre (2013) and Enterpise Centre (2015) have all been built with a focus on sustainability and lower carbon footprint. However most old buildings of the medical school campus have not been retrofitted. Sources: https://www.uea.ac.uk/web/about/university-information/sustainability/sustainable-campus */our-buildings/low-carbon-campus*

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

Yes, the medical school has implemented strategies to encourage and provide

2 environmentally-friendly transportation options such as safe active transport, public transport, or carpooling and these options are well-utilized by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default.

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.

UEA provides a travel plan strategy to ensure sustainable travel options. £1 *million was spent on cycle infrastructure over the last 10 years to build over 36000 cycle parking spaces, improved*

lighting and CCTV. Recycled materials are being used for paving and seating, whilst the canopy uses a green roof covering and plant screening.

But environmentally-friendly transportation strategies are not well-utilized due to insufficient accessibility or advertisement and more environmentally-friendly options such as: carpool program and electric-powered shuttle system can be provided.

Source:

https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/travel

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

2	Yes, the medical school has both compost and recycling programs accessible to students
	and faculty.

- 1 The medical school has either recycling or compost programs accessible to students and faculty, but not both.
- 0 There is no compost or recycling program at the medical school.

90% of our total waste mass is diverted from landfill through recycling programmes and energy from waste generation. The medical school is part of the main institution campus which has practices in place for both recycling and compost.

Source:

https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/recy cling-and-waste

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)?
 8. Ves, 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.

All outlets at UEA, provide a balanced range of plant-based and vegetarian meals and actively promote the availability of plant-based meals and the reduction of meat and dairy for both health and environmental impact.

UEA tries to purchase fish from the Marine Conservation Society's 'Fish to Avoid' list, and where possible aim to only serve fish with a 'best choices' rating from the MCS and also aim to source the majority of our meat from UK farms.

UEA ensures replacement catering equipment is the most energy and water efficient available, and refrigeration units use hydrocarbon refrigerant. All food waste is sent for composting, and the institution actively promotes alternatives to using paper cups such as keep cups and mugs. Water facilities are available across campus, encouraging students and staff to reusable water bottles.

Sources:

<u>https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/sustainable-foo</u> <u>d</u>

https://www.uea.ac.uk/documents/20142/498339/UEA+Sustainable+Food+Policy+2021+v1. 07+FINAL.pdf

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.

UEA has a Procurement Team that produce a training package for all staff spending University money to ensure they understand laws regarding public procurement and to give you some ideas as to the sustainability issues to consider when ordering goods and services UEA also had a sustainability procurement strategy 2014-2017 published.

However, access to recent sustainable procurement guidelines are not easily accessible, and not specific to medical school.

Source:

https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/sustainable-procur ement

https://www.uea.ac.uk/documents/20142/1114555/UEA+Procurement+Strategy+2014-17.pdf/577453b3-d 9ed-f907-e394-2c7cd9982aa6?t=1597765081774

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.	

There are no sustainability guidelines for medical school events.

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.

The Green Impact programme includes a lab-specific option. An online toolkit guides teams through a range of actions to support safe, sustainable and secure labs.

Source:

https://www.uea.ac.uk/about/university-information/sustainability/initiatives/green-impactprogramme

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

The University divested from fossil fuels in November 2017 and the Vice-Chancellor signed the NUS Divest-Invest Commitment Letter on 18 June 2019.

Source:

https://www.uea.ac.uk/about/university-information/sustainability/people-and-planet-unive rsity-league

Section Total (x out of 31)

22

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

Grading

Section Overview

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

Letter Grade*	Percentage
А	80% - 100%
В	60% - 79%
С	40% - 59%
D	20% - 39%
F	0% - 19%

Planetary Health Grades for the Norwich School of Medicine

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

Section	Raw Score	Letter Grade
Planetary Health Curriculum (30%)	$(16 / 69) \ge 100 = 23.19\%$	D-
Interdisciplinary Research (17.5%)	(8 / 17) x 100 = 47.06%	С
Community Outreach and Advocacy (17.5%)	(2 / 14) x 100 = 14.29%	F
Support for Student-led Planetary Health Initiatives (17.5%)	(7 / 15) x 100= 46.67%	С
Campus Sustainability (17.5%)	(22 / 31) x 100 = 70.97%	В
Institutional Grade	38.28%	D+

Report Card Trends

Section Overview

This graph demonstrates trends in overall and section grades for the years in which [NORWICH MEDICAL SCHOOL] has participated in the Planetary Health Report Card initiative.

