



Planetary Health Report Card:

Norwich Medical School



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Summary of Findings

Curriculum	C
<ul style="list-style-type: none"> Planetary health connections exist throughout the medical course in the form of a few lectures, learning objectives for problem-based-learning, and in the public health and nutrition student selected study modules. There are also plans to review and include more teaching in the curriculum. The medical school should aim to create connections between planetary health teaching across different modules, and maybe have more lectures explicitly refer to the relationship between climate change and health. 	
Interdisciplinary Research	B
<ul style="list-style-type: none"> With the university-wide initiative ‘ClimateUEA’, the institute is committed to interdisciplinary planetary health research across different faculties, including the medical school, which has recruited several notable researchers in the field. The institute and medical school work closely with other international institutes for large-scale research projects. Resources are also easily accessible to students and staff with a dedicated website and social media platforms. The medical school should continue its efforts to establish a process for more community members to advise or make decisions about the research agenda. The institute could take a more proactive role in promoting planetary health by joining the Planetary Health Alliance and the Global Consortium on Climate and Health Education. 	
Community Outreach and Advocacy	D
<ul style="list-style-type: none"> The medical school encourages students to get involved through societies such as ‘Students for Global Health’ and the institute updates students regularly on climate change issues, however they do not have direct partnerships with community organizations and there are few to no resources to increase awareness of planetary health issues in the general community. The medical school should work to organize courses focused on planetary health issues and work with affiliated hospitals to make resources, such as brochures, easily available to patients to educate and increase awareness of environmental impact on health. 	
Support for Student-Led Initiatives	B+
<ul style="list-style-type: none"> The institution website has a section dedicated to sustainability, which includes information on student-led sustainable societies and current initiatives. Both the medical school and institution encourage students to get involved with these initiatives, however there is a lack of funding for starting new initiatives. The medical school is very active in research so there are externally funded opportunities available. It is difficult to find medical school specific initiatives, so it could be beneficial for the medical school to have their own webpage related to planetary health and sustainable healthcare. 	
Sustainability	B+
<ul style="list-style-type: none"> The institution has a sustainability board composed of 3 members of the executive team. The institution and the medical school are working towards making the campus sustainable via a carbon neutrality goal, divesting from fossil fuels, and having sustainable guidelines for supply procurement and food and beverages. Sustainable building practices are utilized for new buildings on the medical school campus, but most old buildings have not been retrofitted. More buildings also need to use renewable energy. 	

Statement of Purpose

Planetary health is human health.

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

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

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

Planetary Health Curriculum

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

Curriculum: General

1. Did your medical school offer elective courses to engage students in Education for Sustainable Healthcare or Planetary Health in the last year?	
3	Yes, the medical school has offered more than one elective whose primary focus is ESH/planetary health in the past year.
2	Yes, the medical school has offered one elective whose primary focus is ESH/planetary health in the past year.
1	The medical school does not have any electives whose primary focus is ESH/planetary health, but there are one or more electives that include a lecture on planetary health.
0	No, the medical school has not offered any electives on planetary health or electives that include ESH/planetary health topics in the past year.
<p>Norwich Medical School provides elective courses in the Student Selected Study (SSS) module for Public Health. Medical students are able to choose the Public Health theme during their 1st and 3rd year, providing a fixed number of students with the opportunity to learn about planetary health throughout their medical studies. The learning objectives set out by the theme include the interactions between the environment and human health, health inequalities across different populations and the impact of climate change on human health and health services.</p>	

Curriculum: Health Effects of Climate Change

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

Norwich Medical School follows a problem-based learning (PBL) structure where students are given learning objectives which are discussed in relation to a clinical scenario. This leaves room for student interpretation, as each will conduct individual research. This results in some students focusing on the relationship between extreme temperature hazards, but some students focusing on other topics.

Learning objectives which have related to this topic include:

- Module 1 (in year 1) – Learning objectives which focused on the role of occupational and environmental hazards to health.
- Module 3 (in year 2) – Relationship between extreme temperature and UV exposure risks and skin health.

Socioeconomic/racial disparities in extreme heat exposure were not covered.

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.

This topic is not included specifically in NMS’s core curriculum, however, it is an area of interest within the Public Health ‘student selected study’ (SSS) module, where students who are interested can base their research on the impact of extreme weather event on health.

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.

During certain public health lectures about infectious disease, e.g. ‘prevention and control of communicable disease’ by Dr Rebecca Hams, the changing patterns of infectious disease was mentioned very briefly using maps... etc. and how this is possibly due to climate change.

The Public Health SSS module also includes learning objectives focused on the impact of climate change on human health and disease, alongside focus on communicable disease control and general principles of disease surveillance.

5. Does your medical school curriculum address the cardiorespiratory health effects of climate change, including air pollution?

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

In module 5 (respiratory medicine), there are PBL learning objectives regarding the role of environmental factors in lung disease (including pollution, temperature and weather change). This encourages individual research, discussions among students, and during primary care teaching.

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

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

This topic is not explicitly mentioned in lectures/learning objectives during the psychiatry module (4th year). However, students have mentioned that they have an awareness on this topic due to independent research and society events.

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

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

Epidemiology learning objectives in module 1 focus on the importance of lifestyle and environment in relation to health and require students to demonstrate awareness of the non-clinical determinants of health, including the role of political, economic, cultural and environmental policies. Although there were no explicit lectures which mentioned this topic, they were covered in multiple learning objectives discussed in depth in PBL sessions which make up the core curriculum teaching.

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

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

During year one, there are multiple learning objectives asking students to explore and research health barriers faced by marginalised populations, as well as explore the factors which increase these health inequalities such as environmental health. These learning objectives are then linked and discussed in depth in PBL sessions. Examples of such learning objectives include:

- ‘Demonstrate awareness of the non-clinical determinants of health, including the role of political, economic, cultural and environmental policies and gender disparities’
- ‘Explain how factors including health inequalities, occupation, poverty and affluence can contribute to illness, course of the disease and the success of treatment’
- ‘Describe how the environment and human health interact at different levels’
- ‘Describe global trends in health inequalities and what drives them’
- ‘Describe the knowledge and skills needed to improve the environmental sustainability of health systems.’
- ‘Discuss the importance of the environment in relation to health and ways to mitigate this effect’
- ‘Describe the distribution of communicable and noncommunicable disease at a global level and the factors which are changing these.’
- ‘ Describe advocacy and leadership skills needed to improve the environmental sustainability of health systems.’
- ‘ Describe advocacy and leadership skills for action on sustainable healthcare.’

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

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

The Public Health student selected module includes a learning objective which focuses on the impact of climate change on human health and health services, however the topic mentioned in the question has not been emphasized in the curriculum.

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

10. Does your medical school curriculum address the reproductive health effects of industry-related environmental toxins (e.g. air pollution, pesticides)?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p>The reproductive health effects of air pollution due to industry has not been covered in the curriculum. However, according to current year 4 students, this has been discussed in lectures across the Obstetrics and Gynecology module. For example, lectures have mentioned air pollution and historical events related to environmental toxins and reproductive health - such as the use of “Agent Orange as a chemical warfare technique in Vietnam” and the congenital defects present in children born for generations after.</p>	

11. Does your medical school curriculum address important human-caused environmental threats that are relevant to the university’s surrounding community?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p>This topic is not included in the NMS core curriculum. However, UEA medical students have opportunities to learn about the man-made impact of the university on its surrounding environment through UEA societies and initiatives, such as ClimateUEA who have partnered with Anglian Water and CEFAS to tackle the impact on the surrounding water bodies.</p> <p>UEA pays great focus on climate change research and evaluation of low carbon technology, especially at the Tyndall Centre for Climate Change Research. NMS students have opportunities to be involved with a variety of societies across university to make a positive impact on the surrounding environment. For example, through UEA food co-op and UEA extinction rebellion.</p>	

12. Does your medical school curriculum address the unique climate and environmental health challenges that have impacted and are impacting Indigenous communities?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.

1	This topic was covered in elective coursework.
0	This topic was not covered.
There is no focus on this topic in the NMS core curriculum.	

13. Does your medical school curriculum address the outsized impact of anthropogenic environmental toxins on marginalized populations such as those with low SES, women, communities of color, children, homeless populations, and older adults?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
The module 1 curriculum includes learning objectives focusing on the role of occupational hazards to health, which includes anthropogenic environmental toxins as well as on non-clinical determinants of health, including economic, cultural and gender disparities. The links and impacts were then discussed in problem-based learning sessions.	

Curriculum: Sustainability

14. Does your medical school curriculum address the environmental and health co-benefits of a plant-based diet?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
Lectures given by the nutrition department have discussed vegan and vegetarian diets; briefly discussing their advantages and disadvantages and why people might want to have such a diet, such as having concerns about animal and planetary health. For example: ‘Dietary Aspects of Anaemia’ (in year 2) by Professor Susan Fairweather-Tait. However, there wasn’t a focus on environmental health. Students also have the option to look more into this if they choose Nutrition as their Student Selected Study module.	

15. Does your medical school curriculum highlight the waste generated by the healthcare system and identify ways to advocate for and implement sustainable best practices in health care?	
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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.	

Curriculum: Clinical Applications

16. In training for patient encounters, does your medical school’s curriculum introduce strategies to have conversations with patients about the health effects of climate change?	
2	Yes, there are strategies introduced for having conversations with patients about climate change in the core curriculum.
1	Yes, there are strategies introduced for having conversations with patients about climate change in elective coursework.
0	No, there are not strategies introduced for having conversations with patients about climate change
However, students do receive consultation skills training sessions, where they are taught to talk about a patient’s social history, and in many cases, an explanation of how the environment affects health does come up. But there are no specific strategies taught to talk about climate change.	

17. In training for patient encounters, does your medical school’s curriculum introduce strategies for taking an environmental history or exposure history?	
2	Yes, the core curriculum includes strategies for taking an environmental history.
1	Only elective coursework includes strategies for taking an environmental history.
0	No, the curriculum does not include strategies for taking an environmental history.
At Norwich Medical School, students are taught to take a full social history, which includes asking patients for a detailed environmental or exposure history. This was especially highlighted during module 5 (resp. module), to screen for causes of respiratory diseases and to explain to the patients why we have asked them those questions. This is tested in our OSCEs - practical exams assessing a student’s competence.	

Curriculum: Administrative Support for Planetary Health

18. Is your medical school currently in the process of improving Education for Sustainable Healthcare (ESH)/planetary health education?
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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.
Norwich Medical School has been working to revise the curriculum, adding more specific learning objectives in each module about climate change and how it interacts with health.	

19. How well are the aforementioned planetary health/Education for Sustainable Healthcare topics integrated longitudinally into the core curriculum?	
6	Planetary health/ESH topics are well integrated into the core medical school curriculum.
4	Some planetary health/ESH topics are appropriately integrated into the core medical student curriculum.
2	Planetary health/ESH is not integrated and is primarily addressed in (a) standalone lecture(s).
0	There is minimal/no education for sustainable healthcare.
At Norwich Medical School, planetary health themes are addressed by brief mentions in lectures and in learning objectives during problem-based learning sessions in specific modules. These are spread across the course, but they are not connected to one another. For example, the effect of climate change on respiratory health, skin health and infections.	

20. Bonus: Does your medical school have a program that offers incentives for faculty/departments to develop new planetary health/ESH courses and/or incorporate planetary health/ESH into existing courses?	
1*	Yes, the medical school has an incentive program.
0	No, the medical school does not have an incentive program.
No, the medical school does not have an incentive program.	

Section Total (27 out of 58)	27
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Interdisciplinary Research

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

1. Are there researchers engaged in planetary health research and healthcare sustainability research at your medical school?	
4	Yes, there are faculty members at the School of Medicine who have a primary research focus in planetary health and healthcare sustainability.
3	Yes, there are faculty members at the School of Medicine who have a primary research focus in a planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the School of Medicine who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution, but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p>Several colleagues in the Norwich Medical School are engaged in planetary health research or healthcare sustainability research. One notable example is Professor Paul Hunter, who is an expert in microbiology. His key research interests and expertise are the epidemiology of emerging infectious disease especially that linked to environmental factors including water and food. He is the coordinator of multiple research projects carried out in the UK, Europe and the developing world. Other faculty members engaged in related research include Dr Kevin Tyler involved in the EU AQUAVALENS project, Professor Max Bachman involved in various global multi-disciplinary health services research etc.</p>	

2. Is there a dedicated department or institute for interdisciplinary planetary health research at your institution?	
3	There is at least one dedicated department or institute for interdisciplinary planetary health research.
2	There is not currently a department or institute for interdisciplinary planetary health research, but there are plans to open one in the next 3 years.

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

ClimateUEA is a university-wide institute established in 2019 that brings together a multidisciplinary team of experts from 18 schools across all 4 faculties in UEA. One of the goals is to understand and minimise humankind’s impact on Earth’s climate and ecosystems, and to tackle the unprecedented environmental and social challenges caused by climate change.

Apart from UEA’s Climatic Research Unit (CRU), which is one of the world leading institutions about the study of natural and anthropogenic climate change, a vast diversity of partners are also involved in ClimateUEA: Tyndall Centre for Climate Change Research, Earlham Institute, The Earthshot Prize, Centre for Environment, Fisheries and Aquaculture Science (CEFAS), John Innes Centre (JIC), The Sainsbury Laboratory (TSL). 6 cross-disciplinary climate-focused research pillars underpin ClimateUEA: ‘Capturing the critical decade for climate change’, ‘Developing resilience through climate narrative’, ‘Understanding the climate system and its interactions with society’, ‘Tackling poverty through action on climate change’, ‘Climate innovation’, and ‘Seizing the power of natural capital in a changing climate’.

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.

Such a process is not well established in Norwich Medical School at the moment, but there are current efforts to advocate this. The medical school is working closely with communities in other continents including the Global South which feed into the research agenda in the school’s research projects like Professor Max Bachman’s work on HIV and Professor Paul Hunter’s work on providing clean water supply in low-income countries.

4. Does your institution have a planetary health website, or a website centralizing various campus resources related to health and the environment?

3	There is an easy-to-use, adequately comprehensive website that centralizes various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
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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.
<p>UEA has an easily accessible, updated website devoted to its ClimateUEA institute, which includes the research projects, timeline of climate change activities at UEA, and expert climate change researchers. UEA staff, students and academics from partnering institutions interested to join the institute are also encouraged to contact them. Links to its own social media platforms (Facebook, Instagram, Twitter) are also shown on the website, which provides additional information and updates about the institute. The Sustainability office also has a comprehensive website providing information about its initiatives, resources and guidance, events and policy.</p>	

5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
4	Yes, the institution has hosted more than one conference or symposium on topics related to planetary health in the past year, including at least one on climate change.
3	Yes, the institution has hosted one conference or symposium on topics related to planetary health in the past year.
2	Yes, the institution has hosted a conference on topics related to planetary health in the past three years.
1	The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event.
0	No, the institution has not hosted a conference on topics related to planetary health in the past three years.
<p>The University has hosted one planetary health-related conference on Vital Signs: Our planet, Our health in 2019.</p>	

6. Has your institution or medical school joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education?	
2	Yes, the medical school has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education.
1	Yes, the institution has joined the Planetary Health Alliance and/or the Global Consortium on Climate and Health Education, but the medical school specifically has not.
0	No, the institution has not joined the Planetary Health Alliance or the Global Consortium on Climate and Health Education.

Both the university and the medical school have not joined the Planetary Health Alliance and the Global Consortium on Climate and Health Education.

Section Total (13 out of 19)

13

Community Outreach and Advocacy

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

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<p>UEA partners many organizations but Norwich Medical School is not directly involved, although medical students are invited and encouraged to participate. Organizations involved include the Tyndall Centre for Climate Change Research (A Tyndall center building is present on campus), Centre for Climate Change and Social Transformations, and ROSES.</p> <p>Source: https://www.uea.ac.uk/climate</p>	

2. Does your medical school offer community-facing courses or events regarding planetary health?	
3	The medical school offers community-facing courses or events at least once every year.
2	The medical school offers courses or events open to the community at least once per year, but they are not primarily created for a community audience.
1	The institution has offered community-facing courses or events, but the medical school was not involved in planning those courses or events.
0	The medical school has not offered such community-facing courses or events.
<p>The Medical school also assists student run societies such as Students for Global Health and through them offers courses or events open to the community at least once per year, (e.g., Let's Talk About</p>	

Climate Change & Health workshop) but they are primarily created for university students, not a community audience.

The partner organizations of UEA also organize activities such as a series of online talks (Antarctica Week) and Webinars.

Source: <https://www.uea.ac.uk/climate>, <https://www.facebook.com/studentsforglobalhealthuea> and <https://www.facebook.com/events/777793689663421/>

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.

Medical students receive the general update from the UEA communications weekly which almost always includes planetary health or sustainable healthcare topics, but there are no updates dedicated towards it.

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

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

No affiliated medical centers have accessible educational materials for patients.

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

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

No affiliated hospitals have accessible educational materials for patients.

Section Total (4 out of 12)

4

Support for Student-Led Planetary Health Initiatives

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

1. Does your institution offer support for medical students interested in enacting a sustainability initiative?	
2	Yes, the institution offers grants available to medical students for students to enact sustainability initiatives.
1	The medical school encourages sustainability QI projects (to fulfill clerkship or longitudinal requirements) and offers resources to help students succeed in these projects, but there is no student funding available.
0	No, the institution does not offer opportunities or support for sustainability initiatives.
<p>The institution works closely with student led societies such as Enactus UEA and the Sustainability Society through which one can get support for students undertaking initiatives. Furthermore, the staff of the medical school are supportive in pointing out where to go. However, there is no webpage and obvious information as to where medical students can get opportunities or support for sustainability initiatives.</p> <p>https://www.uea.ac.uk/about/university-information/sustainability/initiatives/sustainable-societies</p>	

2. Does your institution offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
3*	The institution offers an explicit paid fellowship for medical students to do research related to planetary health and/or sustainable healthcare.
2*	The institution offers paid research opportunities for students and planetary health/sustainable healthcare projects would be considered eligible.
1	There are unfunded research opportunities for students to perform research related to planetary health/sustainable healthcare.
0	There are no opportunities for students to receive funding for planetary health/sustainable healthcare research.
<p>The medical schools have 3 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 planetary health and sustainable healthcare. It is funded externally from the National Institute for Health Research, major charities, and other funders.</p>	

Source: <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.

There is a webpage 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. On another webpage, there is information about ongoing projects and mentors with their contact details, however it lacks details and key information.

Source: <https://www.uea.ac.uk/about/university-information/sustainability>
<https://www.uea.ac.uk/research/explore/research-themes/understanding-human-and-natural-environments>
<https://www.uea.ac.uk/web/about/university-information/sustainability/projects>

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

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

The institution has many sustainable societies including Students for Global Health, UEA healthy planet, and UEA People & Planet which contribute to the student collective of the sustainability network. This network consists of a wide range of staff and students involved in delivering and promoting sound policies and practices throughout the University of East Anglia to protect and enhance the local and global environment.

Source:

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

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

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

Sophie Atherton is the Campaigns and Democracy Officer and is the officer on sustainability, ethical, and environmental issues. Eva Korczynski is the elected Environment Officer.

Source: <https://www.uea.ac.uk/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 an intended audience.
1	Events in which students learn directly from members of a local environmental justice community about the climate and environmental challenges they face, and how health professionals can partner with their community to address these exposures and impacts.
1	Cultural arts events, installations or performances related to planetary health that have students as an intended audience.
1	Local volunteer opportunities related to building community resilience to anthropogenic environmental impacts.
1	Wilderness or outdoors programs (e.g., that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles.

- Sustainable food systems - UEA green growers and veg box society.
- Events related to planetary health - the UEA sustainability network has a blog which covers past and present conferences which have been held.
- The Sainsburys centre has had art installations related to planetary health in the past.
- Wilderness or outdoors - conservation and wildlife society in partnership with UEA sustainability society.

Source: <https://ueasustainabilitynetwork.weebly.com/blog#> and <https://www.uea.ac.uk/about/university-information/sustainability/initiatives/sustainable-societies>

Section Total (11 out of 14)	11
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Additional Notes: the inaugural Sustainable UEA Awards recognizes the achievement of staff and students across UEA who have worked to make the University and local, regional, and international communities more sustainable for current and future generations.

Source: <https://www.uea.ac.uk/about/university-information/sustainability/events/sustainableuea-awards>

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>UEA has a sustainability board composed of 3 members of the executive team, who meet each term to support and influence initiatives to improve performance at Executive Team level. 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.</p> <p>Source: https://www.uea.ac.uk/web/about/university-information/sustainability/strategy-policy-and-compliance</p>	

2. Does your medical school and/or institution have a stated goal of carbon neutrality by 2050?	
4*	The medical school is already carbon neutral.
3	Yes, there is a stated carbon neutrality goal and the medical school has a well-defined and adequate plan in place to achieve this goal.
2	Yes, there is a stated carbon neutrality goal, but the medical school has not created a plan to reach that goal or the plan is inadequate.
1	There is a CO2 emission reduction goal, but it is not one of carbon neutrality.
0	There is no stated goal for reduction of CO2 emissions.

UEA has a 10 year programme to refurbish the Lasdun Wall and a £300m estate strategy to improve energy usage and reach net zero by 2025. The University also supports the UK committee on Climate Change target of carbon neutrality by 2050.

UEA had a 2020 target of reducing energy consumption by 25%, the delivery of more solar PV panels on campus and the decarbonisation of the electricity grid to support a reduction of our carbon footprint.

Source:

<https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/energy-efficiency-and-carbon-reduction> and <https://www.uea.ac.uk/news/-/article/uea-declares-a-climate-and-biodiversity-emergency>

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.

Some medical school buildings such as the Bob Champion enterprise building are carbon neutral and also extremely energy efficient as it uses body heat, but more buildings need to use renewable energy.

Source: <https://sites.uea.ac.uk/adapt/the-enterprise-centre>, <https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/our-buildings>, <https://www.uea.ac.uk/about/university-information/sustainability/strategy-policy-and-compliance>

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

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

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. However most old buildings of the medical school campus have not been retrofitted.

Source: <https://www.uea.ac.uk/about/university-information/sustainability/strategy-policy-and-compliance/ecrp>, <https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/our-buildings>

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 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.

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

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/recycling>

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections?

3	Yes, the medical school has adequate sustainability requirements for food and beverages and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional. The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.

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.

Source: <https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/sustainable-food>

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.

The university has sustainability procurement guidelines, which are followed by the medical school. There is also a procurement team which is continuously looking for ways to make purchases more sustainable.

Source: <https://www.uea.ac.uk/about/university-information/sustainability/sustainable-campus/sustainable-procurement> and <https://www.uea.ac.uk/documents/20142/1114555/UEA+Procurement+Strategy+2014-17.pdf/577453b3-d9ed-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-impact-programme>

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.
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.

We do not currently have an Ethical Investment Policy. The University divested from fossil fuels in November 2017 and has signed up to the NUS Divest Invest commitment.

Source: <https://www.uea.ac.uk/about/university-information/finance-and-procurement/investment-of-endowment-funds>

Section Total (22 out of 29)	22
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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%

Planetary Health Grades for the Norwich Medical School, University of East Anglia:

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

Section	Raw Score	Grade
Planetary Health Curriculum (30%)	27 / 58 = 46.6%	C
Interdisciplinary Research (17.5%)	13 / 19 = 68.4%	B
Community Outreach and Advocacy (17.5%)	4 / 12 = 33.3%	D
Support for Student-led Planetary Health Initiatives (17.5%)	11 / 14 = 78.6%	B+
Campus Sustainability (17.5%)	22 / 29 = 75.9%	B+
Institutional Grade	58.8%	C+