



Planetary Health Report Card (Medicine): *Aristotle University of Thessaloniki (AUTH)*



2022-2023 Contributing Team:

- Students: Marianna Antoniou, Isidora Bochoridou, Athanasios Kazakos, Samuel Pechlivanis-Olagoke, Theodora Papacharisi
- Primary Contact: Athanasios Kazakos, athan.kaz@gmail.com

Summary of Findings

Overall	D
<u>Curriculum</u>	D
<ul style="list-style-type: none"> The Medical School of Aristotle University of Thessaloniki (AUPh Medical School) includes planetary health only briefly in the curriculum, mostly in the first and second years. Most of the time the coverage of planetary health as a subject seems like more of an afterthought and not as the actual goal of the lectures. Only specific courses reference planetary health and there is much to be desired and many steps to take towards integration in the curriculum. Recommendations: There should be core curriculum courses that are more specifically centred on planetary health, parallel to the subject being interwoven in all aspects of the curriculum. 	
<u>Interdisciplinary Research</u>	D
<ul style="list-style-type: none"> AUPh Medical School conducts research on a basic level and only a part of it is about topics around planetary health. Also, the university doesn't have a big role in organising conferences or symposiums about planetary health. Recommendations: The goal of AUPh Medical School should be the more active participation in the research of topics around planetary health in the near future. 	
<u>Community Outreach and Advocacy</u>	F
<ul style="list-style-type: none"> AUPh Medical School has little community outreach relating to planetary health, and it is mostly related to health care professionals. Overall, community outreach is something our university generally lacks Recommendations: More community partnerships relating to planetary health, as well as more events aimed towards the public on this subject. 	
<u>Support for Student-Led Initiatives</u>	C
<ul style="list-style-type: none"> The Aristotle University of Thessaloniki and the Medical School support student groups dedicated to planetary health. There is the "Environmental Team of AUPh" whose actions are shaped around environmental issues that primarily concern the university and secondarily the local community in which the students study and live. In addition, the AUPh Vet School organises an electronic competition, that has actions to promote sustainable mobility (supply of electric cars, electric bicycles and a charging station to cover the needs of the AUPh), while the "Environmental Conference of Macedonia" is addressed to students and has topics about planetary health. Recommendations: Support for student-led initiatives mostly comes from the wider University rather than the Medical School. We recommend the medical school offers increased support to students interested in sustainable initiatives for example via creating a website that advertises mentors or opportunities for students relating to PH or ESH and prioritises grants for related research. 	
<u>Campus Sustainability</u>	D
<ul style="list-style-type: none"> The AUPh Medical School has made some moves in recent years on campus sustainability. The steps are mostly theoretical, and other than recycling, little has been done in practice. Recommendations: There are still many practical changes to make on campus regarding sustainability, especially to the older buildings that make up a lot of the faculties. 	

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 “the health of human civilisation and the state of the natural systems on which it depends.” 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.
- **Sustainable Healthcare:** As defined by the Academy of Royal Colleges, sustainable healthcare involves ensuring the ability to provide good quality care for future generations by balancing the economic, environmental, and social constraints and demands within health care settings. A sustainable healthcare system maintains population health, reduces disease burden and minimises use of healthcare services.
- **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 (e.g. undergraduate departments (USA), other related departments (e.g. 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 examples).

Added to our resources last year, the Planetary Health Report Card [Literature Review by Metric](#) collates the evidence behind each of the metrics in the Planetary Health Report Card. It serves as a collection of references for further learning and a resource for those advocating for increased planetary health engagement at their institutions.

Planetary Health Curriculum

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

Curriculum: General

1. Did your <u>medical school</u> offer elective courses (student selected modules) 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><i>Score explanation: The Medical School of the Aristotle University of Thessaloniki (AUTH) offers one elective course whose primary focus is ESH/planetary health, with the name of “Environment & Health”. The learning outcomes are the acquisition of knowledge and skills about the natural, anthropogenic and working environment, the activities and substances that change the physicochemical constants and upset the balance of ecosystems and the effects of the above changes on human health, as well as the training of the students in real conditions in production units and environmental protection areas. After attending, the students should:</i></p> <ul style="list-style-type: none"> - <i>Know the relationship between man and the natural, man-made and working environment,</i> - <i>Have understood the relationship between development and environmental protection, the environmental effects of human activities and the concept of sustainable sustainable development,</i> - <i>Know the epidemiological and clinical effects of the environmental crisis on the human body,</i> - <i>Link global environmental problems with demographic data and quality of life,</i> - <i>Take a position on the policies practiced at the global, European and Greek level, the results of these policies and the possible ways out of the crisis and</i> - <i>Link environmental education with health education as contributors to the lifelong education of doctors and elements of their daily activities and lifestyle.</i> 	

Curriculum: Health Effects of Climate Change

2. Does your medical school curriculum address the relationship between extreme heat, health risks, 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.
<p><i>Score explanation: There is a course named “Hygiene” in the AUPh Medical School that explains part of the relationship between health risks and climate change, but it doesn’t include the extreme heat part. In fact, one of the learning outcomes of the curriculum is for the students to be able to answer the following questions about Environmental Health:</i></p> <ul style="list-style-type: none"> - <i>What is the environmental crisis?</i> - <i>What is air pollution and what are its effects?</i> - <i>How do the ozone hole and the greenhouse effect affect human health and livelihood?</i> 	

3. Does your <u>medical school</u> 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.
<p><i>Score explanation: The curriculum does not cover this specific topic.</i></p>	

4. Does your <u>medical school</u> 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.
<p><i>Score explanation: The curriculum does not cover this specific topic.</i></p>	

5. Does your <u>medical school</u> curriculum address the respiratory health effects of climate change and air pollution?	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.

1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: In the core curriculum “Hygiene”, there is a description of photochemical pollution and what its effects are, and also how climate change affects public health. Plus, in some clinical curricula like pulmonology, the students should be taught about the effects of climate change and air pollutants on respiratory health, but that’s not safe to say, because not every clinic and teacher speaks of the effects of air pollution and especially of climate change on the respiratory system, so it’s believed that the topic might be briefly covered in some other core curricula.</i></p>	

<p>6. Does your <u>medical school</u> curriculum address the cardiovascular health effects of climate change, including increased heat?</p>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation: The topic was not covered.</i></p>	

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

<p>8. Does your <u>medical school</u> curriculum address the relationships between health, individual patient food and water security, ecosystem health, and climate change?</p>	
3	This topic was explored in depth by the core curriculum.
2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: The topic was not covered.-

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.

Score explanation: The curriculum in the AUPh Medical School does not address the outsized impact of climate change on 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.

Score explanation: One of the learning outcomes of the elective course "Environment & Health" is the knowledge of the epidemiological effects of the environmental crisis on the human body, which partially covers the topic of unequal regional health impacts of climate change.

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.

Score explanation: The topic was briefly covered during lectures on Gynecology that are in the fifth year of medical school. Specifically it was mentioned in a lecture on the medical conditions that can occur during pregnancy as well as one on the beginning stages of pregnancy.

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.

Score explanation: In the third-year curriculum, there is a course named “Υγιεινή και Επιδημιολογία” (Hygiene and Epidemiology) whose lectures include:

- *Water Hygiene*
- *Domestic & industrial wastewater*
- *Air pollution*

It was described how these are relevant to the city of Thessaloniki, especially regarding the pollution of the gulf from factories, human waste and the harbour, as well as the air pollution that plagues Thessaloniki because of it being the second biggest city in Greece and less than ideally structured for better airflow and with very insufficient public transport.

13. To what extent does your medical school emphasize the importance of Indigenous knowledge and 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.

Score explanation: This topic was not covered at all in the curriculum. It is not a topic that is currently discussed in Greece.

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.

Score explanation: This topic was covered briefly during lectures in the core curriculum courses “Εισαγωγή στις Κλινικές Δεξιότητες και στην Πρακτική Άσκηση” (Introduction to Clinical Skills and Practice) and “Βασικές Κλινικές Δεξιότητες” (Basic Clinical Skills), that are taught in the first and second years of medical school respectively. These lectures were on the Promotion of health in General Medicine and on the access to health for disabled individuals, respectively. In the first lecture the impact of anthropogenic environmental toxins on lower income individuals was mentioned. The second one referred to the impact that these toxins have on disabled individuals.

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.
1	This topic was covered in elective coursework.
0	This topic was not covered.

Score explanation: It is possible that the topic is referred to in the mandatory course “Κλινική Διατροφή” (Clinical Dietology) and the elective course “Αρχές κλινικής διατροφής και διατροφικής θεραπευτικής” (Principles of Clinical Dietology and Dietary Therapeutics) which are taught in the fifth year and third and above respectively. The data found on that was insufficient and there was not an opportunity to talk to the professors responsible for these courses which is why there were zero points awarded.

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.

Score explanation: This topic was not covered in the curriculum, as far as our research has concluded.

17. Does your medical school curriculum cover these components of sustainable clinical practice in the core curriculum? (points for each)

2	The health and environmental co-benefits of avoiding over-medicalisation, over-investigation and/or over-treatment
---	---

2	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. This is commonly known as social prescribing in the UK.
1	Environmental impact of surgical healthcare on planetary health and the climate crisis, and how can it be mitigated
1	The impact of anaesthetic gases on the healthcare carbon footprint and ways to reduce anesthesia environmental impacts, such as total intravenous anaesthesia or choosing less environmentally harmful anaesthetic gas options with reduced greenhouse gas emissions
1	The impact of inhalers on the healthcare carbon footprint and the environmental benefit of dry powdered inhalers over metered dose inhalers.
1	Waste production within healthcare clinics and strategies for reducing waste in clinical activities (e.g. single use items in the inpatient or outpatient setting)
	<p><i>Score explanation:</i></p> <p><i>The health and environmental co-benefits of avoiding over-medicalisation were referred to on the course “Εισαγωγή στην Φαρμακολογία” (Introduction to Pharmacology) during two lectures on the interactions of drugs inside the human body. The health and environmental co-benefits of avoiding over-investigation and/or over-treatment were mentioned on the second year course “Κλινική Βιοχημεία” (Clinical Biochemistry) during the introductory lecture of the course.</i></p> <p><i>The environmental and health benefits of deprescribing where possible were covered in the course “Εισαγωγή στην Φαρμακολογία” (Introduction to Pharmacology) during two lectures on the interactions of drugs.</i></p> <p><i>The first point was mentioned in the third year course “Εισαγωγή στην Φαρμακολογία” (Introduction to Pharmacology).</i></p> <p><i>Waste production in clinical practices was tackled in the first year course “Εισαγωγή στις Κλινικές Δεξιότητες και την Πρακτική Άσκηση” (Introduction to Clinical Skills and Practice), with the main focus of the section being the safe handling of medical waste and of possible contaminants that could be dangerous to people and the environment.</i></p> <p><i>It is possible that some of the rest were briefly mentioned in some labs or during lessons where the students were in smaller groups but those instances were initiated by individual tutors and not systematically incorporated into the curriculum and mentioned to all students.</i></p>

Curriculum: Clinical Applications

18. In training for patient encounters, does your <u>medical school's</u> 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
<p><i>Score explanation: While there are multiple courses specifically centred on how to communicate with patients according to their specific circumstances, none of them mention how to talk to them about climate change and its health effects.</i></p>	

19. In training for patient encounters, does your <u>medical school's</u> 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.
<p><i>Score explanation: There are multiple courses, both pre-clinical and clinical that teach students how to take a full history including environmental history and history of exposure. During the second year of medical school the course “Βασικές Κλινικές Δεξιότητες” (Basic Clinical Skills) has multiple lectures on history taking and labs that include roleplaying between students for practice. A clear layout of a correct patient history is given and there is emphasis upon environmental and exposure history. In the third year, in the course “ Εισαγωγή στην Κλινική Σημειολογία” (Introduction to Clinical Typology), there are also multiple lectures on history taking that are given from surgical, internal medicine and paediatric clinics, so as to highlight the differences between their focuses. During these environmental and exposure history is highlighted as very important. In this course students also practise history taking on patients during clinics as that is one of its main focuses.</i></p>	

Curriculum: Administrative Support for Planetary Health

20. Is your <u>medical school</u> 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.
<p><i>Score explanation: While the improvement might not be as substantial as it could, it has to be recognised that with the new curriculum that was introduced in 2019 the focus was shifted more towards patient centered care, as it should be. That includes a focus on better history taking and more awareness on how a clinical setting functions, including lectures on how to reduce the overprescription of drugs and especially antibiotics, which relate to planetary health Every year the content of lectures in the curriculum is changed a little bit to include more topics that relate to public health, including</i></p>	

planetary health. Also the elective course “Περιβάλλον και υγεία” (Environment and Health) which was included in both the old and the new curriculum, covers a lot of the topics mentioned above.

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.

Score explanation: At the AUTH Medical School in the third-year curriculum, there is a course named “Hygiene and Epidemiology” .

Some of the topics of the course are:

- *Water Hygiene*
- *Domestic & industrial wastewater*
- *Air pollution*
- *Environmental health: global environmental problems*

The topic of planetary health/ESH is covered mostly in this course in the third-year 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.

Score explanation: No, AUTH Medical School does not have a specific faculty/staff member.

Section Total (22 out of 72)

30.55%

Back to Summary Page [here](#)

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

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 ?	
3	Yes, there are faculty members at the medical school who have a primary research focus in planetary health or healthcare sustainability.
2	Yes, there are individual faculty members at the medical school who are conducting research related to planetary health or healthcare sustainability, but it is not their primary research focus.
1	There are planetary health and/or healthcare sustainability researchers at the institution , but none associated with the medical school.
0	No, there are no planetary health and/or healthcare sustainability researchers at the institution or medical school at this time.
<p><i>Score explanation: In AUPH Medical School, the Laboratory of Hygienic, Social & Preventive Medicine and Medical Statistics conducts research about Environmental Health, Water Sanitation and other topics. Some researchers that are working on these topics are Professor Papadakis N., who has done research on water quality and sanitation (https://pubmed.ncbi.nlm.nih.gov/26400244/, https://pubmed.ncbi.nlm.nih.gov/24607632/) and Professor Dardavesis, whose research includes topics such as hospital waste management (An information system for hospital waste management, Journal of Environmental Protection and Ecology, 2009, P. Mentzelou, P. Vosniakos, Th. Dardavessis, N. Papadakis, K. Nikolaou, Ch. Athanasiadou).</i></p>	

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

Score explanation: In AUTH, there is the Center for Interdisciplinary Research and Innovation (KEΔEK), which conducts research, but it is not dedicated to planetary health research. Part of KEΔEK is a team called “HERACLES” and its goal is to analyse and understand the individual mechanisms of the effect of environmental factors on human health, throughout the human lifespan, from conception to death.

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

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

Score explanation: No, there is no process, and no efforts to create such a process.

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

3	There is an easy-to-use, adequately comprehensive website that centralizes various campus resources related to health and the environment including all of the following: upcoming events, leaders in planetary health at your institution, and relevant funding opportunities.
2	There is a website that attempts to centralize various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive.
1	The institution has an Office of Sustainability website that includes some resources related to health and the environment.
0	There is no website.

Score explanation: No, there is no website.

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.
<p><i>Score explanation: The Environmental Conference of Macedonia is being conducted, under the auspices of the Chemistry department of Aristotle University of Thessaloniki. The most recent one (the 7th) took place in 2020 and the 8th one in 2023 has also been announced. Some of the topics of the Conference are Environmental Health, Climate Change, Water and Air Pollution.</i></p>	

6. Is your <u>medical school</u> 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
<p><i>Score explanation: No, AUTh is not a member of such an organization, or if it is it has not been made public to the students.</i></p>	

Section Total (5 out of 17)	29.4%
------------------------------------	--------------

Back to summary page [here](#)

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

Community Outreach and Advocacy

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

1. Does your medical school partner with community organizations to promote planetary and environmental health?	
3	Yes, the medical school meaningfully partners with multiple community organizations to promote planetary and environmental health.
2	Yes, the medical school meaningfully partners with one community organization to promote planetary and environmental health.
1	The institution partners with community organizations, but the medical school is not part of that partnership.
0	No, there is no such meaningful community partnership.
<i>Score explanation: No, there is no such meaningful community partnership.</i>	

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 institution/medical school have not offered such community-facing courses or events.
<i>Score explanation: No, the ATh University has not offered such community-facing courses or events.</i>	

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 receive communications about planetary health or sustainable healthcare.
<i>Score explanation: There is no regular coverage of those issues.</i>	

4. Does the <u>institution</u> or <u>main affiliated hospital trust</u> engage in professional education activities targeting individuals post graduation with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career?	
2	Yes, the institution or main affiliated hospital trust offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health.
1	Yes, the institution or main affiliated hospital trust offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers
0	There are no such accessible courses for post-graduate providers
<i>Score explanation: There are some courses that provide those education skills, such as "Public Health and Health Policy", "Health and Environmental Factors", "Social-Preventive Medicine and Quality in Health Care" and "Primary Health Care".</i>	

5. Does your <u>medical school</u> or its <u>primary affiliated hospital</u> have accessible educational materials for patients about environmental health exposures?	
2	Yes, all affiliated hospitals have accessible educational materials for patients.
1	Some affiliated hospitals have accessible educational materials for patients.
0	No affiliated medical centers have accessible educational materials for patients.
<i>Score explanation: There is no readily available educational material about environmental health exposures.</i>	

6. Does your <u>medical school</u> or its <u>primary affiliated hospital</u> 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.
<i>Score explanation: There is no educational material about climate change and health impacts for patients.</i>	

Section Total (2 out of 14)	14.28%
-----------------------------	--------

Back to summary page [here](#)

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

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 medical school or your institution offer support for medical students interested in enacting a sustainability initiative/QI project?	
2	Yes, the medical school or institution <i>either</i> offers grants for students to enact sustainability initiatives/QI projects <i>or</i> sustainability QI projects are part of the core curriculum.
1	The medical school or institution 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, neither the medical school or the institution offer opportunities or support for sustainability initiatives or QI projects.
<i>Score explanation: There is not any support for those actions.</i>	

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.
<i>Score explanation: There is an inter-institutional postgraduate program entitled "Health and Environmental Factors", whose purpose is the study of the effect of environmental factors on various human diseases as a cornerstone in the understanding and clarification of their etiology and pathophysiology.</i>	

3. Does the medical school have a webpage where medical students can find specific information related to planetary health and/or sustainable healthcare activities and mentors within the medical school? For example, projects achieved, current initiatives underway at the medical school and/or contact of information of potential mentors.	
--	--

2	The medical school has a webpage with specific information related to planetary health or sustainable healthcare that includes up-to-date information on relevant initiatives and contact information of potential mentors.
1	There is a medical school webpage that features some information on projects and mentors within planetary health and sustainable healthcare within the medical school, but it lacks key information.
0	There is no medical-school specific webpage for locating planetary health and/or sustainable healthcare projects or mentors.
<i>Score explanation: There aren't any webpages provided by our medical school about those topics.</i>	

4. Does your <u>medical school</u> 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.
<i>Score explanation: There is the "Environmental Team of AUTH" whose actions are shaped around environmental issues that primarily concern the University and secondarily the local community in which the students study and live.</i>	

5. Is there a student liaison representing sustainability interests who serves on a <u>medical school</u> or <u>institutional</u> 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.
<i>Score explanation: Aristotle University has a team called "Environmental Team of AUTH". The group's actions are shaped around environmental issues that primarily concern the university and secondarily the local community in which the students study and live. (https://www.socialdynamo.gr/hosted_group/perivallontiki-omada-aph/) Also, there's an environment council, that is engaged on the same topics (https://www.auth.gr/committee/com-symper/)</i>	

6. In the past year, has the <u>institution</u> 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)
<p><i>Score explanation:</i> For the 1st one, AUPh Vet School organises an electronic competition, that has actions to promote sustainable mobility (supply of electric cars, electric bicycles and a charging station to cover the needs of the AUPh).</p> <p>For the 2nd one, "Environmental Conference of Macedonia" is addressed to students and has topics about planetary health. (http://persynmak.blogspot.com/?m=1).</p>	

Section Total (7 out of 15)	46.66%
------------------------------------	---------------

Back to summary page [here](#)

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

Campus Sustainability

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

1. Does your medical school and/or institution have an Office of Sustainability?	
3	Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital and/or medical school.
2	There is an Office of Sustainability with one or more full-time staff dedicated to campus sustainability, but no specific staff member in charge of medical school and/or hospital sustainability.
1	There are no salaried sustainability staff , but there is a sustainability task force or committee
0	There are no staff members or task force responsible for overseeing campus sustainability
<p><i>Score explanation: There is the Environment Office that it's actions are:</i> <i>the reuse and prevention of the production of waste, as well as its efficient management,</i> <i>energy saving and production,</i> <i>the rational management of water,</i> <i>campus regeneration and green management,</i> <i>sustainable mobility,</i> <i>the production and distribution of organic products,</i> <i>ecodevelopment,</i> <i>the presentation and provision of guidelines for the adoption of good practices,</i> <i>the awareness and participation of the members of the university community in Integrated Environmental Management (IEM) at AuTh.</i></p> <p><i>Also it participates in the monitoring and evaluation of the actions for the O.P.D. at the University of Athens, while at the same time being informed about relevant research, studies, services, products and funding.</i></p> <p><i>Supervises the workshops that are assigned tasks such as: the maintenance of green spaces, the cleaning and beautification of these spaces, the maintenance and repair of agricultural and horticultural machinery, their refueling with fuel and lubricants, the supply of the necessary materials and spare parts , and takes care of the necessary actions, so that they are always ready.</i></p> <p>https://www.auth.gr/directorate/admin-gdty/admin-gp/</p>	

2. How ambitious is your <u>institution/medical school</u> plan to reduce its own carbon footprint?
--

5	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2030
3	The institution/medical school has a written and approved plan to achieve carbon neutrality by 2040
1	The institution/medical school has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate
0	The institution/medical school does not meet any of the requirements listed above
<i>Score explanation: The medical school does not meet any of the requirements listed above.</i>	

3. Do buildings/infrastructure used by the <u>medical school</u> 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.
<i>Score explanation: AUP Medical School does not utilize renewable energy in their buildings.</i>	

4. Are sustainable building practices utilized for new and old buildings on the <u>medical school</u> campus, with design and construction of new buildings and remodeling of old buildings conforming to a published sustainability rating system or building code/guideline?	
3	Yes, sustainable building practices are utilized for new buildings on the medical school campus and the majority of old buildings have been retrofitted to be more sustainable.
2	Sustainable building practices are utilized for new buildings on the medical school campus, but most old buildings have not been retrofitted .
1	Sustainable building practices are inadequately or incompletely implemented for new buildings.
0	Sustainability is not considered in the construction of new buildings.
<i>Score explanation: The Medical School of the AUP doesn't follow any specific sustainable guidelines about renewing and remodelling old buildings in the campus, but some old buildings have been renewed and redesigned, especially on the inside.</i>	

5. Has the <u>medical school</u> 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.
<i>Score explanation: The AUPh Medical school has not implemented any strategies about the topic.</i>	

6. Does your <u>medical school</u> have an organics recycling program (compost) and a conventional recycling program (aluminum/paper/plastic/glass) ?	
2	Yes, the medical school has both compost and recycling programs accessible to students and faculty.
1	The medical school has either recycling or compost programs accessible to students and faculty, but not both.
0	There is no compost or recycling program at the medical school.
<i>Score explanation: The Aristotle University has a recycling program for paper and the hospital "Papageorgiou" has a full recycling program.</i>	

7. Does the <u>medical school</u> apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?	
3	Yes, the medical school has adequate sustainability requirements for food and beverages, including meat-free days or no red-meat, and is engaged in efforts to increase food and beverage sustainability.
2	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is engaged in efforts to increase food and beverage sustainability.
1	There are sustainability guidelines for food and beverages, but they are insufficient or optional . The medical school is not engaged in efforts to increase food and beverage sustainability.
0	There are no sustainability guidelines for food and beverages.
<i>Score explanation: No, there are no sustainability guidelines.</i>	

8. Does the <u>medical school</u> or <u>institution</u> 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.
<i>Score explanation: There are no sustainability guidelines for supply procurement</i>	

9. Are there sustainability requirements or guidelines for events hosted at the <u>medical school</u> ?	
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.
<i>Score explanation: There aren't any sustainability guidelines for the AUPh Medical School.</i>	

10. Does your <u>medical school</u> 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.
<i>Score explanation: There are no efforts at the AUPh Medical School to make lab spaces more sustainable.</i>	

11. Does your <u>institution's</u> 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	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.
<i>Score explanation: The AUTH has no connection with any fossil-fuel companies and it doesn't invest in any of these companies.</i>	

Section Total (8 out of 32)	25%
------------------------------------	------------

Back to summary page [here](#)

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

Grading

Section Overview

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

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

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

Planetary Health Grades for the Medical School of the Aristotle University of Thessaloniki

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

Section	Raw Score %	Letter Grade
---------	-------------	--------------

Planetary Health Curriculum (30%)	$(22/72) \times 100 = 30.55\%$ (A)	D
Interdisciplinary Research (17.5%)	$(5/17) \times 100 = 29.4\%$ (B)	D
Community Outreach and Advocacy (17.5%)	$(2/14) \times 100 = 14.28\%$ (C)	F
Support for Student-led Planetary Health Initiatives (17.5%)	$(7/15) \times 100 = 46.66\%$ (D)	C
Campus Sustainability (17.5%)	$(8/32) \times 100 = 25\%$ (E)	D
Institutional Grade	$(Ax0.3 + Bx0.175 + Cx0.175 + Dx0.175 + Ex0.175) = 29.36\%$ (D)	D