



Planetary Health Report Card (Medicine)

Karolinska Institutet

Departments of Medicine, Huddinge and Solna

Stockholm, Sweden

2022-2023 Contributing Team:

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Summary of Findings

Overall evaluation	C
Curriculum (40 of 72 points)	C+
<ul style="list-style-type: none"> • Karolinska Institutet (KI)'s medical programme lacks longitudinal integration of planetary health in the current curriculum, with related aspects only being discussed in the last semesters. In the new 6-year curriculum under development, students will learn about planetary health from the 2nd semester onwards. • Recommendations: KI's medical programme lacks teaching on sustainable health care. Mitigation of and adaptation to the climate crisis should be included in clinical subjects, workshops and seminars. 	
Interdisciplinary Research (13 of 17 points)	B+
<ul style="list-style-type: none"> • KI conducts extensive research on environmental health, though research on sustainable health care is scarce. While there are many collaborations, the departments of medicine, Solna and Huddinge, are not often involved. KI has hosted conferences on planetary health, but few were aimed at medical students. • Recommendations: Information on ongoing research, funding opportunities and transdisciplinary cooperation should be easily accessible on KI's website. KI's departments of medicine could organize conferences on clinical aspects of planetary health. Adding sustainability as a prerequisite to research proposals could facilitate rapid up-scaling of activities related to sustainability and planetary health. 	
Community Outreach and Advocacy (5 of 14 points)	D+
<ul style="list-style-type: none"> • KI did not organize events related to planetary health or sustainability with the general public as the primary audience. Nor are we aware of any ongoing cooperation with community organizations. In its internal communication, KI covers named topics on a recurrent basis, intends to pilot a cooperation with MyGreenLab, and has initiated some courses directed at teachers at KI. KI intends to have a dialogue with the region Stockholm on how to work jointly on climate issues. • Recommendations: KI in general and KI's departments of medicine specifically should actively collaborate with public, community and patient organizations to create and sustain meaningful planetary health-related solutions in Stockholm, Sweden, and partnering countries such as Uganda. 	
Support for Student-Led Initiatives (8 of 15 points)	C
<ul style="list-style-type: none"> • KI supports student groups dedicated to planetary health by providing infrastructure, online presence, and faculty support. Students advise KI on work related to planetary health and sustainability. However, there are few platforms for co-creation that involve students. No KI funding supports student initiatives related to planetary health, nor is there active support from the departments of medicine. • Recommendations: Support for student-led initiatives should also come from the medical school, with a focus on activities and grant opportunities. This way medical students could learn more about and contribute to planetary health and sustainable healthcare in a tailored way. 	
Campus Sustainability (10 of 32 points)	D
<ul style="list-style-type: none"> • KI intends to lower its carbon footprint by 50% by 2030 and adhere to policies in line with the Paris agreement and the 1.5°C target. The institution currently focuses on the impacts of its daily operations, but recommendations are optional and few meaningful actions have been taken. There is no net zero goal. • Recommendations: More, mandatory and scaled-up action needs to be taken with regards to KI's daily operations. We recommend that KI analyzes its financial assets, divests from fossil fuels, reinvests into renewable energy, and joins WHO advocating to phase out fossil fuels: fossilfueltreaty.org/health-letter 	

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

Planetary Health Curriculum

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

Curriculum: General

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:</i></p> <p>At Karolinska Institutet, one elective course over 4 weeks (Sustainable Health and Development, 2XX081, 7.5 credits) is offered in the final semester of the medical programme. Objectives of the course include:</p> <ul style="list-style-type: none"> - Concepts of sustainable health and sustainable development and the UN Sustainable Development Goals (SDG) according to the 2030 Agenda. - Effects on health of the major sustainability challenges, such as climate change, extreme poverty, inequality, and in-depth reflection on how these can be prevented and responded to. - The challenges of sustainability and effects on the clinical work of healthcare personnel, such as, possibly, a changed disease panorama or treatment complications due to a warmer climate. - How cooperation between different professions within and outside of healthcare organisation contributes to improved health based on the sustainable development perspective. <p>The course includes lectures, seminars, workshops and an independent project work.</p> <p>According to the 2022 update of the climate action plan 2030, KI aims to implement learning objectives with regards to planetary health on all education programs by 2024. In the context of KI, this specifically means that students will have knowledge and skills regarding climate change and health after graduation. To follow up on this goal, KI has agreed on a number of indicators including the proportion of education programs with learning outcomes on climate, and the number of degree theses on climate change.</p>	

To inspire teachers, a project was launched in 2022 to inspire program directors and teachers to develop new courses or introduce learning activities on existing courses, and to develop learning outcomes relating to climate and health as part of the work to integrate sustainable development into education. Further, to teach teachers on planetary health, a number of workshops have been held in 2022 and 2023.

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.

Score explanation:

As part of the lecture “Climate and Health” during the course Public Health and Environmental Medicine (2LK100, 12 credits), there are more than 10 slides focusing on the health effects of heat strokes as well as risk factors among different groups and examples of medications that can cause physiological risks during heat strokes. The course is given in the 5.5-year program (which has been changed to a 6-year program for new students since September 2021) every semester until the end of 2026. Corresponding lecture content (same lecturer) is also available every semester in the 6-year program, the course is called Basic Science 3 and is given in the second semester.

3. Does your medical school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?

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

Score explanation:

As part of the lecture “Climate and Health” during the course Public Health and Environmental Medicine (2LK100, 12 credits), there are more than 10 slides focusing on extreme weather events as well and short and long term consequences of different types of extreme weather events for public health and healthcare. Specifically, in-depth examples of how floods can cause the spread of infections are addressed.

4. Does your medical school curriculum address the impact of climate change on the changing patterns of infectious diseases?

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

Score explanation:

As part of the lecture “Climate and Health” during the course Public Health and Environmental Medicine (2LK100, 12 credits), 16 slides focus on changing patterns of infectious diseases, specifically the spread of fungi during floods and resulting effects on asthma. In addition, gastrointestinal infectious diseases resulting from flooding, the changed geographical distribution of tick borne diseases and spread of infections through algae are touched upon. The course is held in the 5.5-year program each semester until the end of 2026. Corresponding lecture content (same lecturer) is also available each semester in the 6-year program. The course is called Basic Science 3 and is given in semester 2. In addition, the course Basic Science 6 in the 6-year program addresses the changed panorama of infectious diseases.

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

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

Score explanation:

As part of the lecture “Climate and Health” during the course Public Health and Environmental Medicine (2LK100, 12 credits), there are 6 slides dedicated to the respiratory effects of wildfires. There are 5 slides focusing on asthma and a longer pollen season, as well as the economic costs. Furthermore, 5 slides discuss asthma as a consequence of the increased spread of allergens and fungi during floodings. Lastly, one lecture was devoted entirely to respiratory effects.

In course 2LK100, this content is also touched upon in a mandatory seminar titled Risk assessment, which is based entirely on the subject area of health effects of air pollution. Also relevant with the same addition as for question 2, i.e. the content is also found in the 6-year programme's course Basic Science 3. In addition, the effects of the environment (including

climate-related effects) on lungs are covered in the course Medical Diagnostics with Basic Science Integration, course code 2LA006, in 6-year the program. Title of the lecture: Work- and environment-related risk factors for lung diseases.

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

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

Score explanation:

As part of the lecture “Climate and Health” during the course Public Health and Environmental Medicine (2LK100, 12 credits), there are 2 slides focusing on cardiovascular health effects of increased heat, as well as medications and risk groups. Cardiovascular mortality and morbidity in relation to exposure to air pollution was further brought up in the mentioned lecture (question 5) on respiratory diseases. This is also relevant with the same addition as for question 2, i.e. the content is also found in the 6-year program's course Basic Science 3. In addition, this topic is covered in the 6-year programme's course Basic Science 5 (semester 3), in the TBL* module in which learning about cardiovascular prevention is integrated.

* TBL = team based learning, one of the main educational methods in the new and recently developed medical education program in Sweden

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

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

Score explanation:

As part of the lecture “Climate and Health” during the course Public Health and Environmental Medicine (2LK100, 12 credits), one slide focuses on mental health and neuropsychological effects of environmental degradation and climate change, and that psychiatric patients constitute risk groups during heat waves. Forced migration due to extreme weather events was briefly brought up. The association between migration and poor mental health was discussed in a lecture called ”Migration - Health, healthcare and law”. Also relevant with the same addition as for question 2, i.e. the content is also found in the 6-year programme's course Basic Science 3. In the 6-year programme, there are plans to integrate this

content into the course Clinical Medicine 4: Neuroscience and Psychiatry, ninth semester, which will be given for the first time September 2025.

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

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

Score explanation:

As part of the lecture “Climate and Health” during the course Public Health and Environmental Medicine (2LK100, 12 credits), there are 2 slides tackling how food and water security can be compromised by droughts.

The content is also taught on the 6-year program:

- Course BV3, semester 2: lecture and seminar address direct and indirect health effects of climate change and the definition of the term climate mitigation.
- BV5, semester 3, the TBL module addresses "win-win" for the patient and the climate in terms of general advice to reduce meat consumption. The same course addresses that drug residues are often fat-soluble and tend to accumulate in living organisms in the ecosystem in a shorter recorded lecture.
- BV6 in semester 4 should further address the risk of spreading infectious diseases via contaminated water, it is however not made clear in any detailed learning objective.

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:

As part of the lecture “Climate and Health” during the course Public Health and Environmental Medicine (2LK100, 12 credits), there is one slide exemplifying that climate change can result in increased gender-based violence and prostitution, and 2 slides stating that age and low SES constitute risk factors during heat waves. The subject is further discussed during the elective courses Global Surgery and Global Health. The lecture is also included in the 6-year program, in the course Basic Science 3, in semester 2.

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:

As part of the lecture “Climate and Health” during the course Public Health and Environmental Medicine (2LK100, 12 credits), one slide addresses the increased regional risk for conflict resulting from an increased average temperature. The subject is further discussed during the elective courses Global Surgery and Global Health. The lecture “Climate and Health” is also included in the 6-year program, in the course Basic Science 3 in semester 2. This course further contains a discussion during a seminar with mandatory attendance, regarding the use of different measures to describe and compare different countries in terms of prosperity, health, economic growth, etc, as well as how climate change is likely to affect these measurement variables in future years.

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:

Environmental toxins in relation to risk for the pregnant woman/fetus are covered in Public Health and Environmental Medicine (2LK100, 12 credits). A lecture of 40 minutes addresses a selection of chemicals, carcinogenic substances, metals e.g. lead and cadmium, biological substances / infections, air pollution, noise, vibrations, radiation. There is no equivalent content yet for the 6-year-program.

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.
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2	This topic was briefly covered in the core curriculum.
1	This topic was covered in elective coursework.
0	This topic was not covered.
<p><i>Score explanation:</i></p> <p>The seminar "Risk assessment" during the course Public Health and Environmental Medicine (2LK100, 12 credits) raises the connection between air pollution exposure, asthma and cardiovascular diseases. During the seminar, a graph showing the air quality in different residential areas in Stockholm is examined. It is also discussed whether it is a health risk or not to commute/exercise outdoors in the Stockholm area, and how patients should be educated about the risks of pollution exposure (i.e. how risk individuals can reduce/avoid exposure).</p>	

13. To what extent does your <u>medical school</u> 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.
<p><i>Score explanation:</i></p> <p>To our knowledge, the importance of Indigenous knowledge and value systems as essential components of planetary health solutions is currently not covered in the medical school curriculum.</p>	

14. Does your <u>medical school</u> 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.
<p><i>Score explanation:</i></p> <p>The course Public Health and Environmental Medicine (2LK100, 12 credits) includes a lecture on Health risk assessment with one of the main messages being that there are sensitive groups in the population which must be taken into account, for example, when society sets limit values for how high</p>	

a certain exposure may be. Examples are given regarding children and groups with low socioeconomic status.

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:

During the course BV5 in semester 3, the TBL module addresses "win-win" for the patient and the climate in terms of general advice to reduce meat consumption. The same course addresses that drug residues are often fat-soluble and tend to accumulate in living organisms in the ecosystem in a shorter recorded lecture.

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:

To our knowledge, the carbon footprint of healthcare systems is currently not covered in the medical school curriculum.

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 anaesthesia 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>In the course Public Health and Environmental Medicine (2LK100, 12 credits), the health and environmental co-benefits of avoiding over-medicalisation and over-treatment are briefly discussed during seminars "Sick leave" and "Occupational health care". For instance, the possible negative consequences of sick leave, such as physical inactivity and social isolation, are brought up. To our knowledge, the environmental benefits are however not mentioned.</p> <p>In the course Public Health and Environmental Medicine (2LK100, 12 credits), pharmaceuticals and over-prescribing as a cause of climate health harm are briefly mentioned during a lecture "Risk assessment - principles and methods".</p> <p>In the course Public Health and Environmental Medicine (2LK100, 12 credits), the health and environmental co-benefits of non-pharmaceutical management of conditions, in particular recommending active transport, are briefly discussed during a seminar "Improvement project".</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 no strategies introduced for having conversations with patients about climate change.
<i>Score explanation:</i>	

To our knowledge, strategies introduced for having conversations with patients about climate change and health are currently not covered in the medical school curriculum.

19. 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.

Score explanation:

At Karolinska Institutet, medical students are trained to take a full history, including asking about environmental exposure (e.g. through travel, home environment, etc) and occupational exposure, during the 5.5-year program's course Public Health and Environmental Medicine (2LK100, 12 credits). During this course, history taking is taught in lecture and is the focus of an individual reflection task where the students must reflect on their experiences from history taking during their clinical rotations in primary care.

In the 6-year program, there is corresponding content in Basic Science 3, semester 2, where work history and social history are taught in lecture, practiced practically during clinical rotations, and discussed during seminars. The knowledge and skills are then deepened in the course Medical Diagnostics with Basic Scientific Integration, semester 4.

Curriculum: Administrative Support for Planetary Health

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

4	Yes, the medical school is currently in the process of making major improvements to ESH/planetary health education.
2	Yes, the medical school is currently in the process of making minor improvements to ESH/planetary health education.
0	No, there are no improvements to planetary health education in progress.

Score explanation:

As a new medical programme is currently being implemented, lectures on pollutants, the environmental effects of medications, and the environmental burden of the healthcare sector are planned to be included.

Further, the EU-funded project [e-Planet](#) is ongoing, which will provide newly developed tools in the form of video games for education about climate and health.

Karolinska Institutet also offers all employed teachers to take courses on climate and sustainability.

Transdisciplinary cooperation between the Stockholm Trio (three universities: Karolinska Institutet, Stockholms universitet and Kungliga Tekniska högskolan) is intended to be initiated within education and research. To get started some targeted initiatives are planned: Some related to climate and health research, and others to professional education. A combined Master's programme in biostatistics and bioinformatics between the three universities is discussed, and further transdisciplinary courses are considered as well. A funding call for projects related to sustainability (e.g. to develop seminars) starting in 2024 is planned. Conferences and events are planned within the Stockholm Trio. For the Trio, a competence map is under way. A single point of contact for this cooperation is currently being discussed.

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:

To our knowledge, sustainable healthcare is not extensively covered in the current medical school curriculum.

However, the established syllabi for the 6-year program's courses contain learning objectives that provide good opportunities to integrate learning about planetary health and sustainable healthcare. The tentative course plans for the remaining courses within the 6-year program also include learning objectives that enable education on sustainable healthcare, as the sustainability perspective can be integrated in a variety of contexts in the education.

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:

One employee is responsible for implementing global health and planetary health in the medical programme. This employee is a senior lecturer and an associate professor, with research focus on epidemiology and prevention. The employee is responsible for the course Public Health and Environmental Medicine (2LK100, 12 credits) in the 5.5 year medical programme, and for implementation of education on planetary health and sustainable healthcare in the 6 year programme. During the development of this report card, the employee has been helpful and supportive.

Section Total (40 out of 72)

40

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



**Karolinska
Institutet**

Commentary of student report

Stockholm, 2023-05-31

Department

Study program in Medicine

KI and the Planetary Health Report Card initiative

KI is appreciative of our students' participation in this valuable work, intended to strengthen teaching of sustainability and planetary health. We have thus facilitated their work by providing some of the data, which regrettably is not exhaustive, due to an ongoing mapping process.

As stated, we are in the process of implementing a new curriculum, which first started in 2021. The current report, covering 2022-2023, mainly reflects late parts of the old curriculum (semesters 4-11) and only the two first years of the new curriculum.

Compared to the prior one, the new curriculum will have more pronounced sustainability-related learning outcomes and the planetary health report card may prove helpful in providing ideas for future learning activities. We aspire to reach higher scores in the years to come and encourage our students to follow up on this work.

Ass. Professor Marie Dahlin	Ass. Professor Karin Leander
Program Director	Program Coordinator of Global and equal health and healthcare competencies
Medical Program Karolinska Institutet	Medical Program Karolinska Institutet

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 <u>medical school</u> ?	
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.

Score explanation:

At the [departments of medicine](#) Solna and Huddinge specifically, there are faculty members who have a primary research focus in planetary health. Research groups at the nephrology department have done extensive research on heat-related kidney disease and [collaborate with other disciplines](#) e.g. specialists in biodiversity and ecology. We are not aware of any other medical disciplines within KI departments of medicine involved with planetary health research. Further, to our knowledge there are no ongoing research projects on sustainable health care (mitigation of the climate and other environmental crises within health care) neither at KI departments of medicine specifically nor at KI as an institution overall.

In addition KI is home to the [Institute of Environmental Medicine](#) (IMM) which does public health research on heat epidemiology, air pollution, green spaces and links to cardiovascular diseases, respiratory diseases and allergies including extensive national and international collaborations such as [EXPANSE](#) (Exposome powered tools for living in an urban setting), [SWEDEHEART](#) (Uppsala University) and [CHAIR-India](#) (The Consortium for Climate, Health & Air Pollution Research in India). As such, there are researchers at IMM whose primary research focus is in planetary health.

KI also contains several other health research organisations such as the [Centre of Excellence for Sustainable Health](#), the [Global Public Health](#) (GPH) department and the [Centre for Health](#)

[Crises](#), all of which investigate public health problems. These centres are not as extensively dedicated to planetary health research but provide a supportive framework for the development of planetary health and sustainability.

Exemplifying publications from IMM and GPH relating to environmental health and clinical medicine are: [Yu et al. 2023 on lung function and air quality](#) and [Hellden et al. 2021 on pediatrics and climate change](#).

In addition, KI collaborates with the [Swedish Institute for Global Health Transformation](#) (SIGHT), as well as other universities (Uppsala, SU, KTH, Umeå) via workshops, conferences and other events to encourage cooperation in planetary health research. In 2021, the “One KI for Sustainable Development” project allocated resources for a call for research funding to encourage researchers at KI to engage with the 2030 Agenda and to further develop research aimed at meeting the SDGs. Five researchers were awarded funds of SEK 100-320 thousand each. The Grants Office works to inform about funding opportunities linked to sustainable development. Within all of these named frameworks there is a potential to acquire new funding for interdisciplinary planetary health research within and beyond KI. As a possible role model for such activities, within Stockholm Trio Climate and Health involving Bolin Center, KTH Climate Action Center and KI, researchers have arranged several events broaching climate and health and are also planning a large scale study bringing in cross-disciplinary expertise to develop a collaboration center with projects studying climate and health.

In the [2022 update of the climate action plan 2030](#), KI has stated that it targets to increase research in the areas of climate change and health, climate-friendly healthcare, behavioral science research and prevention of ill health linked to climate change by 2024. In conclusion, KI is making significant efforts to produce planetary health research, and there is yet great potential within KI departments of medicine to include sustainability perspectives and planetary health considerations in ongoing research as well as further research at the intersect of clinical medicine, planetary health and sustainable health care.

Recommendations:

- Establishing further research in planetary health and sustainable healthcare within KI departments of medicine
- Acquiring funding for research on sustainable health care specifically (mitigation, that is, reducing the carbon footprint of the health care sector) within different medical disciplines at KI departments of medicine
- Further engagement with KI's Centre of Excellence for Sustainable Health, Centre for Health Crises, the GlobeLife collaboration between KI and Uppsala University, other Swedish and international collaborations, aiming at deeper engagement with planetary health research
- Adding a planetary health and sustainable health care lens to ongoing research projects at KI departments of medicine specifically at KI generally where appropriate

- Adding environmental sustainability consideration sections as a prerequisite to any future (clinical) research project proposal at KI departments of medicine (similar to considerations on ethics and equity as prerequisites)
- Further participation in collaborative engagements between KI departments of medicine and other institutes on transdisciplinary planetary health research (e.g. cooperating with KTH on how to make single-use medical products reusable or at least recyclable)

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:

KI's [Institute for Environmental Medicine](#) (IMM) is directly involved in researching environmental health and the effects of environmental exposures on human health. At IMM, research is conducted in epidemiology, toxicology, physiology, environmental medicine and risk assessment. To our knowledge, IMM is currently actively involved in planetary health research within the realm of clinical medicine (see above). In addition, IMM has the task to provide authorities with support regarding environmental health risk assessment. Other institutions at KI such as the [Centre of Excellence for Sustainable Health](#), the [Centre for Health Crises](#) and the [Global Public Health department](#) all conduct public health research and provide supportive framework but are not directly dedicated to interdisciplinary planetary health research. In the [2022 update of the climate action plan 2030](#), KI has stated that it targets one or more positions as professor, associate professor, assistant professor or postdoc in one or more of the areas of climate change and health, climate-friendly healthcare, and/or behavioral science research and prevention of ill health linked to climate change by 2024.

Recommendations:

- Implementing climate action plan for 2030, ensuring climate and planetary health research is included and developed further
- Keeping KI's IMM research department engaged in planetary health research as well as expanding research on planetary health at other institutions such as the Centre of Excellence for Sustainable Health, Centre for Health Crises and the global public health department

- Founding an institute dedicated to planetary health and sustainable health care or dedicating a subdepartment to planetary health and another to sustainable health care

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:

We are unaware of any processes directly at KI departments of medicine by which communities disproportionately impacted by climate change and environmental injustice give input or make decisions about the research agenda. Meanwhile we decided to give a score of 1 due to the following activities at KI as an institution:

Climate change in Uganda is particularly severe, with the country's climate being mostly tropical and climate change generating increasing patterns of extreme weather and seasonal changes. One of KI's largest [international collaborations is with Makerere University in Uganda](#). The partnership is to manifest itself in a [Centre of Excellence for Sustainable Health](#). A delegation from KI travelled to Uganda in May 2022 to cement the 23-year old relationship. Within this strong partnership, disadvantaged communities are included in decision-making processes on the research conducted. However, to our knowledge, there is no ongoing research of the Centre of Excellence for Sustainable Health related to planetary health. Thus community members in Uganda are not directly involved in the climate and environmental research agenda.

The Institute of Environmental Medicine (IMM) has an overseeing board of several national authorities e.g. Public Health Authority, National Board of Health and Welfare etc. and collaborates with international organisations to help support interdisciplinary planetary health research in disproportionately affected communities. In India, where climate change is a serious public health concern particularly on the level of air pollution, the Consortium for Climate, Health & Air Pollution Research in India ([CHAIR-India](#)) links environmental data to health datasets, and studies associations of short- and long-term air pollution and temperature with mortality and cardiometabolic and respiratory disease in rural and urban areas across

India. KI has ongoing studies aiming to better understand health effects of air pollution, collaborating with CHAIR-India databases and FORMAS (a sustainable research fund in Sweden). This research will help Indian organisations better understand the health effects of climate change in their own population and environment.

Recommendations:

- Investigating the effects of climate change on the health of populations in Uganda, with emphasis on remote and vulnerable populations. Researching methods of health-related adaptation to climate change (e.g. related to malnutrition) and assistance in conserving these populations’ ways of life and relationship to nature
- Investigating the effects of global warming and increases in temperature on vulnerable populations such as geriatric populations. Particular emphasis on pharmacology, with certain drugs (ex. psychiatric drugs) having pharmacological interactions severely altered upon small environmental temperature increases or during excessive heat waves.
- Investigation into health-related [effects of climate change on for example the Saami](#), the indigenous people living in northernmost Scandinavia, and research into methods of assistance in conserving these populations’ ways of life and relationship to nature.

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:

[Pages that directly address environmental impact, current and future efforts](#) to reduce KI’s carbon footprint as well as contributions to the field of planetary health research do exist on KI’s website as well as partner websites. KI has a Council for Sustainable Development, and two coordinators for sustainable development. KI further has a “[Sustainable Development](#)” website, pooling all work related to the SDGs. This website is comprehensive and easy-to-use. The Project One KI for Sustainable Development is promoted here, which currently leads to a web course in SDGs for all affiliated or employed at KI. Previous work in this project

includes workshops and [conferences on sustainable development](#) which attracted scientists from multiple fields, and two announcements of research grants that ultimately funded researchers from different KI departments. The Sustainable Development website also clearly lists upcoming and past events relating to sustainable development at KI. It also shows news articles about recent advancements in the understanding of planetary health and promotes current sustainability goals at KI. **However**, the website does not have a primary focus on health and the environment or planetary health. As such, researchers, educators and students with a primary interest in planetary health do not easily access work done or learn about opportunities at KI specifically related to this field.

Recommendations:

- Adding a focus on planetary health to the Sustainable Development website with all current information.
- Generating internet pages for KI's direct contributions to planetary health research providing data and publications with easy access. Promoting these pages on KI's official website. Promoting these websites on KI departments of medicine' websites
- Linking and emphasizing health co-benefits of sustainability efforts on KI's websites related with sustainability efforts (e.g. transitioning from fossil to renewable energy sources at KI improves respiratory and cardiovascular health due to a decrease in air pollution; promoting public transport and bikes at KI improves air quality and cycling can have benefits for physical and mental health; and, mainstreaming plant-based diets at KI is beneficial to the environment and our health)

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.

Score explanation:

KI has hosted the following events in the last year:

- Centre for Health Crises' two [symposia on Heat and Health](#)
- [GlobeLife](#) Conference
- Students for Sustainable Development's [Sustainable Research Week](#)
- Rosling Seminar: [Our Planet, Our Health](#)
- [Gapminder](#)

However, there are no apparent conferences in place for Sustainability in Health Care. To our knowledge these events are hosted by KI and not directly the departments of medicine. In 2021, the 2nd "[KI Conference on Sustainable Development](#)" was hosted by KI, including funding initiatives to encourage KI researchers to engage in SDG-related questions.

Recommendations:

- Allowing and supporting the departments of medicine to host events related to planetary health on its own
- Launching conferences with topics related to sustainable health care and emphasizing this topic at the many existing conferences at KI departments of medicine
- Making planetary health a primary focus at the next and subsequent GlobeLife conferences
- Continuing to develop and host the above-mentioned and similar events

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

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

0 No, the medical school is **not** a member of such an organization

Score explanation:

KI holds a membership in the [Planetary Health Alliance](#) since 2022, along with SU and KTH, and the Association for Medical Education in Europe. We are unaware of any specific involvement of the departments of medicine with these organizations.

Recommendations:

- KI actively engaging with the Planetary Health Alliance and regularly reporting on related progress
- KI officially endorsing participation in the [Planetary Health Report Card](#)
- KI promoting and adopting the [Association for Medical Education in Europe Consensus Statement: Planetary health and education for sustainable healthcare](#)
- KI becoming an active member of the [Global Consortium on Climate and Health Education](#)
- KI departments of medicine actively engaging in the above-mentioned organizations

Section Total (13 out of 17)

13

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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.
<p><i>Score explanation:</i></p> <p>Overall, KI has been actively working towards reaching the SDGs including partnerships with community organisations in recent years. However, up to this point, we are unaware of any partnership between KI departments of medicine or KI in general, and community organisations affected by climate change and pollution that includes sharing information about environmental health threats, advocating for change related to climate change and pollution, and providing opportunities for students to be a part of this work. Partnerships for such potential collaborations do exist, for example with several patient organisations in Sweden, and Makerere University and communities in Uganda. To our knowledge, KI does not engage directly in planetary health-related topics and solutions with any of these communities.</p> <p>Whilst the documents and information we have accessed do not provide specific information on community organisations that KI partners with to promote planetary health, the climate action plan 2030 envisions including topics on the climate crisis in all of KI's cooperations by 2024:</p> <ul style="list-style-type: none"> - In 2024, the climate issue will be an integral part of KI's collaboration with its most important partner, the health care system. - By 2024, the climate issue will be relevant in all major collaborative projects in which KI participates. - In 2024, KI will contribute its expertise regarding health linked to climate in several community-wide projects. 	

Further References:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet

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.

Score explanation:

As mentioned in the Interdisciplinary Research Section, KI has participated in and/or hosted the following events in the last years, however to our knowledge, none of them were primarily created for a public audience, and the events were hosted by KI and not directly by the departments of medicine:

- Centre for Health Crises' two [symposia on Heat and Health](#)
- [GlobeLife](#) Conference
- Students for Sustainable Development's [Sustainable Research Week](#)
- Rosling Seminar: [Our Planet, Our Health](#)
- [Gapminder](#)
- [World Academic Forum Stockholm Summit](#)
- [Sustainable planet, sustainable health – how science-based solutions can drive transformative change - Stockholm University](#)

Whilst the documents and information we have accessed do not provide specific information on community-facing events or courses which KI departments of medicine organise to promote planetary health, the climate action plan 2030 envisions including topics on the climate crisis [in all of KI's cooperations by 2024](#):

- In 2024, the climate issue will be an integral part of KI's collaboration with its most important partner, the health care system.
- By 2024, the climate issue will be relevant in all major collaborative projects in which KI participates.
- In 2024, KI will contribute its expertise regarding health linked to climate in several community-wide projects.

According to the 2022 update to the climate action plan, KI acknowledges the need to have a dialogue with region Stockholm on whether and how to work jointly on climate issues.

Further References:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet

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.

Score explanation:

KI's communication channels such as the [KI newsletter](#), [KI Calendar](#) and medical newsletter do not have systematic and regular news features or coverage of planetary health and sustainable healthcare. The KI website does hold a [Sustainability page](#) with various sources and supporting amongst others student initiatives or external links. Some departments devote a part of their newsletter to sustainability, such as the [MedH newsletter](#), the Medical Department of the KI Huddinge campus, which contains a section named Environment and sustainability news. The [doctoral newsletter](#) has included a link to a student-led initiative on Planetary Health and Sustainability Education (PHSE) and encouraged its readers to sign the PHSE open letter earlier this year (February 2023). Planetary Health is not covered in the vast majority of KI News channels.

However, when specific events or occasions are planned or have taken place, these are featured on KI's news channels and information is disseminated on public screens on campus. Initiatives such as courses organised by single researchers are applauded, included in and spread via KI's new channels. An example is the [KI web course: Getting Started with the SDGs](#), offered to researchers and KI affiliates involved in education.

Examples of specific occasions featured in KI's news channels include [the annual KI Sustainability Day](#) or [the Rosling Seminar](#), which was devoted to the topic of Planetary Health in its most recent edition (fall 2022). Research projects, grants, highlights such as the [KI Sustainability Award](#) and collaborations related to sustainability are covered on KI news channels and thus receive attention upon their occurrence.

Overall, sustainability is covered on a quite recurrent basis, but planetary health is covered rather sporadically in KI's news outlets. As of June 2023, the Neurobiology, Care Sciences and Society (NVS) department at KI have set up a [webpage on planetary health](#).

A search of the KI News archive (covering the last 5 years, i.e. 2019 - 2023) on specific keywords yielded the following results:

- a) "Sustainability" - 5 hits
- b) "Sustainable Development" - 3 hits
- c) "Planetary Health" - 0 hits

References and examples of recent coverages:

- [KI web course: Getting started with the SDGs at KI](#)
- [KI News: Empowering higher education support services with sustainable and inclusive practices](#)
- [KI News: Hanna Karlsson and Sara Widén receive KI's new Sustainability Award](#)
- [Newsletter No. 2, April 2023 - Department of Medicine, Huddinge \(MedH\)](#)
- [KI Doctoral News - Nr 1, 2 February 2023](#)

- [Medarbetarportalen: Planetär hälsa](#)

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

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

Score explanation:

KI offers a [1-hour online course on the SDGs](#) and on how to implement them in teaching activities. KI targets to include the SDGs in its graduate and post-graduate education via Intended Learning Outcomes from 2024 onwards. Students are envisioned to learn about [being able to create visions, critical and ethical thinking and reflection, self-awareness, systems thinking, the ability to create partnership, dialogue and negotiation, and empowerment.](#)

However, to our knowledge, these courses are not targeting post-graduate health care providers with the aim of ensuring their knowledge and skills in planetary health and sustainable healthcare remain up to date during their professional career.

Two lecturers at KI, Hanna Karlsson and Sara Widen, have been awarded with [KI's Sustainability Award 2023](#) recently for training teachers to integrate sustainable development into KI's courses and programmes using an innovative approach. "My objective is that when you meet a student at KI, any student, and start discussing something, it'll be obvious that they're well informed about the issues and keen to be part of the solution," said Hanna. "For this to happen, we need skilled, engaged teachers."

In conclusion, whilst it remains unclear to us to what extent any of these courses are related to planetary health and/or sustainable healthcare, we opted to award 1 point.

Whilst the documents and information we have accessed do not provide specific information on post-graduate education and planetary health, KI's climate action plan 2030 envisions including topics on the climate crisis [in all of KI's cooperations by 2024](#):

- In 2024, the climate issue will be an integral part of KI's collaboration with its most important partner, the health care system.
- By 2024, the climate issue will be relevant in all major collaborative projects in which KI participates.
- In 2024, KI will contribute its expertise regarding health linked to climate in several community-wide projects.

Further References:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet

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

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

Score explanation:

To our knowledge, KI departments of medicine or Karolinska University Hospital currently do not have dedicated educational materials regarding environmental health exposures for patients. However, all the hospitals in the area fall under the umbrella of the Region Stockholm, which has a [center of Occupational and Environmental Health](#) that has easily accessible information about air pollution, noise, chemicals, outdoor tobacco smoke, inequalities regarding environmental health, and many more topics regarding environmental health exposures. Sustainable Development and Equal Opportunities Office has however provided information that it is not within KI's mission to provide information for patients in regard of the medical programme.

Given that all hospitals in the region have patient materials about environmental health exposures, but KI or Karolinska University Hospital do not, nor plan on having these, we award one point.

Further References:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet

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

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

Score explanation:

To our knowledge, KI departments of medicine or Karolinska University Hospital currently do not have dedicated educational materials for patients regarding climate change and its health impact. However, all the hospitals in the area fall under the umbrella of the Region Stockholm, which has a center of Occupational and Environmental Health. This center has [easily accessible material on climate change and its health impacts](#). On this page information is given on health effects for adults, children and specific risks for the region. s for patients and lay people can be found on [their website](#). Topics covered are air pollution, noise, climate change, chemicals and many more.

Given that all hospitals in the region have patient materials about climate change and its health effects, but KI or Karolinska University Hospital do not, nor plan on having these, we award one point.

Further References:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet

Section Total (5 out of 14)	5
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Are there additional community engagement and advocacy resources offered at your medical school or institution not yet asked about that you would like to describe? If so, please do so below.

Support for Student-Led Planetary Health Initiatives

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 <u>medical school</u> or your <u>institution</u> 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.

Score explanation:

Overall, KI supports sustainability QI projects, but there is no recurring funding for these projects and none of the sustainability grants explicitly target medical students. For example, in 2021 KI launched the project "One KI for Sustainable Development" which allocated resources to a call for research funds. These were granted to encourage researchers at KI to get involved in Agenda 2030, and to further develop research aimed at meeting the global sustainability goals. [Five researchers were awarded funds](#) of 100,000–320,000 SEK each. The Grants office is currently working to inform about funding opportunities linked to sustainable development.

KI also awards a yearly [Sustainability Award](#), which is awarded to particularly good initiatives, activities or workplaces at KI that promote sustainability. Groups and individuals of students and/or staff can be nominated for this award.

There is one mandatory course in the current programme covering planetary health, “Public Health and Environmental Medicine”. Medical students can participate in further non-mandatory courses on environmental medicine, such as “Miljömedicin ur ett läkarperspektiv” (Environmental Medicine from a Physician’s Perspective), “Planetär hälsa” (Planetary Health) and “Klimat och hälsa” (Climate and Health).

2. Does your <u>institution</u> offer opportunities for medical students to do research related to planetary health and/or sustainable healthcare?	
2	The institution has a specific research program or fellowship for students interested in doing planetary health/sustainable healthcare research.

1	There are research opportunities for students to perform research related to planetary health/sustainable healthcare, but these require student initiative to seek these out and carry them out in their spare time.
0	There are no opportunities for students to engage in planetary health/sustainable healthcare research.
<p><i>Score explanation:</i></p> <p>There are many opportunities for medical students to perform research related to planetary health topics for example through the Institute of Environmental Medicine at KI (IMM) or the Centre of Excellence for Sustainable Health (CESH). However, these require the students' own initiative and are not part of the medical programme. At the medical school itself, opportunities are limited. There is no specific research program related to planetary health/sustainable healthcare research for medical students.</p>	

<p>3. Does the <u>medical school</u> 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.</p>	
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.
<p><i>Score explanation:</i></p> <p>KI promotes sustainable development as one of its core values on its website, however related webpages are not easily found unless the search is targeted towards sustainable development. On KI's sustainability webpage, educational tools as well as material about ways for students to engage in sustainable development at KI and beyond can be found. The KI general website hosts a web page listing the environmental and sustainability representatives for the different departments with their contact information. However, this information is not necessarily targeted towards students. Moreover, no up-to date information on relevant initiatives or work is given.</p> <p>References:</p> <ul style="list-style-type: none"> - https://staff.ki.se/environmental-and-sustainability-representatives - https://staff.ki.se/environment-climate-action-and-sustainable-development 	

<p>4. Does your <u>medical school</u> have registered student groups dedicated towards fostering a culture</p>

of planetary health engagement, scholarship, and advocacy on campus, supported by faculty advisors?

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

Score explanation:

Under KI's student union (Medicinska Föreningen), there is an official committee in place called [Students for Sustainable Development at KI](#) (SSD), which is dedicated to engaging students in sustainability-related projects, promoting sustainability on social media and on campus and providing a social platform for students at KI. At the departments of medicine themselves, there is no specific student sustainability group, and few medical students are members of SSD.

The Council for Environment and Sustainable Development at times provides funding for venues, for instance for the Sustainable Research Week organised by Students for Sustainable Development this spring (2023). However, no recurrent or systematic support or interest have been shown from faculty members of the medical school.

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

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

Score explanation:

There are student representatives of KI's [Council for Environment and Sustainable Development](#), an advisory board to decision-making bodies at KI. This Council does not have executive power, however it helps to spread knowledge about sustainability and discuss environmental issues, as well as to prepare sustainability-related proposals for action plans at the university. This Council is also responsible for organising the yearly [KI Sustainability Day](#).

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)
<p><i>Score explanation:</i></p> <p>On 5th October 2022, KI hosted the 1.5h-long Rosling Seminar “Our planet, our health – an intergenerational dialogue”, during which various experts in the field of planetary health spoke to a largely student-filled audience.</p> <p>During Sports day, “Idrottsdagen”, which takes place once every semester, the sports committee of KI’s Medical student union (IdrU) organises various sports activities, and KI supports these by sharing the news on its platforms and providing premises such as the sports hall and equipment such as volleyball nets and balls.</p>	

Section Total (8 out of 15)	8
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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:</i></p> <p>There is an Office of Sustainability at KI with one or more full-time staff member(s) dedicated to campus sustainability. This is also true for the University Hospital which has a Sustainability Unit, and environmental coordinators. That said, there is room for more collaboration between the University and the University Hospital with regards to effective implementation of more sustainable practices. When it comes to the medical programme, however, no specific staff member is in charge of sustainability. There is one staff member that works part-time on the development of the medical curriculum with respect to the incorporation of Planetary Health.</p> <p>There are two environmental coordinators currently employed full time at KI. Together with departmental environmental representatives (whose tasks fall within the scope of their employment) and the Council for the Environment, they work on the following priority areas at KI: Environmental review, Environmental policy, Internal goals and action plan, Organisation and responsibility, Education and competence, Annual follow-ups, Continuous improvement.</p>	

2. How ambitious is your institution/medical school 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
	<p><i>Score explanation:</i></p> <p>To our knowledge, no goal of carbon neutrality has been stated by the university. However, KI has taken the following steps, among others, towards carbon neutrality:</p> <p>KI and 37 other Swedish universities have signed a university agreement to comply with policies aligned with the 1.5°C target, namely the Climate Framework. In this they agreed to lower their emissions in accordance with the Paris Agreement by the year 2045. KI is committed to reducing its carbon footprint by 50% by 2030 compared with the year 2019.</p> <p>To address this goal, an extensive top-down carbon mapping operation has been performed by a sustainability consulting firm since 2019. This footprint report includes all expenses and services that KI as an institution pays for. The report, presented in 2023, provides an overall picture of KI’s emissions of greenhouse gasses amounting up to 43,118 tonnes of CO2 (2019). The analysis showed that the purchase of goods contributed to 45% of KI’s emissions, followed by travel (25% of emissions, of which 90% is emitted by air travel), purchase of service (12% of emissions), personnel and other (12% of emissions) and real estate (6% of emissions). To our knowledge, the report does not take into account work commuting, students’ carbon footprint, cleaning and security services, and employees’ salaries. Financial assets and depreciation have not been included either. In addition, only emissions from the energy supply in certain properties have been included.</p> <p>Within this analysis, possible actions directed towards cutting carbon emissions were discussed by the consulting agency, e.g. related to air travel, food and purchasing of laboratory equipment. The council of environment and sustainable development has declared the following priorities based on the emissions report at KI’s Sustainability Day 2023: purchase of goods, travel, and food/catering. Currently, responsibilities within KI to work on these three priorities are discussed. No priority is given to divestment from fossil fuels.</p> <p>In the 2022 update to the Climate Action Plan 2030, an update on priority areas, respective indicators, development since 2019 and responsibilities has been given, for example on energy use, waste management, procurement guidelines, travel policies. For details, please see PHRC’s following items in the section “Campus Sustainability”.</p> <p>Further References:</p> <ul style="list-style-type: none"> - Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet

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.

Score explanation:

According to the 2022 update to the 2030 climate action plan, the property owners of KI buildings only have contracts for "green" electricity. We do not have information on what KI refers to by "green" electricity (e.g. whether this includes energy from nuclear power). We do not know either if KI actively produces energy from renewable sources (e.g. solar panels). The premises of KI compose 6% of KI's CO2 emitted (2019), with energy supply and housekeeping accounting for the majority of these emissions. Relevant is that KI, as any other state agency, does not own any buildings. It is the owner of the buildings that contracts electricity and power as well as purchase and installs solar panels.

It appears complex to calculate the exact amount of green energy, as KI uses energy from both contract-specific electricity and from the so-called Nordic electricity mix. Compared with the Nordic electricity mix, CO2 emissions are 86% lower when they are calculated contract-specifically. These electricity sources generate low emissions per kWh used, as several electricity agreements point out hydropower and wind power as the primary source of energy. One of the calculations used in the carbon mapping 2019 was based on the specific electricity contracts held by KI.

Given the above explanations, we presume that medical school buildings source >20%, but <80% of energy needs from off-site and/or on-site renewable energy.

References:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet
- Klimatkartläggning 2019 Karolinska Institutet

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

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

Score explanation:

KI holds approximately 239,800 square meters of usable space on the campus premises. According to the 2022 update of the KI 2030 climate action plan, [KI aims to decrease carbon emissions from energy use per square meter by 15 percent by 2024](#), aiming to reach 50 % reduction by 2030. In the same

report, it is stated that CO2 emissions from energy use have decreased by approximately 31% in the period of 2019-2021. These reductions came primarily from changes in heating protocol at the institute. Thus, it seems that KI has exceeded its goal for the period until 2024, which is encouraging. It bears mentioning that these changes could be due in part to the reduction of campus activity during the COVID-19 pandemic.

In the case of new buildings, KI together with Akademiska Hus have set the goal to achieve the energy requirements for Environmental Construction GOLD, and in case of reconstruction, the energy requirements for Miljöbyggnad SILVER apply. Given our limited information, we are unaware of old buildings having been retrofitted to be more sustainable. As mentioned, KI as any other state agency, does however not own any buildings. It is the owner of the buildings that is responsible for retrofitting buildings.

Further references:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet
- Klimatkartläggning 2019 Karolinska Institutet

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.

Score explanation:

KI is very well connected to public transport and safe active transport (e.g. bike lanes), and many students and staff are using these options. A bus connects both campuses (Solna and Flemingsberg) that KI students can use free of charge. KI also offers safe, indoor parking stations for bicycles. KI has organized and offered free bicycle fixing workshops to staff and students, promoting cycling in the spring/summer.

KI does not directly subsidize public transportation for its students to our knowledge. However, KI students do benefit from reduced fares on public transportation through Sweden's Mecenat system, recognized by KI. Still, tickets for public transport in Stockholm are expensive. Information about environmentally-friendly public transport is provided during orientation, but emphasis is not placed on the importance of using sustainable transportation for planetary health reasons. There is a garage for cars at KI, which may incentivise individualized motorized transport.

That being said, long-distance flights are the major sources of emissions arising from travel, amounting up to some 20% of KI's total emissions, as mentioned earlier. It remains unclear to what extent students contribute to long-distance flights within KI activities. According to the 2022 update of the KI 2030 climate action plan, [KI aims to lower carbon emissions per employee from business travel by 2024 by 40% compared to 2015](#). To our knowledge, whilst measures to reduce emissions from long-distance

flights are increasingly being discussed including at [KI Sustainability Day 2023](#), they have not been rolled out systematically but remain optional and dependent on KI employees' individual choices.

Further references:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet

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.

Score explanation:

KI has recycling programs accessible to students and faculties. However, to our knowledge it does not have compost programs.

According to the 2022 update of the KI 2030 climate action plan, [KI aims to introduce food waste collection in all kitchens on KI's premises by 2024](#). KI also aims to reduce the total waste per annual workforce on KI's premises by 10 percent by 2024, from the year 2019. In the KI climate mapping 2019, waste management could not be distinguished from the profit and loss account. As such, no calculated emissions were allocated to it. However, it was calculated that collected waste decreased by 73 percent between 2019 and 2021, and that the percentage of waste sorted/recycled increased from 24 to 39 percent between 2019 and 2021, which is encouraging. It bears mentioning that these changes could be due in part to the reduction of campus activity during the COVID-19 pandemic.

Further references:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet
- Klimatkartläggning 2019 Karolinska Institutet

7. Does the medical school apply sustainability criteria when making decisions about the campus food and beverage selections (e.g. local sourcing, reduced meat, decreased plastic packaging)?

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.

Score explanation:

KI emissions from food and restaurants compose around 1500 tons of CO₂e, which accounts for 3-4% of KI's annual emissions (2019). A calculation within the climate mapping 2019 on measures for reduction of KI's climate impact showed that by only serving vegetarian dishes 2 days a week compared to serving only meat and fish dishes, it would be possible to reduce university emissions within the food category by 27%.

Even though the general goal of “greatly reducing greenhouse gas emissions from goods, services, food and waste” is stated in the sustainability guidelines in the climate action plan 2030, there are no clear aims stated to address sustainability of food and beverage served. No current guidelines exist regarding catering at KI events, and though there are vegetarian options provided at the campus restaurants on a regular basis, these are limited. Plant-based options other than salad are often missing completely.

The efforts that are currently being discussed by the sustainability council include introducing vegetarian days at the campus restaurant along with labeling the carbon footprint of each dish offered there. There is also an [initiative to introduce plant-based meals as the default option at KI](#) as well as efforts to introduce more local produce on campus carried wholly by students from SSD. However, such suggestions have not been formally supported by KI nor implemented yet. To our knowledge, there are currently few attempts for more locally produced food, plantbased by default or decreased plastic packaging. The argument of health co-benefits related to a plant-based diet is not emphasized in this discussion.

Further references:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet
- Klimatkartläggning 2019 Karolinska Institutet
- Climate Strategy for Karolinska Institutet | Staff Portal:
- KI Sustainability Day 2023 (live presentations and discussions):
<https://news.ki.se/calendar/join-us-for-kis-sustainability-day-2023#:~:text=KI%20Sustainability%20Day%20is%20arranged,who%20register%20by%20May%2016th>.

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

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

Score explanation:

While there are extensive plans to set sustainability and climate requirements in all procurements, tenders and purchases, where possible, there are currently no sustainability requirements for supply procurement (e.g. similar to the [requirements for suppliers brought forward by the National Health Service in England](#)), to our limited knowledge. Still, results from KI's climate mapping indicate that

the most extensive climate-damaging emissions are coming from the purchase of goods (approximately 45% of emissions).

According to the 2022 update of the KI 2030 climate action plan, [KI intends to have knowledge of its emissions from the consumption of goods and services by 2024](#). In the same year, sustainability and climate requirements will be set in all relevant procurements, calls and purchases, where possible. The requirements will be followed up on. Up to this point, it is unclear whether these guidelines will be binding or optional recommendations.

Further references:

- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet
- Klimatkartläggning 2019 Karolinska Institutet

9. Are there sustainability requirements or guidelines for events hosted at the medical school?

2	Every event hosted at the medical school must abide by sustainability criteria.
1	The medical school strongly recommends or incentivizes sustainability measures, but they are not required .
0	There are no sustainability guidelines for medical school events.

Score explanation:

KI has a [guide on “Sustainable meetings”](#) for events hosted at and by KI, including but not limited to aspects such as energy use, purchases, food choices, transport, accessibility and waste management. The guide is based on Agenda 2030, the UN's 17 Global Goals for sustainable development and KI's guidelines for the environment and sustainable development. Using the guide and [check-list](#) is strongly recommended, however not required.

Further references:

- KI Sustainability Day 2023
- Uppföljning 2022 av Klimatstrategi 2030

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

2	Yes, the medical school has programs and initiatives to assist with making lab spaces more environmentally sustainable.
1	There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives.
0	There are no efforts at the medical school to make lab spaces more sustainable.

Score explanation:

Purchase of goods is the largest emission source at KI, with 45% of total emissions. Laboratory equipment as well as chemicals and pharmaceuticals account for the majority of emissions in the

category. When it comes to real estate, laboratory energy use contributes the most to KI's emissions, as KI's large laboratory premises for educational and research activities have large energy requirements.

To our knowledge, there are currently no structured programs, requirements, guidelines or initiatives for making lab spaces more environmentally sustainable. However, at the [recent KI sustainability day 2023](#) an emphasis was given to sustainable labs, and a pilot cooperation with MyGreenLab was announced for fall 2023. Sustainable Development and Equal Opportunities Office has however provided information that KI works actively with lab safety and substitution of hazardous chemicals as well as with laboratory waste management. Next step is to focus on resource efficiency (e.g. energy and water).

References:

- KI Sustainability Day 2023 (live presentations and discussions)
- Uppföljning 2022 av Klimatstrategi 2030, Karolinska Institutet
- Klimatkartläggning 2019 Karolinska Institutet

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	The institution is entirely divested from fossil fuels.
2	The institution has partially divested from fossil fuel companies or has made a commitment to fully divest , but currently still has fossil fuel investments.
1	The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organized advocacy for divestment.
0	Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that.

Score explanation:

We have no information on the investments or the endowment portfolio of KI. In this regard, we presume that KI has investments in fossil-fuel companies, as this is the case for [many universities across Europe](#). The carbon mapping done in 2019 has not looked at KI's financial assets (e.g. related to fossil fuels) and no priority is given to divestment from fossil fuels according to the council for environment and sustainable development ([KI Sustainability Day 2023](#)).

Recommendations:

KI should consider divesting from all fossil fuels and join WHO, Nobel Laureates and leading medical institutions and organisations in signing the [Letter calling for a Fossil Fuel Non Proliferation Treaty](#) and advocate for the Swedish government to stop all subsidies in fossil fuels in order to safeguard human and planetary health.

References:

- KI Sustainability Day 2023 (live presentations and discussions)
- <https://endfossil.com>

- <https://sciencebusiness.net/climate-news/news/cop26-approaches-european-universities-lag-fossil-fuel-divestment>

Section Total (10 out of 32)

10

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

Grading

Section Overview

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

Letter Grade*	Percentage
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 Karolinska Institutet School of Medicine

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(40/72) \times 100 = 55.6$ A%	C+
Interdisciplinary Research (17.5%)	$(13/17) \times 100 = 76.5$ B%	B+
Community Outreach and Advocacy (17.5%)	$(5/14) \times 100 = 35.7$ C%	D+
Support for Student-led Planetary Health Initiatives (17.5%)	$(8/15) \times 100 = 53.3$ D%	C
Campus Sustainability (17.5%)	$(10/32) \times 100 = 31.3$ E%	D
Institutional Grade	$(A \times 0.3 + B \times 0.175 + C \times 0.175 + D \times 0.175 + E \times 0.175) = 51,7$ F%	C