



Planetary Health Report Card (Pharmacy): *Keele University*



2024-2025 Contributing Team:

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This was completed in conjunction with Keele Physiotherapy and Medicine (See their submission for names)

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Summary of Findings

Overall Grade	A
Curriculum	B
<ul style="list-style-type: none"> The MPharm course covers many of the topics within this report at a basic level. The school is also covering more topics than it did last year- a change that was made based on the feedback received in last year's PHRC. Throughout all years of the pharmacy course, there is a focus on reducing polypharmacy and understanding how lowering the amount of medication a patient is taking can increase adherence whilst still treating the patient's condition and decreasing environmental impact. Recommendations: The school is taking measures to improve the teaching on these topics with more detail (e.g. student feedback in meetings). Changes are underway for next year and the school should continue to consult the PHRC Findings to inform changes. 	
Interdisciplinary Research	A
<ul style="list-style-type: none"> Keele University has a sustainability website which covers environmental research and events. Recommendations: Keele could apply for more grants and funding for specific research into planetary health. 	
Community Outreach and Advocacy	A+
<ul style="list-style-type: none"> Keele University has strong links with the community with a strong focus on engaging with schools, colleges and early years. Keele University also allows students to do placement in the community so they can see firsthand what needs improving and be able to act on these ideas in line with this. They also put on events throughout the year, which are included in the communications. Recommendations: The University could work with all hospitals within the local area to further engage with planetary health and make this accessible to patients. 	
Support for Student-Led Initiatives	A+
<ul style="list-style-type: none"> The MPharm Programme has a Student Voice Representative for Sustainability and a Staff Member of Staff who acts as a Sustainability Officer. Furthermore, there are some projects that are part of the core curriculum or have faculty support that support students with gaining experience in sustainability research. Keele also has many co-curricular opportunities linked to planetary health. Recommendations: The School could introduce funded research opportunities for students within sustainable healthcare in similar schemes to those offered by the School of Medicine. 	
Campus Sustainability	A+
<ul style="list-style-type: none"> Keele University has made a plan to be carbon neutral by 2030 and has followed steps towards meeting this such as having food policies in order to make the food environmentally sustainable and during term time producing 50% of the energy needed for the school. Recommendations: They could improve when hosting events and conferences through making it mandatory to have a Green delegation plan. 	

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 health professional 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 health professional training. It is imperative that we hold our institutions accountable for educating health professional 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 colour, 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 health professional schools, we have created a Planetary Health Report Card that students internationally can use to grade and compare their institutions on an annual basis. This student-driven initiative aims to compare health professional 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 centred on environmental health impacts 5) 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 health professional 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.
- **Pharmacy School/Department vs. Institution:** When “Pharmacy school” is specified in the report card, this only refers to curriculum and resources offered by the School/department of pharmacy 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 including all of its campuses. Any resource reasonably accessible by pharmacy students, no matter where in the institution the resource comes from or if it is specifically targeted for pharmacy students, can meet this metric.

- **Environmental history (Metric #19 in Curriculum Section):** This is a series of questions students 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 mould 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. Please be as specific as possible when providing evidence for this metric.
- **Elective:** The word "elective" refers to an optional course or lecture series that a 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.
- **Core Curriculum:** This refers to taught material that is delivered to the entire cohort of students in one year.
- **Clerkship / Outreach:** 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, outreach or placements. This is a relatively short (approximately 4-8 weeks) period of study and patient-centred clinical experience that takes place as part of the undergraduate programme.
- **Clinical rotation:** This is a term used to refer to placements that students go on (e.g., ophthalmology, surgery, cardiology).
- **Physiotherapy vs Physical Therapy:** For the purposes of this report card these terms are considered interchangeable. However, physiotherapy will be used primarily.
- **Community organisations:** For most institutions, there are existing groups that are not directly affiliated with the university and exist as a product of what the community the institution exists in cares about or needs. These specific community organisations relevant to this report include those that are focused around some aspect of climate and health preservation. These community organisations can include but are not limited to local mutual aid initiatives, underserved-resource distribution groups, clean-up and nature conservation groups, community gardeners, and other environmental-related organisations. If your institution does not have access to local volunteerships with community groups, please report any community organisations your institution or school has collaborated with.
- **Climate justice:** The idea that certain population groups and geographical locations which are disproportionately more impacted by climate change are already economically and socially disadvantaged. This double vulnerability sits alongside pre-existing social justice concerns and should therefore shift policy and practice to mitigate the inequitable effects of the climate crisis.

- **Extractivism:** The removal of natural resources typically in large quantities. Within anthropology this term is often used in the context of colonialism to refer to the historic seizing of natural resources, a practice which has developed business models tied to ecological degradation and loss of biodiversity.
- **Global South:** Nations that often have less economic and industrial development and are typically in the southern hemisphere. These nations have been found to be disproportionately impacted by the climate crisis.
- **Low socioeconomic status (SES):** An individual or geographical area that across a variety of socioeconomic factors (e.g., income, education, race/ethnicity) is considered vulnerable. This vulnerability has been correlated to more adverse health outcomes often as a consequence of encountering more barriers in accessing and receiving healthcare.
- **Low and Middle-Income Countries (LMIC):** Countries that have lower degrees of economic affluence.
- **Anthropogenic:** Created through human activity
- **Marginalized communities:** Groups excluded from mainstream economic, educational, social, and/or cultural experiences due to race, gender identity, sexual orientation, age, physical ability, language, and/or immigration status (Sevelius et al., 2020).

Other considerations:

- If there are more than one “tracks” at your institution 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). Where possible please indicate the proportion of students that are on each track.

Completed in 2022 a Literature Review by Metric is available for the 2022 medicine report card metrics. We are in the process of updating this review and making it more applicable to all the disciplines. However the review serves as a rough 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 planetary health topics into the pharmacy school curriculum. Today's pharmacy students will be on the frontlines of tackling the health effects of climate and other environmental changes. Therefore, it is critical that pharmacy students understand planetary health issues and principles.*

1.1 Does your pharmacy school curriculum address the impacts of extreme weather events on individual health and/or on healthcare systems?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	2
<i>Score explanation: Interprofessional education days where the pharmacy school partners with other schools of healthcare, such as medics and nurses and in doing so, one of the role-play activities is how to maintain delivery of healthcare services in the event of flash flooding and the additional injuries and infections as well as mental health issues that may come with this. This has remained the same as last year.</i>	

1.2 Does your pharmacy school curriculum address the environmental impact of medicines in terms of their pollution, ecological impact and contamination of water systems?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	2
<i>Score explanation: An assignment within the 1st year (under the Fundamental Chemistry unit) requires students to complete an ecological survey on the area in which their lab is situated to determine the impact of an experiment on the local population and surrounding area to determine if they need to move lab locations. This is facilitated using a risk assessment. This has remained the same as last year.</i>	

1.3 Does your pharmacy school curriculum address the health effects of pharmaceutical industry- and manufacturing-related environmental toxins?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

3

Score explanation: Throughout all labs, including doing our COSHH forms, there is a huge focus on understanding the hazards and precautions, such as whether the substances being used are harmful to the environment as well as risks to the experimenter and others nearby if the chemical accumulates in the organism and how the materials can be disposed of responsibly. Within all labs, there is a focus on planning before the lab so that the lab proceeds safely but also to reduce the amount of unnecessary waste, such as using additional pipette tips and weighing boats because instructions were not read or the use of additional material than what is required for the experiment.

Labs are also starting to reuse materials to reduce waste (e.g. Paracetamol formulated in the previous year's labs is reused in the next academic year for the first, Uniformity of Content Practical...). This is also looked at through the 1st year ecological survey done as part of the PottersPharm Project in Fundamental Chemistry- where students have to evaluate the risks to the environment and to the population of establishing a lab in a given area.

In the third year, in the Anti-inflammatory Drugs Lecture, a case study is looked at to highlight the significance of proper disposal of medicines/chemicals and the repercussions if this is not done. The case study focuses on the decimation of the Indian vulture population due to dosing of cattle livestock with diclofenac, which is toxic to vultures and caused kidney failure and death to the majority of the vulture population when they fed on the carcasses of treated cattle. It then highlights the 4% human death increase that was directly linked to pathogens that would have been eliminated by the vulture population in the area ([Indian vultures: Decline of scavenger birds caused 500,000 human deaths - BBC News](#)).

1.4. Does your pharmacy school curriculum address the carbon footprint of healthcare systems?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

Score explanation: First Year Dosage Forms looks at the NHS Net Zero Plan which addresses the carbon footprint of the NHS. Further reading is also provided for interested students (Medicines Carbon Footprint Formulary). Second Year Respiratory Therapeutics also looks at inhalers specifically and the impact of changing them to low carbon inhalers which is an NHS initiative. Additional reading is provided on Greener Prescribing of Inhalers. This is examinable.

1.5. Does your pharmacy school curriculum address the impact of climate change on the changing patterns of infectious diseases and increased antimicrobial resistance?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

3

Score explanation: This is discussed in antimicrobial lectures in years 2 and 3. This is shown through images tracking different areas of Europe and how global warming, travel, and good antimicrobial prescribing can be used to change the types of antimicrobial resistance and the impacts on treatment options available for different severities of infections. This has remained the same as last year.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

3

Score explanation: Second Year Respiratory Therapeutics teaches about Respiratory Health and explains the impact of climate change, pollution and adverse weather on Respiratory conditions such as Asthma and COPD. This content was examinable and part of the core curriculum. Additional reading was also provided for interested students.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	1
<i>Score explanation: Second Year Cardiovascular Therapeutics includes recommended (non-examinable) reading that references the effect of climate change of cardiovascular health. The focus of these resources is on air pollution rather than increased heat.</i>	

1.8. Does your pharmacy school curriculum address the relationship between climate change and allergies?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	3
<i>Score explanation: This is briefly covered in Second Year Respiratory Therapeutics. This content is examinable. This is covered in more detail as part of the core curriculum for Third Year Therapeutics.</i>	

1.9. Does your pharmacy school curriculum address the mental health and neuropsychological effects of environmental degradation and climate change?	
This topic was explored in depth by the core curriculum. (3 points)	
This topic was briefly covered in the core curriculum. (2 points)	
This topic was covered in elective coursework. (1 point)	
This topic was not covered. (0 points)	
Score Assigned:	2
<i>Score explanation: This is looked at in an interprofessional day (which is a core part of the curriculum for all healthcare degrees at Keele, including Pharmacy) in which students look at the effects of mental health on people in the general area of a flash flooding and how health care professionals can support patients through this. This has remained the same as last year.</i>	

1.10. Does your pharmacy school curriculum address the unequal regional health impacts of climate change nationally and globally, including the impact of social inequality?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

Score explanation: The school, within the third year of pharmacy, looks at within the UK topics affecting public health, such as the north-south divide and the postcode lottery, to look at the different diseases that affect different areas and the different outcomes of treatment and treatment compared to different areas. This is then taken further with discussions about how disadvantaged groups will be more affected, such disadvantaged groups will have less green space and be in higher areas of pollution leading to higher rates of respiratory disease and exacerbations of asthma. Globally this is not covered. This has remained the same as last year. There is an option to focus the Third Year Synoptic Project on these inequalities by designing a Public Health Campaign for the general public.

1.11 Does your pharmacy school curriculum address the relationship between climate change and social determinants of health (e.g., reduced nutritional value of food)?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

0

Score explanation: This is not currently taught on the MPharm course. This has remained the same as last year.

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

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was not covered. (0 points)	
Score Assigned:	0
<i>Score explanation: Through the lens of health psychology and promoting healthy living to reduce the risk of conditions such as type 2 diabetes and high blood pressure as either a preventive in people at risk of these conditions or as part of a management plan for these conditions. So, although it is discussed it is done more so through the lenses of general healthy living advice. This has remained the same as last year.</i>	

1.13. Does your pharmacy school curriculum cover these components of sustainable clinical practice? (1 point each)	Score
Waste production within the healthcare system and strategies for reducing waste in clinical activities such as single use plastic and packaging. (1 point)	0
Patient counselling on safe disposal of medications. For example, what can be disposed of and how to locate recycling schemes, in addition to certain drugs or drug classes that are most important to dispose of properly (e.g. hormonal contraceptives, drugs that are excreted unchanged/active metabolites). (1 point)	1
The impact of extreme heat, on patients on medications which can interfere with thermoregulation. (1 point)	0
The impact of anaesthetic gases on the healthcare carbon footprint. (1 point)	0
The environmental impact of pharmaceuticals and over-prescribing as a cause of climate health harm. Alternatively, teaching on de-prescribing where clinically appropriate and its environmental and health co-benefits would fulfil this metric. (1 point)	1
The health and environmental co-benefits of non-pharmaceutical management of conditions where appropriate such as exercise or yoga classes for type 2 diabetes; social group activities such as gardening for mental health conditions; active transport such as bicycle schemes for obesity. This is commonly known as social prescribing in the UK. (1 point)	1
The impact and benefits of benign by design pharmaceuticals through exploring medicinal chemistry concepts and/or discussing implications of excretion of active metabolites/unchanged drug products on ecological systems. (1 point)	0
<i>Score explanation: This is taught within the 2nd year, discussing how to dispose of controlled drugs safely. Most patients within the UK bring any leftover medication back to the pharmacy to be disposed of, including diabetic lancets, and, although there is no specific lecture on waste disposal, this content is taught throughout the years when teaching on relevant dosage forms is delivered. In addition, we are moving towards counselling patients where recycling points would be for</i>	

over-the-counter medications such as syringes and blister packs. This has remained the same as last year.

This is looked at throughout all years of the pharmacy degree by looking at ways to reduce polypharmacy and optimise a patient's treatment. Through shared decision-making and the new medicines service, it ensures that patients are adhering to the medications that they are prescribed and, if they are not taking them, finding out the reasons why and potentially reassuring the patient, reducing medical waste in the patient not taking their medications. This has remained the same as last year.

This is taught throughout all years of the pharmacy degree. We are taught about social prescribing and how this can benefit different conditions such as fibromyalgia, a widespread chronic pain condition and how these groups can be tailored to the different abilities of patients and increase socialisation, which is important in reducing loneliness within the elderly community as loneliness can cause increased pain. This has remained the same as last year.

1.14. Does your pharmacy school curriculum discuss the environmental implications of various dosage forms, medication delivery devices, and/or excipients?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

3

Score explanation: In the 2nd and 3rd years, there are several lectures that look at the use of different types of inhalers. They draw attention to the environmental impacts of different types of inhalers (specifically looking at carbon emissions of MDIs and the effect of CFCs on the environment) and how these can be changed as well as when it would be acceptable to change from pMDIs to DPIs. Additional reading is also provided for interested students on Greener Prescribing.

1.15. In training for patient communication, does your pharmacy school's curriculum introduce strategies for having conversations with patients about the health effects of climate change?

Yes, there are clear and detailed strategies introduced for having conversations with patients about climate change in the core curriculum (3 points)

Yes, having conversations with patients about climate change is briefly mentioned in the core curriculum. (2 points)

Yes, there are some examples of having conversations with patients about climate change in elective coursework. (1 point)

No, there are not strategies or examples for having conversations with patients about climate change (0 points)

Score Assigned:

0

Score explanation: Throughout all years of the course, we are taught how to converse with patients and build rapport with them through very brief advice and brief interventions with patients about different health concerns. Although this is not specific to climate change, this can be incorporated into the conversation. This has remained the same as last year.

1.16. Does your pharmacy school curriculum guide students to consider the environmental impact of medications as a factor in addition to safety, efficacy, cost, and pill burden when comparing equivalent therapies?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

3

Score explanation: Throughout all years of the pharmacy course when trying to reduce polypharmacy this is looked at through a lens of patient adherence to taking their medications and the environmental impact if the patient doesn't take their medication properly from the impact of making the medication to the impact of disposal and how lowering the amount of medication a patient is taking can increase adherence whilst still treating the patient's condition. We also look at changing inhaler types. Within the UK, there is an aim to reduce the number of patients on pMDIs, which causes higher pollution. This has remained the same as last year.

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

Yes, the school is currently in the process of making major improvements to ESH/planetary health education. (4 points)

Yes, the school is currently in the process of making minor improvements to ESH/planetary health education. (2 points)

No, there are no improvements to planetary health education in progress. (0 points)

Score Assigned:

4

Score explanation: The results from the PHRC 2023-2024 are being used to enact changes and increase planetary health education. A position has also been created in the Student-Staff Voice

Committee for a Student Sustainability Representative to speak directly to academic staff and feedback ways to incorporate planetary health into the curriculum

1.18. Does your pharmacy school have a member of faculty to incorporate planetary health and sustainable healthcare as a theme throughout the curriculum ?

Yes, there is/are a member(s) of faculty whose role is directly responsible for the incorporation of planetary health and sustainable healthcare as a theme throughout the curriculum (4 points)

Yes, there is/are member(s) of faculty who are incorporating planetary health and sustainable healthcare as a theme throughout the curriculum as well as doing their principle role (2 points)

There are no members of faculty who are incorporating planetary health and sustainable healthcare as a theme throughout the curriculum (0 points)

Score Assigned:

4

Score explanation: Dr Szu Shen Wong is the member of faculty who incorporates planetary health and sustainability into the curriculum. This has remained the same as last year.

1.19. Does your pharmacy school curriculum offer clinical practice experiences (for example, IPPE/APPE rotations in the U.S. or placement opportunities in the UK) that allow for the exploration of planetary health topics?

There are multiple clinical practice experiences/placements that allow for direct exposure to planetary health topics. (3 points)

There is one available clinical practice experience/placement that allows for direct exposure to planetary health topics. (2 points)

There are available clinical practice experiences/placements that allow for indirect exposure to planetary health topics. (1 point)

No, there are no such clinical practice experiences/placements available through the pharmacy school. (0 points)

Score Assigned:

1

Score explanation: Throughout all years of the pharmacy course, students are sent out on placement to community pharmacies for the first 2 years and then hospitals for the final 2 years, which can allow for exploration of planetary health topics. However, these changes are based on what students want to get out of placement and what the placement can provide. Planetary health topics are not a part of the workbooks. This has remained the same as last year. Changes are underway for the academic year 2025-2026.

1.20. Does your pharmacy school curriculum acknowledge a disparity in the effects of climate change? Specifically, does your curriculum address groups more vulnerable to environmental impacts, such as BIPOC, immigrant groups, low income populations, children, elderly, persons with disabilities, persons with pre-existing or chronic medical conditions?

This topic was explored **in depth** by the **core** curriculum. (3 points)

This topic was **briefly** covered in the **core** curriculum. (2 points)

This topic was covered in **elective** coursework. (1 point)

This topic was **not** covered. (0 points)

Score Assigned:

2

Score explanation: Within health psychology and health inequality within the 2nd and 3rd years. This looks at different incomes and areas within the UK to allow for discussions about disadvantaged groups which have less green space and tend to live in areas of higher pollution, increasing rates of respiratory disease and exacerbations of asthma. There are also discussions surrounding how flash flooding and extreme weather events such as heatwaves are more likely to affect disadvantaged groups, such as people living in high-rise flats and the extreme temperatures reached. Which can cause dehydration and heat stroke in both the elderly and young children. This has remained the same as last year.

Section Total (43 out of 66)

65.15%

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Interdisciplinary Research

Section Overview: This section evaluates the quality and quantity of interdisciplinary planetary health research at the 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, institutions 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 emphasised.

2.1. Are there researchers engaged in planetary health research and healthcare sustainability research at your <u>institution</u>?	
Yes, there are faculty members at the institution who have a primary research focus in planetary health or sustainable healthcare/vetcare. (3 points)	
Yes, there are individual faculty members at the institution who are conducting research related to planetary health or healthcare sustainability, OR are part of a national/international sustainability working group, but it is not their primary research focus. (2 points)	
There are sustainability researchers at the institution , but not specifically associated with healthcare/vetcare. (1 point)	
No, there are no planetary health and/or sustainability researchers at the institution at this time. (0 points)	
Score Assigned:	3
Score explanation: Keele University has faculty members primarily focused on planetary health and healthcare sustainability. The institution's School of Medicine has been highly ranked globally for sustainability and planetary health integration into medical education. Faculty are engaged in research through the Institute for Sustainable Futures, which supports interdisciplinary studies addressing health and environmental issues.	

2.2. Is there a dedicated department or institute for interdisciplinary planetary health research at your <u>institution</u>?	
There is at least one dedicated department or institute for interdisciplinary planetary health research. (3 points)	
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. (2 points)	
There is an Occupational and Environmental Health department , but no interdisciplinary department or institute for planetary health research. (1 points)	
There is no dedicated department or institute. (0 points)	

Score Assigned:	3
<p><i>Score explanation: Keele University has the Institute for Sustainable Futures (ISF) Institute for Sustainable Futures - Keele University - which addresses sustainability and planetary health issues through interdisciplinary research, focusing on areas like climate change, food security and environmental sustainability.</i></p> <p><i>Additional References:</i> Health schools at Keele rank among world's best for embedding sustainability in teaching - Keele University Education - Keele University Health and Safety - Keele University</p>	

<p>2.3. 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 institution?</p>	
<p>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. (3 points)</p>	
<p>Yes, there is a process in which community members impacted by climate and environmental injustice advise the climate + environmental research agenda. (2 points)</p>	
<p>No, but there are current efforts to establish a process for community members to advise or make decisions on the research agenda. (1 points)</p>	
<p>There is no process, and no efforts to create such a process. (0 points)</p>	
Score Assigned:	2
<p><i>Score explanation: There is evidence of patient and public engagement within the Primary Care Research Centre and that community members have influence over this research agenda. The ISF partners with different local organisations and focuses on providing sustainable governance and community living.</i></p>	

<p>2.4. Does your institution have a planetary health website that centralises ongoing and past research related to health and the environment?</p>	
<p>There is an easy-to-use, adequately comprehensive website that centralises 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. (3 points)</p>	
<p>There is a website that attempts to centralise various campus resources related to health and the environment, but it is hard-to-use, not updated, or not adequately comprehensive. (2 points)</p>	
<p>The institution has an Office of Sustainability website that includes some resources related to health and the environment. (1 point)</p>	

There is no website. (0 points)	
Score Assigned:	3
<p><i>Score explanation: Keele University has a sustainability-focused website Sustainability - Keele University through its Institute for Sustainable Futures and other university resources, which include information on environmental research and initiatives.</i></p> <p><i>Keele University also has a web page focused on planetary health and sustainability specifically and gives links to the medical schools research and education.</i></p> <p><i>Sustainability and planetary health - Keele University</i></p>	

2.5. Has your institution recently hosted a conference or symposium on topics related to planetary health?	
Yes, the institution has hosted at least one conference or symposium on topics related to planetary health in the past year. (4 points)	
Yes, the institution has hosted at least one conference or symposium on topics related to sustainable healthcare/vetcare in the past year. (3 points)	
Yes, the institution has hosted a conference on topics related to planetary health /sustainable healthcare/vetcare in the past three years. (2 points)	
The institution has not hosted any conferences directly, but they have provided financial support for a local planetary health event. (1 point)	
No, the institution has not hosted a conference on topics related to planetary health in the past three years. (0 points)	
Score Assigned:	4
<p><i>Score explanation: The Institute for Sustainable Futures at Keele University regularly holds symposiums and events for example on the</i></p> <ul style="list-style-type: none"> <i>• 5th June 2024, Keele Deal Health & Sustainability event (with NHS partners as guests - esp. Sustainability Managers)</i> <i>• Institute for Sustainable Futures Health & Sustainability Grants Sandpit -8th April 2024.</i> <p><i>As well as this Keele University runs an ongoing Great Challenges lecture series where planetary health topics are frequently discussed. In the last year, the following events have been run:</i></p> <ul style="list-style-type: none"> <i>• The Food System Transition – how we can feed ourselves without destroying the planet or our health [October 2023]</i> <i>• Small States at the Crossroads - Does the Maldives Matter? [October 2023]</i> <i>• Migration in the Maghreb, an interdisciplinary approach: MADAR's motley [May 2023]</i> <p><i>Information on recent or upcoming events can be found here: Events - Keele University</i></p>	

2.6. Is your institution a member of a national or international planetary health or ESH/ESV organisation?

Yes, the institution is a member of a national or international planetary health or ESH/ESV organisation. (1 points)			
No, the institution is not a member of such an organisation. (0 points)			
Score Assigned:	1		
<p><i>Score explanation: Keele University is a member of the Nature Positive Universities Alliance this is a global network of universities prioritising nature restoration. Launched by the United Nations Environment Programme. Nature Positive University - Keele University</i></p> <p><i>Keele School of Medicine is a member of the Planetary Health Alliance (PHA), a global organisation focused on addressing planetary health challenges. However, the institution is not a member of this organisation.</i></p>			
<table border="1"> <tr> <td>Section Total (16 out of 17)</td><td>94.12%</td></tr> </table>		Section Total (16 out of 17)	94.12%
Section Total (16 out of 17)	94.12%		

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Community Outreach and Advocacy

Section Overview: This section evaluates pharmacy 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 colour. 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.

3.1. Does your **institution** partner with community organisations to promote planetary and health?

Yes, the **institution** meaningfully partners with **multiple** community organisations to promote planetary and environmental health. (3 points)

Yes, the **institution** meaningfully partners with **one** community organisation to promote planetary and environmental health. (2 points)

The **institution** does not partner with community organisations, but has participated in community focused events relating to planetary health. (1 point)

No, there is **no** such meaningful community partnership. (0 points)

Score Assigned:

3

Score explanation: Keele University has a Sustainability Strategy which receives input from Trade Union Environmental Representatives.

Keele's Students' Union has collaborated with the National Union of Students to create an initiative called 'Student Eats' which allows students to grow their own food on campus.

[*Sustainability engagement - Keele University*](#)

Keele University works with the Carbon Literacy Project to provide students and staff with the opportunity to gain knowledge and awareness of the impacts of carbon dioxide and become certified as carbon literate. [*Carbon Literacy Project - Keele University*](#)

[The Keele Wildlife Society](#) has received bronze accreditation from the Hedgehog Friendly Campus, a scheme funded by the British Hedgehog Preservation Society, for their efforts in turning our campus into a safe habitat for Hedgehogs to thrive.

Keele partners with the Trussell Trust, a local food bank, to donate non-perishable food items from students living in Keele's Halls of Residence at the end of each term. Keele University uses Warp-it to exchange unwanted furniture with other staff members, this reduces waste and waste disposal costs. [*Sustainable campus operations - Keele University*](#)

Keele University works with the Soil Association to implement the Food For Life Catering Mark, an initiative that improves the sustainability of the catering at the University campus. [*Our social and ethical policies - Keele University*](#)

The Keele School of Pharmacy is currently in communication with a Public Health Officer for Stoke City Council with the intention of collaborating on green social prescribing and aging well initiatives.

Keele University helping prepare Staffordshire for net zero future: working alongside Staffordshire County Council to help the county prepare for the opportunities of the transition to net zero future. This will be used to inform future decision making for investment and resource allocation to secure a skilled supply chain, ensuring that all stakeholders can make the most of the economic benefits of the transition. [Carbon Literacy Project - Keele University](#)

Keele University researchers have started a new project with Unilever, maker of a few worlds' leading home care brands, to help decarbonise its portfolio of products such as cleaning products. [Keele chemists embarking on multi-million-pound study to help Unilever decarbonise products - Keele University](#).

This year's Green Festival will be a mixture of in-person and online activities in celebration of sustainability, people leading in embedding sustainability across the university, and the key projects based on campus that are in efforts to engage the population with sustainability and reduce carbon emissions that have impact locally and nationally. [Keele Green Festival - Keele University](#)

The library contributes with healthcare sustainability communication/updates by displaying a stand in the foyer of the library We also have the Institute for Sustainable Futures which hosts many events to engage organisations in sustainability-focused activities. This is the same as last year.

3.2. Does your **institution** offer community-facing courses or events regarding planetary health?

The **institution** offers community-facing courses or events at least once every year. (3 points)

The **institution** offers courses or events open to the community at least once per year, but they are not primarily created for a community audience. (2 points)

The **institution** has promoted community-facing courses or events, but was not involved in planning those courses or events. (1 point)

The **institution** has not offered such community-facing courses or events. (0 points)

Score Assigned:

3

Score explanation: Keele University holds events annually every year with the Keele Green Festival which is a two week long event at Keele open to the public. [Keele Green Festival - Keele University](#)

Keele University also gives students the opportunity to do placements with business, schools, charities/non-profits and community groups in order to teach about climate change but also interact with the public and see how Keele can help them. [Student placement opportunities - Keele University](#)

Keele is also the West Midlands regional hub for climate ambassadors that focuses on making sustainable education and climate change into early years, schools and colleges and regularly

holds conferences for the teachers and schools within Keele hall. [Climate Ambassadors - Keele University](#)

Keele also holds smaller events outside of the green festival such as the Earth Stories Film Festival which went on the 22nd of April 2024, Young voices for Nature- our beautiful wild 21st of April 2024, Sustainability and climate change photo exhibit 5th December 2023-23rd April, Keele future thinking event on the 16th February 2024, Talk on sustainability 21st of April 2024, Guided walk energy park tour 21st of April 2024 and What on Earth 20th -21st of April for further information on all of these events please see [Events - Keele University](#)

3.3. Does your institution have regular coverage of issues related to planetary health and/or sustainable healthcare in university update communications?

Yes, all students **regularly** receive communication updates dedicated to planetary health and/or sustainable healthcare. (2 points)

Yes, planetary health and/or sustainable healthcare topics are regularly included in communication updates to **some courses**. (1 point)

Students **do not** receive communications about planetary health or sustainable healthcare. (0 points)

Score Assigned:

2

Score explanation: Within the sustainability section on the university website, there is a News and Events page which contains communications on sustainability achievements across the university and frequently highlights advancements in sustainable healthcare achievements. Our sustainability staff utilise [social media](#) for most of their communications, including the Life at Keele Facebook page, Student Union pages and [Green Keele](#) accounts to advertise sustainable events, green festival and volunteering opportunities. The Sustainability Bungalow pages provide practical advice for students to live more eco-friendly. In terms of email newsletter, sustainable issues often feature on the SU newsletter, KPA newsletter and the central university communications from the Vice Chancellor. In addition to this, the SU Activities does frequent blog posts and podcasts on tips for sustainable living. This is the same as last year.

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

Yes, the **institution** or **main affiliated hospital trust** offers multiple in-person or online courses relating to planetary health and/or sustainable healthcare for post-graduate providers, including at least one with a primary focus of planetary health. (2 points)

Yes, the **institution** or **main affiliated hospital trust** offers one course relating to planetary health and/or sustainable healthcare for post-graduate providers. (1 point)

There are **no** such accessible courses for post-graduate providers. (0 points)

Score Assigned:	2
<i>Score explanation: The University Hospital of North Midlands (UHNM) is a Keele University Teaching Trust. It requires all professionals including post graduates to complete e-learning modules on sustainable healthcare as part of their induction training.</i>	

3.5. Does your <u>institution</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about environmental health exposures?	
Yes, the institution or <u>all</u> affiliated hospitals have accessible educational materials for patients. (2 points)	
Some affiliated hospitals have accessible educational materials for patients. (1 point)	
No affiliated hospitals have accessible educational materials for patients. (0 points)	
Score Assigned:	2
<p><i>Score explanation: There are two NHS trusts which have Keele University teaching status – University Hospitals of North Midlands (UHNM) and Midlands Partnership University NHS Foundation Trust (MPFT).</i></p> <p><i>UHNM has several patient information leaflets regarding air pollution and respiratory health, accessible in paper format from the respiratory outpatient's department and via the staff intranet.</i></p> <p><i>There are also a few web articles referencing different environmental health exposures, relevant to specific diseases, e.g. explaining daily air quality index via Asthma Triggers, as well as highlighting their own role in mitigating environmental health exposures.</i></p> <p><i>MPFT has a Health & Wellbeing Resources page which has a plethora of resources, however does not have anything specifically related to environmental health exposure.</i></p> <p><i>Other local hospitals we are sent to also include resources such as:</i></p> <ul style="list-style-type: none"> <i>Shrewsbury And Telford Hospital (SATH) trust does provide accessible online patient information leaflets regarding the impact of smoking & exposure to the sun, in an easy read format as well as a web page format, as well as printed leaflets in outpatient departments.</i> <i>Leighton Hospital has a section on there website that is dedicated to winter wellbeing which includes exposure to weather and viruses during winter.</i> 	

3.6. Does your <u>institution</u> or its <u>affiliated teaching hospitals</u> have accessible educational materials for patients about the health impacts of climate change?	
Yes, the institution or <u>all</u> affiliated hospitals have accessible educational materials for patients. (2 points)	
Some affiliated hospitals have accessible educational materials for patients. (1 point)	
No affiliated hospitals have accessible educational materials for patients. (0 points)	

Score Assigned:	2
<p><i>Score explanation: Both the University Hospitals of North Midlands (UHNM) and Shrewsbury and Telford Hospital (SATH) trusts provide patients educational materials about climate change.</i></p> <p><i>The Sustainable Development Management Plan, published by the UHNM, outlines the importance of sustainability in healthcare, its impact on climate change, and their 5-year strategic approach to deliver excellence in sustainability performance. They also have a document which outlines the changes that they are making for both staff and patients to raise awareness of environmental changes such as using solar powers to help patients most affected by fuel poverty OUR SUSTAINABLE FUTURE 2020-2025 There are also a few web articles referencing different environmental health exposures, relevant to specific diseases, e.g. explaining daily air quality index via Asthma Triggers, as well as highlighting their own role in mitigating environmental health exposures.</i></p> <p><i>In addition, the SATH trust website contains a sustainability section, outlining their 'Green plan' which is targeting areas where progress potential has been identified so that they can become more sustainable, and highlighting their efforts to reduce carbon dioxide emissions to have a positive impact on climate change. As well as this they have a web page dedicated to sustainability with a section for patients called healthy lives and the community Sustainability – SaTH</i></p> <p><i>MPFT also have a green plan and are aiming to be net 0 by 2025 and have created links between the staff and patients to do activities with nature and wellbeing</i></p> <p><i>Leighton Hospital has a community conversation podcast in which they discuss sustainability as well as a Environmental and Social Responsibility Plan (ESRP) 2021 - 2026 which also contains their 'Green plan'.</i></p> <p><i>The Robert Jones and Agnes Hunt Orthopaedic Hospital do have access to their 'Green plan'.</i></p> <p><i>Queen's Hospital have a page on sustainability and a page on the COP26 and what they are doing to achieve this</i></p> <p><i>Sheffield Health and Social Care have hosted a sustainability festival of healthcare with other hospitals in this area to raise awareness of these issues this was in May 2024. They also have a green plan.</i></p> <p><i>North Staffordshire combined healthcare also has links to sustainability that is available to all patients in a patient friendly manner for example this podcast that talks about climate change and the NHS.</i></p> <p><i>Proud to be Green at Combined Healthcare on Earth Day</i></p>	
Section Total (14 out of 14)	100%

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Support for Student-Led Planetary Health Initiatives

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

4.1. Does your **institution** offer support for students interested in enacting a sustainability initiative/QI project?

Yes, the **institution** *either* offers grants for students to enact sustainability initiatives/QI projects *or* sustainability QI projects are part of the core curriculum. (2 points)

The **institution** encourages sustainability QI projects (to fulfil 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. (1 point)

No, the institution does not offer opportunities or support for sustainability initiatives or QI projects. (0 points)

Score Assigned:

2

Score explanation: There is a [Sustainability Fund providing micro grants of up to £100](#) available to students which is supplemented by the [Great Donate](#) and the Drink, Rinse, Repeat scheme. Additionally, sustainability internships and [placement opportunities](#) have allowed for several successful students in recent years to work alongside the Education for Sustainability team and help with projects such as the Hedgehog Friendly Campus campaign, SOS-UK Students Eats campaign, Keele Green festival, Weigh To Go (a zero waste shop), Live Green webpages, and Eat, Rinse, Repeat. The [Keele Key Fund](#) is also available for students to apply for financial support in setting up projects which may improve sustainability. This is typically between £500 and £2500 for each successful application, with a total fund of around £20000.

The Keele Student Union also has a variety of opportunities available through volunteering and being involved in societies and clubs, which provides opportunities for students to make their own society using their own ideas. This is incentivised through students being able to log volunteering hours to get awards. [Skills & Awards](#)

The MPharm course also has a project that we do called PotterPharms where we have to undertake an ecological survey and how the whole process of making a drug would affect the planet, the measures we would have to take and also how we can lower the damage and cost together. During this the lecturers do offer support on helping with the project, so students feel supported. This is mandatory.

4.2. Does your **institution** offer opportunities for students to do research related to planetary health and/or sustainable healthcare/vetcare?

The **institution** has a **specific** research program or fellowship for students interested in doing planetary health/sustainable healthcare/vetcare research. (2 points)

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. (1 point)

There are **no opportunities** for students to engage in planetary health/sustainable healthcare research. (0 points)

Score Assigned:

2

Score explanation: We have a project in first year called PotterPharms where we undertake research about how to make a drug, the cost of this and also undertake an ecological survey. This allows students to have an insight on how the planet gets affected by such processes or similar processes. This is specific to the process on the drug we are making and is mandatory for all students to do to pass the year.

Students are encouraged to speak to their academic mentors for information about additional planetary health/sustainable healthcare research but there isn't a specific research programme dedicated to this.

Additionally, the Medicine School have access to specific research programs dedicated to planetary health research/ sustainability projects. The School of Medicine has been presented with a wider variety of sustainability and planetary health projects/challenges to participate in such as: ASPIRE SCHEME, Living Laboratories and sustainable healthcare education project.

4.3. Does the institution have a web page where students can find specific information related to planetary health and/or sustainable healthcare/vetcare activities and mentors within the institution? For example, projects achieved, current initiatives underway at the institution and/or contact of information of potential mentors.

The institution has a web page with specific information related to planetary health or sustainable healthcare/vetcare that includes up-to-date information on relevant initiatives and contact information of potential mentors. (2 points)

There is an institution web page that features some information on projects and mentors within planetary health and sustainable healthcare within the institution, but it lacks key information. (1 point)

There is **no institution** specific webpage for locating planetary health and/or sustainable healthcare projects or mentors. (0 points)

Score Assigned:

2

Score explanation: There is a web page on sustainability, which tells students how much green energy the university has produced so far and awards that have been won. This is slightly out of date as the last one was won in 2021. This website has links to other pages describing what the university does for planetary health. These pages tell us the projects that have been completed and who is involved with planetary health. It also gives contact details of staff who can act as mentors Dr Laura Rhodes being head of Net Zero delivery and sustainability, Professor Zoe Robinson who is a professor of sustainability in higher education and Dr Szu Shen Wong who is deputy director

for sustainable futures and faculty lead for sustainability. They all serve the entire university and host sustainability events and conferences. [Sustainability research - Keele University](#)

There is also another page describing future goals such as: [Carbon Literacy Project](#). Which is hoped to be achieved by 2030. On this page there is also a video from 2024 showing the page is up to date on what is being done right now, along with comments from Carbon Literacy Project Learners.

There is also another page which talks about a 16 week course called [Skills Bootcamp in Net Zero and Smart Energy Transition](#) which is commencing on 20th January 2025. This shows there is sufficient information that is up-to-date for students to find and attend themselves. There are also catch ups available on this course. Below that information on the same page it describes what the student would learn throughout the course and also who the mentors are providing the course.

There is another webpage which mentions all the [Keele Green Festivals](#) that have been done, which is again up to date, the last one being in 2024. This has a link on it which sends the student to a page with a timetable on it allowing the student to know when and where these sustainability events are occurring.

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

Yes, there is a student organisation **with faculty support** at my institution dedicated to planetary health or sustainability in healthcare. (2 points)

Yes, there is a student organisation at my institution dedicated to planetary health or sustainability in healthcare but it **lacks faculty support**. (1 point)

No, there is **not** a student organisation at my institution dedicated to planetary health or sustainability in healthcare. (0 points)

Score Assigned:

2

Score explanation: The school has student voice representatives with one of these students dedicated to bringing up sustainability issues and solutions. The institution as a whole has the sustainability community and network Teams group, and we also contribute to the campus garden project (edible campus and allotment). These are all done with faculty support and there are opportunities to become carbon literacy facilitators and teach this content to other students with the help of faculty. Additionally, Pharmacy have a Sustainability Representative, as the role was introduced this year by the Pharmacy Director of Education as a result of the Pharmacy PHRC that was held last year.

[Sustainability engagement - Keele University](#)

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

Yes, there is a student representative that serves on a department or institutional decision-making council/committee. (1 points)	
No, there is no such student representative. (0 points)	
Score Assigned:	1
<i>Score explanation: There is a student voice representative also known as the sustainability representative for the school for allied health professionals and pharmacists and they go to the meetings and bring up sustainability issues which can then be looked into and plans made.</i>	

4.6. In the past year, has the <u>institution</u> had one or more co-curricular planetary health programs or initiatives in the following categories? (1 point each)	Score
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 organise hiking, backpacking, kayaking, or other outings for students)	1
<p><i>Score explanation:</i></p> <ol style="list-style-type: none"> <i>On campus, there are eleven raised beds, of which nine are tended to by staff, student and community allotment holders to grow food in a more sustainable way. Herbs are also available from the Quadrangle, and a number of fruit trees in planters. A small number of students live in the Sustainability Bungalow, and they use the polytunnel and raised beds to grow their own food and educate others about sustainability. There was a Walled Garden Litter Picker on Saturday 26th March 2024 from 11:00-13:00 where students could go to the Walled Garden and help the local environment by taking waste and disposing of it correctly.</i> <i>The Grand Challenges lecture series has seen talks about the environment and nature-based solutions. Staffordshire Wildlife Trust also gave talks and workshops.</i> <i>Earth Day 2024 and Keele Green Festival 2024 welcomed RSK Group on campus to interact with students about interdisciplinary sustainability solutions. The SDG Teach In campaign about putting sustainability at the heart of education was available on campus. Students also got to know the Transforming the Trent Valley scheme. Also at the Keele Green festival, the Carbon Project Literacy Project learners were present, as well as other events which included cleaning up local gardens, learning fun ways to save the planet etc.</i> 	

During this event on 14 March 2024, guest speaker Christophe Lavalie came in for a talk on the Food and Drink industry relating sustainability along with it.

- 4. Earth Stories film festival invited young filmmakers to produce short films about sustainability and the environment. The sustainability and climate change photo exhibition is on display in Chapters Café.*
- 5. The campus green team is a group of students and staff who carry out litter picks, monitor biodiversity and reduce invasive species amongst other conservation tasks.*
- 6. There have been a large number of guided walks around campus. There is also a range of clubs and societies that organise outdoor activities such as climbing, hiking and sailing.*

[Sustainability engagement - Keele University](#)

Section Total (15 out of 15)

100%

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Campus Sustainability

Section Overview: This section evaluates the support and engagement in sustainability initiatives by the 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 endeavour, the healthcare sector is well poised to lead the world to a more sustainable future. This will involve scrutinising 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 pharmacy schools, clinics, and hospitals must set the standard for sustainable practices, and show other sectors what is possible when it comes to minimising environmental impact.

5.1. Does your <u>institution</u> have an Office of Sustainability?	
Yes, there is an Office of Sustainability with multiple full-time staff dedicated to campus sustainability. If the Office of Sustainability serves the entire campus, there is at least one designated staff member for sustainability at the hospital. (3 points)	
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 hospital sustainability. (2 points)	
There are no salaried sustainability staff , but there is a sustainability task force or committee. (1 point)	
There are no staff members or task force responsible for overseeing campus sustainability. (0 points)	
Score Assigned:	3
<p><i>Score explanation: Keele has student voice representatives for sustainability as well as a range of programmes, climate ambassadors, climate commission. Alongside programmes, projects, and events held such as Keele Green Festival and a Skill Bootcamp in Net Zero and Smart Energy Transition for students wanting to partake in sustainable efforts. As well as funding supplied by the Drink, Rinse, Repeat scheme for society and volunteering schemes.</i></p> <p><i>Keele University has a sustainability team with Dr Laura Rhodes being head of Net Zero delivery and sustainability, Professor Zoe Robinson who is a professor of sustainability in higher education and Dr Szu Shen Wong who is deputy director for sustainable futures and faculty lead for sustainability. They all serve the entire university and host sustainability events and conferences.</i></p> <p><i>At the hospital campus, there are also <u>dedicated sustainability staff</u>.</i></p> <p>References: Student and staff representation - Keele University Student societies and volunteering - Keele University</p>	

5.2. How ambitious is your <u>institution's</u> plan to reduce its own carbon footprint?
The institution has a written and approved plan to achieve carbon neutrality by 2030 (5 points)

The institution has a written and approved plan to achieve carbon neutrality by 2040 (3 points)	
The institution has a stated goal of carbon neutrality by 2040 but has not created a plan to reach that goal or the plan is inadequate (1 point)	
The institution does not meet any of the requirements listed above (0 points)	
Score Assigned:	5
<p><i>Score explanation: Keele has declared that they are aiming to be carbon neutral by 2030 with a focus on their carbon footprint and emissions. With a successful step in the right direction by attaining the Green Gown Awards Institution of the Year Awards. As seen by the implementation of campus wind turbines, SEND Laboratories, smart charging hubs, catering programmes in relation to production and waste management; and, accreditations for wildlife and partnerships with local councils to work towards a greener future in accordance with NHS principles.</i></p> <p>References:</p> <ul style="list-style-type: none"> • Sustainability at Keele - Keele University • Delivering a 'Net Zero' National Health Service, 	

5.3. Do buildings/infrastructure used by the institution for teaching (not including the hospital) utilize renewable energy?	
Yes, institution buildings are 100% powered by renewable energy. (3 points)	
Institution buildings source >80% of energy needs from off-site and/or on-site renewable energy. (2 points)	
Institution buildings source >20% of energy needs from off-site and/or on-site renewable energy. (1 point)	
Institution buildings source <20% of energy needs from off-site and/or on-site renewable energy. (0 points)	
Score Assigned:	3
<p><i>Score explanation: The on-site Low Carbon Energy Generation Park generates up to 50% of Keele University's electricity requirements. Low Carbon Energy Generation Park - Keele University Keele university also buys all of its energy that is not produced at Keele off grid from renewable sources making it 100% run on renewable energy</i></p> <p><i>Keele University Deploys Ultra Efficient Data Centre Power Protection that Supports Its Sustainability Goals</i></p>	

5.4. Are sustainable building practices utilised for new and old buildings on the <u>institution's</u> campus, with design and construction of new buildings and remodelling of old buildings conforming to a published sustainability rating system or building code/guideline?
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Yes, sustainable building practices are utilised for new buildings on the institution's campus and the majority of old buildings have been retrofitted to be more sustainable. (3 points)	
Sustainable building practices are utilised for new buildings on the institution's campus, but most old buildings have not been retrofitted . (2 points)	
Sustainable building practices are inadequately or incompletely implemented for new buildings. (1 point)	
Sustainability is not considered in the construction of new buildings. (0 points)	
Score Assigned:	3
<p><i>Score explanation: Keele University uses BREEAM as the primary standard to achieve sustainability aims in new builds and refurbishments. Several buildings have been built on campus over the last few years that have reached the Excellent BREEAM standard, including the Lennard Jones Wet Labs and Barnes Halls of Residence. The University also has produced a campus master plan setting out the vision and framework for future developments over the next 10 years. Aims of this master plan include improvement of energy efficiency, increased renewable energy supplies and sustainable transport.</i></p> <p>Sustainable campus operations - Keele University</p>	

5.5. Has the <u>institution</u> implemented strategies to encourage and provide environmentally-friendly transportation options for students and reduce the environmental impact of commuting?	
Yes, the institution 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-utilised by students. Alternatively, the campus location is not amenable to unsustainable forms of transportation by default. (2 points)	
The institution has implemented some strategies to provide environmentally-friendly transportation options, but the options are unsatisfactorily accessible or advertised. (1 point)	
The institution has not implemented strategies to encourage and provide environmentally-friendly transportation options. (0 points)	
Score Assigned:	2
<p><i>Score explanation: The campus and physiotherapy school have several strategies to make environmentally friendly transport accessible for students: The main university campus and hospital campus is easily accessible via reliable bus connections and is the most utilised option by students. To incentivize the use of this system, Keele University has partnered with the transport provider to provide student discounts on travel cards. - The university campus has a very good biking infrastructure with dedicated cycling lanes spread all over the campus. Lockable bike stores are available for all students who live on campus. - The introduction of an electric scooter rental system has provided another environmentally friendly transportation option. - The physiotherapy school runs a system where they try to group students with a car with those without a car so that they can car-share to shared placements. - The physiotherapy school ensures that all placements within the community should be easily reachable via public transport. - Most recently the university has expanded on the previous electric car charging ports it developed by adding more ports to the</i></p>	

student union parking lot. They are free to students and thus encourage the use of cars that are much more environmentally friendly.

[Sustainable campus operations - Keele University](#)

This is the same as last year.

5.6. Does your institution have an organics recycling program (compost) and a conventional recycling program (aluminium/paper/plastic/glass)?

Yes, the institution has **both** compost **and** recycling programs accessible to students and faculty. (2 points)

The institution has **either** recycling **or** compost programs accessible to students and faculty, but not both. (1 point)

There is **no** compost or recycling program at the institution. (0 points)

Score Assigned:

2

Score explanation: A full waste and recycling scheme was introduced in 2010 which has seen the recycling rate at Keele increase. The university's waste contractor collects dry mixed recyclables from bins on campus and are sent for processing and sorting. The Great Donate Scheme collects usable items that students cannot take. The British Heart Foundation has donation points at each halls of residence where students can donate clothes, shoes and accessories. There are designated dry mixed recycling bins but no clear organic recycling facilities such as compost bins. There are also dedicated food waste bins in chancellors.

[Sustainable campus operations - Keele University](#)

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

Yes, the institution 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. (3 points)

There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution **is engaged** in efforts to increase food and beverage sustainability. (2 points)

There are sustainability guidelines for food and beverages, but they are **insufficient or optional**. The institution is **not** engaged in efforts to increase food and beverage sustainability. (1 point)

There are **no** sustainability guidelines for food and beverages. (0 points)

Score Assigned:

3

Score explanation: Campus has a sustainability in food code of practice that aims to promote environmental and sustainability practices, this code is followed by Keele's catering and events team which work with The University Caterers Organisation who ensure the sustainable procurement of products. Meat products are sourced through Red Tractor to ensure the welfare of the animals and to combat animal cruelty and environmental damage. Growing herbs and produce on campus.

Kitchen Table operates on electric only appliances with no gas appliances to reduce carbon footprint:

- Oil waste is repurposed into biofuel
- Recycling and separating food waste
- At 2:30pm hot food is reduced to combat food waste
- Increased the range of plant based options by 40%

[SUSTAINABILITY IN FOOD CODE OF PRACTICE 1.](#)

5.8. Does the institution apply sustainability criteria when making decisions about supply procurement?

Yes, the institution has **adequate** sustainability requirements for supply procurement **and** is **engaged** in efforts to increase sustainability of procurement. (3 points)

There are sustainability guidelines for supply procurement, but they are **insufficient or optional**. The institution is **engaged** in efforts to increase sustainability of procurement. (2 points)

There are sustainability guidelines for supply procurement, but they are **insufficient or optional**. The institution is **not engaged** in efforts to increase sustainability of procurement. (1 point)

There are **no** sustainability guidelines for supply procurement. (0 points)

Score Assigned:

3

Score explanation: Keele University has a web page dedicated to responsible procurement. They have used the NETpositive Supplier Engagement Tool since 2017. [Sustainable campus operations - Keele University](#)

5.9. Are there sustainability requirements or guidelines for events hosted at the institution?

Every event hosted at the institution **must** abide by sustainability criteria. (2 points)

The institution **strongly recommends or incentivizes** sustainability measures, but they are **not required**. (1 point)

There are **no** sustainability guidelines for institution events. (0 points)

Score Assigned:

1

Score explanation: Keele University has gained a Green Meetings Gold Accreditation for the sustainability of all events by making Green Delegate Packages with the ability to calculate the carbon used to run events, offering carbon neutral options and partnering with clients to meet their sustainable goals. [Keele University Events and Conferencing gain Green Meetings Gold Accreditation - Keele University](#)
[Green Day Delegate Rate - Keele University - Sustainable conferencing](#)

5.10. Does your institution have programs and initiatives to assist with making lab spaces

more environmentally sustainable?	
Yes, the institution has programs and initiatives to assist with making lab spaces more environmentally sustainable. (2 points)	
There are guidelines on how to make lab spaces more environmentally sustainable, but not programs or initiatives. (1 point)	
There are no efforts at the institution to make lab spaces more sustainable. (0 points)	
Score Assigned:	2
<p><i>Score explanation: Keele University's lab spaces are monitored over the course of the year to ensure they are as sustainable as possible. Recent initiatives have included adaptations to taps to save water, signs around the labs that promote switching electricity and taps off when not in use, increasing the use of LED lighting equipment and replacing single use plastic items with items that can be cleaned and reused.</i></p> <p><i>The Lennard Jones Wet labs and the Smart Innovation Hub have achieved the BREEAM Excellent standard.</i></p>	

5.11. Does your <u>institution's</u> endowment portfolio investments include fossil-fuel companies?	
The institution is entirely divested from fossil fuels and has made a commitment to reinvest divested funds into renewable energy companies or renewable energy campus initiatives. (4 points)	
The institution is entirely divested from fossil fuels. (3 points)	
The institution has partially divested from fossil fuel companies or has made a commitment to fully divest , but currently still has fossil fuel investments. (2 points)	
The institution has not divested from fossil-fuel companies, but faculty and/or students are conducting organised advocacy for divestment. (1 point)	
Yes, the institution has investments with fossil-fuel companies and there have been no efforts to change that. (0 points)	
Score Assigned:	4
<p><i>Score explanation: Keele University has made a commitment to divest from fossil fuels and focus its investments on companies with a positive environmental impact. The institution's investments adhere to the Ethical Investment Code of Practice, which ensures the investment choices are in line with the Environmental and Social Sustainability Policy. The ethical code of practice also ensures that the money invested goes towards companies with a positive impact either environmentally or socially especially in areas of clean energy and technology.</i></p>	

Section Total (31 out of 32)	96.88%
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Back to Summary Page [here](#)

Grading

Section Overview

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

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

Planetary Health Grades for the Keele University School of Pharmacy

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

Section	Raw Score %	Letter Grade
Planetary Health Curriculum (30%)	$(43/66) \times 100 = 65.15\%$	B
Interdisciplinary Research (17.5%)	$(16/17) \times 100 = 94.12\%$	A
Community Outreach and Advocacy (17.5%)	$(14/14) \times 100 = 100\%$	A+
Support for Student-led Planetary Health Initiatives (17.5%)	$(15/15) \times 100 = 100\%$	A+
Campus Sustainability (17.5%)	$(31/32) \times 100 = 96.88\%$	A+
Institutional Grade	$(65.15 \times 0.3 + 94.12 \times 0.175 + 100 \times 0.175 + 100 \times 0.175 + 96.88 \times 0.175) = 87.97\%$	A

Report Card Trends

Section Overview

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

