



SUSTAINABILITY IN PHARMACY EDUCATION (SPE) GROUP ANNUAL REPORT 2024



Updated December 2024

Summary

The Sustainability in Pharmacy Education (SPE) group comprises academics from pharmacy schools across the UK, who all have an interest in embedding sustainability considerations into their pharmacy education provision. Thus far, the focus of the SPE group has mainly been undergraduate education. Our ultimate aim is to facilitate the development of a professional workforce with the knowledge, skills and values to enable the sustainable transformation of pharmacy practice. We would like sustainability to be integrated into teaching, education and assessment, such that sustainability is considered across all pharmacy disciplines and clinical areas, not as an “add-on” topic. The plan in the future is to also consider postgraduate pharmacy courses in more depth and also involve pharmacy schools outside the UK.

The SPE group has engaged with many other pharmacy and pharmacy education stakeholders, such as the GPhC, Royal Pharmaceutical Society (RPS), Centre for Postgraduate Pharmacy Education (CPPE), British Pharmaceutical Students Association (BPSA), Guild of Healthcare Pharmacists (GHP), Centre for Sustainable Healthcare (CSH) and Pharmacy Declares.

In 2024, the group has been led by co-chairs, Nuala Hampson (CSH) and Lisa Fitzpatrick (De Montfort University) and the [Terms of Reference](#) have been updated. The SPE group has welcomed and engaged with additional schools of pharmacy, such that currently 33 UK pharmacy schools have representatives at the group, along with two pharmacy schools from the Republic of Ireland. Newly established pharmacy schools have been invited to join. The group meets bi-monthly online with members encouraged to share developments and progress within their institution.

Meetings have been well attended and presentations have been enjoyed on:

- CQC medicines sustainability project
- 4th Year student project on mapping sustainability to the existing pharmacy curriculum (Wolverhampton University)
- Global Citizenship in Healthcare module (Robert Gordon University)
- Planetary Health module development (Royal College of Surgeons in Ireland, Dublin)
- Planetary Health Report Card (Keele University and Queens University Belfast)
- Encouraging student engagement in sustainability (Manchester University).
- GPhC net zero action plan.

During meetings, group members also share details of relevant resources, training, conferences, publications and funding and research opportunities, both national and international, that could be relevant to members. We have also kept abreast of sustainability developments in other healthcare professions and internationally.

The group have discussed options for sharing resources among pharmacy schools, across all the pharmacy disciplines. The SPE has agreed to share resources relevant to education in pharmacy education, and have set up a repository for these using the Centre for Sustainable Healthcare's [Sustainable Pharmacy Network](#).

In future, the SPE group aims to work with more pharmacy stakeholders and expand their links and collaboration to the wider pharmacy profession and to encourage a similar approach to embed sustainability into the education and training for pharmacy technicians and post qualification pharmacy professionals. Group members have been consulted on which pharmacy organisations should be involved and how. We would like to involve all sectors of pharmacy, including regulatory, public health, industry and health education. We are also keen to build networks with other healthcare professionals via interprofessional training and placement learning.

Nuala Hampson and Lisa Fitzpatrick, December 2024.

School of Pharmacy name: Aston Pharmacy School	
Sustainability lead(s):	Emma Smith
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	This is available for staff to guide and support inclusion of sustainability where appropriate
What environmental sustainability content was implemented?	<p>Research</p> <ul style="list-style-type: none"> ● MPharm student project 2023-24 – Towards a Greener MPharm, a mixed methods study ● MSc student project 2024-25 – Adding new item – “sustainability aspect” for each Research Idea. ● We also introduced relevant national and international professional organisations/societies having sustainability strategies-actions such as Royal Society of Chemistry, Academy of Pharmaceutical Sciences, International Union of Pure and Applied Chemistry (IUPAC). For example, one of the international project was “Personal Protective Equipment Disposal for the Future” (https://www.degruyter.com/document/doi/10.1515/ci-2024-0120/html)
	<p>Teaching and Learning Activities</p> <p>MPharm (ongoing content from previous year)</p> <ul style="list-style-type: none"> ● MPharm stage 3 - Lecture on the pharmacy profession and climate crisis (includes waste and supply chain management) ● MPharm stage 2 -Lecture on climate change and public health

	<ul style="list-style-type: none"> ● MPharm stage 2 - Inhaler workshop that includes sustainability aspects. Participants learn about different types of inhalers, factors influencing inhaler choice (like ease of use and environmental impact), and how to guide patients in selecting the best option for their needs ● MPharm stage 1 - Community pharmacy placement workbook – activities on waste management and sustainability including recycling and reducing carbon footprint <p>OSPAP</p> <ul style="list-style-type: none"> ● Asthma workshop focuses on asthma management, using the NICE "Inhalers for Asthma: Patient Decision Aid" as a central resource. Participants learn about different types of inhalers, factors influencing inhaler choice (like ease of use and environmental impact), and how to guide patients in selecting the best option for their needs <p>Other PG Courses</p> <p>During several lectures in Master Programmes, we introduced extra opportunities for student to explore and understand the biodegradable polymers and their applications in drug delivery systems.</p>
Any other relevant content or learning activities	<p>Feedback from students if any</p> <p>Aston Pharmacy Association – our student society – organised a ‘Sustainability in Global Healthcare’ event and invited a guest speaker who is climate change and global health pharmacist</p>
Do you have resources to share?	<p>There are some relevant posters related to common polymers that can be shared with more students.</p>

	<p>https://iupac.org/wp-content/uploads/2023/10/Poster-MASK-IUPAC_English-MAY-2023.pdf</p> <p>https://iupac.org/wp-content/uploads/2023/10/Poster-PPE-IUPAC_English-MAY-2023.pdf</p> <p>https://iupac.org/wp-content/uploads/2023/10/Poster-PLASTICSRUBBERS-IUPAC_English-MAY-2023.pdf</p> <p>PPE quiz that can be shared with students after class.</p>
Is there a Planetary Health Report Card for your school?	No
Is there a plan to engage in the PHRC in the coming year?	Dependant on student engagement
Any other information you wish to include.	<p>Event “Global Conversation on Sustainability 2024 (GCS24)” (25/09/2024, Hybrid – Aston University and Microsoft Teams).</p> <p>More details: https://www.rsc.org/events/detail/80047/global-conversation-on-sustainability-2024-gcs24</p> <p>This is the first international forum with innovative format was hosted at Aston University with multi-disciplinary collaboration in research, teaching, and supporting students and early-career fellows. We received positive feedback from the participants.</p>

Bangor University

School of Pharmacy name:	Bangor University
Sustainability lead(s):	Prof Stephen Doughty
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	Yes – currently in Curriculum Design.
What environmental sustainability content was implemented?	Research – N/A
	Teaching and Learning Activities - Curriculum Development of new MPharm for delivery in Sept 2025
	Feedback from students if any – N/A
Any other relevant content or learning activities	All Bangor University modules require to address Sustainability and all lecture/teaching sessions require the opening slide to include the UN SDG logo (of the individual SDGs) that are addressed with that teaching session.
Do you have resources to share?	N/A
Is there a Planetary Health Report Card for your school?	No
Is there a plan to engage in the PHRC in the coming year?	In the future – not the coming year.
Any other information you wish to include.	All modules within the new MPharm programme at Bangor will have a Sustainability theme that runs through them.

De Montfort University

School of Pharmacy name: De Montfort University School of Pharmacy	
Sustainability lead(s):	Lisa Fitzpatrick
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	Not currently but plans to encourage this in current year.
What environmental sustainability content was implemented?	<p>Research</p> <ul style="list-style-type: none"> ● MPharm audit retrospective project into clinical management of COPD (to reduce exacerbations, improve treatment, reduce antimicrobial resistance, reduce admissions, and all the carbon costs associated with these). ● Antimicrobial resistance research, including Germs Journey (educational resources aimed at children to reduce antimicrobial resistance and improve hand hygiene), Healthcare laundry research, antibiotic surveillance ● Yr4 projects: Interventions to improve returns of antibiotics (improve appropriate disposal) ● Prescribing of antibiotic prophylaxis in UTIs ● Quality by design for pharmaceutical development and manufacture (less waste overall)
	<p>Teaching and Learning Activities</p> <p>MPharm</p> <ul style="list-style-type: none"> - More focus on self care, lifestyle changes, nutrition, preventative medicine. Eg discussion of diets or lifestyle habits affecting gut/skin microflora, and diet / lifestyle factors linked with inflammatory diseases in Yr2

	<ul style="list-style-type: none"> - Polypharmacy, deprescribing and medicines optimisation - Inhaler sustainability and choice, smoking cessation - vaccinations and travel medicine - Impact of air quality and temperature on diseases - Use of simulation - Antimicrobial stewardship, antimicrobial resistance, public health / vaccinations - Services coursework in Yr 4: students have to develop all aspects of a service and have guest lecture specifically on sustainability, and have to consider this as part of their service development - Professional portfolio for students in Yr1-4 has a global task addressing health inequalities and differences across the world. Link with UN SDG.
	<p>Feedback from students if any</p>
<p>Any other relevant content or learning activities</p>	<p>Big expansion in placements on new degree.</p> <p>Placements within Leicester city, and all placements at Leicester hospitals will no longer have travel reimbursed to encourage walking/cycling and use of hopper buses, and reduce carbon costs of electronic handling of very small claims.</p> <p>Work with Faculty of Health and Life Sciences, and wider university sustainability team, eg links with fashion department, or environmental sustainability in forensics.</p> <p>Respiratory conference hosted for Yr2 students and local healthcare professionals, with aspects of sustainability on respiratory health covered (pollution, nutrition, air quality, antimicrobial stewardship, public health aspects of respiratory medicine)</p>

Do you have resources to share?	No
Is there a Planetary Health Report Card for your school?	No
Is there a plan to engage in the PHRC in the coming year?	Yes, dependant on student engagement
Any other information you wish to include.	

King's College London

School of Pharmacy name: King's College London	
Sustainability lead(s):	Dr Driton Villasaliu
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	No
What environmental sustainability content was implemented?	Research
	Teaching and Learning Activities
	Feedback from students if any
Any other relevant content or learning activities	N/A
Do you have resources to share?	No
Is there a Planetary Health Report Card for your school?	No
Is there a plan to engage in the PHRC in the coming year?	No
Any other information you wish to include.	In 2024 we ran an internally funded project to identify teaching and learning (and assessment) activities related to environmental sustainability, which can be embedded into the MPharm curriculum. In this project we undertook a staff survey and focus group with students to probe the perception of these groups on the importance of addressing environmental sustainability in the MPharm curriculum and obtain some ideas around the topics and activities which we could incorporate in the MPharm programme. As a result, we have subsequently included a number of teaching and assessment activities related to environmental sustainability in the MPharm curriculum.

What environmental sustainability content was implemented?

Projects running Oct 24 onwards:

Sustainability in labs.

In the pipeline are a paper on sustainability in community pharmacies and on pharmacy students.

Queen's University, Belfast

School of Pharmacy name: Queen's University Belfast	
Sustainability lead(s):	Sharon Haughey, Briegen Girvin, Roisin O'Hare
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	They have been sent to our Director of Education for consideration and module coordinators for practice modules have been made aware of them as well. UN SDGs are already mapped against all modules.
What environmental sustainability content was implemented?	<p>Research</p> <p>Laboratories in QUB School of Pharmacy continue to follow Laboratory Efficiency Assessment Framework (LEAF).</p> <p>Teaching and Learning Activities</p> <p>Respiratory weeks – simulations with patients now include discussion around greener inhalers.</p> <p>Year 3 workshops: A medicines related query example about the use of an antihistamine in pregnancy. Used as an opportunity to point out that we are seeing allergies and antihistamine use for much longer periods in Ireland and the UK. This is due to plants flowering for much longer periods and also due to unsettled weather moving pollens across much wider areas than ever before.</p> <p>A final year MPharm student conducted research on sustainability including a literature review on the role of the pharmacist in sustainability for her final year project last year in collaboration with Professor Bryony Franklin UCL</p> <p>Medicines optimisation presentations and long-term condition clinic workshops in our new Year 4 module includes an emphasis on</p>

	<ul style="list-style-type: none"> • Waste reduction via medicines review and deprescribing. • Highlighting use of dry powder inhalers for COPD where possible • Prevention of future illness by vaccination. <p>FIP webinar on Climate change: there were some examples of the health impact of extreme weather events and climate change. We have passed on some of the resources to those who teach in respiratory health for inclusion.</p> <p>https://www.emjreviews.com/flagship-journal/article/climate-change-and-air-pollution-how-healthcare-providers-can-help-mitigate-the-risks-to-respiratory-health-j190124/</p>
Any other relevant content or learning activities	NA
Do you have resources to share?	NA other than FIP links
Is there a Planetary Health Report Card for your school?	Yes, Anna Young and others are in the process of updating the report for this academic year.
Is there a plan to engage in the PHRC in the coming year?	As above
Any other information you wish to include.	NA

Swansea University

School of Pharmacy name: Swansea University Medical School	
Sustainability lead(s):	Dr Juman Dujaili
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	Yes
What environmental sustainability content was implemented?	Research ✓
	Teaching and Learning Activities ✓
	Feedback from students if any ✓

<p>Any other relevant content or learning activities</p>	<p>Sustainability is a central theme throughout the programme, integrated into various study units and activities, including lectures, hands-on workshops, and practical labs.</p> <p>In Year 1, students learn the principles of green pharmacy practice, focusing on actions to reduce pharmaceutical waste and promote environmentally friendly medication disposal.</p> <p>In Year 2, students undertake coursework on various sustainability topics, employing research skills to develop a plan that incorporates different themes within the pharmacy curriculum (Biology, Pharmaceutics, and Clinical Practice) to address sustainability issues. During this coursework, they study the impact of pharmaceuticals on the ecosystem, explore the use of less hazardous materials, and focus on reducing chemical waste and recycling efforts.</p> <p>In Year 3, students conduct research projects that build on the knowledge acquired in their Year 2 coursework.</p> <p>By Year 4, students apply what they have learned to develop pharmaceutical care plans that promote rational drug use, including deprescribing and social prescribing, all aimed at fostering sustainable pharmacy practices.</p>
<p>Do you have resources to share?</p>	<p>Yes</p>
<p>Is there a Planetary Health Report Card for your school?</p>	<p>No</p>
<p>Is there a plan to engage in the PHRC in the coming year?</p>	<p>Yes</p>
<p>Any other information you wish to include.</p>	<p>As per the above.</p>

Teesside University

School of Pharmacy name: Teesside University	
Sustainability lead(s):	Prof. Sam Weston Dr Fiona Smith
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	Teesside University is a new school of pharmacy, still to accept its first cohort of students. As the curriculum, teaching and learning materials and common practices are still being developed, we anticipate that the standards mapped to sustainability will be implemented.
What environmental sustainability content was implemented?	Research N/A
	Teaching and Learning Activities N/A
	Feedback from students if any N/A
Any other relevant content or learning activities	N/A
Do you have resources to share?	No
Is there a Planetary Health Report Card for your school?	No
Is there a plan to engage in the PHRC in the coming year?	From September 2025 onwards (1 st student cohort)

<p>Any other information you wish to include.</p>	<p><u>Future plans:</u></p> <ul style="list-style-type: none"> • Discussions around implementing LEAF framework in the Pharmacy lab spaces to be arranged. • Plans to implement a virtual platform for students to use in pharmacy skills suite sessions. This will minimise paper use for these sessions. • Plans for several MPharm research projects to focus on sustainability/positive behaviour changes. • Include medicines waste recycling props in our pharmacy skills suite, alongside teaching on these schemes, giving our students the knowledge to educate patients/service users. • Research-based teaching on the finding and effect of medicines in the waterways in the UK. • Teaching around the responsible use of antimicrobials & encouragement for students to become antibiotic guardians. Potential for outreach/campaign during antimicrobial awareness week (antibiotic amnesty). • Incorporate best practice on sustainable use of PPE from other healthcare professions within Teesside University. • Teaching on preventative and non-pharmacological treatment options, aiming to inculcate a culture of
	<p>minimal prescribed medications, thus reducing production/transport/recycling impact over time at a patient-by-patient level.</p> <ul style="list-style-type: none"> • Teaching to cover sustainability at all stages of the drug development, manufacturing and distribution process and how impact can be reduced e.g. discussing with a patient that tablets cause less impact on the environment in terms of distribution costs. • Educate students on how medicines management, optimisation and deprescribing can have sustainability benefits. • Educate students on what the RPS, GPhC and NHS are doing in this area, given they represent, regulate and employ our profession.

University College London

School of Pharmacy name: UCL School of Pharmacy	
Sustainability lead(s):	Professor Bryony Dean Franklin and Professor Sudaxshina Murdan
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK? Yes	
What environmental sustainability content was implemented?	<p>Research:</p> <ol style="list-style-type: none"> 1. Arslan M, Franklin BD and Murdan S. Modelling pharmacy and pharmaceutical students' intentions to learn about their roles in environmental sustainability. Sustainable Chemistry and Pharmacy, 40; 2024. https://www.sciencedirect.com/science/article/pii/S2352554124002146 2. Undergraduate project completed last year on improving recycling in the dispensary at a London teaching hospital. 3. Undergraduate MPharm project completed last year on pharmacy students' views and attitudes to sustainability education: a systematic review and meta-synthesis. 4. Undergraduate MPharm project this year exploring pharmacy staff experiences of patients' interests in the sustainability of medicines. 5. MSc project (2023-24) Bridging Health and Sustainability: Analysing and benchmarking environmental sustainability practices in the pharmaceutical industry for a greener future
	<p>Teaching and Learning Activities:</p> <p>M.Pharm Year 1 – Half hour introduction to sustainability during UCL School of Pharmacy induction week. Other teaching includes sustainability in community pharmacy: waste, expired drugs, stock control, is sustainability taken into consideration when prescribing, climate change impact on health, etc.</p> <p>M.Pharm Year 1 – 1 hour lecture and 1 h workshop on Sustainability and Pharmaceuticals in the Environment</p> <p>Year 4 - Climate Change & link to outbreaks of infectious diseases</p> <p>Various years - Deprescribing, Antimicrobial Stewardship. Ethical Debates- eg students debate sending out of date medicines to 3rd world countries.</p> <p>MSc - 1 hour lecture and 1 h workshop on Sustainability and Pharmaceuticals in the Environment</p> <p>QP course - 1 hour lecture and 1 h workshop on Sustainability and Pharmaceuticals in the Environment</p>
	<p>Feedback from students if any: See publication above</p>
Any other relevant content or learning activities	44 labs were LEAF accredited (34 Bronze, 3 Silver and 7 Gold).

Do you have resources to share?	
Is there a Planetary Health Report Card for your school?	Yes
Is there a plan to engage in the PHRC in the coming year?	We completed it last year, so will most likely leave it a year or two before completing it again.
Any other information you wish to include.	

University of Birmingham

School of Pharmacy name: University of Birmingham Pharmacy School	
Sustainability lead(s):	Bilkis Islam-Ali, Asma Yahyouche
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK? No	
What environmental sustainability content was implemented?	Research: 6 weeks internship over summer that considered sustainability investigating the planetary health report card.
	Teaching and Learning Activities: In year 3, polypharmacy cases, deprescribing , shared decision making and reducing pill burden. Students were introduced principles of sustainable healthcare and explored the four pillars using case scenarios.
	Feedback from students if any: none
Any other relevant content or learning activities	No
Do you have resources to share?	No
Is there a Planetary Health Report Card for your school?	Not yet
Is there a plan to engage in the PHRC in the coming year?	Yes
Any other information you wish to include.	No

University of Bradford

School of Pharmacy name: University of Bradford – School of Pharmacy	
Sustainability lead(s):	Dr Jacobo Elies and Dr Kristina Medlinskiene
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	
Yes	
<p>What environmental sustainability content was implemented?</p> <p>Any examples?</p>	<p>The Bradford School of Pharmacy integrates several key elements of sustainability and planetary health education into its curriculum, though the depth of coverage is limited to a few required sessions. For example, all students participate in the IPSP Year 2 Unit 3 Session on Sustainable Development Goals in healthcare professions.</p> <p>Research:</p> <ul style="list-style-type: none"> · Development of papers from previous PhD research on medicines waste management and circular economy in Kuwait and UK hospitals, as well as medicines waste management in Tanzania. · Research on the effects of air pollution on public health, particularly its impact on vulnerable groups and patients. · Current interdisciplinary funded research focuses on planetary health literacy and scientific dissemination for healthcare professionals. · Laboratory Efficiency Assessment Framework (LEAF): Bronze award in laboratories of Pharmacy and plans to engage MPharm students in the LEAF scheme, particularly for the simulation Pharmacy laboratories. <p>Student Involvement in Research: Undergraduate students participate in research projects on sustainable topics such as the role of AI in air pollution and public health, and scientific dissemination regarding climate change and public health.</p>

Teaching and Learning Activities

- Introduction to the link between the environment, sustainability, healthcare, and pharmacy as part of the PGDip Foundation Pharmacy Practice Programme Induction.
- A 30-minute introductory workshop with an external expert on sustainability from West Yorkshire ICB.
- Liz Breen delivers lectures on sustainability, including dedicated sessions and integration into other topics such as disruption to medicines supply and corporate social responsibility.
- Teaching on sustainability is included in the module PHA 7049-B, CPD programmes (HubRx and Fast-tracking healthcare management), and supervision of a DPhil with the University of Oxford on the pharmaceutical sector's response to climate change.
- In-class discussions highlight the relevance and applicability of sustainability to healthcare.
- Research projects throughout the programme, with a focus on sustainability practices in years 3-4.
- Year 2 SPSP1 (PHA5015-G): Lecture on Sustainability Developmental Goals in healthcare professions. Students must relate to the SDG introduced in this session in their research assignments.

Feedback from students if any

- As part of teaching evaluation students (early career pharmacists) are asked what sustainability practices they will implement following workshops.
- In-class discussions demonstrate relevance and recognition of the relevance and recognition of sustainability's applicability to healthcare.

Is there a Planetary Health Report Card for your school?	No.
Is there a plan to engage in the PHRC in the coming year?	Yes.
Any other information you wish to include.	N.A.

What environmental sustainability content was implemented?

Across the pharmacy programmes (both undergraduate and postgraduate)

- Polypharmacy, deprescribing as well as the rational use of medicines, patient and healthcare professionals' education
- Antimicrobial stewardship teaching
- Climate changes and impact on public health as well as long term conditions - exacerbate risk of CVD conditions.
- Student audits related to their clinical practice can be sustainability related
- Clinical reasoning and considering impact on clinical decision making – considering sustainability when making clinical decisions

In addition to the above the following is also covered in the following programmes:

UG Pharmacy:

- Packaging, storage, and storage of medicines
- Independent prescribers and role in deprescribing an clinical decision making
- Pharmacists' role in global child and maternal health

OSPAP:

- Introduction of sustainability frameworks
- Impact of active pharmaceutical ingredients on ecological systems in turn on public health. Environmental impact of pharmacy and pharmaceuticals throughout the lifecycle of medicines/health care products from development to clinical use
- Pollution and its impact on health – microplastics for example
- Patients health seeking behaviour (and medicines-taking behaviour) and opportunities to reduce waste in practice - debate about recycling medicines to reduce waste (examples from developed and developing countries)
- Climate change and role of the pharmacy on consumer choices and education
- Global Citizenship, how to be sustainable

PG Diploma Pharmacy Practice:

- Module dedicated to 'Pharmaceutical Care in Older people' that heavily focuses on polypharmacy, deprescribing and rational use of medicines.

- All modules - Patient risk factors for multiple diseases can be linked to public health and environmental sustainability e.g. extremes of cold weather related to climate change can exacerbate risk of CVD conditions.

- Teaching on Respiratory diseases in adults and asthma in children considers use of different inhalers and sustainability.

Feedback from students if any Feedback from Eye opening discussions, good to increase awareness around role of pharmacy relating to sustainability and greener pharmacy practice. Feedback from alumni on considering greener pharmacy practice in foundation training particularly around recycling medicines packaging.

University of Liverpool

School of Pharmacy name: University of Liverpool – currently undergoing accreditation. Step 2 scheduled in Jun2025. Planned first cohort – September 20026	
Sustainability lead(s):	Suzanne Cutler
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	We are planning to do so
What environmental sustainability content was implemented?	Research N/A
	Teaching and Learning Activities N/A
	Feedback from students if any N/A
Any other relevant content or learning activities	N/A
Do you have resources to share?	
Is there a Planetary Health Report Card for your school?	We are planning to do so
Is there a plan to engage in the PHRC in the coming year?	N/A
Any other information you wish to include.	N/a

University of Reading

Is your School of Pharmacy using the [GPhC Learning Outcomes document](#) mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?

School of Pharmacy name: Reading School of Pharmacy	
Sustainability lead(s):	Kate Fletcher, Associate Professor of Pharmacy Education & Practice
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	Not formally.
What environmental sustainability content was implemented?	<p>Teaching and Learning Activities</p> <p>Throughout programme: Antimicrobial resistance and stewardship – rational antibiotic prescribing to avoid waste.</p> <p>Deprescribing</p> <p>Discussions on avoiding waste e.g. encouraging patients to not stockpile medicines, only order what they need.</p> <p>Impact of climate change on certain diseases e.g. allergies, sun exposure and skin cancer</p> <p>Use of TEL throughout programme: use of LabTutor, MyDispense, Blackboard, Mentimeter, eBooks: allows paper free teaching;</p> <p>Teaching laboratory briefings include advice about sustainable lab practice; posters explaining sustainable practice are on view in labs to remind users of these practices whenever they are working in labs.</p> <p>Technicians collect used medication blister strips in practicals and recycle them via the Boots recycling</p>

pilot currently in operation in the south east of England.

Part 2: Medicines wastage – judicial use of multicompartiment compliance aids

Medicines optimisation to reduce unnecessary prescribing

Role of remote consultations in reducing patient travel and carbon emissions.

Inhalation devices and their environmental impact, highlighting more sustainable choices such as DPIs.

Part 3: discussion of the epidemiological triad of 'host, agent, environment' e.g. climate affecting types/timings/locations of infectious disease; environmental exposure to toxins and relation to health e.g. air pollution as a modifiable risk factor in dementia.

Future projects: Student-led Planetary Health Report Card

Institution-wide: UoR was named Sustainable University of the Year 2025 in The Times and The Sunday Times Good University Guide 2025.

UoR's green travel initiative has saved more than 5000 tonnes of carbon in 2023-24 compared to 5 years ago, a reduction in admissions of 64%. In November 2024 this project was named Decarbonisation Project of the Year in the 2024 Energy Managers Association (EMA) Energy Management Awards.

UoR aims to be net carbon zero by 2030: major project to replace old heating and cooling laboratory equipment funded by Salix Finance award reducing carbon emissions by 816 tonnes per year; solvent retrieval systems in use; lab consumables such as gloves and pipette tips being converted to low carbon footprint and/or recyclable products where possible.

We are implementing the LEAF sustainable laboratory assessment scheme throughout our research and teaching laboratories, currently we

	have 3 silver award labs and 7 bronze award labs in the School;
Is there a Planetary Health Report Card for your school?	No
Is there a plan to engage in the PHRC in the coming year?	In progress for 2024-25
Any other information you wish to include.	

University of Sunderland

School of Pharmacy name: University of Sunderland	
Sustainability lead(s):	Meadhbh Conway
Is your School of Pharmacy using the GPhC Learning Outcomes document mapped to sustainability that has been endorsed by the Pharmacy Schools Council UK?	Yes
What environmental sustainability content was implemented?	<p>Research</p> <p>Encouraging percentage of all undergraduate research projects on sustainability- target 15% initially for 2024-25.</p>
	<p>Teaching and Learning Activities:</p> <ul style="list-style-type: none"> -Prescribing decision making- considering environmental impact of medications and devices. -Polypharmacy and deprescribing work. -Pharmaceutics- environmental impact of - Gloves off in clinical skills- encouraging hand washing and hygiene and gloves only where strictly necessary. - Reusable sharps bins in clinical settings
	<p>Feedback from students if any:</p> <p>Think that it should be included in curriculum to prepare them for future careers in healthcare.</p>

Any other relevant content or learning activities	-Currently working to implement sustainability for education framework for integration of sustainability across all programmes at the University of Sunderland.
Do you have resources to share?	
Is there a Planetary Health Report Card for your school?	No
Is there a plan to engage in the PHRC in the coming year?	Yes
Any other information you wish to include.	