SHARE conference abstracts – Sustainable healthcare: theory to practice

Sumara Stroshein, University of British Columbia, Canada

Type
Oral

Title
Project Green Healthcare: A national community of practice for Canadian medical students leading healthcare sustainability projects

Subject
Education and collaboration

Study background and aims
Project Green Healthcare (PGH) is the first-of-its-kind national community of practice of medical students advancing low-carbon healthcare across Canada. This year's program includes nine teams of 33 medical students working with health sector leaders in seven Canadian provinces. This program evaluation aims to assess the experiences of medical students leading healthcare sustainability projects to enable trainee leadership in low-carbon healthcare.

Methods
Medical student teams submitted progress reports in Dec 2021 after three months of participating in the PGH program. These progress reports were thematically analysed to identify facilitators and barriers to medical student-led healthcare sustainability projects as well as to evaluate medical student learning outcomes from participating in the PGH program.

Results
Teams identified shared passions and supportive healthcare allies as facilitating factors for their projects. Common barriers reported by teams included time constraints, identifying focus areas among a range of priorities, and communicating with key contacts at healthcare institutions. Participants also noted that the PGH program has motivated them to advocate for low-carbon healthcare in their future practice.

Discussion and importance of findings
A growing number of medical students and healthcare trainees are passionate about healthcare sustainability but require support to navigate complex healthcare systems to best effect change. The PGH program establishes a model to empower healthcare trainees to become leaders in low-carbon healthcare and lends strength to the global movement to achieve net-zero healthcare emissions.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Nadia Audhali Audhali

Type
Oral

Title
Simulation training enables clinicians to tackle air pollution health promotion, during emergency department consultations with paediatric patients and their parents

Subject
Education and collaboration

Study background and aims
Air pollution is a significant threat to health in the UK, with 40,000 deaths per year attributable. However, discussion of this in consultations is not yet routine practice. In response to the Prevention of Future Deaths report following inquest into death of Ella Adoo-Kissi-Debrah, the RCP identified that the clinicians are not being adequately supported to communicate the adverse effects of air pollution on health to patients, families and carers.

Methods
Paediatric doctors surveyed (n=20), 75% very concerned about air pollution, 66% would like to receive training on talking to patients about air pollution. We developed an in-situ simulation for the paediatric emergency department. Featuring a 2-year-old with viral wheeze, the clinician role-played themselves in the consultation and they were prompted by the parent's script to discuss air pollution.

Results
Post-scenario debrief enabled exploration of the barriers to discussing air pollution: knowledge of health impacts and awareness of simple measures to reduce exposure. Printed materials on air pollution were distributed and participants were signposted to further resources. Following the session participants' assessed air pollution as more important to their clinical work than previously and reported a higher likelihood of discussing air pollution with their patients.

Discussion and importance of findings
Simulation is an effective way of teaching about the health impacts of air pollution alongside developing skills for integrating discussion of these issues into routine clinical practice. Used with traditional lecture-based teaching, this provides a powerful tool to enable health promotion in acute medical paediatric consultation.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Shiwei Ooi, University of Leeds

Type
Oral

Title
Evaluating Sustainable Healthcare using the Planetary Health Report Card at the University of Leeds Medical School

Subject
Education and collaboration

Study background and aims
The Planetary Health Report Card (PHRC) is a global student-led initiative, that provides a framework to assess planetary health and sustainability education within medical schools. The findings of the report at Leeds Medical School was used to highlight areas of improvement and subsequently inspire the development of sustainable medical practice.

Methods
The assessment was conducted using a numerical metric based analysis, that evaluated the medical school in five categories: Curriculum, Research, Community Outreach and Advocacy, Support for Student-led Initiatives and Campus Sustainability. Qualitative data was collected from sources publicly available and through members of the department. All taught content in years 2021-2022 was assessed at Leeds to produce an overall score.

Results
1. Curriculum: 41/69 =59% (C) 2. Interdisciplinary Research: 4/17 = 24% (D) 3. Community Outreach and Advocacy 7/14 = 50% (C) 4. Support for Student-led Planetary Health Initiative: 7/15 = 47% (C) 5. Campus Sustainability: 18/31 = 58% (C) Total score: 49% Overall grade: C

Discussion and importance of findings
Areas for improvement: 1) Map the curriculum to include Planetary Health teaching. 2) Support for student-led initiatives through employing a sustainability clinical fellow 3) University to support the medical school to develop a sustainability plan. The findings are important in establishing a grounding in sustainability to ensure that future medical professionals are competent at dealing with our current climate crisis.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Parisa / Anoushka Patel / Neale

Type
Oral

Title
How Do NHS Staff Feel About the NHS's Role in Tackling the Current Climate Crisis?

Subject
Sustainable models of care

Study background and aims
The NHS contributes 5% of the UK's carbon footprint; if the UK is to achieve its climate ambitions the NHS needs to be a chief participant in the solution. How much do NHS staff feel sustainable change is happening? This survey by Eco Medics, explored their opinions on the NHS's current role in tackling this global environmental crisis.

Methods
Eco Medics distributed an online survey to NHS trusts over a 2.5 month period from November 2020. 230 staff responded. They were asked 6 questions to indicate their agreement with certain statements, answering using a Likert scale. In the final question they could choose from a list or add a comment on what their department could change to improve sustainability.

Results
Only 10% agreed that the NHS is an environmentally friendly organisation, 95% agreed the NHS has a responsibility to make changes that positively impact the environment, 87% agreed eliminating single-use catering items from their department's rest area would be a positive change. Popular options to improve sustainability included encouraging reusable personal items (86% of participants) and providing metal cutlery (72%).

Discussion and importance of findings
These results suggest staff believe the NHS should be environmentally friendly but is not doing enough. A majority would welcome eliminating single use catering items. As the survey happened during Covid-19, staff taking time to participate perhaps highlights the strength of their feelings. More research will be useful to reassess opinions once NHS Net Zero initiatives have been fully implemented.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Søren Kudsk-Iversen, Oxford University Hospitals

Type
Oral

Title
Setting up the Thames Valley Sustainable Operating Pathway - a regional network focussed on reducing our carbon footprint

Subject
Education and collaboration

Study background and aims
Within surgery and anaesthesia there are multiple ways to reduce our environmental impact. Yet in our region, we saw projects undertaken in isolation, without shared goal or learning. We present the launch of a successful region-wide network, which has produced useful evidence to enable local action and engaged multiple actors with limited effort.

Methods
Using an online multidisciplinary teaching day, we launched a region-wide green theatres network. Attendees voted on a project for the region. The project, review of anaesthetic agents, was adjusted for local relevance and feasibility. All trusts in the region participated. A centralised approach was used to optimise individual efforts: Local representation and data collection + central data analysis and visualisation.

Results
We had engagement across multiple disciplines in the initial vote and subsequent project. Across the region we now have named local champions as part of a regional sustainability network. Barriers to data collection were dealt with within the network. All trusts have taken action, e.g. change in agent availability, green theatre groups, nitrous mitigation planning and regional green trainee representation.

Discussion and importance of findings
Key learning from the network so far: 1) Using projects to engage local actors provide an effective way for meaningful activity as part of a network of like-minded individuals; 2) the centralised approach enables this activity to be optimised, with shared learning of process, and reduced duplication; 3) the approach enables relevant comparison and shared action for more effective change.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Jessica Burt, University of Leeds

Type
Unsure

Title
Using Carbon Literacy training as a method to fill the gap in sustainable healthcare education

Subject
Education and collaboration

Study background and aims
Carbon Literacy is a comprehensive method of delivering sustainability education and initiating climate action. Through our accredited Carbon Literacy training for healthcare students, we aimed to empower healthcare students to: • understand the relevance of climate action in healthcare, • make changes within their study and work environments, • facilitate wider changes within healthcare curricula.

Methods
The Carbon Literacy training was developed and delivered by two Carbon Literate medical student facilitators encompassing four modules: (1) climate change; (2) planetary health - biodiversity loss, health impacts and vulnerability; (3) policy, carbon footprints and healthcare case studies; and (4) action planning and climate conversations. Participants were certified as Carbon Literate by committing to significant individual and group actions.

Results
7 participants attended the full Carbon Literacy training, 6 received Carbon Literate certification. The individual actions included: plant-based diets (50%), renewable energy providers (33%), reduction in car use (50%), changing family values (17%) and switching banks (17%). All group actions fell into 3 groups: reduced family flights (33%), addressing inhaler prescriptions (33%) and changing organisational culture (33%).

Discussion and importance of findings
This Carbon Literacy training effectively introduced planetary health education and actualised climate action amongst a small number of students. Leeds Healthcare Students for Climate Action have since raised awareness within the wider medical school and senior faculty members, ultimately receiving funding to increase participants in subsequent trainings. This aims to fill the short-term gap whilst wider curriculum changes are introduced.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Stefania Tsatsari, BSMS

Type
Oral

Title
Planetary Health Report Card at Brighton & Sussex Medical School : Change comes from within

Subject
Education and collaboration

Study background and aims
The Planetary Health Report Card (PHRC) is an international, student-driven initiative using a standardised metric system to evaluate the integration of planetary health and sustainable healthcare in medical school curricula. The aims of the report undertaken at Brighton & Sussex Medical School (BSMS) were to identify areas of strength in planetary health teaching and opportunities to expand sustainable healthcare education.

Methods
The 2021-22 PHRC consisted of metrics across five sections: curriculum, research, support for student initiatives, community outreach, and campus sustainability. Between September 2021 - March 2022, we collected data from learning materials, online sources and school faculty to score each metric using a standardised point scale. A letter grade was then calculated for each section and for the overall report.

Results
Each section scored the following: - Curriculum: 54/69 points = 78% (B+) - Research: 14/17 = 82% (A-) - Community outreach: 7/14 = 50% (C) - Support for student initiatives 12/15 = 80% (A-) - Campus sustainability: 22/31 = 71% (B) - Overall: 109/146 = 73% (B) Compared to 2020-21 PHRC, scores improved across all five areas and our institutional grade increased from B- to B.

Discussion and importance of findings
The 2021-22 PHRC highlighted the progress done within BSMS to integrate planetary health into its curriculum and its research agenda. It also identified key areas for improvement in the medical school's community engagement, with recommendations to be provided upon completion of the project. We hope that these findings will motivate positive changes within BSMS and other medical schools.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Anmol Landa, University of Leicester

Type
Oral

Title
The impact of a Sustainable Medicine Society on medical student engagement and involvement regarding planetary health.

Subject
Education and collaboration

Study background and aims
As the effects of climate change become more apparent, there is an increasing need to reduce the impact healthcare has on the environment. An approach to doing so is to educate medical students who will become future clinicians and thus shape the future of healthcare. In 2020, the first Sustainable Medicine Society in Leicester was created to implement this.

Methods
To set up the society, medical students were recruited to fulfil the primary roles required to establish a student society under the Leicester University Student's Union Medical Association. Since establishing the group, regular committee meetings are conducted to plan and organise events, monitor progress and highlight sustainable opportunities available to medical students.

Results
The society has planned and conducted numerous projects to engage medical and healthcare students, increase awareness about the impact healthcare has on climate change, what clinicians can do to minimise this effect and the barriers that prevent sustainable change. Moreover, we took part in the Planetary Health Report Card which aims to monitor the medical school's commitment to sustainability

Discussion and importance of findings
It is imperative that other medical schools establish societies to promote sustainable healthcare to ensure that the future of medical practice incorporates sustainability within their decisions. To help support this, sharing the experiences of the Leicester Sustainable Medicine Society would be useful to inspire other universities and provide key insights on how to set up a successful society.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Katia Pacella, Health Care Without Harm (HCWH) Europe

Type
Oral

Title
Towards toxic-free healthcare in Europe - ‘‘The role of chemistry in sustainable medical textiles’’

Subject
Sustainable models of care

Study background and aims
The report aims to offer an overview of the chemistry behind medical textiles and highlight the importance of phasing out harmful chemicals.

Methods
This publication results from literature review and consultations through a network of healthcare professionals to gather insights and build a comprehensive overview of harmful chemicals in medical textiles (e.g. PFAS, flame-retardants, antimicrobials).

Results
The report first describes the impact of toxic chemicals in medical textiles, successively provides healthcare professionals, procurers, policymakers, manufacturers and other relevant actors recommendations to speed up the phase-out of harmful chemicals in medical textiles.

Discussion and importance of findings
A variety of harmful chemicals can be found in medical textiles and their production methods. Alongside the health threat, they pose a tangible risk to the environment throughout the lifecycle product, leading to air, water, and soil pollution. To phase out harmful chemicals in medical textiles, we need to assess the hazards and determine whether they are necessary for their functionality.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Paul Young, Manchester University NHS Foundation Trust
Joshua Parker, Lancaster University

Type
Oral

Title
Green Nudges for Sustainable Anaesthetic Practice: Four Barriers to Reducing Inhaled Anaesthetic Gases, and a Route to Overcoming Them

Subject
Sustainable models of care

Study background and aims
Many believe that doctors ought to change their practice in light of the effects of industrialised healthcare on the climate. This is especially true of anaesthetists as inhaled anaesthetic agents account for 5% of the NHS' carbon footprint. However, change has been slow. Here we describe barriers to meaningful change and argue that nudges many represent a solution.

Methods
We identify four core barriers to reducing inhaled anaesthetic gases. Two are moral: a lack of individual accountability and a potential conflict between sustainable practice and best interests; one empirical: concerns regarding the environmental impact of alternatives; and, one practical: a lack of experience in alternatives.

Results
We offer moral and empirical arguments demonstrating why none of these barriers are insurmountable. Nevertheless, we discuss why these obstacles might be difficult to overcome with arguments and evidence alone as is common with regards to climate change. Using the literature on 'nudges' we describe practical changes to the structure of anaesthetists decision-making that make sustainable choices more likely.

Discussion and importance of findings
A shift to sustainable anaesthesia where inhaled anaesthetic agents are drastically reduced is important. Here we contribute to ensuring this firstly by exploring the role of medical ethics in moving towards sustainable anaesthesia and secondly by providing empirically testable solutions to the barriers we outline based on green nudges.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Mahbuba Hussain, BSMS and Imperial College London

Type
Oral

Title
Plotting a path to a net zero NHS: Is better governance the game-changer for a greener supply chain and procurement?

Subject
Equipment and supply chains

Study background and aims
The NHS supply chain and procurement accounts for 60% of the NHS's total carbon footprint, yet over the last decade the NHS hasn't made any significant efforts to decarbonise this aspect of their operations. Our study aims to identify the barriers to decarbonising the NHS's supply chain and procurement and propose practical solutions to addressing these barriers.

Methods
We conducted a systematic literature review looking into the barriers to decarbonising healthcare supply chains, with a focus on European healthcare systems. This was supported by semi-structured interviews with identified stakeholders in the NHS leadership team, workforce and experts with an interest in sustainability.

Results
Interviews will undergo thematic analysis and practical solutions will be developed from there. Complete results are yet to be finalised. When formulating practical solutions, we will look beyond the healthcare sector for solutions already in place to address supply chain and procurement-related carbon footprint. These will undergo validation by experts in this field of study.

Discussion and importance of findings
The NHS has committed to reaching net zero by 2045, however current progress doesn't address the biggest carbon hotspot which is the supply chain. We identified a gap in the literature with regards to this and concluded that decarbonising the supply chain would be a big win for the NHS' net zero agenda.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Maisoon Mairghani, RSCI

Type
Poster

Title
Sustainability and Population Health: Developing a Population Health Framework underpinned by the UN SDGs for Undergraduate Medical Teaching

Subject
Education and collaboration

Study background and aims
With the accelerating climate emergency and deterioration of ecological natural systems, the health of our population is at significant risk (1, 2). Future doctors and other health professionals in their role as key mediators between patients and the broader ecological determinants of health, are required to be knowledgeable in planetary health and sustainability to address the climate change – related health risks of their patients and communities and to create sustainable healthcare systems (2, 3).

Methods
Whilst planetary health includes contextualizing these related health risks, it is not traditionally included in undergraduate medical curricula with a recent review of 2817 medical schools in 112 countries revealing that only 15% of medical schools deliver teaching on climate change and health (1).In acknowledgment of this, we describe the development of a population health framework as an opportunity to address the 'sustainability' gap in undergraduate population health teaching.

Results
We begin by presenting a narrative review of the key planetary health concepts including climate change, sustainability, equity and SDGs and explain how they interconnect and link to population health. We then discuss the evolving role of population health in the battle against climate change and the need to redesign population health content in the undergraduate medical curriculum to integrate concepts of sustainability and equity which have until recently, been neglected.

Discussion and importance of findings
To achieve this we propose a population health framework underpinned by the UN SDGs to exemplify the crosscutting opportunities of sustainability and equity dimensions within the various domains of population health. We conclude by providing examples on the applicability of the framework across multidimensional activities within the population health module.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Dr Natasha Varshney, Maidstone and Tunbridge Wlls NHS Trust

Type
Oral

Title
Turning the treatment room green- Optimising recycling of non-contaminated medical packaging on a medical ward.

Subject
Estates and facilities

Study background and aims
In the NHS report "Delivering a 'Net Zero' National Health Service" in 2020, one of its aims was to work towards suppliers decarbonising their manufacturing processes. The packaging of medical equipment is an area where there is potential to make a significant difference. This QIP aims to learn whether the recycling of non-contaminated packaging of medical equipment can occur.

Methods
The clinical treatment room of a medical ward at a district general hospital was the site of this study. A recycling bin was available in this room. The packaging material for each item was identified and further classified according to recycling status. Further classification of packaging where the recycling status was unknown was done according to material and manufacturing company.

Results
75 items were assessed; 21 (28%) pieces of medical equipment had recyclable packaging and 54 items had packaging with an unknown recyclable status. The manufacturing company Braun produced the highest number of medical equipment with recyclable packaging. 17 (31.5%) items with an unknown recycling status of packaging were made from plastic.

Discussion and importance of findings
There is no mention of sustainable disposal of packaging in "Delivering a 'Net Zero' National Health Service". On a local level a poster can be created and placed in the treatment room to allow staff to consider recycling their non-contaminated waste packaging. On a national level, collaboration with procurement leads can identify ways to sustainably dispose of non-contaminated medical packaging.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Melanie Smith, University West of England

Type
Oral

Title
Towards Sustainable Procurement in an NHS Hospital: An Analysis of Barriers and Enablers to staff Behaviour Change

Subject
Unspecified

Study background and aims
This study uses the COM B Behaviour change framework to explore the barriers and enablers to ‘sustainable procurement behaviours’, within an NHS hospital setting. The research aims to explore how 'sustainable procurement' is understood by healthcare staff and analyses 'what behaviours need to change by whom' to achieve sustainable procurement.

Methods
This study used a case study approach and qualitative methods, including 12 semi-structured interviews and 27 rapid response surveys. Thematic analysis and both an inductive and deductive approaches were used to analyse the data. This study adopted a pragmatist research paradigm. Findings were mapped to the COM B Behaviour Change Framework.

Results
- The term 'sustainable procurement' was subject to varying, but largely environmental interpretations by staff. - Behaviours occur within a web of inter-acting behaviours, across a wide range of stakeholder groups. - The most significant barriers relate to the ‘Opportunity’ component of Com B and include: Organisational culture, legislation and policy, power and agency, finances, time and resource and leadership and strategy.

Discussion and importance of findings
Many of barriers and enablers identified, are congruent with findings in existing literature. The study in unique however, in applying a structured behaviour change framework. Whilst a holistic approach is vital, the greatest gains in relation to implementing sustainable procurement, are likely to be in addressing the ‘opportunity’ dimension of the COM B, in particular organisational and cultural barriers. Efforts should therefore be focused towards this area in future interventions.

SHARE conference abstracts – Sustainable healthcare: theory to practice

James Chu, BSMS

Type
Poster

Title
Proposal for an Initial Sustainable QI Project in a UK Emergency Department: Let's Sort it Out

Subject
Estates and facilities

Study background and aims
Introduction The climate crisis is a health crisis. The NHS has committed to "Net-zero" carbon emissions by 2040, mandating improvements to all NHS activities. At the time of writing in a UK emergency department, all waste is sent for high temperature incineration causing unnecessary carbon footprint intensification. Aims This report aims to examine waste segregation, its impact on carbon footprint and outline an approach to improving departmental waste segregation.

Methods
Methods Interventions will be informed by prior studies and implemented in combination with a theoretical model of change and quality improvement methodologies. Data will be collected using a combination of audit and short surveys, and from this initial project, a group of invested stakeholders will sustain and develop resultant improvements.

Results
Proposed analysis From audit data, environmental outcomes will be calculated using carbon footprinting methods, accompanied by financial estimations using annually published site waste data. Feedback and survey responses will inform analysis of social impact, and necessary changes to interventions for improved efficacy. [It is hoped that there will be results to present by the conference date]

Discussion and importance of findings
From the proposed initial interventions, a meaningful mitigation of the waste attribution to the carbon footprint of the department is anticipated with financial and social co-benefits. Presentations demonstrating these impacts alongside the interventions themselves will aid the development of a more environmentally conscious department, and a climate for continued sustainable quality improvement work.

SHARE conference abstracts

Anna Fuhrmann, HCWH Europe

Type
Oral

Title
The Nursing School Commitment - Nursing educators, universities, and schools all across the European continent commit to firmly integrating climate change and planetary health into all nursing curricula

Subject
Education and collaboration

Study background and aims
Nurses must prepare to care for patients in the context of climate change and understand what actions can be taken to mitigate further climate impacts and increase resilience. The Nursing School Commitment is an opportunity to proactively engage and empower nursing students at all levels in the planetary health movement and encourage environmental stewardship. Nursing schools from eight countries have committed to integrating climate change and planetary health into their curriculum.

Methods
Nursing schools are working to integrate climate change and planetary health into the existing theoretical and practical education of their students. Additionally, they advocate to formally change the curriculum and include these topics in all nursing education across their country. Participating schools support each other by staying in touch and sharing teaching materials. Additionally, the schools are working on creating courses and materials in collaboration with HCWH, that can be used for nursing education across the continent.

Results
Since the launch of the Nursing School Commitment, 13 schools/universities from eight countries have signed the commitment and are now actively working together to reach its goals. In the first six months since the launch, over 1500 nursing students have been taught about climate change and planetary health. Some of the participating schools have focussed not yet on education, but on the integration into the curriculum.

Discussion and importance of findings
More and more nurses are learning about the impact of climate change on health and how healthcare can harm the environment and with it human health. It is very important to not only rely on the interest and engagement of already registered nurses but firmly embed these important topics directly into the nursing curricula across all of Europe. The Nursing School Commitment is creating a network of universities and educators who work together towards this goal.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Alice Galbraith-Olive, Newcastle University

Type
Unsure

Title
Newcastle University Medical School Planetary Health Report Card 2021-2022, an evaluation of planetary health teaching

Subject
Education and collaboration

Study background and aims
The Planetary Health Report Card (PHRC) is a student-led initiative aimed at evaluating and improving planetary health (PH) and sustainable healthcare teaching at medical schools across the globe. Newcastle University Medical School has been part of the project for the past two years with the aim of supporting students passionate about PH as well as inspiring faculty to make change.

Methods
We used the PHRC metrics that have been developed through collaboration with researchers, advocates and health professionals. These include five areas to be evaluated: PH curriculum, Interdisciplinary research in health and environment, Support for student PH initiatives, Community outreach and Sustainability. We used the 2021-2022 PHRC framework and gathered evidence through publicly available sources and faculty members.

Results
This year we scored 63% giving an overall B grade, an improvement from a C in 2020-2021. Faculty staff have been highly engaged in the project and working closely with them, we have been able to incorporate many recommendations. Objective assessable PH learning outcomes are now part of the core curriculum. A compulsory sustainability quality improvement project has been introduced.

Discussion and importance of findings
This project has been part of wider momentum within the medical school to increase awareness of PH and teaching within the curriculum, highlighted by the increased PHRC score within 12 months. The PHRC will continue annually at Newcastle University, and we hope it will allow for continued development of PH and sustainable healthcare education in addition to wider community outreach.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Rebekah Burman, NHS Orkney

Type
Unsure

Title
Growing our Green Space - Polytunnels and Plots. Utilising green space to promote health and wellbeing.

Subject
Estates and facilities

Study background and aims
Green space exposure can enhance health, (physical, mental and social). It is associated with a greater psychological connection to the natural world, encouraging pro-environmental behaviour. NHS Orkney provides healthcare for the archipelago located off the north coast of Scotland. Our polytunnel project aims to drive forward our sustainability agenda whilst promoting health and wellbeing and providing opportunities for social prescribing.

Methods
Three inclusive polytunnels will be constructed within the NHS estate using durable, sustainable and upcycled materials that support local procurement. Internally the facility will have raised planters, seating and educational materials. Externally there will be solar panels and rainwater harvesting. Engagement with stakeholders across the Orkney Islands will support the health promoting facility and increase social prescribing discussions with stakeholders.

Results
The facility will deliver an inclusive and safe green space area. It will promote health and wellbeing for patients, staff and the wider community and intends to provide opportunities for social prescribing initiatives. Furthermore, the project will enhance NHS Orkney's net-zero status, support the Scottish Government's draft sustainability strategy and educate users on the links between the environment and health.

Discussion and importance of findings
The Covid-19 pandemic has highlighted the importance of being outdoors and accessing green space. This project provides an opportunity to enhance a green space on the NHS Orkney estate and increase the potential for it to deliver better health and environmental outcomes to the community of Orkney. We anticipate the project will be a leading example to other health boards.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Federica Pirro

Type
Oral

Title
Prevention of waste generation and carbon footprinting in the operating theatre: example of a nurse-led project

Subject
Equipment and supply chains

Study background and aims
Anesthetic teams use a large amount of pre-made disposable sets: all of them contain unnecessary items. The procurement and disposal of these sets results in more waste generation, GHGs emissions and financial costs. By redesigning those sets and eliminating what is not needed, we can prevent unnecessary waste from being generated in the first place and reduce environmental impact

Methods
The project has been structured into four phases: 1. Consult stakeholders and identify 2 sets considered most wasteful: redesign the sets, including only what really necessary without compromising their quality; 2. Open a dialogue with the suppliers; 3. Calculate expected financial and environmental savings; 4. Educate staff on climate change and sustainable healthcare

Results
Following the SusQI framework, by removing unnecessary items from 2 pre-made sets, the anesthetic team can achieve financial savings of estimated €10,000/year, and GHGs emissions can be reduce of approximately 4,000 kg CO2e/year. Positive social value is also achieved with increased staff satisfaction and education. All the four phases have been implemented and the sets are in production

Discussion and importance of findings
The operating theatres have a huge environmental impact and it is important that nurses start to take sustainable actions, within their capacities and possibilities in their workplace. Using the SusQI framework and SMART goals strategy, we can study our system and identify what actions are most achievable, sustainable and measurable, hopefully inspiring other nurses to do the same

SHARE conference abstracts – Sustainable healthcare: theory to practice

Annie Pinder, Manchester University NHS foundation trust

Type
Poster

Title
Optimising fresh gas flow during total intravenous anaesthesia, a completed audit cycle demonstrating change

Subject
Medicines

Study background and aims
Total intravenous anaesthesia (TIVA) is an increasingly popular method of delivering general anaesthesia. It has been shown that using a higher fresh gas flow (FGF) whilst delivering TIVA significantly prolongs the life span of the carbon dioxide (CO2) absorbent. Higher FGFs require more medical gases thus a balance must be struck to obtain optimum sustainable value.

Methods
We completed an audit cycle at a large teaching hospital in Manchester reviewing the FGFs used during TIVA. We undertook an initial spot check audit during the spring of 2021, followed by a series of educational events and an update to our local guidelines. In the autumn we completed the cycle with a second spot check analysis of practice.

Results
The initial results demonstrated a wide variation in FGFs utilised during the maintenance phase of TIVA, with a FGF range of between 0.8L/ min and 8L/min. The reaudit demonstrated a >95% compliance with the desired FGF of 4-6l/min, with 57% using 6L, and 38% using 5L.

Discussion and importance of findings
To achieve NHS net zero, anaesthetic practice must adopt lower carbon options without detriment to patient care. Optimising FGF during TIVA achieves this goal, delivering both an environmental and financial benefit in the UK, as the costly and carbon intense CO2 absorbent is exhausted at a far slower rate in exchange for cheaper and less carbon intense medical gases.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Alison Astles, University of Huddersfield

Type
Oral

Title
Planetary Health Resource Card implementation in pharmacy undergraduate curricula - an international pilot project

Subject
Education and collaboration

Study background and aims
The Planetary Health Resource Card (PHRC) started in the USA as a student-led initiative to track and develop environmental sustainability principles in the medical undergraduate curriculum. This presentation describes our journey to expand this to pharmacy curricula in the UK and internationally.

Methods
The PHRC developed for use with medical curricula was adapted by a small team of pharmacy students and faculty staff to be relevant to pharmacy undergraduate curricula. The pharmacy PHRC was piloted with six institutions in the UK and USA in March 2022, for publication on the PHRC website by Earth Day, April 22 2022.

Results
The available completed pharmacy PHRC completions are available on the PH website at phreportcard.org.

Discussion and importance of findings
This project demonstrates the first steps to incorporating environmental sustainability principles in pharmacy undergraduate curricula. Given that medicines are the most common health intervention, ensuring that future pharmacists are addressing this issue is crucial. The next steps are to promote best practice in curriculum development and create a network of expertise.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Chloe Griggs, Canterbury Christ Church University

Type
Oral

Title
Engagement, Disengagement and Non-engagement in sustainable healthcare: an exploratory sequential study. By Dr Chloe Griggs

Subject
Climate resilient health systems and adaption

Study background and aims
Climate change is a pressing global problem requiringaction at all levels within society. Healthcare organisations in the United Kingdom (UK) are under increasing pressure to reduce carbon emissions.Healthcare staff often work in challenging conditions with sick patients and limited resources, as a result climate change and sustainability areoften a low priority. This research examines the engagement of staff with the sustainable healthcare agenda, placing emphasis on the psychological perspectives that influence engagement, disengagement and non-engagement.

Methods
Exploratory sequential study consisting of four discrete but interlinked pieces of research: 1. Literature Review 2. Small qualitative study using thematic analysis 3. Large quantitative study using mediation analysis 4. Case study

Results
1. Barriers to engagement 2. UK staff perceptions 3. Values Beliefs and Norms theory within UK healthcare 4. Engagement, non-engagement and disengagement 5. Home versus work.

Discussion and importance of findings
1. Understanding 2. Message 3. Actions 4. Engagement and Accountability

SHARE conference abstracts – Sustainable healthcare: theory to practice

Jessica Blackaby, University Hospitals Sussex

Type
Oral

Title
Green inhalers for inpatients: reducing the carbon footprint of inhaler prescriptions on a medical ward

Subject
Medicines

Study background and aims
Inhalers contribute a significant proportion of the NHS carbon footprint. Previous work has shown 63% of inpatient inhalers prescriptions were for pMDIs and if these were all converted to DPIs this could reduce their carbon footprint by 90%. This project aimed to find out how feasible it is to switch to lower carbon inhalers in an inpatient setting.

Methods
Patients on a general medicine and respiratory ward with a diagnosis of asthma or COPD and one of more inhalers prescribed were reviewed. Their inhalers were discussed and inhaler technique checked if needed. If appropriate, their inhalers were switched to dry powder or combination inhalers. This took place over 5 days and involved one consultant, one SHO and one RSN.

Results
Eight patients were identified. On admission they were prescribed 15 inhalers between them, 10 of which (67%) were MDI. At the end of the project period they were prescribed 14 inhalers, 6 of which (42%) were MDI. The remainder were DPI. The discussions and switching process took between 10 minutes to 1 hour per patient.

Discussion and importance of findings
This intervention reduced pMDI prescribing by 40% and illustrates that it is possible to reduce the carbon footprint of inhalers in an inpatient setting. It is likely to benefit patient care through improved inhaler technique, which may in turn reduce acute exacerbations of respiratory disease. Training an MDT of 'inhaler champions' is proposed to expand this work in the future.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Hasan Jamal, University College London

Type
Unsure

Title
Non-sterile examination gloves and sterile surgical gloves: which are more sustainable? Life Cycle Assessment Study

Subject
Equipment and supply chains

Study background and aims
Healthcare professionals should consider environmental sustainability when using personal protective equipment (PPE). One of the most frequently used items of PPE in medical settings are gloves.

Methods
This study used three glove types: non-sterile gloves and sterile gloves (latex and latex-free). Sixteen different environmental impact categories were used to dem- onstrate the impact of each glove type.

Results
Non-sterile gloves had the least environmental impact in all categories.The two types of sterile gloves, nonlatex and latex, performed similarly,although the nonlatex gloves had a greater impact on ozone depletion,mineral use and ionizing radiation.For climate change impact, sterile latex gloves were 11.6 times higher than nonsterile gloves. For both sterile type gloves the manufacture contributes to the most considerable environmental impact,with an average of 64% for sterile latex gloves and 60% for nonlatex sterile gloves.

Discussion and importance of findings
Using the LCA methodology, this study quantitatively demonstrated the environmental impact of sterile versus non-sterile gloves.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Johanna Brooke, University of Edinburgh

Type
Unsure

Title
Crisis within a crisis - how has the COVID-19 pandemic affected sustainable healthcare practices?

Subject
Unspecified

Study background and aims
Human health is dependent on planetary health, and the climate crisis is threatening this. Healthcare contributes to the problem, using resources and creating waste, but sustainable healthcare practices offer an alternative. The pandemic has shifted priorities within medicine, but how have sustainable healthcare practices have been affected?

Methods
The search strategy identified 681 papers from 18 databases, of which 361 papers were excluded as duplicates, and 115 papers did not meet the criteria. Quantitative data was extracted from the 105 included papers, with qualitative data gathered using a deductive and inductive process.

Results
Seven general themes were identified. Twenty-six papers examined how the pandemic forced mass adoption of telemedicine, and 26 papers outlined how we can 'build back better' after the pandemic. Fourteen papers discussed the disruption to waste management and 18 papers considered PPE within this. Twenty-four papers observed the disruption to both social and economic preventative measures.

Discussion and importance of findings
All countries need to expand waste management infrastructure, including recycling programmes, whilst also tackling the drivers of plastic use. We need to engage industry to design affordable sustainable PPE. Telemedicine could bolster healthcare services but this requires investment and consideration of implications. Preventative measures are the backbone of sustainable healthcare practices, and will require attention in the post-pandemic recovery.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Joshua Parker, Lancaster University

Type
Oral

Title
Two Moral Barriers That Prevent Primary Care Practitioners Prescribing Switching MDI to Greener DPI Inhalers for Respiratory Patients

Subject
Medicines

Study background and aims
General practitioners have been tasked with switching metered-dose inhalers (MDIs) to dry powder inhalers for some patients with respiratory disease. This is to mitigate climate change as DPIs have a lower global warming potential. In this talk I discuss two ethical barriers to reducing prescriptions: patient choice and cost.

Methods
A systematic analysis reveals the core challenges I discuss: 1. is the patient justified in refusing to change to a clinically equivalent green inhaler? and, 2. is the increased cost of DPIs justified in light of mitigating climate change. I subject these to critical analysis in light of relevant normative theories and frameworks and with reference to case-based analysis.

Results
I argue that the need to mitigate climate change and the clinical equivalence of inhalers means that patients are not morally justified in refusing to switch inhalers. Nevertheless, wider considerations of trust and beneficence mean the GP they may still permissibly prescribe MDIs. I argue that the NHS should accept higher inhaler costs in order to mitigate against climate change.

Discussion and importance of findings
As the main barriers to GPs meeting this important target for emissions reduction are moral, critical discussion of these from bioethicists is essential. I fill this gap by providing moral arguments for how GPs ought to respond to these ethical challenges.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Rosanna Spooner, Centre for Sustainable Healthcare

Type
Oral

Title
Sustainability in quality improvement education enables students to create positive change: a multi-centre multiprofessional evaluation

Subject
Education and collaboration

Study background and aims
Sustainability in quality improvement education enables students to create positive change: a multi-centre multiprofessional evaluation

Methods
Teaching was delivered to nursing and medical students by the CSH SusQI Education Project. Attendees were invited to complete a Qualtrics® anonymous online survey. Survey questions were informed by existing theories of academic motivation and educational value. Qualitative questions invited participants to reflect on what knowledge and skills were gained, and to articulate barriers to putting their learning into practice.

Results
Analysis of 177 responses show all learners felt that this was ‘time well spent” and 87.2% of participants showed intention to apply learning to current or future quality improvement practice. Learners described developing a ‘sustianability lens’ and transformational shift in their approach to QI. Many described reframing themselves as someone who has agency in delivering health system improvements.

Discussion and importance of findings
Embedding sustainability into quality improvement education provides knowledge, skills and capability while transforming students into agents for positive change.We suggest that meaningful space is found within both undergraduate and postgraduate healthcare curricula for SusQI, as a way of engaging and motivating learners to contribute to the creation of a sustainable healthcare system through quality improvement.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Hannah Ames, University of Plymouth

Type
Oral

Title
An exploration into 2nd year student nurses reflections of their carbon footprint in simulation enhanced learning

Subject
Education and collaboration

Study background and aims
There is minimal research specifically related to students' awareness of their carbon footprint. The study aims to explore student nurses' reflections on their carbon footprint of the clinical resources used in simulation and to identify how educators can provide opportunities to support and educate students to reduce their carbon emissions from resource use in clinical simulation.

Methods
A qualitative phenomenographic approach was used to explore students' awareness and attitudes to their carbon footprint . 11 participants were recruited and kept a log of their clinical resources used in simulation which was used to calculate their carbon footprint. One to one semi-structured interviews conducted using the carbon footprint as a infographic visual stimuli were used as data collection.

Results
Data collection is planned for from March 14th to 28th March so currently awaiting results.

Discussion and importance of findings
Specific research and educational interventions to develop sustainable resource and reduce carbon emissions remains minimal in undergraduate education Key intended findings are to gain insights into the experiences of student nurse experience to inform the ongoing development and implementation of sustainability education in simulation enhanced learning. Particular focus on reducing resource use and carbon emission from simulation teaching

SHARE conference abstracts – Sustainable healthcare: theory to practice

Amelia Kirby

Type
Unsure

Title
Nursing Planetary Health Report Card: A Student-Led Tool for Measuring Nursing Program Initiatives for Planetary Health

Subject
Climate resilient health systems and adaption

Study background and aims
Operate as a gap analysis for nursing programs to identify planetary health strengths and opportunities for growth. -Assemble synthesized, program-specific information on planetary health resources useful for faculty, staff, and students. -Facilitate sharing of planetary health resources across programs. -Track progress in implementing and optimizing planetary health curriculum and resources. -Highlight successes and collaborations regarding planetary health in institutions through thorough evaluation of metrics.

Methods
For each metric, students interview stakeholders to determine if the metric has been met. For each answer, a number is applied (0-2), or N/A, in the Likert scale. All metrics are accompanied by explanations. The section point totals will be tallied, divided by the total points available for the section, and converted to a percentage.

Results
Data measurement is currently underway, with an expected completion date of April 22nd, 2022.

Discussion and importance of findings
These findings are significant from program to program, as they will indicate a grade for each metric. Students will be able to utilize these results to demonstrate room for improvement, and set goals for their programs.

SHARE conference abstracts – Sustainable healthcare: theory to practice

Anna Latham, School of Applied Sciences, University of Brighton

Type
Oral

Title
A circular approach to sustainable waste management strategies in clinical skills education established through the completion of an environmental audit.

Subject
Climate resilient health systems and adaption

Study background and aims
This study completed an environmental audit of the clinical skills rooms in a University in the South of England. The project explored current practices and their effectiveness, alongside ascertaining staff and student attitudes, to inform recommendations for improving waste reduction and waste management.

Methods
Quantitative and qualitative methods were used to collect data from inside the University skills rooms used for clinical teaching and simulation of nursing and paramedic courses. Observations on current waste management practices, interviews with staff and students alongside sampling of medical equipment generated a comprehensive collection of data.

Results
The results showed the lack of reciprocals for segregation inside the simulation rooms, resulting in unnecessary waste generated. The rooms are treated as medical settings, yet all waste produced is ‘pseudo clinical’, nevertheless is disposed of as if it was clinical. This increases the environmental and economic footprint of the university.

Discussion and importance of findings
The results highlighted the need to address the divide between simulation and reality and where the line is drawn from a waste stance. Also, information about appropriate waste disposal (including packaging) is lacking, along with the education required for promoting sustainability. Understanding these three interlinking themes could bring a more circular approach to the environmental performance of clinical skills education.