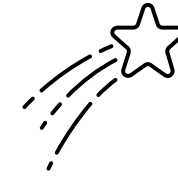




Celebrating our e-book



Education for Sustainable Healthcare: Stories, Strategies and Solutions from the MSC ESH Alliance

Prof SanYuMay Tun
Chair of MSC – ESHA

Honorary Professor, School of Medicine, University of Surrey
Greener Practice webinar 21 July 2026

**Education for Sustainable Healthcare:
Stories, Strategies, and Solutions
from the MSC ESH Alliance**

Medical Schools Council



msc

Medical
Schools
Council



The MSC – ESHA

In 2024 the **Medical Schools Council** formally established the
Education for Sustainable Healthcare Alliance

The Education for Sustainable Healthcare Alliance is alongside
only three other formalised groups namely the
Assessment Alliance, the Selection Alliance and the EDI Alliance

An innovative Planetary Health and Sustainable Healthcare curriculum

Adaptable for differing contexts

Fully endorsed and published by Medical Schools Council

On GMC list informing its outcomes for graduates

Freely available

Creative Commons CC BY NC SA:

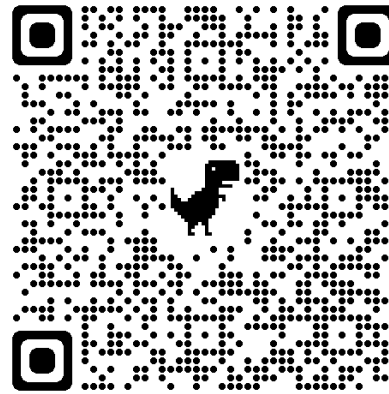
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Cite as: Tun S. and Martin T. (2022), Education for Sustainable Healthcare -
A curriculum for the UK, Medical Schools Council, London, UK

https://www.medschools.ac.uk/media/2949/education-for-sustainable-healthcare_a-curriculum-for-the-uk_20220506.pdf



EDUCATION FOR SUSTAINABLE
HEALTHCARE

A curriculum for the UK

Endorsed by the Medical Schools Council



Good Medical Practice 2024

New duty of sustainable healthcare



Managing resources effectively and sustainably

14 You **must** make good use of the resources available to you, and provide the best service possible, taking account of your **responsibilities to** patients and **the wider population**.

15 You should choose **sustainable solutions** when you're able to, provided these don't compromise care standards. You should consider supporting initiatives to **reduce the environmental impact of healthcare**.

Sustainable healthcare

focuses on the **improvement of health** and **better delivery of healthcare** rather than late intervention in disease, with resulting **benefits** to **patients** and to the **ecosystems** on which human health depends, thus serving to provide **high-quality healthcare** now without compromising the ability to meet the health needs of the future

Tun S 2019. [Medical Teacher](#). **Definition** adopted by AMEE and MSC, and cited by GMC.

EDUCATION FOR SUSTAINABLE
HEALTHCARE
A curriculum for the UK

Endorsed by the Medical Schools Council



Shared decision making, patient-centred care. Using patient decision aids such as NICE guidance for patients in choosing care e.g. on benefits of diet and physical activity vs [statins](#); choice of [inhalers](#) and ~~greenhouse gas impact of dry powder inhalers~~ versus metered dose inhalers

Following GMC guidance [2020](#) on decision making and consent which requires finding out what matters to the patient, and stating clearly the option to take no action

Ensuring appropriate care and avoiding unnecessary investigations and treatments to optimise the use of resources

Minimising polypharmacy, awareness of the environmental impact of pharmaceuticals, non-pharmacological management of conditions

Avoiding duplication of services to [minimise](#) waste, energy and travel by coordinating care

Encouraging change through individual practice, influencing healthcare organisations, and contributing to standards and policy

Actions to reduce the environmental impact of medical practice

Quality improvement

The application of principles of sustainable quality improvement activities, such as CSH SusQI [framework](#), in improving both patient care and environmental, financial and social impact of clinical practice

Development of strategies for reducing the carbon footprint of health care delivery

How sustainability measures can be directly instigated e.g. in primary care settings or in [hospitals](#)

Social prescribing

The range of non-medical options that could be available to healthcare professionals when a person has needs that are related to socioeconomic and psychosocial issues

Referral of patients to a link worker, to co-design a non-clinical social prescription to improve their health and wellbeing

UK Medical Licensing Assessment content map (General Medical Council)

EFFECTIVE September 2026:

- Avoid over-investigation, over-diagnosis, and over-prescription
- Prescribing includes stopping medicines where appropriate
- Find out what matters to the patient
and share information about appropriate treatment options
including the option to take no action

Regulatory changes and the medical curriculum:

Good Medical Practice 2024



Outcomes for Graduates ← MSC ESH curriculum



Medical Licensing Assessment content map

Future of education and career development programme (GMC)

Examples of feedback themes shared for consideration include:

- health impacts of climate change
- sustainable healthcare

“ Please sign up to the GMC Future of education and career development community of interest to help shape this work ”

Carbon Literacy Training and Paid Student Advocates

Lakshmi Aggarwal – 4th year Bristol medical student

Integration of Carbon Literacy Training

Successes:

- Rated f2f session 3.96/5 in terms of usefulness and enjoyment
- >80% received certification
- Gained a good understanding of the relevance as a clinician and citizen

Challenges:

- eMaterial wasn't pitched at the right level
- Finding physical space and curricular space

Module overview

Module 1
eLearning recap

Module 2
Carbon Footprinting

Module 3
Concept of co-benefits

Module 4
Planning your low carbon actions

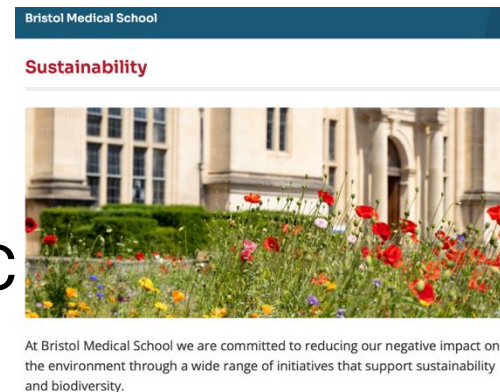
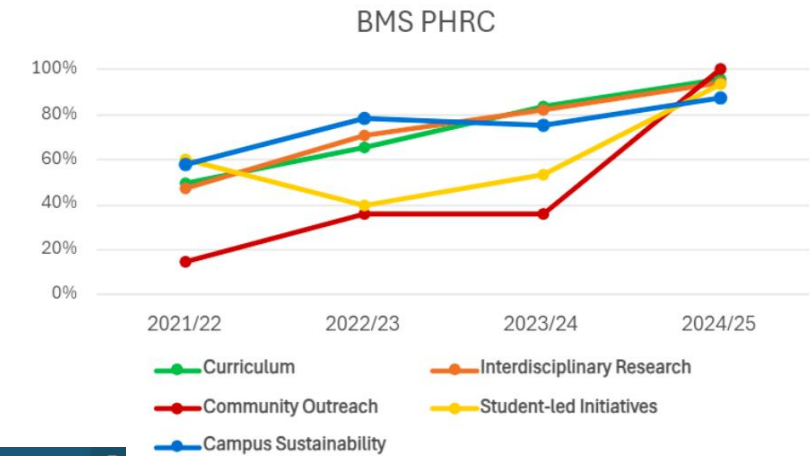
The role of paid student employment

Context:

- x2 students employed 12hrs per week total
- x2 academics employed 1 day per week total
- x1 sustainability officer full-time

Achievements:

- 13th in UK → 1st in the world in PHRC
- Created a new SSC
- Advocated for new lectures
- Integrated assessable content
- Developed a website, blog, SharePoint



LOs

▪ By the end of this lecture you should:

1. Have briefly revised the physiology of temperature regulation
2. Understand the nature of heatwaves
3. Understand the nature of heat stress and heat stroke
4. Understand the clinical management of heat stroke
5. Have practical knowledge for "What to do in a Heatwave" as an individual and for health care systems



ESH and CBL at WMS

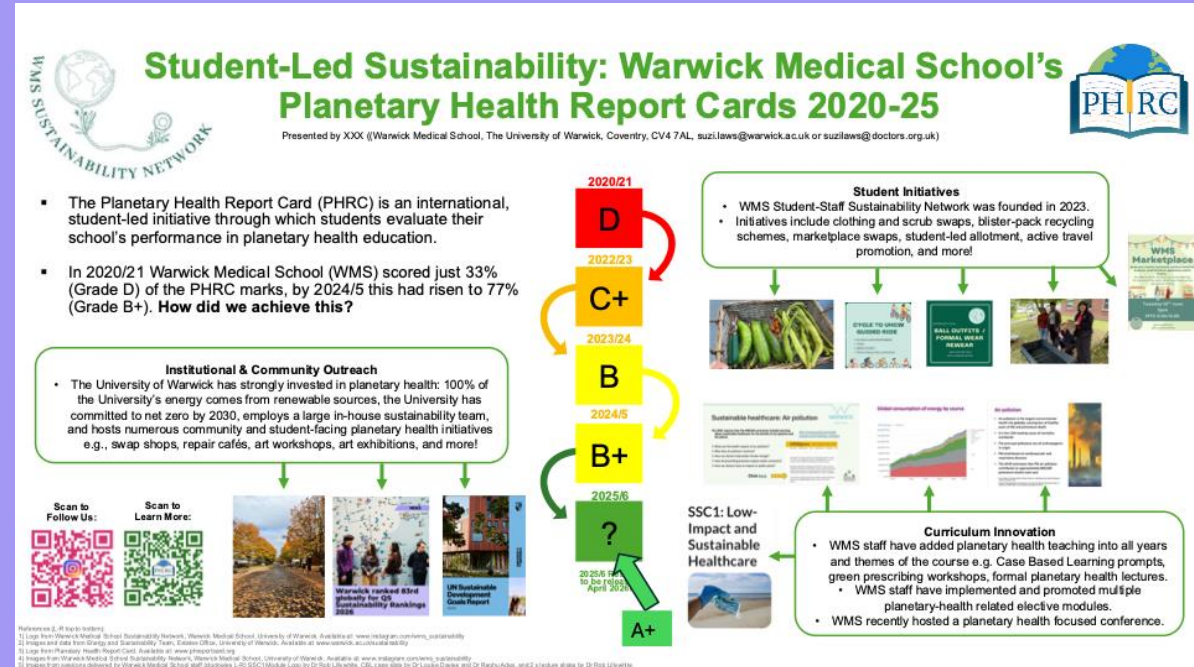
Dr Louise Davis

Associate Clinical Professor

MBChB DCH FRCGP FHEA MMedEd

L.Davis.3@Warwick.ac.uk

**UNIVERSITY
OF WARWICK**



CBL (Case Based Learning)

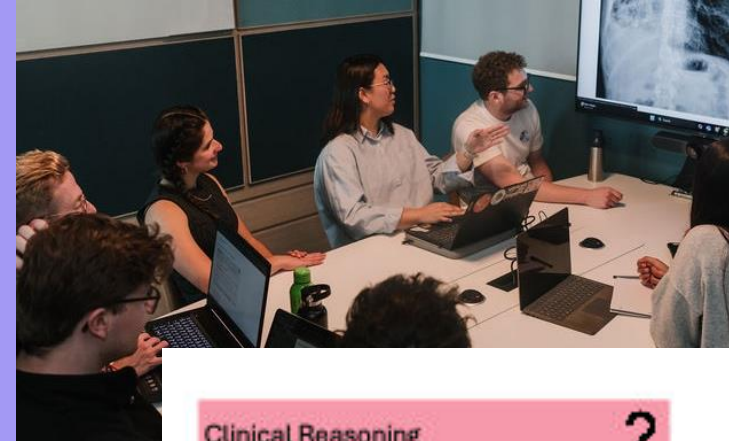


Students learn to think like doctors
Students develop skills to be a doctor

Core of the curriculum
45 CBL cases
Throughout all 4 years

Opportunities in CBL

Doctors for the future
Resources – use of AI
Multiple linked topics
Mapping to curriculum,
Leadership and teaching



Clinical Reasoning



- You are the FY1 - What would you do next?
- How does his history help decide on the most probable diagnoses?
- How would you find information you might need?

Sustainable healthcare: Air pollution

WARWICK
MEDICAL SCHOOLS

The GMC requires that the MBChB curriculum includes learning about sustainable healthcare for the benefit of our patients and the planet.

[NIH: Environmental and Health Impacts of Air Pollution: A Review](#)

➤ What are the health impacts of air pollution?
➤ Why does air pollution continue?
➤ How can doctors help tackle climate change?
➤ How do prescribing practices impact carbon emissions?
➤ How can doctors have an impact on public policy?

[Click here](#) ➔

Evening News

One between her child's condition was made worse by pollution around her home near the Oldbury village area of Oldbury Road - one area of what is often referred to as the 'Toxic East' in Europe.

New figures obtained by campaign group, Breathe the Change, under the Freedom of Information Act, showed that in the last two years nearly 6,500 children were admitted to the specialist paediatric respiratory services at Manchester Community Foundation NHS Trust, or sent as outpatients.

The hospital includes Royal Manchester Children's Hospital, Manchester Royal Infirmary, Wythenshawe Hospital, and Salford Manchester General.

Sustainable healthcare: Psychosis clinics



- How could changes to clinic organisation impact on the environment?
- How do sustainable clinics improve patient care?
- Why is sustainable healthcare important in psychiatry?

Case example: [Sustainable psychosis clinics](#)



Diabetes and Sustainable healthcare

- How could climate change impact diabetes ?
- How might green or blue or social prescribing be used in diabetes type 2
- How might diabetes impact on the environment and climate change?
- How would you use principles of sustainable healthcare in managing diabetes?

[Good practice example from SWFT](#) (sustainable practice in diabetes)



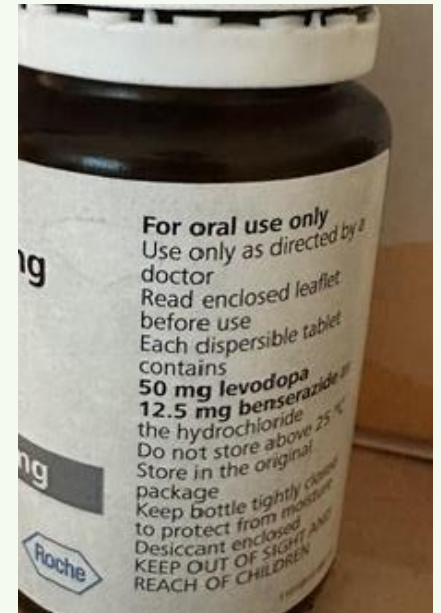
Sustainable and Global Health

Climate Change and Extreme Heat

- In extreme heat how does the body respond?
- Why might climate change and extreme heat affect some patients more than others?
- Which medications may increase fever in extreme heat?
- Which medications may need to be stored differently in extreme heat?
- How will you advise patients at risk during extreme heat?

[Medications affecting thermoregulation](#)

[NHS advice on hot weather](#)



IMPERIAL

Integrating sustainability across the primary care curriculum

Dr. Neha Ahuja

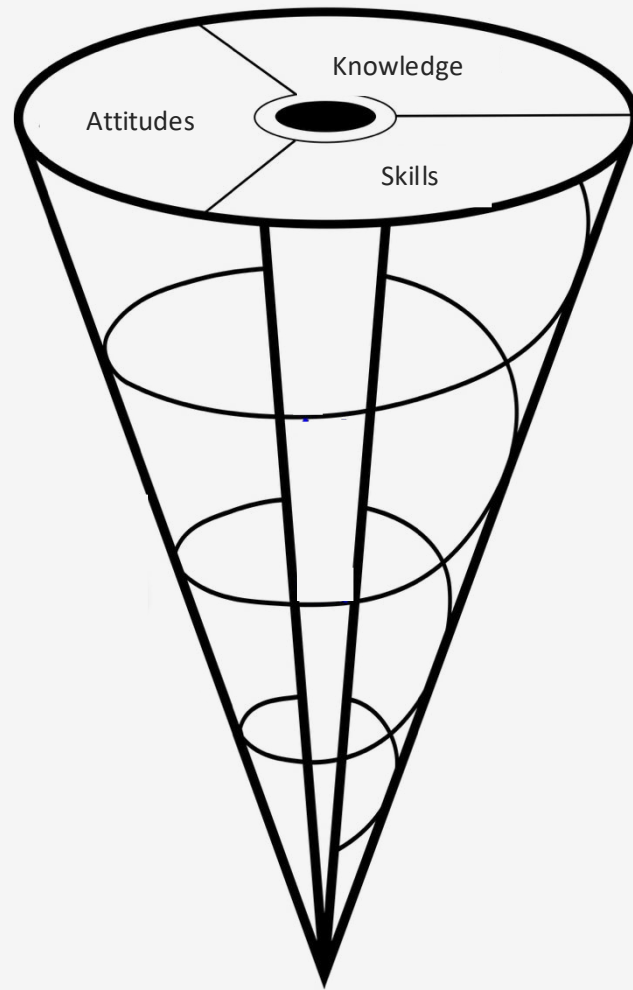
Principal Clinical Teaching Fellow

Undergraduate Primary Care Education Unit

21/07/2026

With thanks to Prof. Arti Maini, Dr Nikul Kotecha, Dr Alexandra Cardoso-Pinto and Hollie Meyers

Sustainable Healthcare in the primary care curriculum



Spiral curriculum

Year 5 & 6 Applied in Clinical Practice

- Case based learning
- Sustainable prescribing
- Criteria in QI projects
- Clinical Sustainable Healthcare placement (optional)

Year 3 Applied in Clinical Practice

- Online 'Sustainable Healthcare in Practice' session (mandatory)
- Criteria in community engaged project
- Sustainable Healthcare SSC (optional)

Years 1 & 2 Foundations

- Aligned concepts (holistic care, prevention)
- Health Coaching skills
- Environment as a wider determinant of health and inequity

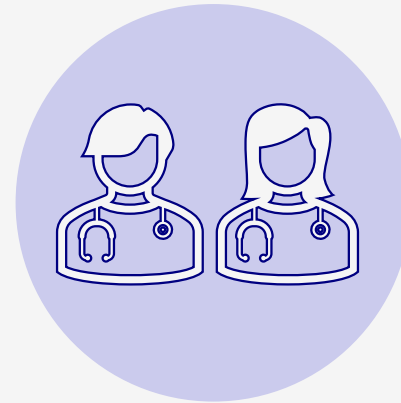
Building a Sustainability Culture



STUDENTS



FACULTY



GP TUTORS



**WIDER
COMMUNITY**

Resources from our department

- [BMJ Leader paper](#) co-authored with our students on process of integration of sustainable healthcare within the undergraduate primary care education unit
- [5-min video](#) on tips for GP tutors on integrating sustainable healthcare into primary care curriculum
- [Student blog](#) on involvement as student shapers for integrating sustainable healthcare into the curriculum



**QUEEN'S
UNIVERSITY
BELFAST**

Dr Vivienne Crawford
Reader in Geriatric Medicine
/ Medical Education

Impact of Final Year Sustainable Quality Improvement Project



Background



In 2025, we delivered our first 'pilot' of SusQI in which all final year students undertook longitudinal SusQI project.



Logistical challenges in grouping the students and other aspects became apparent.



Ultimately, excellent posters were produced and presented by the students and assessed by dedicated staff.



Some student feedback however, suggested that doubt about the relevance of SusQI to their role as doctors remained.



In 2026, we addressed the logistical challenges, lengthened the time available to complete the project and allowed students to 'opt in' to presenting to achieve 'excellence'.



All posters are assessed, feedback and certificates provided to student groups.



Student feedback from this second iteration of the project is presented.

Impact of the project

In their SusQI reflections, ~95% of students articulated the value of the project in terms of learning QI methodology, the value of such projects to improve patient outcomes/experiences, and the sustainable and financial impacts in clinical practice. They appreciated the learning ahead of conducting projects in employment. Additionally, many students' reflections discussed the hidden, transferrable skills they acquired through conducting the project, such as organisation, planning, teamwork and leadership.

Excerpts from example reflections:

'This SusQI project has taught me how small data driven changes can create meaningful impact on sustainability. ... successfully reduced energy waste by 66% which demonstrated how low-cost behavioural changes work well. ...This experience showed me that sustainable healthcare is everyone's responsibility and every healthcare professional can contribute to greener care through practical, iterative quality improvement focused on both patient care and the environment.'

'This project was an immensely rich learning experience for myself. It was an opportunity to work in a cohesive team and make contributions for the end-result of the project. ...I was given the opportunity to enhance my research and analytical skills, as well as put to practice presenting in front of a cohort of doctors and other healthcare professionals. ...after partaking in my first one, I feel more confident in taking part in many more!'

'Through this SusQI project I learnt how relatively small changes at a system level can make a real difference in Primary Care. ...I've developed some confidence in QI methods and sustainability thinking, which I will carry into future clinical practice and SusQI work.'

Example Posters 2026

THINK before you admit:
"IS THIS CURB-65
CALCULATED?"

Sustainable Quality Improvement (SUSQI): Improving Appropriateness of Hospital Admission Decisions for CAP with CURB-65

Aliya binti Mohd Zayed, Amie Cherian, Jeyanthi Jeyarajah, Kai Ern Kho



01. Introduction

- Community-acquired pneumonia (CAP) is a leading cause of hospital admission, with significant healthcare costs and bed pressures.
- The CURB-65 scoring system is a validated tool used to stratify patients into low, moderate, and high-risk categories, directly informing management decisions including the appropriateness of hospital admission.
- Studies suggest that low-risk pneumonia patients (CURB-65 0-1) are frequently admitted unnecessarily, exacerbating current bed occupancy pressures, contributing to inefficient use of NHS resources and potentially exposing patients to hospital-acquired complications without clinical benefit.
- Based on a nationwide retrospective study done in 2023, the implementation of CURB-65 has reduced the 30-days mortality rate to as low as 8.6%.

02. Sustainability

- Reduces unnecessary hospital admissions, improving bed capacity for patients with higher clinical need.
- Optimizes use of NHS resources.
- Promotes environmentally sustainable healthcare as avoided admissions mean reduced use of energy and consumable waste in hospitals.
- Improves ED throughput and reduces congestion contributing to a more stable and efficient emergency care system.
- Reduces preventable hospital acquired complications in patients, leading to less downstream use of resources and staff time.

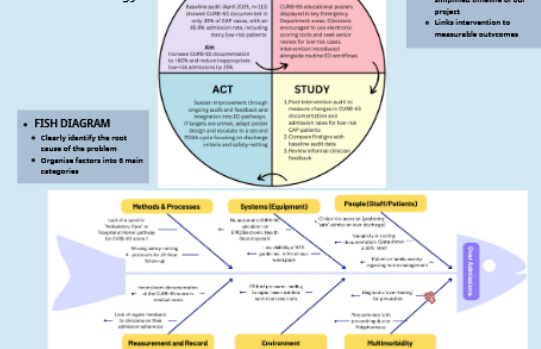
03. Aims

- Specific: Improve the appropriateness of hospital admission for CAP by increasing CURB-65 documentation by 10%.
- Measurable: Increase formal CURB-65 documentation from 80% to 90% and reduce low-risk (Score 0-1) admissions by 10%.
- Attainable: Using visual aids (posters) and staff education within the ED.
- Relevant: Directly addresses Under-Healthcare and pressures and NHS Net Zero targets.
- Timely: First intervention to be implemented and documented within the 5-month audit cycle.

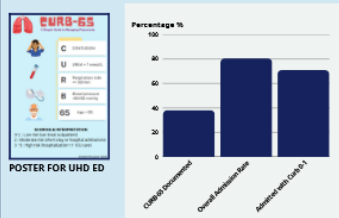
04. Strength & Limitations

- Strength**
- Simple, quick and integrates easily to common practice during patient consultation in the ED
 - Easy of access to scoring criteria
 - Cost-free intervention
- Limitations**
- Training and time constraint in waiting for intervention impact
 - During busy periods, healthcare staff may be under pressure which could affect documentation
 - Further intervention would be beneficial to get complete data

05. Methodology



06. Results/Findings



Based on data collection of 113 patients:

- 38% of patients had a CURB-65 score documented on EPIC/patient notes.
- 80.53% (91/113) of patients were admitted.
- Out of 62 patients with a documented CURB of 0 or 1, 44 were admitted.
- Discrepancies were noted where the calculated score by the audit team was lower than the clinical decision implied (e.g. Score 0-1 patients being admitted).
- Use of dual-antibiotics was high (Co-amoxiclav + Clarithromycin) even in lower-score cases.

08. Conclusion

The implementation of the CURB-65 scoring poster is a low-cost, low-impact SUSQI intervention.

To further increase the impact, the next steps include staff education and installing computer prompts when principal problem is documented as Pneumonia.

By bridging the documentation gap, it can support clinical judgment when deciding if a patient requires admission. This can potentially reduce the rate of inappropriate admission. This saves money, protects patients from hospital-acquired complications, and significantly reduces the carbon footprint of the Emergency Department.

References

1. Community-acquired pneumonia: epidemiology and pathogenesis. *Journal of Clinical Medicine*. 2021;10(1):1-11.
2. CURB-65: a simple clinical score for predicting the outcome of patients with community-acquired pneumonia. *Journal of the American Medical Association*. 2000;283(16):2025-2032.
3. CURB-65: a simple clinical score for predicting the outcome of patients with community-acquired pneumonia. *Journal of the American Medical Association*. 2000;283(16):2025-2032.
4. CURB-65: a simple clinical score for predicting the outcome of patients with community-acquired pneumonia. *Journal of the American Medical Association*. 2000;283(16):2025-2032.

Background

Day-case procedures are increasingly performed across the UK, and with them comes an increase in post-operative complications, namely surgical site infections. Many patients report struggling to effectively care for their wound at home and often present to their GP for further advice[1]. Patients have been shown to benefit from the provision of information resources on wound management [2]. However, many information leaflets are paper-based which are easily misplaced or damaged. The delivery of information in a digital format to patients, such as via QR codes and/or URL links, improves patient accessibility and allows for a permanent copy to be retained on patients' devices. This mode of delivery is also sustainable as it reduces both financial and environmental costs associated with paper and printing.

Aims

Specific: Improve patient provision of reliable wound care information post-day case procedures within the SHSCT in a digital manner.

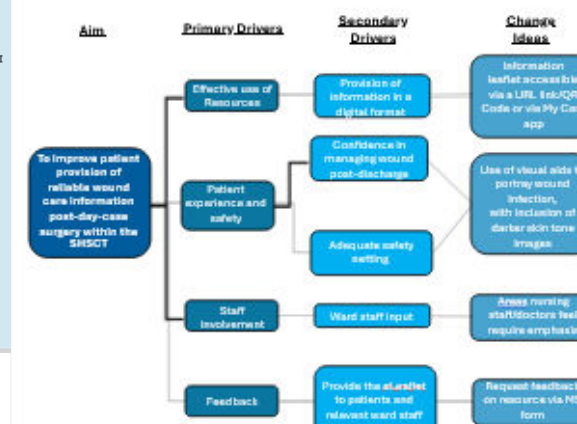
Measurable: Assess current understanding and confidence levels in wound management and gain knowledge of areas patients desire more information on.

Achievable: Audit current practice and use current NHS guidelines/advice to create an online information leaflet to be accessible to relevant patients via a QR code/URL link.

Relevant: This intervention promotes early recognition of post-operative complications, and supports timely help-seeking behaviour, potentially reducing avoidable post-operative cost and morbidity.

Timely: Evaluation of the resource should occur with provision to eligible patients, as well as appropriate staff, with feedback requested.

Methodology



References

1. Wound care: patient education. In: *Wound care: patient education*. London: Elsevier; 2018. p. 1-11.

Authors: Isabella Delaney, Christopher Archer, Rebecca Connor, Nikita Nataraj, Jim Suleman Rumsay

¹School of Medicine, Dentistry & Biomedical Sciences, Queen's University Belfast

²Department of General Surgery, Daisy Hill Hospital

Results

Audit of current practice:

3.6/5 mean confidence level reported by patients regarding management of their wounds post-discharge.

90% reported they did not receive material on how to manage their wound in the community at time of discharge

60% reported they were unsure who to contact if they experienced difficulties with their wounds in the community

Key areas patients selected for further information on included:

- What to expect as part of normal healing
- Signs of a deteriorating wound
- Points of contact should issues arise
- Frequency of wound dressing change
- Restrictions on activities of daily life



Figure 1. Patient information leaflet and QR code link

Patient feedback on e-Information Leaflet:

4.1/5 mean confidence level - reported by patients regarding wound management post-discharge with provision of information leaflet

4.3/5 mean rating - for informative content.

Ward staff feedback on e-Information Leaflet:

Speciality Doctor (Gen. Surgery) - "Excellent level of content, very user friendly. Excellent design. Good use of colours. Good proportion of photos to text. Excellent work which I feel will really benefit patients."

Registered Nurse - "Included all the relevant information needed and in fantastic detail, explained in simple terms for patients to understand...The design was laid out in an easy way to understand and follow and the images were not too graphic but will leave them easy to understand for patients and their care...excellent information leaflet."

Ward Sister - "The leaflet is clear, concise and user-friendly...I think it will greatly benefit patients providing information where it is currently lacking...Clear, easy to follow and simply laid out very user friendly...Adding this as a smart text to epic would be great to be able to add to discharge letters."

Discussion

Wound care is often a complex issue for patients following day-case procedures, with current information leaflets in the SHSCT consisting of bed-heavy paper copies printed in black and white, displaying no images of wound complications on darker skin tones. As our resource was designed to target these limitations, with input from patients and staff throughout. A digital format was chosen to allow patients to retain a permanent copy on their devices and for its sustainability, with none of the environmental and financial costs associated with paper and printing being incurred.

Following the introduction of information resource, an improvement was noted in patient confidence levels, however the relatively small patient population makes it difficult to fully assess the effect. In terms of qualitative feedback, both patients and staff were overwhelmingly positive.

Conclusion

Our information resource is now accessible on the appropriate surgical wards/units within the SHSCT, with discussion taking place with the Encompass ward/unit Lead for the SHSCT regarding automatic patient access to the resource via the My Care app. Our resource is intended to be used as an adjunct to effective verbal instructions and safety setting.

Christopher Armstrong¹, Orla Kelly², Anna McConway³, Orinath Sonner⁴ (Group 4)
¹ School of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast, Belfast, UK
² Belfast Health and Social Care Trust, Royal Victoria Hospital, Belfast, UK

Thanks to Prof Kathy Gullen⁵, Dr Julian Leggett⁶

INTRODUCTION

The electronic health system 'Encompass' has replaced paper documentation; however, many medical students don't currently engage with this aspect of practice. This project introduces a simple template to help students engage safely with digital records, enhancing learning and understanding of disease mechanisms, while aligning with the GMC Outcome for Graduates on maintaining accurate medical records.

Environmental Sustainability

- Reduce paper use by encouraging competence in digital documentation.

Workforce & Educational Sustainability

- Ensure a smooth transition to the Foundation Programme while aiming to reduce reliance on senior staff
- Ensure confidence contributing to professional growth and development

Social Sustainability

- Familiarity with the system has the potential to reduce documentation errors to improve patient safety
- Encourage medical students to feel integrated within the clinical team

AIMS

Overall Aim – To evaluate the impact of introducing a standardised medical student note template within the Encompass medical record system on documentation quality and user satisfaction.

Specific Aims:

- Assess baseline perceptions of medical student documentation among doctors and medical students
- Determine whether a standardised Encompass note template improves clarity, completeness and usability of medical student clinical notes
- To compare doctor and medical student satisfaction with documentation before and after implementation of the note template
- Explore whether the template enhances educational value and supports clinical workflow
- Identify barriers and facilitators to the use of a medical student note template

SMART Aim

Specific Introduce a standardised medical student note template in Encompass and assess its impact on documentation quality and user satisfaction.

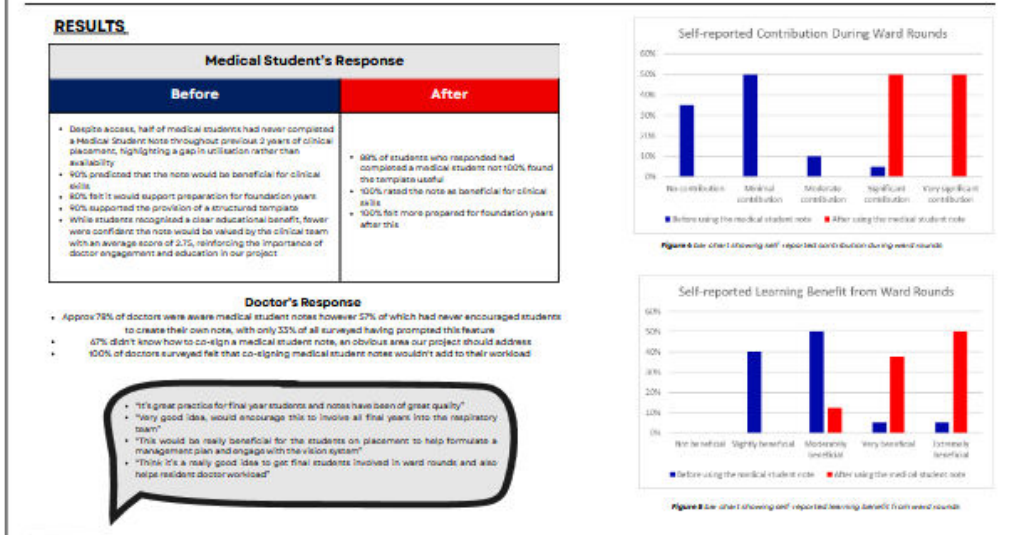
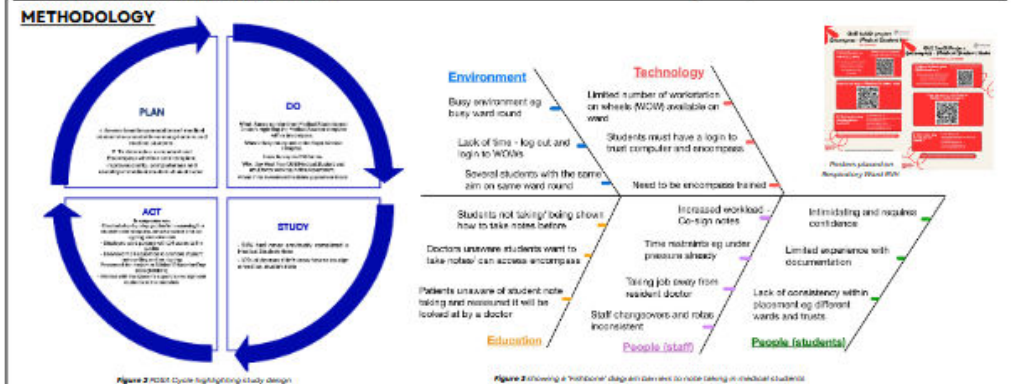
Measurable Impact measured using pre- and post-intervention questionnaire completed by doctors and medical students.

Achievable Model to deliver the project includes knowledge, skills and the Respiratory Medicine team and an existing Encompass functionality.

Realistic Improves documentation quality, patient safety, clinical workflow and medical student learning.

Time-bound Implemented and evaluated during the Respiratory Medicine student block, with data collected over 3 months.

Figure 1 following SMART aims



CONCLUSION

The implementation of a standardised medical student note template within the Encompass system improved student engagement with documentation, perceived educational value, and confidence in clinical note-writing. Clinicians generally supported the initiative, recognising its educational benefits, although clarity around co-signing processes remains important. These findings suggest that structured student documentation is a feasible and valuable intervention to enhance clinical learning. Future work should focus on wider implementation and evaluation of long-term impacts on documentation skills.

Strengths

- Improved student experience on wards and integration into the clinical team
- Raising awareness of gaps in the curriculum surrounding documentation
- Standardised clinical experience with same clinical educators

Limitations

- Small sample size with limited responses
- Requires further data privacy to protect patients

GET THE BALANCE RIGHT!

A SUSTAINABLE QUALITY IMPROVEMENT: OPTIMISING POST OPERATIVE INTRAVENOUS MAINTENANCE FLUID PRESCRIBING FOR SAFER SURGICAL CARE

Anna Rice, Eimear McMullan, Mehak Bindra - 5th Year QUB Medical Students

Figure 2 PDCA cycle highlighting study design

INTRODUCTION

Intravenous fluids are among the most frequently prescribed hospital treatments and fundamental in patient care. Despite national and local guidance, errors remain common, often due various reasons (figure 1), focusing on junior doctors' limited training and confidence in prescribing. Inappropriate prescribing can cause complications like fluid overload, electrolyte imbalance, and starvation ketoacidosis, impacting patient safety [1]. This sustainable QI project focuses on surgical wards in the Ulster Hospital, where accurate IV fluid maintenance prescribing is critical for post-operative care. To ensure sustainability, these low-cost, repeatable measures embed good practice and support sustained improvements in patient safety.

SUSTAINABILITY

- IV fluids are prescribed daily across surgical wards, so small errors scale quickly.
- 11.0.8% saline = £0.80-£1.20 per bag (typical NHS procurement cost).
- Unnecessary or excess bags increase avoidable spending and plastic waste.
- Overprescribing 1 extra bag/patient/day on a 20-bed ward = £16-£24/day (=£6,000-£9,000/year).
- Complications from incorrect fluids (electrolyte imbalance, overload) add further treatment costs and length of stay.
- Improving prescribing accuracy, reduces waste, costs, and environmental impact.

AIMS

Specific Arrange a 1-hour teaching session on IV fluid prescribing to FY1 doctors at the Ulster Hospital, in line with local NICE guidelines. Provide 'note home' visual aids after the teaching to consolidate learning.

Measurable Achieve a 5% increase in prescribing accuracy for IV maintenance fluids in 10 selected surgical patients post-intervention. Achieve a 5% increase in FY1 doctors' confidence levels in IV maintenance fluid prescribing post-intervention.

Achievable A 1-hour protected teaching session held by an Ulster Hospital doctor based on the surgical ward, delivered to current FY1 doctors who are undertaking a 12-month surgical rotation.

Relevant Aligned with Good Medical Practice to improve accuracy of IV maintenance fluid prescribing to reduce fluid-related complications and improve patient safety.

Time-bound Complete a baseline audit by November 2023, host the teaching session in December 2023, and complete the post-audit and evaluation of feedback forms by January 2024.

Plan

- Identify problems/frequent errors in maintenance IV fluid prescribing (volume, electrolytes, review).
- Review NICE and Trust guidance.
- Define aims: improve accuracy and appropriateness of IV maintenance fluid prescribing over 3 months.
- Design interventions:
 - FY1 junior doctor teaching session (delivered)
 - Decision measures: 5% improvement in post-op fluid prescribing

Do

- Deliver a protected teaching session
- Create '10 size' helpful cards for each FY1 to consolidate learning
- Collect feedback from pre & post-teaching questionnaires
- Encourage use of knowledge during prescribing
- Collect pre and post intervention data from Encompass.

Study

- Audit prescribing accuracy against guideline standards, pre and post intervention
- Collect staff feedback on confidence/usability
- Identify gaps in FY1 knowledge

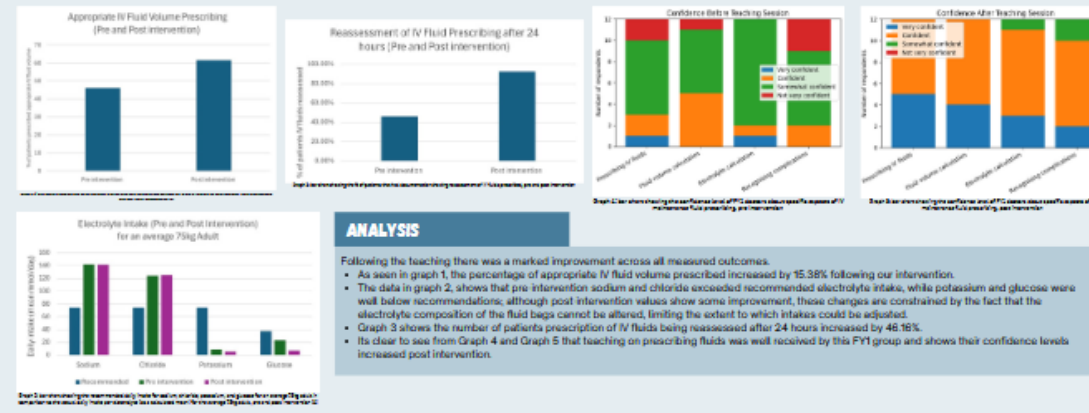
Act

- Embed a series of teaching into protected FY1 timetable
- Spread learning to additional wards
- Repeat audit for sustained improvement
- Analyse if intervention reduces fluid-related complications

Figure 3 PDCA Cycle following feedback to improve intervention to support accuracy in IV fluid maintenance prescribing and sustainability

PATIENT SELECTION CRITERIA

Inclusion Criteria:	Exclusion Criteria:
Adults over the age of 18.	Patients under the age of 18.
Undergoing an elective surgery in general surgery, urology or breast surgery.	Patients undergoing an emergency surgery.
The intervention was delivered to FY1 junior doctors who have or had a surgical rotation.	Patients admitted to intensive care within 24 hours post-operatively or suffered severe complications post-operatively.



DISCUSSION

Strengths

- An increase in the % of patients prescribed appropriate volume of IV fluids post operatively before and after the teaching session by the hospital, led to an increase in patient safety.
- An increase in documented reassessments of IV fluids post operatively after 24 hours. In the with good medical practice and ensuring fluids are followed up on and any adverse complications are identified.
- The confidence level of FY1 doctors had increased overall, where written feedback showed that it was found as relevant and useful teaching.

Limitations

- Sodium and chloride being overprescribed which could be due to the overuse of 0.9% sodium chloride and Hartmann's.
- Under-prescribing of potassium and glucose, where dextrose and potassium chloride are readily available but electrolytes are likely not assessed prior to fluid prescribing.
- The teaching was a stand-alone session, where it could've been a series of smaller group teachings continuously increasing FY1 doctors knowledge and understanding of local guidelines. However, smaller group teachings was also mentioned in written feedback by the FY1 doctors after the teaching session.

CONCLUSION

When undertaking this BUSQI project, our aim was to improve the accuracy of IV maintenance fluid prescribing by the FY1s in the Ulster Hospital, and in turn improve the FY1s confidence in prescribing fluids through teaching intervention. Following the intervention there were measured improvements in the accuracy of fluid volumes (graph 1), as well as increased documentation of reassessment of IV fluids being reassessed after 24 hours (graph 2). Increased appropriateness in electrolyte prescription were limited (as seen graph 2) due to the composition of IV bags of fluid used by Ulster Hospital. Emphasising a structural constraint rather than an individual prescriber error. The project has demonstrated that targeted education can improve prescribing outcomes, encouraging safer post-operative maintenance fluid management. From this study we can learn that establishing regular teaching sessions for FY1s and completing regular audits on prescribing accuracy over a longer time period, may further improve prescribing efficacy and ensure continued improvement.

FURTHERING THE QUALITY IMPROVEMENT

Background

Day-case procedures are increasingly performed across the UK, and with them comes an increase in post-operative complications, namely surgical site infections. Many patients report struggling to effectively care for their wound at home and often present to their GP for further advice [1]. Patients have been shown to benefit from the provision of information resources on wound management [2]. However, many information leaflets are paper-based which are easily misplaced or damaged. The delivery of information in a digital format to patients, such as via QR codes and/or URL links, improves patient accessibility and allows for a permanent copy to be retained on patients' devices. This mode of delivery is also sustainable as it reduces both financial and environmental costs associated with paper and printing.

Aims

Specific: Improve patient provision of reliable wound care information post-day-case procedures within the SHSCT in a digital manner.

Measurable: Assess current understanding and confidence levels in wound management and gain knowledge of areas patients desire more information on.

Achievable: Audit current practice and use current NHS guidelines/advice to create an online information leaflet to be accessible to relevant patients via a QR code/URL link.

Relevant: This intervention promotes early recognition of post-operative complications, and supports timely help-seeking behaviour, potentially reducing avoidable post-operative cost and morbidity.

Timely: Evaluation of the resource should occur with provision to eligible patients, as well as appropriate staff, with feedback requested.

Methodology



Results

Audit of current practice:
3.6/5 mean confidence level reported by patients regarding management of their wounds post-discharge.

90% reported they did not receive material on how to manage their wound in the community at time of discharge.

60% reported they were unsure who to contact if they experienced difficulties with their wounds in the community.

Key areas patients selected for further information on included:

- What to expect as part of normal healing
- Signs of a deteriorating wound
- Points of contact should doctors arise
- Frequency of wound dressing changes
- Restrictions on activities of daily life



Figure 1. Patient information leaflet and QR code link.

Patient feedback on e-information Leaflet:

4.1/5 mean confidence level – reported by patients regarding wound management post-discharge with provision of information leaflet

4.3/5 mean rating – for informative content.

Ward staff feedback on e-information Leaflet:

Specialist Doctor (Gen. Surgery) – "Excellent level of content, very user friendly. Excellent design, good use of colours. Good proportion of photos to text. Excellent work which I feel will really benefit patients."

Registered Nurse – "Included all of the relevant information needed and in fantastic detail, explained in simple terms for patients to understand... The design was laid out in an easy way to understand and follow and the images were not too graphic but still leave them easy to understand for patients and their care... excellent information leaflet."

Ward Sister – "The leaflet is clear, concise and user friendly. I think it will greatly benefit patients providing information where it is currently lacking... Clear, easy to follow and simply laid out very user friendly. Adding this as a smart text to app would be good to be able to add to discharge letters."

Discussion

Wound care is often a complex issue for patients following day-case procedures, with current information leaflets in the SHSCT consisting of text-heavy paper copies printed in black and white, displaying no images of wound complications or clear skin tones. Our resource was designed to target these limitations, with input from patients and staff throughout. A digital format was chosen to allow patients to retain a permanent copy on their devices and for its sustainability, with none of the environmental and financial costs associated with paper and printing being incurred. Following the introduction of information resource, an improvement was noted in patient confidence levels, however the relatively small patient population makes it difficult to fully assess this effect. In terms of qualitative feedback, both patients and staff were overwhelmingly positive.

Conclusion

Our information resource is now accessible on the appropriate surgical wards/units within the SHSCT, with discussion taking place with the Incompass Programme Lead for the SHSCT regarding automatic patient access to the resource via the My Care app. Our resource is intended to be used as an adjunct to effective verbal instructions and safety netting.

Slimming the Process: Improving Patient Safety through Standardised Handling of Private Weight Loss Injection Letters in General Practice

Sofia Aliotta
Rachael Annett

1. INTRODUCTION

- General practices across the UK are increasingly receiving letters from private providers prescribing injectable weight loss drugs (e.g. GLP-1 receptor agonists). Though issued privately and outside NHS pathways, these must still be recorded in GP systems for safety and continuity of care.
 - At our practice, around 20 such letters are received monthly, with a backlog of 98 due to uncertainty about how to record them. Many are entered without clinical review, posing risks, as the MDU states GPs may still be liable if contraindications or interactions are overlooked.
 - A review of 159 injection prescriptions recorded over the past year found that:
 - A proportion of patients had contraindications or drug interactions not disclosed to their private provider.
 - Several entries were incorrectly recorded, creating a risk that the medication could be prescribed again on their record by mistake.
- This identified a patient safety gap and a process inconsistency that required standardisation.

2. AIMS

- Specific:** Introduce a standardised proforma for recording private weight loss injection prescriptions, marking them as private and listing key contraindications and interactions to check.
- Measurable:** Track the number of potential patient safety errors (incorrect prescriptions or missed interactions) before and after implementation.
- Attainable:** The task will be undertaken by practice pharmacists, using a succinct proforma to keep workload manageable.
- Relevant:** The volume of private weight loss letters is increasing, with safety and medico-legal implications if unreviewed.
- Time-bound:** Implement and clear the backlog, have the proforma approved and fully operational within 8 weeks.

3. METHODS AND MEASUREMENTS



Error Rates Before and After Proforma Implementation

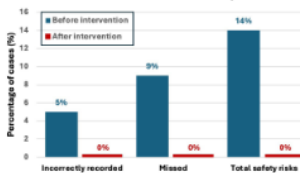


Figure 1. Comparison of error rates before and after introducing the standardised proforma for private weight loss injection letters. The graph shows the elimination of both documentation errors and missed safety errors, with the total potential safety risk dropping from 14% to 0% following the intervention.

4. RESULTS

- Before the proforma was introduced, we reviewed 157 private weight loss injection prescriptions. Eight (5%) were recorded incorrectly, and 14 (9%) had potential contraindications that had not been identified. In total, 22 prescriptions (14%) had some form of potential safety risk.
- After the proforma was introduced, we reviewed 99 prescriptions. None were recorded incorrectly (0%), and although seven (7%) had shown possible contraindications or interactions, all of these were identified and acted upon, making the number of missed safety errors zero (0%).
- This means the overall rate of potential safety risks fell from 14% before the intervention to 0% afterwards i.e. complete elimination of errors and safety risks.

5. DISCUSSION

This quality improvement project successfully standardised the handling of private weight loss injection letters, enhancing patient safety and reducing medico-legal risk. By implementing a pharmacist-led process supported by a concise proforma, we achieved:

- Zero documentation errors
- Full identification and management of potential safety risks
- Minimal additional workload for staff

The intervention also strengthened communication with patients and private providers, promoting greater transparency and continuity of care.

Limitations

- The post-intervention analysis mainly focused on clearing the backlog of letters, rather than long-term, prospective data collection.
- The relatively short timeframe limits conclusions about sustained effectiveness.

Sustainability

- The proforma has been integrated into EMIS templates and practice standard operating procedures (SOPs) to maintain improvements.
- Regular audits and feedback sessions will ensure ongoing compliance and continued safety benefits.
- The process is environmentally sustainable by using Accurx for electronic communication, the practice reduced paper use, printing, and postage, aligning with NHS goals for a Net Zero healthcare system.

6. CONCLUSION

The introduction of a standardised proforma for private weight loss injections:

- Improved data accuracy,
- Enhanced patient safety, and
- Reduced medico-legal risk for GPs.

This project demonstrates that simple, structured interventions can have significant safety impacts in primary care. Future work should focus on scaling across local practices for uniform best practice.

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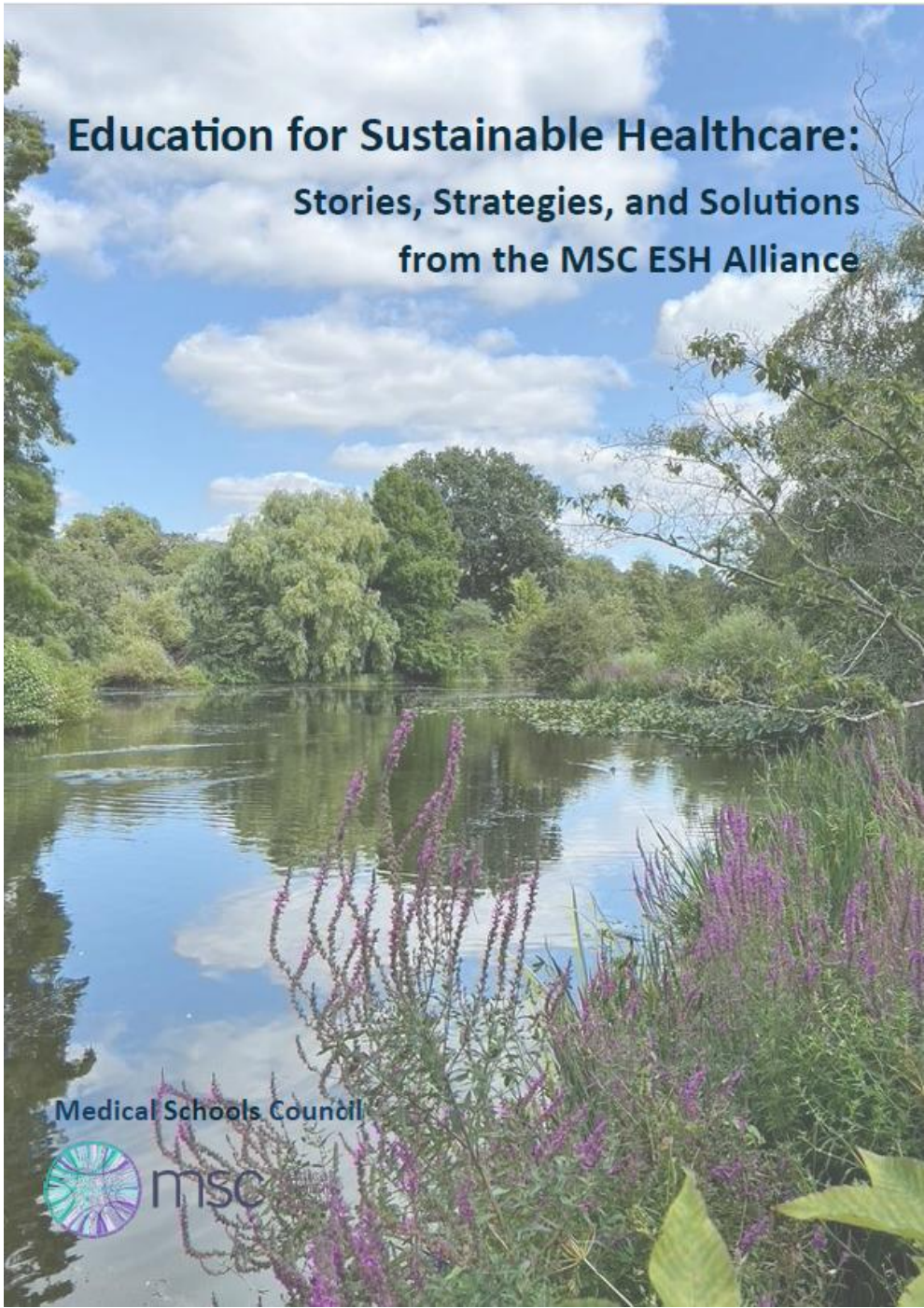


Education for Sustainable Healthcare - Stories, Strategies, and Solutions from the MSC ESH Alliance

Take home messages
Barriers, Enablers, Added Value

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Education for Sustainable Healthcare: Stories, Strategies, and Solutions from the MSC ESH Alliance

Zenodo: <https://doi.org/10.5281/zenodo.19054834>

Archive.org: <https://archive.org/details/education-for-sustainable-healthcare-stories-strategies-and-solutions-msc-esh>

ISBN 978-1-0676402-0-0

Available as CC BY-NC-SA 4.0

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220 pages including title sheets and cataloguing data,
contents list, preface, authors biographies, Chapters, Index

Medical Schools Council



MSC ESHA Stories, Strategies and Solutions

Based on “Education for Sustainable Healthcare: Stories, Strategies, and Solutions from the MSC ESH Alliance” (2026) **lessons from educators at UK medical schools.**

Drawing on their stories and experiences about **how ESH has been introduced, the barriers and enablers, and the added value for students, institutions and patient care.**

Barriers	
Theme	Barriers
Curriculum time / crowding	Limited time in dense curriculum (Bevan, Ch8); “biggest hurdle” finding time (Thompson, Ch2); busy curriculum (Aynsley, Ch5)
Faculty capability / confidence	Limited awareness + reluctance (Nash, Ch1); “not my area” + resistance (Connolly, Ch15)
Relevance / engagement	Students don’t see relevance (Thompson, Ch2; Stickland, Ch11; Davis, Ch18)
Assessment & alignment	Difficulty assessing ESH (Connolly, Ch15; Shaw, Ch13)
Leadership / governance	Hard to sustain without capacity/governance (Connolly, Ch15; Davis, Ch18)
Student partnership	Engagement may be uneven without structure (Aggarwal, Ch4; Connolly, Ch15)

Enablers	
Theme	Enablers/strategies
Curriculum time / crowding	Infusion into existing teaching (Bevan, Ch8); helical/spiral integration (Crawford, Ch7; Connolly, Ch15); embed in CBL (Davis, Ch18)
Faculty capability / confidence	Faculty development + toolkit (Nash, Ch1); tutor briefings (Rojchuphan, Ch12); “facilitator not expert” framing (Connolly, Ch15)
Relevance / engagement	Clinical contextualisation + co-produced material (Rojchuphan, Ch12); authentic role models (Aynsley, Ch5; Jones, Ch17)
Assessment & alignment	Assessment/ILOs drive engagement (Nash, Ch1); assessed SusQI/posters/projects (Shaw, Ch13; Mohanna, Ch9)
Leadership / governance	SLT buy-in (Nash, Ch1); dedicated roles (Bevan, Ch8); PHRC impetus (Crawford, Ch7)
Student partnership	Co-design groups (Nash, Ch1; Bevan, Ch8); paid champions (Aggarwal, Ch4)

Added Value and Additional Benefits	
Theme	Added value/benefits
Curriculum time / crowding	Signals what school values (Thompson, Ch2); ESH becomes “expected” as core (Davis, Ch18)
Faculty capability / confidence	Tutor confidence + culture change (Jones, Ch17); staff learn alongside students (Shaw, Ch13)
Relevance / engagement	Professional identity as change agent (Powell, Ch10); improved clinical reasoning (Stickland, Ch11)
Assessment & alignment	Engagement rises when assessed (Nash, Ch1); transferable QI/change skills (Shaw, Ch13)
Leadership / governance	Institutional momentum/structures (Crawford, Ch7); accreditation/reputation benefits (Thompson, Ch2)
Student partnership	Equity + sustained momentum (Aggarwal, Ch4); publications/presentations (Bevan, Ch8)

Successful Strategies	
Theme	Strategy (what worked)
Leadership & governance	Secure senior buy-in ; formalise structures/committees and named leads to legitimise and sustain ESH.
Dedicated capacity	Create protected time /roles (e.g., teaching fellow; paid student champions) to coordinate change and maintain momentum.
Curriculum design (integration model)	Embed longitudinally using spiral/helical/threaded approaches; prioritise “fit” to existing curriculum architecture.
Low-burden entry points	Use “infusion” into existing sessions with aligned learning outcomes ; add minimal new teaching initially, then scale.
Clinical authenticity	Teach through real cases/patient journeys and “good clinical care” framing ; use local examples and clinician role models.
Faculty development	Provide toolkits/ready-made materials ; run briefings/CPD so tutors can facilitate without being content experts.
Student partnership	Co-design with students ; use PHRC/advocacy as a lever; formalise roles to broaden participation beyond volunteers.
Assessment & application	Align ILOs and assessment ; use SusQI/QI, posters/pitches, and placement tasks to make ESH practical and assessable.

Recommendations	
Theme	Strategy (headlines)
Leadership	Own it, name it, manage it
Capacity	Fund time, fund roles to help with the work
Fit	Integrate via existing curriculum structures
Start small	Infuse first, then expand to core, then embed
Make it clinical	Use authentic cases, use pathways, involve role models
Enable staff	Training, toolkits, briefings, CPD
Partner with students	Involve, co-design, pay formal roles
Make it count	Assess it: SusQI/QI tasks, OSCE stations, projects Work-based assessment (placement).