



SUSQI PROJECT REPORT

Switch to Sustain: Navigating the challenge from Single-Use to Reusable Kidney Dishes

Start date of Project: May- August 2025

Date of Report: September 2025

Team Members:

- Rebecca Palmer, Nurse Lead for Governance Quality Improvement
- Cheryl Odams, Senior Sister, Progressive Care Unit
- Rachel Cottam, Strategy & Planning Manager
- Rachel Morris- Head of Sustainability
- Sarah Morris - Clinical Support Worker, Progressive Care Unit
- Salome Nganga- Sister/ Clinical Educator, Progressive Care Unit
- Janice Bryne- Nurse Consultant Infection Prevention and Control
- Prasanth Joy- Site lead IPC Nurse Specialist.
- Michaela Fairest- Clinical Procurement specialist (Registered Nurse)
- Steve Newsome-Supplies Officer



Background:

Sheffield Teaching Hospital's (STH) strategic aim is to be a sustainable organisation capable of minimising any adverse impact on society and on the natural environment which could jeopardise the ability of future generations to meet their health and social care needs. As set out in our manifesto, ["Making a Difference-the next chapter 2022-2027"](#) 'the Trust recognises the importance of transforming our service delivery models to ensure that they are sustainable and responsive to the changing needs of the people we service.

The sustainable healthcare principles used for this project include:

- Lean systems- reduction in storage requirements and waste.
- Low carbon alternatives- reduction in carbon intensity for clinical care delivery.
- Optimise resource use- efficient use of resources- meets STH strategic aims of spending public money wisely and creating a sustainable organisation.

The "Switch to Sustain" project was initiated in the Progressive Care Unit (PCU) at Sheffield Teaching Hospitals, the team acknowledged the growing evidence of the global climate emergency and the role that the NHS plays as a significant contributor to carbon emissions. The project is to pilot replacement of single-use pulp kidney dishes with a clinically suitable reusable plastic alternative. The team aims to demonstrate a safe, cost-effective, reusable alternative and develop a process for rapid scale-up across a large NHS organisation.





The Project team wanted to take direct action and play a role in supporting STH to achieve its strategic aims and move towards the NHSE goal to be Net Zero by 2040 and the world's first net zero national health service.

STH is one of the UK's biggest providers of integrated and community-based healthcare providers providing a comprehensive range of local and tertiary services to the residents of Sheffield, South Yorkshire, Mid Yorkshire and North Derbyshire and also some highly specialised services to all parts of England. We deliver over 2 million patient contacts every year across 5 hospital sites and Community Services through our 19,000 staff. South Yorkshire Regional Service (SYRS) is a Care Group within STH that includes Cardiology, Cardiac Surgery, Thoracic Surgery, Vascular and Renal services. These services treat patients from across South Yorkshire, with some providing services to an extended region.

The Progressive Care Unit (PCU) is a specialised ward providing intermediate care for patients who need more intensive monitoring and treatment than a general hospital ward but are not sick enough for the Intensive Therapy Unit (ITU). Also known as High Dependency Units (HDUs) or step-down units, PCU bridges the gap between the ITU and general medical/surgical wards, caring for patients recovering from major surgery or severe illnesses who require closer oversight, such as those with cardiac or respiratory issues.

At STH PCU is a 6-bedded unit that cares for Level 2 (enhanced care) cardiothoracic patients. It is a high-consumption area for single-use items such as kidney dishes, up to 54 per day (approx. 19,760/year). Within this environment single use kidney dishes are used to support patient care with a variety of functions such as administration of medication, blood gas samples, clinical equipment to support patient interventions and storage of personal cares for patients. These are currently disposed of via macerators or clinical waste, adding to carbon emissions, maintenance burdens on estates, and costs.

This opportunity for sustainable improvement by switching to reuse was first highlighted to the Senior Sister by the clinical support worker who believed that PCU could make a difference by making the switch, she was supported by the Senior Sister who contacted the nurse lead of governance and quality improvement for help and advice. Concerns were raised by other Nursing staff about the environmental impact of the practice of the kidney dish use and the mixed practices in storing raised potentially as an increased infection risk.

Specific Aims:

- To use PCU as a pilot/test area to replace single use kidney dishes with reusable alternatives through collaboration with procurement, IPC and clinical colleagues.
- To understand the challenges, roadblocks and risks of scaling up a SUSQI product change at pace across a large organisation.
- Sustainable replication - Our long-term aim is to scale up this change introducing reusable kidney dishes as a trust wide roll-out across other wards and departments.
- To understand environmental sustainability and harness the strength of the nursing team and to spread the message to our colleagues.



Methods:

The project was supported by the Strategy and Planning and Sustainability teams.

Studying the system:

PCU is a stand-alone unit located on a Thoracic ward (Chesterman 3) where all supplies are delivered and stored. We reviewed procurement data and completed a baseline measurement for Kidney dish use on PCU, including identification of the current waste stream used. The PCU usage was calculated by collating procurement data to Chesterman 3 during 2024-2025 and undertaking a “dish count” for a week. Combined, we assumed PCU accounted for 70% total usage and associated costs (19,760 of 28,200 single use pulp kidney dishes).

From the above data, the team consensus was that four reusable dishes per bed was reasonable to cover daily usage.

Planning for change and stakeholder engagement:

Wider stakeholder engagement

Approval or endorsement for the change was sought from the following stakeholders:

- Triumvirate - Cardiothoracic and Renal Clinical Directors, Operations Director and Nurse Director
- Trust Infection Prevention and Control team.
- SYRS Governance teams for each Care Group Directorate
- Clinical leaders and relevant trainers
- Chief Nurse (Chris Morley) for SuSQI pilot project led by the nursing teams within their clinical areas.
- Procurement

More detailed involvement was required from procurement and infection Prevention and Control and for successful implementation:

Procurement:

Forms were completed to register project with procurement and gain collaboration and support. Procurement staff supporting the project had nursing background which supported to break down barriers between products and clinical requests, as procurement understood and respected the clinical needs of the nursing team.

The selected product needed to be available via NHS supply chain where there was an existing contract or framework available. We engaged with the external supplier Warwick SASCo Ltd([link](#)) who were invited to demonstrate their product range to staff. The team, in collaboration with procurement, then selected suitable products which met needs of their clinical area.

Infection Prevention and Control (IPC):

It was anticipated that the trays could be wiped after use but following discussion with the IPC team A cleaning protocol needed to be introduced to ensure that the reusable kidney dishes were cleaned to a defined standard. Following discussion,





it was agreed that this would be the Aseptic Non-Touch Technique-[ANTT Procedure Guidelines](#).

Awareness was raised among the nursing team and with our patients via:

- **Baseline Surveys:** Nurses were invited to share their views on switching from single use to reusable kidney dishes. Questions focused on perceived impact on patient care, dish quality, and acceptability of reuse.
- **Board Questions:** Engagement boards (all staff and patients) were used to gather feedback on whether the change would improve patient experience, whether switch to reusable dishes were seen as better quality, and if staff believed patients would be agreeable to reuse

Implementation Strategy

The key features of the implementation strategy were:

- **Collaborative stakeholder planning-** this was done by engaging with the ward staff, procurement, IPC team and supplies officer.
- **Iterative feedback, further engagement and adaptation-** this is demonstrated by the actions on the staff feedback and the change in cleaning methods to ensure the change was less carbon intensive.
- **ANTT training-** this was completed by the IPC team and ward link workers, ensuring the change is improving IPC compliance.
- **Visible prompts-** these were used for the initial engagement as well as to drive safe use of the plastic trays.
- **A Standard Operating Procedure (SOP)** has been created, this gives the staff confidence with the change in practice.

Staff engagement

The nursing team piloted a low-intensity engagement strategy using posters in the coffee room to gather feedback on sustainable alternatives. This informal method allowed staff to reflect and respond during breaks, supported by contextual education posters about NHS sustainability and SusQI. Senior staff facilitated conversations, encouraging participation without pressure, which led to meaningful collective feedback. The relaxed setting proved effective for discussing product samples like kidney dishes, enabling staff to inspect and share practical insights.

More broadly, this approach also aimed to raised awareness of sustainability within the NHS. By avoiding structured presentations and instead using a familiar, accessible space, the project team fostered open dialogue across disciplines, including consultants and allied health professionals. The initiative demonstrated that informal, inclusive engagement can generate momentum and prepare the ground for wider trust-wide rollouts, making sustainability a shared and approachable topic for all staff

Planning for scale

To support the Trust-wide roll out of this project the Nurses and project team considered:

- **Prior learning-** learning from a previous SuSQI project to switch to reusable tourniquets allowed the team to consider the challenged of a switch to sustain project within a very large organisation. This was a successful project but had been slow to progress to trust wide roll out. We wanted to use the pilot on PCU to plan and identify a process.



- **Further engagement-** The team recognised the need for further engagement and relationship building with procurement to support a large-scale change. There is a need to understand individual needs of each of clinical areas that want to switch, ensuring product standardisation.
- **Leadership Engagement with STH Nurse Directors and Chief Nurse-** to align with the Senior Nurse strategic aims and objectives.
- **Current project team-** The current project team is small and responsible for a small clinical area within the organisation. They were the catalyst for a significant trust-wide change. A separate team would be required to support further roll out beyond the pilot area.
- **Data-** there is a requirement to need to track progress and impact for the organisation as well as identifying challenges and solutions to allow progression.
- **Oversight-** the oversight group will be the Sustainability Delivery Group (SDG) where senior leaders will support delivery of the trust wide project.

Measurement:

Patient outcomes:

Implementation of the ANTT technique will reduce the risk of Healthcare Associated Infection (HCAI). The infection rates across sites are subject to internal monitoring, and we expect to see a reduction as the reusable dishes and ANTT technique is rolled out.

The project is compliant with the NHS manual for Infection prevention and control. [NHS England » National infection prevention and control manual \(NIPCM\) for England](#). Details on how the project meets these requirements is outlined in the results section.

Environmental sustainability:

To calculate the carbon footprint of a single use kidney dish, a reusable kidney dish and a reusable tray, a process-based cradle-to-grave carbon footprinting methodology was applied. The carbon footprint of the single use and reusable items and their packaging included the greenhouse gas (GHG) emissions associated with raw material extraction and primary production, transport from the manufacturer/supplier and disposal.

In case of the single use kidney dishes made of pulp weighing 21g, it was assumed that the pulp consisted of a mix of recycled paper and cardboard. The single use dishes are transported from their supplier in Scunthorpe to Sheffield Teaching Hospital, a distance of 75.48 km, assuming that the transport vehicle is an average laden rigid HGV lorry. As some single use kidney dishes are disposed of as clinical waste and others by maceration, a 50/50 split in waste disposal was assumed.

The reusable kidney dish and tray, weighing 89g and 323g respectively, are made of polypropylene, manufactured by SASCO Ltd in Warwick from which they are transported over a distance of 164.15 km to Sheffield Teaching Hospital. It was assumed that the lifetime of a reusable kidney dish and tray is 5 years and that out of the 24 reusable dishes/trays required, 12 are kidney dishes and 12 are trays. This means that if the reusable kidney dishes/trays are replacing 19,760 single use kidney dishes per year, over a lifetime each reusable kidney dish/tray is used 4,117 times. It was assumed that after use and before the next use the kidney dishes/trays are cleaned with a single use viscose cloth and Tristel Fuse sporicidal surface disinfectant. Tristel Fuse is supplied in sachets and dissolved in 10L of water, with



the solution lasting 24 hours. All 54 reusable kidney dishes/trays will be cleaned in the solution per day. At the end of their lifetime the reusable kidney dishes/trays are recycled.

The emission factors used for the calculations were taken from the Department of Energy Security and Net Zero database for greenhouse gas reporting (materials, transport, recycling) (1) two of Rizan C et al's studies (clinical waste disposal, Clinell Wipe) (2,3) and a Green Team competition case study (maceration, viscose cloth)(4). The carbon footprint of Tristel Fuse was based on cost using the emission factor from the UK Government database on conversion factors by SIC Code (5).

Economic sustainability:

Financial data was provided by the Procurement team along with our usage data for single use (Pulp) Kidney dishes in PCU, South Yorkshire Regional Service (SYRS) and Trust wide.

The Trust currently spends approximately £60,000 per year on single-use (pulp) kidney dishes alone. These pulp items are disposed of via macerators or clinical waste, incurring additional costs in waste management and maintenance.

Social sustainability:

Staff opinions on the single use and reusable products were collated by asking staff for feedback on information shared on staff boards. Nurses asked patients about their experience of the equipment and the importance of reducing waste and the environment throughout the NHS, while being sensitive to the needs of this cohort who are unwell, receiving care on an enhanced care unit.

Results:

Patient outcomes:

We considered how this change will impact our patients and compliance with the NHS manual for Infection prevention and control. [NHS England » National infection prevention and control manual \(NIPCM\) for England.](#)

Will this switch make it easy for care staff to apply effective infection prevention and control precautions?	✓
How can we reduce variation and optimise infection prevention and control practices across care settings in England?	✓
Can we improve the application of knowledge and skills in infection prevention and control?	✓
Will this help reduce the risk of Healthcare Associated Infection (HCAI)?	✓
Will this help with alignment of practice, education, monitoring, quality improvement and scrutiny?	✓

Infection Prevention and Control (IPC) has a profound impact on population health, particularly within the NHS and broader UK health system. Through this project there is an opportunity to improve patient safety, reduce healthcare associated infections and support antimicrobial stewardship. Feedback from staff regarding the patient safety of reusable kidney dishes included:

"It makes it easier for staff to apply effective IPC precautions"



"It improves the application of knowledge and skills in infection prevention and control"

"helps reduce the risk of Healthcare Associated Infection (HCAI)"

"helps with alignment of practice, education, monitoring, quality improvement and scrutiny"

With the use of reusable dishes there is the potential to improve patient safety and reduce HCAI and promote antimicrobial stewardship.

Environmental and economic sustainability:

The carbon footprint of the single use kidney dish is 35.2 gCO₂e, with the majority of the GHG emissions due to the pulp contributing 22.4 gCO₂e and the waste disposal 11.3 g.

The carbon footprint of a reusable kidney dish is 239 gCO₂e and of a reusable tray 862 gCO₂e, with the majority of the GHG emissions due to the material, polypropylene, 222 gCO₂e and 833 gCO₂e respectively. Assuming a lifetime of 5 years and a usage of 4,117 times, the embedded GHG emissions of the reusable kidney dish per use are 0.06 gCO₂e and of the reusable tray 0.2 gCO₂e.

Initially the team planned to use two Clinell wipes for cleaning the trays, however this meant that there would be a carbon increase to PCU of 120.5 kgCO₂e per year, adding 41.3 gCO₂e per use, resulting in a total carbon footprint of 41.31 gCO₂e per use of a reusable kidney dish and 41.46 gCO₂e per use of a reusable tray, both higher than the carbon footprint of the pulp kidney dish. The team changed their approach in collaboration with IPC and moved to cleaning the trays with Tristel fuse and a cloth.

Table 1: Projected financial and carbon (CO₂e) savings

	Annual usage	Annual costs	Beds	Carbon (KgCO ₂ e)	Reusable usage	Reusable costs	Reusable Carbon (kgCO ₂ e)	Cost saving	Carbon saving (kgCO ₂ e)
PCU	19,760	£818.87	6	694.6	24	£109.92	492.2	£708.95	202.4
Ward C3	8,440	£350.94	20	296.7	60	£274.80	210.2	£76.14	86.5
SYRS	156,080	£6,467.59	230	5,275.6	690	£3,160.20	3,738.2	£3,307.39	1,537.3
Trust wide	1,449,620	£60,507.26	1400	50,956.5	4200	£19,236.00	36,107.6	£41,271.26	14,848.9

The figures included in the table above are based on the following assumptions:

- The individual tray cost is £4.58
- PCU requirements are based on an average of 4 trays per bed, with other wards based on 3 per bed. This is due to the number of medications and bloods taken for the patients in a level 2 area.
- The figures are based on reusable plastic trays; in the future this will change to a mixture of trays and red kidney dishes for blood gases. Colour segregation drives safety.



The annual savings for this project on PCU are projected to be **£708.95 and 202.7 kgCO₂e**, equivalent to driving 596 miles in an average car.

If scaled to the remainder of Chesterman 3 a further £76.14 and 86.6 kgCO₂e will be saved. When rolled out across SYRS the projected savings are £3,307.39 and 1,539.8 kgCO₂e. If scaled Trust wide significant savings of **£41,271 and 14,873 kgCO₂e** could be achieved, the CO₂e equivalent to driving 43,757 miles in an average car.

Social sustainability:

Initial staff feedback on the reuse product samples was positive and encouraged debate around the most appropriate product choice for their clinical setting.

Positive	Negative
<ul style="list-style-type: none"> • No piles of pulp dishes and random ones around the unit. • More substantial, durability and won't break when handled. Cleaner, cheaper, not having to look for kidney dishes. • Less storage on ward, stores and in warehouses. Areas on the ward not blocked with large boxes. Safer for staff getting around quickly. • Stronger, more robust product to use. Will last longer so orders won't need to be high all the time. They should just need gradual replacing. • Less reliance on constant deliveries of disposable dishes, which can help supply chain. • Less pollution of lots of delivery lorries. Traffic jobs, pressure on roads. • Safe practice if re-use cleaned properly. • Save waste= financial and environmental benefits. • May encourage future sustainability interventions. 	<ul style="list-style-type: none"> • Reusable gets accidentally thrown away. • Getting used for other things that are not clinically related. Wasting the reason we have started using them. Getting thrown away or people taking them to use them as storage. • Infection risk if not cleaned properly. • Nurses need to be trained to clean properly (and other staff). • Will staff clean them to the standard when we are short staffed and busy. • Change in culture and behaviours, not easy to do. • Will need to use more wipes and chemicals to clean the bowls. • Making sure that staff accept we are reusing and want to continue to clean them properly. • Could be taken by other staff/wards/staff from the bedspace. • Could be broken. • If it is not recycled properly can cause environmental pollution

Use of staff boards to collate feedback strengthened cross departmental collaboration and networking and ownership of sustainability goals and enhanced staff awareness, not just for this project but for STH as an organisation. Staff feedback regarding sustainability in general (not specific to the kidney dish project) was used to develop infographics (Appendix 1). These were used as a visual to promote further discussion.



Staff feedback on the transition to reusable kidney dishes was collated. Positive comments included

“staff like them”

“we are reducing waste”

“trays look neater than the pulp dishes”

“substantial and durable and will last longer”

“staff engagement positive allowing input into the change”

Concerns included

“risk of the trays not being cleaned properly”

“clinical trolley feels more cluttered”

“additional time due to cleaning, but it’s not as bad as I thought it would be”

Patient Feedback

Although we didn’t get specific patient feedback for the kidney dishes, the nurses documented conversations they had with patients. In terms of sustainability more broadly patients:

- *Acknowledged they hadn’t realised how much equipment was used for just one patient. They were even more shocked at how much waste was created when certain procedures were being performed for them*
- *Particularly waste from packs that are opened and then bits are not even used but just thrown away.”*
- *“Shocked at the cumulative effect of so much waste being thrown away – e.g. when attaching a patient to a CPAP machine (continuous positive airway pressure) this is a treatment used for sleep apnoea. It keeps the patients’ airways open while they sleep*
- *Request to get rid of paper cups too!*

Discussion:

This pilot demonstrates that Nurse led sustainability changes are feasible in high acuity environments when IPC, Procurement, and clinical and operational leadership are aligned. The main constraints were time, procurement route standardisation, and training clarity, all addressed through a simple SOP, visible prompts, and post training IPC endorsement.

Challenges

- Availability of items: The reusable dishes the team initially wanted to switch to were not available via the NHS supply chain. This meant that we were unable to order their preferred option.
- Identification of training requirement: Pace was slowed as an IPC training requirement (ANTT) was unknown at the start of the project. It was ultimately completed at ward level by the Nurse Educator to reduce the impact of time demands on the nursing team.
- Impact of Trusts Business continuity: Project was paused due to competing priorities for transition to Connect- EPR across all five sites in the Trust, impacting 19,000 staff. All staff training was halted, which meant we were unable to complete the essential staff training (ANTT), resulting in a delay of the switch over of 4 weeks.
- Time to meet: As sustainability is not part of business as usual there is no dedicated time for sustainability leads/ champions. This resulted in competing priorities between project and clinical work. While we set up regular weekly meetings attendance fluctuated. As a result, a



significant amount of communication was conducted via email and ad hoc face to face meetings.

Risks & Mitigations: During the 16-week journey the team identified several risks that impacted on progression. Several of these have been discussed in the report, however a risk and mitigation table can be found in Appendix 2.

A lesson learnt from this project was the importance of piloting and risk assessment before planning for scale. Initially the team thought the switch would be easy, “stop using pulp, start using plastic” however, in reality the change is multi-faceted and competes with operational and clinical workloads. The full list of challenges and recommendations can be found in Appendix 3.

A benefit to the project was the wider multidisciplinary engagement that occurred due to information being shared on a public notice board.

Conclusions:

The "Switch to Sustain" project has demonstrated that nurse-led sustainability initiatives can drive meaningful change within complex clinical environments. By replacing single-use pulp kidney dishes with reusable alternatives in the Progressive Care Unit (PCU), the team achieved measurable improvements in environmental impact, cost savings, and infection prevention practices, all while maintaining high standards of patient care.

This pilot has shown that with the right engagement, governance, and collaboration across procurement, infection control, and clinical teams, sustainable healthcare interventions are not only feasible but scalable. The project has empowered nursing staff to lead change, fostered cross-departmental collaboration, and strengthened the culture of sustainability within Sheffield Teaching Hospitals.

Key lessons include the importance of early stakeholder engagement, understanding procurement frameworks, and embedding sustainability into routine practice. The challenges faced — from training delays to product standardisation — have provided valuable insights for future rollouts.

Looking ahead, the project team recommends a Trust-wide adoption of reusable kidney dishes, supported by a dedicated implementation team, robust data tracking, and ongoing staff engagement. This initiative aligns with the NHS Net Zero ambition and sets a precedent for future SUSQI projects that allows Nurse to be the driving force behind sustainable change.



References

- 1) [National infection prevention and control - NHS England](#)
- 2) [Infection Prevention and Control Annual Report 2022/23 - GHC](#)
- 3) [Infection Prevention and Control](#)
- 4) [Health and Social Care Act 2008: code of practice on the ... - GOV.UK](#)

Carbon footprinting

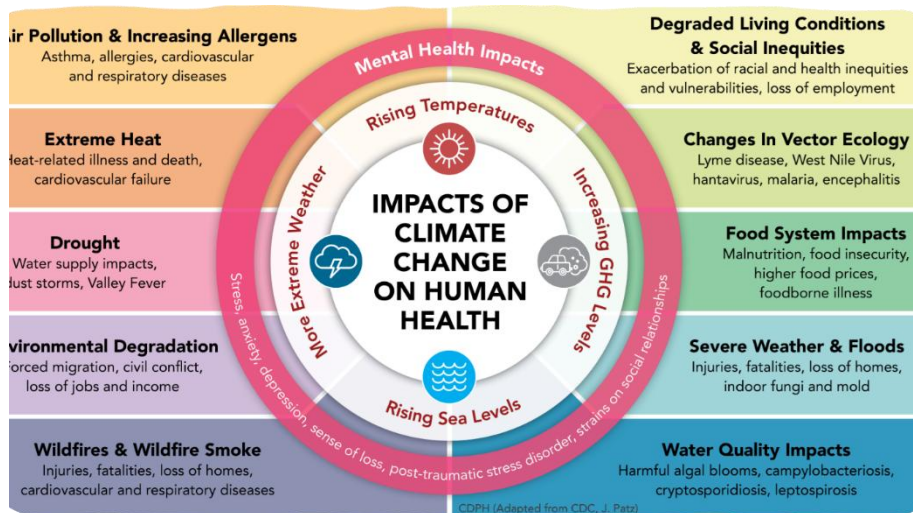
- 1) Department of Energy Security and Net Zero. Greenhouse gas reporting: conversion factors 2024: full set.
https://assets.publishing.service.gov.uk/media/6722567487df31a87d8c497e/ghg-conversion-factors-2024-full_set_for_advanced_users_v1_1.xlsx
- 2) Rizan C et al. The carbon footprint of waste streams in a UK hospital. Journal of Cleaner Production 286 (2021) 125446. <https://doi.org/10.1016/j.jclepro.2020.125446>
- 3) Rizan C et al. The carbon footprint of products used in five common surgical operations: identifying contributing products and processes. Journal of the Royal Society of Medicine; 0(0) 1–15. <https://doi.org/10.1177/01410768231166135>
- 4) South Warwickshire NHS Foundation Trust (2023). SusQI Case Study - Reducing Continence Product Waste. <https://networks.sustainablehealthcare.org.uk/resources/susqi-case-study-reducing-continence-product-waste>
- 5) UK Government full data set 1990 – 2022, including conversion factors by SIC Code.
https://assets.publishing.service.gov.uk/media/68220f6dd9c9bb76078f7f5f/Defra22_results_UK.ods



Appendices

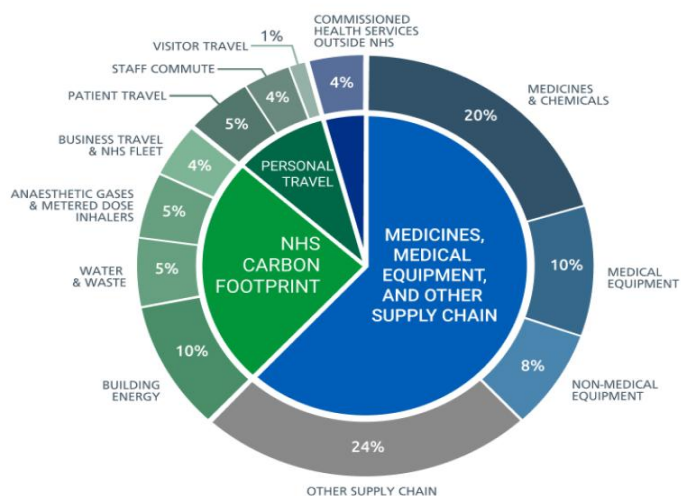
Appendix 1:

Posters displayed to support the staff questions



Impact of climate change on human health

The carbon footprint of NHS England.





What does sustainability mean to you?

Environment, making things last longer, Ensuring a continual supply.

Meeting the needs of the present without compromising future generations and the ability to meet their needs.

Using resources wisely and less harm to the environment. Saving the planet for the future.

Cost effectiveness.

Protect the planet so it is a safe place for my family to enjoy and my children to grow up.

It means not destroying natural resources like the weather and access to water and safe places to live. Wildfires, floods and droughts, freak storms.

I make more effort to make choices to shop locally and with responsibility, trying to dispose of my waste and think about where it goes. I want to protect the planet and not add to destroying it because I don't take responsibility.

Why is sustainability important for the NHS?

More efficiency, reduce waste, save money.

Helps to retain raw materials in a certain time, like pulp (saving trees)

Helps lower carbon emissions linked to manufacturing, delivery and disposal of single use product

Improvement in environment - better air quality etc - results in improvements in patients' health.

Help us save the environment as there is not as much waste.

Climate crisis - healthcare crisis:

Improvement in environment - better air quality etc - results in improvements in patients

Pressure on NHS, not enough money to have the services we will need Green prescribing has proven health benefits for patients mental and physical health.

Lean pathways saves money. reducing waiting lists. Poor climate makes people sicker as the planet is unhealthy. This means more people will need medical help to be healthy or to live their lives.

All of the above!

Cost effective.

Switch to sustain to re-use kidney dishes

Positive aspects:

- No piles of dishes and random ones around the unit.
- Less waste saves money.
- Less reliance on constant deliveries of disposable dishes, which can help on supply chain. Less pollution of lots of delivery lorries. Traffic jobs, pressure on roads.
- It always worried me last century.
- Stronger, more robust product to use. Will last longer so orders won't need to be high all the time. They should just need gradual replen.
- Better durability won't break when handled. Cleaner, cheaper, not having to look for kidney dishes.
- Less storage/reduce pulp dishes.
- Less waste.

Save waste if re-use cleaned properly, Save waste = financial and environmental benefits. May encourage future sustainability interventions. Agree with all of the above, less negative environmental impact.



Our project - Switch to Sustain to re-use kidney dishes

Negative aspects

- Infection control & decontamination
- Process & operational risks
- People, training & workload
- Environment, finance & misuse

Infection control & decontamination

- Infection risk if not cleaned properly.
- Many plastics cannot be autoclaved.
- Infection control risk- dish not cleaned properly.
- Not being cleaned properly.

Process & operational risks

- Get accidentally thrown away.
- Change in culture and behaviours, not easy to do.
- Risk of being thrown away- it's a change in practice.
- Whose job is it to clean the dishes.
- Could be taken by other staff/wards/staff from the bedspace.
- Could be broken.

People, training & workload

- Nurses need to be trained to clean properly (and other staff).
- Making sure that staff accept we are reusing and want to continue to clean them properly.
- Will staff clean them to the standard when we are short staffed and busy.
- To clean properly enough is hard.

Environment, finance & misuse

- Required investment in buying new equipment.
- If it is not recycled properly can cause environmental pollution.
- Will need to use more wipes and chemicals to clean the bowls.
- Will need to use more plastic bags to collect waste instead of kidney dish.
- Wrong usage- i.e. vomit.
- Getting used for other things that are not clinically related. Wasting the reason we have started using them. Getting thrown away or people taking them to use them as storage.
- Patients use the kidney dishes to brush their teeth.



WHAT PATIENTS TOLD US

Patient Focus on Recovery

Patients in the PCU focus mainly on recovery, making real-time feedback challenging but insightful when gathered.

Awareness of Equipment Volume

Patients expressed surprise at the large volume of equipment used for individual care during medical procedures.

Concern Over Medical Waste

Patients noted significant waste from unused items in packs and disposable components, raising resource efficiency concerns.

Request for Sustainable Practices

Patients suggested eliminating paper cups and adopting sustainable alternatives to reduce environmental impact.



Initial staff feedback on the reuse product samples

- Substantial and durable.
- Feel they will last longer.
- More choice in sizes, not one that fits all!
- Debate over the flat bases or the lined bases. Some staff like the ridged bottom of the dish. In contrast some staff concerned this makes cleaning harder and is an infection control risk
- Staff input is good as it provides context to what staff need to use the dishes for. Aim to prevent a problem with multiple orders of re-use products

Appendix 2: Risk and Mitigation table

Risk	Likelihood	Consequence	Mitigation and Actions	Target
STH wide Electronic Patient Record switch which paused the project	Extreme	Extreme	Out of control of project team, project paused, CSH team informed. Set a revised timeline to ensure project delivery	Low
Identification of IPC requirement for cleaning and training implications	High	High	ANTT standard, aligned SOP, competency signoff, audits, visible prompts PCU set up a rapid response for in-house training using the clinical educator and online presentations	Low
Timeline drift due to clinical off-duty, staffing (impacting time for key stakeholders to meet)	High	High	Tasks and action adjusted to meet time available. Reasonable deadlines set to allow project progression. Communication and escalation of risks to Triumvirate, flexible team approach	Moderate
Accidental disposal of reusables	Moderate	Moderate	bins signage, handover reminders	Low
Product not on NHS Supply Chain framework	Moderate	Moderate	Procurement pathway agreed; standardised catalogue	Low
Behavioural adoption (busy shifts)	Moderate	Moderate	Role-based tasks, spot feedback, key staff supporting the introduction	Low
Storage constraints	Low	Low	Define area for storage and new drug prep area created.	Low
Increased wipe/chemical use offsets CO ₂ e	Low	Low	Quantify in footprint; optimise cleaning method	Low



Appendix 3

Challenges and lessons learnt

- 1- This project offered the opportunity to understand sustainability in nursing practice. The posters in the staff room encourage conversation about sustainable healthcare practice and the nursing role. This was not just restricted to the nursing team but also encouraged medical staff, pharmacy, Physiotherapists and the supplies team to get involved. PCU has a notice board at the entry of the unit, the results of this project and other sustainability actions will be displayed for staff,

Recommendation 1- Bring Nurses together to lead SuSQI- to embed sustainable healthcare by included it within every staff meeting and drive NHS Net Zero.

- 2- A lesson learnt from this project was the importance of piloting and risk assessment before planning for scale. Initially the team thought the switch would be easy, “stop using pulp, start using plastic” however, in reality the change is multi-faceted and competes with operational and clinical workloads.

**Recommendation 2- Make sure you learn from your pilot!
Identify any areas that may cause issues and develop a plan to address these and action plan for next steps**

- 3- The reusable dishes the team initially wanted to switch to were not available via the NHS supply chain. This meant that we were unable to order their preferred option. The learning from this is that it made the team fully consider what the dish would be used for and what size they needed to meet their needs. This created additional work, and the nursing team had to accept a compromise to their first choice.

Recommendation 3- Grow your stakeholder community- when considering any switch early engagement with procurement is essential.

- 4- Undertaking this project was completed on top of the “day job”, which is the current situation with Sustainability, which is often seen as something extra. As sustainability is not part of business as usual there is no dedicated time for sustainability leads/ champions. This resulted in competing priorities between project and clinical work.

Recommendation 4- Ensure that time is allocated for projects and sustainability work within the team-Seek creative ways of building sustainability thinking into your day.

- 5- One of the biggest challenges for this project was the timing, unfortunately this clashed with the introduction of the Electronic Patient Record (EPR) system, which was a major IT change for the whole organisation. This required all staff to be trained and supported during its implementation. The impact of this project was that training was paused for a 4-week period so that all staff could learn the new system.

Recommendation 5- Consider what else is planned within the organisation to ensure you have time and resources available- timing is everything!



Critical success factors

Please select one or two of the below factors that you believe were most essential to ensure the success of your project changes.

People	Process	Resources	Context
<ul style="list-style-type: none"> ✓ Patient involvement and/or appropriate information for patients - to raise awareness and understanding of intervention ✓ Staff engagement ✓ MDT / Cross-department communication ✓ Skills and capability of staff ✓ Team/service agreement that there is a problem and changes are suitable to trial (Knowledge and understanding of the issue) ✓ Support from senior organisational or system leaders 	<ul style="list-style-type: none"> ✓ clear guidance / evidence / policy to support the intervention. <input type="checkbox"/> Incentivisation of the strategy – e.g., QOF in general practice ✓ systematic and coordinated approach <input type="checkbox"/> clear, measurable targets ✓ long-term strategy for sustaining and embedding change developed in planning phase ✓ integrating the intervention into the natural workflow, team functions, technology systems, and incentive structures of the team/service/organisation 	<ul style="list-style-type: none"> ✓ Dedicated time <input type="checkbox"/> QI training / information resources and organisation process / support <input type="checkbox"/> Infrastructure capable of providing teams with information, data and equipment needed <input type="checkbox"/> Research / evidence of change successfully implemented elsewhere <input type="checkbox"/> Financial investment 	<ul style="list-style-type: none"> ✓ aims aligned with wider service, organisational or system goals. ✓ Links to patient benefits / clinical outcomes <input type="checkbox"/> Links to staff benefits ✓ 'Permission' given through the organisational context, capacity and positive change culture.