SUSQI PROJECT REPORT
Transitioning to reusable cups in inpatient wards.

Start date of Project: May 2025
Date of Report: August 2025

Team Members:

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Background:

The NHS has a significant impact on the UK's carbon footprint, and its commitment to net zero begins with action at every level—person by person, department by department. WWL is a responsible Trust committed to reducing its carbon footprint across all areas of operation. While environmental sustainability is a key driver of our team, patient care remains at the heart of everything we do. This commitment has led us to explore a project that achieves three objectives: lowering our carbon footprint, delivering financial savings and enhancing the patient experience by creating a more comfortable hospital environment.

At the Royal Albert Edward Infirmary, we can accommodate up to 550 inpatients. Across the year, the Trust procures on average 71,000 single-use cups per 28-bed ward, generating a substantial volume of waste.

As managers within the Estates and Facilities Catering Team, we are well positioned to lead this initiative, with oversight of budgets, staff capacity, and the ability to deliver organisation-wide changes. Last year, we successfully introduced reusable soup cups to replace single-use bowls which were difficult for patients to use (e.g. when sitting in bed, etc). This change was implemented across inpatient and outpatient settings and has been very well received by staff and patients. Building on this success, we plan to apply the lessons learned to transition from single-use drinking cups to reusable alternatives in inpatient settings.

Specific Aims:

To replace single use cups for drinks and soup with reusable options for inpatients on wards who opt-in to the change.

Methods:

Studying the System

We began by reviewing current practice and usage through analysis of our procurement data and discussions with ward staff. The majority of inpatient areas use single-use cups; however, some wards,

such as the infection ward, delivery suite, and discharge unit, had independently transitioned to reusable cups prior to this project. These changes were initiated by ward staff as single use paper cups had created significant storage challenges, making reusable alternatives more appealing in these specific areas. Different brands were in use compared to the one selected by the catering team.

Analysis of our procurement data showed that our Emergency Department purchases a high proportion of single use cups in comparison to other areas. However as an area with high patient turnover and a higher likelihood of loss, this requires further consideration before implementation. We therefore decided to focus this phase of the project on inpatient wards only.

Implementation

Cup Selection

Selection criteria included the cup being made from recycled materials, of an appropriate size, with a functional and comfortable handle, heat-resistant, user-friendly, robust (resistant to breakage), and cost-effective. We explored purchasing directly from manufacturers but found waiting times were too long, and that the cups would be more expensive. We therefore selected the best-priced product within the existing Trust procurement Framework. No input from the Trust procurement team was required.

Cost-benefit analysis demonstrated that the one-off purchase cost of reusable cups would be recovered within the equivalent cost of 4–5 boxes of single-use cups.

Cleaning Consideration

Currently, the catering team washes reusable soup cups for all wards. However, the increased volume of drink cups would exceed our staff and washing capacity. Therefore, drink cups will require cleaning at ward level. Wards do not have dishwashers due to space constraints, so cleaning will be manual.
A Band 4 Assistant Catering Manager reviewed sink sizes and capacities (ranging from 30-50 litres) on all wards, identifying water and chemical ratios appropriate for each based on the datasheet for the cleaning chemical used by the Trust (Suma Quat).

Staff Engagement

Engagement with ward staff was a key component of this project. A walkaround of all inpatient wards was conducted to explain the benefits, address concerns, and understand potential barriers. Staff were surprised to learn that each 28-bed ward uses approximately 71,000 single-use cups per year. We discussed the environmental impact, the patient experience benefits of using real cups to give a homier feel and support dexterity issues, and the potential financial savings.

Some ward managers were eager to adopt the change immediately, while others expressed reservations, mainly about cleaning responsibilities. Housekeepers and healthcare assistants cited time pressures as the main barrier to this. To address this, we suggested strategies such as purchasing three sets of cups per ward, allowing for rotation and cleaning alongside existing water jug routines (which are washed at ward level) without time pressures to wash and return cups back to patients immediately.

At this stage, the change will remain optional, with wards choosing whether to adopt reusable cups. We anticipate as wards begin the change, we can obtain positive feedback from staff and patients to encourage additional wards to opt in.

Next Steps

Four wards have so far committed to transitioning to reusable cups. We have more engagement planned following the summer holiday period and anticipate this will increase as we experienced delays due to ward managers being on leave, high rates of staff sick leave, holiday leave, etc over the project period.

For wards committing to change, ward managers will place orders directly using supplier details provided by catering. Alternatively, we have offered to receive the deliveries to the catering department, complete the initial clean, and deliver cups to the wards if this supports implementation. Wards will use existing single-use stock before transitioning. Cleaning responsibilities will be determined at ward level (e.g. if this is a responsibility of housekeeping, domestic staff, or healthcare assistants, etc), based on needs of the ward.

Further follow-up visits are planned to confirm uptake and finalise implementation schedules on a ward-by-ward basis.

Measurement:

Patient outcomes:

The project will not impact on patients health and clinical outcomes.

While it is not possible to measure, there is potential that the project could reduce risk of spills and burns from hot drinks, as the cups can be easier to hold, particularly for patients with any dexterity needs. The catering team have not received any Datix incidents in relation to this in the past 12 months (however it is believed spills occur without reporting).

Environmental sustainability:

GHG emissions associated with both single-use and reusable cups were estimated using a bottom-up, process-based approach. For single-use cups, the analysis included emissions from the production of primary materials (excluding packaging) and end-of-life disposal. For reusable cups, emissions from primary material production, disposal, and transportation from the manufacturing site to the hospital were included. Emission factors for materials and transport were sourced from the 2025 UK Government Conversion Factors Database. It was assumed that both types of cups would be disposed of as dry mixed recyclables. Reusable cups were assumed to have a one-year lifespan before disposal (likely a conservative estimate).

	GHG emissions (kgCO2e)
Single use cup (excluding lid)	0.0187
Reusable cup (lasting 1 year) (excluding washing up)	0.6840

For washing up, the volume of water and amount of detergent required to fill a sink were estimated for each ward. Gas consumption for heating the water was calculated based on the assumption that it would be heated from 10°C to 60°C using a boiler with 80% efficiency. Water and gas usage were then converted into greenhouse gas emissions using emissions factors from the 2025 DESNZ database.

Emissions associated with detergent use were estimated through Environmentally Extended Input-Output Analysis (EEIOA), by converting the financial cost of detergent into emissions using the UK Standard Industrial Classification (SIC) factor for soap and detergent manufacturing.

For the baseline scenario, it was assumed that each inpatient would consume seven hot drinks per day, seven days a week, using a new single-use cup for each drink. For the reusable cup scenario, the same consumption pattern was applied; however, it was assumed that cups would be washed collectively, requiring the sink to be filled seven times per day, each day of the week.

The emissions savings were translated into equivalent miles driven in an average car with unknown fuel using a factor of 0.3399 kgCO2e per mile, as published in the UK Government Greenhouse gas reporting: conversion factors 2025. This factor is inclusive of fuel and well-to-tank emissions.

Economic sustainability:
Current spend on single use cups across the Trust was provided by the Trust procurement team. Cost for the reusable cups was obtained from the Trust's existing Framework. The cost is £343 for 3 sets of cups (volume recommended to each ward). Wards will need to purchase the cups through their own budgets, which is the current process for single use. While this is a higher upfront cost this will be quickly recovered as this is the equivalent cost of 4–5 boxes of single-use cups.

Increased use of detergent will be a cost increase of £5.08 per 5 litres.

Social sustainability:
Impacts on staff and patients were assessed informally through engagement and conversations on the wards.

Results:
Patient outcomes:
The project will not impact on patients health and clinical outcomes.

As above, there is potential that the project could reduce risk of spills and burns from hot drinks, as the cups can be easier to hold, particularly for patients with any dexterity needs, however there is no data available to measure if there is a reduction.

Environmental sustainability:
The calculations below are based on the assumption that for the baseline scenario, each inpatient would consume seven hot drinks per day, seven days a week, using a new single-use cup for each drink. For the reusable cup scenario, the same consumption pattern was applied; however, it was assumed that cups would be washed collectively, requiring the sink to be filled seven times per day, each day of the week.

Each ward with more than a maximum of 10 inpatients could save an average of 537 kgCO2e per year. Based on 4 wards opting into the transition so far, this is an annual saving of 2,148 kgCO2e, equivalent to driving 6,320 miles in an average car.

If all 19 wards (who had not already using reusable prior to the project) make the transition, we have potential to save 8,332 kgCO2e, equivalent to driving 24,513 miles. However, for the three inpatient wards with 10 patients or fewer, switching to reusable cups would increase emissions due to their relatively low use of single-use cups. Overall, there is still a saving.

	GHG emission savings per year (kgCO2e)
16 remaining inpatient wards with more than a maximum of 10 patients	8,592
3 remaining inpatient wards with 10 or less maximum patients	-260
Total	8,332

Economic sustainability:
The average annual saving for the switch to reusable cups is £3,250 however wards will use an average of 59.78 L dishwashing liquid per year at a cost of £60.70 per year. Based on the 4 wards who have opted in so far, this is an annual saving to the Trust of £12,757.

If all 19 wards (those not already using reusable prior to the project) make the transition, there is potential to save £60,596 per year.

Social sustainability:
Ward staff expressed that reducing environmental impact is important to them and were surprised by the potential financial savings. While some staff were initially hesitant about the additional cleaning required, we anticipate that trialling the change will demonstrate that it can be completed quickly and integrated into existing routines, such as washing water jugs.

We also plan to gather patient feedback as part of this project. This will be incorporated into our existing ward audits following implementation on some wards, with results shared with staff to reinforce the benefits of the change and further support its adoption.

Discussion:
The introduction of reusable cups in inpatient settings has highlighted both opportunities and challenges. Ward feedback identified washing as the main barrier to adoption, which has slowed progress. To address this, the change has been implemented as an opt-in process, with the suggestion for wards to purchase three sets of cups to reduce time pressures and allow cleaning to be incorporated into existing routines.

Storage space was another concern raised by some wards. While other wards had previously transitioned to reusable cups specifically to save space, storage configurations vary across the hospital, and this must be considered on a case-by-case basis.

From the catering team's perspective, there is strong passion for making this change due to the benefits for patients, cost savings, and carbon reduction. However, operational capacity has at times

been affected by competing priorities such as high staff sickness levels, annual leave, and industrial action.

Risks have also been considered. The most notable is the possibility that cups may not be cleaned in a timely or effective manner. However, as collection and washing a set of cups is anticipated to take no more than ten minutes, and clear guidance is provided, this is not expected to present a significant issue.

Looking ahead, this initiative has potential to be expanded to other areas. There is a high daily demand and single use cup usage from Accident & Emergency (serving approximately 80 patients three times a day), the discharge unit (around 30 patients daily), and various day case units. While these areas account for a substantial volume of single-use cup consumption, they also present additional challenges, such as higher risk of loss due to patient turnover. For this reason, further planning and engagement will be required before extending the project into these settings.

Conclusions:

As a team, we found it rewarding to visit the wards and witness staff reactions when presented with the scale of single-use cup consumption. In daily operations, the excess can be easy to overlook, and seeing the figures in context was a powerful motivator for change. This awareness played a key role in encouraging wards to adopt reusable cups.

The success of this project has relied on clearly demonstrating the range of benefits including financial savings, improved storage efficiency, and enhancing the patient experience. By engaging staff directly and showing how this change supports both environmental and patient care goals, we were able to present a solution that is truly a win-win for the Trust, its staff, and its patients.

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
☐ Patient involvement and/or appropriate information for patients - to raise awareness and understanding of intervention X 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	☐ clear guidance / evidence / policy to support the intervention. ☐ Incentivisation of the strategy – e.g., QOF in general practice ☐ systematic and coordinated approach ☐ 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/organization	☐ Dedicated time ☐ QI training / information resources and organisation process / support ☐ Infrastructure capable of providing teams with information, data and equipment needed X Research / evidence of change successfully implemented elsewhere ☐ Financial investment	☐ aims aligned with wider service, organisational or system goals. ☐ Links to patient benefits / clinical outcomes X Links to staff benefits ☐ 'Permission' given through the organisational context, capacity and positive change culture.