

SUSQI PROJECT REPORT

From Plastic Bottles to Dissolvable Sachets: A Cleaner, Greener Future

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Team Members:

- Paul Norris – DOSM –
Paul.norris@hhft.nhs.uk
- Emmajane Todua – DOSM -
Emmajane.todua@hhft.nhs.uk



Background:

Hampshire hospitals NHS Foundation Trust Domestic Services uses a range of cleaning products across multiple sites. Currently, the service is using three products which are supplied in single use HDPE plastic bottles, and the service is using roughly 14,000 cleaning bottles annually across the three sites.

Previous sustainability work within the trust has encouraged review of single use products and opportunities to introduce reusable alternatives. The Domestic Services team identified cleaning products as a high-volume consumable and therefore an ideal focus for a quality improvement project.

Whilst reviewing our annual costings, it was identified that the service was an outlier in not only cost but waste. The service has worked with both external stakeholder suppliers and reviewing what other trusts/companies were using in surrounding healthcare settings.

The service works closely with various external suppliers. One of the services main suppliers are working with PVA Hygiene who have their own website with all their own supporting documents. This can be found - www.pva-hygiene.co.uk

This project supports the NHS Net Zero strategy and the Trust's Green Plan by reducing single-use plastic waste from cleaning products. Replacing plastic chemical bottles with dissolvable sachets reduces material consumption, waste generation, and supply chain emissions, helping to lower the environmental impact of healthcare operations while supporting the NHS commitment to achieving net zero carbon emissions.

This project is being implemented within an NHS acute healthcare organisation serving a large and diverse population across Hampshire. The Trust provides care to patients of all ages and clinical needs, requiring extensive daily cleaning and decontamination activities to maintain safe environments for patients, visitors, and staff. These activities generate significant volumes of plastic waste through the routine use of cleaning chemical bottles.

The project was developed through collaboration between Facilities, Operational Services, Procurement, Sustainability leads, Infection Prevention and Control teams, and frontline cleaning staff. As the teams responsible for managing cleaning operations and environmental services, we were well placed to identify opportunities that reduce waste while maintaining compliance with healthcare standards and patient safety requirements. Our organisation has a strong commitment to sustainability through its Green Plan and the wider NHS Net Zero ambition of achieving net zero emissions by 2040 for directly controlled emissions, and by 2045 for emissions the NHS can influence through its supply chain.

The project aligns with the Centre for Sustainable Healthcare (CSH) Sustainable Value Equation by improving environmental outcomes while maintaining quality and operational effectiveness. By replacing single-use plastic cleaning bottles with reusable bottles and dissolvable chemical sachets, the project reduces material consumption, waste generation, transportation requirements, and associated carbon emissions, delivering greater value from the resources used (see Figure 2).

Figure 1. CSH sustainable value equation



The project is being undertaken to address a clear environmental challenge within routine healthcare operations and demonstrates how small operational changes can contribute to the Trust's Green Plan objectives, NHS Net Zero commitments, and the delivery of more sustainable healthcare services.

Specific Aims:

To reduce plastic waste associated with domestic cleaning services by replacing prefilled plastic bottles with dissolvable chemical sachets and reusable bottles. This in turn will reduce annual carbon emissions and procurement costs will reduce whilst maintaining cleaning standards compliance requirements and staff satisfaction. This will be measured by financial savings & waste reduction.

Methods:

Data on cleaning products purchased between January and December 2025 were obtained from procurement records. Three existing products were reviewed: R6 Limescale remover, Hospec detergent liquid and a general toilet cleaner. Product weights, packaging types, annual purchasing volumes and supplier locations were obtained from manufacturers and procurement records.

Stakeholder engagement included discussions with domestic services managers, frontline domestic staff, procurement leads, sustainability representatives and product suppliers. Alternative products were reviewed by the HHFT Domestic services visiting external stakeholders and reviewing their

methodology, before a preferred sachet-based system was selected. External stakeholders use a similar approach in terms of reduction of plastic bottles, however their methodology allows for potential stock to be contaminated and destroyed before use. This could see an increase in damaged/unusable stock and cost implications.

Implementing change

Whilst reviewing alternative products, product testing took place on all three sites, in all non-clinical areas in April 2026. The products were tested not only on their quality but also tested on ease of use and staff satisfaction. Due to the success of the testing, it was then reviewed by the IPC team to discuss a possible full trust roll out and permanent change to product usage.

The service currently has 92 standard operating procedures (SOPs). Due to the change in product this has not reduced the number of sops required but has changed product details and processes. (Appendix A).

The products that have been withdrawn are R6 Limescale Remover, Hospec Detergent and a General Toilet Cleaner. These have been replaced with PVA Hygiene Toilet Cleaner, Toilet Descale Booster & FF40 General Detergents sachets. Our COSHH compliance has been reviewed in line with the new products.

These products have been signed off by the procurement team in relation to costs and ability to purchase through appropriate frameworks. From a clinical setting, these products have been signed off from the IPC team.

With the initial trial the general-purpose cleaner was tested using a trigger bottle to deliver the solution to the surfaces. There was a concern within the IPC team that the bottles were unable to be used due to the possible infection risk if the bottle was not cleaned appropriately. Service reviewed the process with the IPC team, and it was agreed that the product was effective enough within a bucket rather than a bottle.

The service has a very strict process on how to purchase or review its cleaning products. All clinical and non-clinical stakeholders were contacted, and a regular review will be conducted.

The Domestic Service team have its own dedicated training team, who are involved in reviewing all products, rewrite SOP's and guidelines, and implement all staff training.

For the initial trial, bottles were provided free of charge, but a small purchase charge was placed on the sachets at a reduced rate. Due to the nature of the chemical, no other equipment was required, as the service already has all the equipment needed to use the product. The training team was trained by our external stakeholder who introduced us to the product. This was done as a 'Train the Trainer exercise', and the Domestic Services Training team rolled the training out to the individuals conducting the trial.

There was no financial investment required as we already had the equipment needed and the costs for the current chemicals we use were reduced to fund the small amount of chemicals required for the trial. This ended up being a cost neutral trial.

Due to the nature of the trial, this was kept to a small number of staff who were trained individually in their own areas. There were no requirements for a swap over date as they were trained in house & in situ.

Measurement: -

Patient outcomes:

There are no anticipated adverse impacts on patient outcomes associated with this project. It aims to deliver equivalent levels of safe and effective care, while achieving reductions in environmental and financial costs and contributing positively to social value.

Measuring actual patient outcomes, such as changes in infection rates, was beyond the scope of this small-scale trial. However, the manufacturers have an extensive evidence base, demonstrating the clinical effectiveness of their cleaning products.

Once the products are rolled out Trust-wide, monitoring of compliance with cleaning standards will be initiated to ensure adherence to established cleaning protocols and maintain expected levels of cleanliness and infection prevention.

Population outcomes:

There are no negative predicted population outcomes associated with this project.

Environmental sustainability:

Data was collected from the domestic team working on the switch from prefilled detergents to dissolvable detergents. Data on number of cleaning products ordered were collected from January 2025 to December 2025 across the three sites.

Methodology

A cradle-to-grave hybrid approach carbon footprint analysis was used to estimate the items greenhouse gas (GHG) emissions. The bottles and packaging for all products were carbon footprinted using a process- based carbon footprint analysis. Items were weighed by the team and materials identified. The carbon footprint assessment does not include the cleaning chemicals themselves, as there is insufficient publicly available information on their specific chemical composition and constituent components.

Data was obtained from previous studies by the Centre for Sustainable Healthcare and other references. Where data was not available, calculations were made based on the weight and material of the product. Material weights were converted into GHG emissions using emission conversion factors taken from the Department of Energy Security and Net Zero (DESNZ)'s Greenhouse Gas Reporting Conversion Factors 2026 database, ICE V4.0 database and [Climatig](#). The analysis included GHG emissions associated with primary materials production, transport, and disposal.

For end-of-life treatment, disposable equipment was assumed to be disposed of as offensive waste, while any card/paper packaging waste was assumed to be dry mixed recyclable with the corresponding emission factors taken from [Rizan et al., 2020](#). The carbon footprint of waste disposal of the items was based on [Rizan et al., 2020](#) carbon footprint of high temperature incineration for clinical waste.

Economic sustainability:

Baseline costs were calculated using procurement records and waste disposal data for the 12 months prior to implementation. Procurement data were obtained from the Trust's Procurement Department and included the purchase price and volume of products used within the existing pathway. The total annual baseline cost was calculated by multiplying the unit cost of each product by the annual quantity purchased and used.

The change was cost-neutral to implement, as the new product replaced the existing product through normal stock replenishment processes. No additional investment was required, and ongoing procurement costs were reduced due to the lower unit price of the replacement product.

Social sustainability:

A short anonymous staff survey was distributed to the Domestic Services team following the product trial period and pre implementation of the project. The questionnaire was designed to assess staff views on sustainability, the organisation's environmental performance, barriers to improving sustainability, and confidence in meeting sustainability objectives. Responses were collected using a combination of rating-scale questions and free-text comments, allowing both quantitative and qualitative feedback to be captured. The survey was designed to be quick to complete (approximately two minutes) to encourage participation. A blank copy of the questionnaire is included (Appendix B).

Results:

Patient outcomes:

No negative effect on patient care is anticipated. Cleaning performance remains unchanged because the replacement products deliver equivalent functionality. Maintaining safe and effective environmental hygiene standards supports patient safety and infection prevention requirements. The project therefore demonstrates that environmental and financial improvements can be achieved without compromising quality of care.

Population outcomes:

Although direct population outcomes were outside the scope of this project, reductions in healthcare emissions contribute positively to wider public health objectives. Reduced manufacturing demand, reduced transport requirements and lower waste disposal volumes contribute to lower environmental impacts and support healthier communities indirectly.

Environmental sustainability:

Current detergents

The currently used detergents and cleaners are:

- R6 (750ml bottle) multi-surface and floor cleaning use
- Hospec Liquid detergent (740ml)
- Toilet Cleaner (750ml)

Carbon footprint

The carbon footprint for the production and waste disposal of each plastic bottle was calculated separately. Using the emissions per bottle, total emissions based on volume of product purchased is calculated in Table 1. The bottles are made from HDPE plastic. It is assumed the bottles are disposed of via domestic waste.

Table 1. Materials and weights of the empty bottles and their calculated emissions for their raw materials and waste disposal.

Bottle	Material	Weight of empty bottle (g)	Emission Factor (kgCO ₂ e / tonne)	Emissions from raw materials per bottle (kgCO ₂ e)	Emission Factor disposal in domestic waste (kgCO ₂ e / tonne)	Emissions from waste disposal per bottle (kgCO ₂ e)	Total Emissions for each bottle (kgCO ₂ e)	Number used per year	Total emissions (bottle + waste disposal) (kgCO ₂ e)
R6 750ml bottle	HDPE	65	3092.9	0.201	172.0	0.0112	0.212	2208	468.5
Hospec liquid detergent	HDPE	63	3092.9	0.195	172.0	0.0108	0.206	4923	1012.7
Toilet cleaner	HDPE	72	3092.9	0.223	172.0	0.0124	0.235	6904	1623.1
									3104.3

The total weight of plastic used is 950.76 kg. For each cleaning product, the weight of plastic is as follows

- R6 0.065*2208 = 143.52 kg.
- Hospec liquid detergent 0.063*4923 = 310.15 kg.
- Toilet cleaner 0.072*6904 = 497.09 kg.

Transport emissions

Transport emissions were calculated by weight of product, distance travelled and emissions per tonne.km travelled and number of journeys taken.

$$\text{Weight in tonnes per delivery} * \text{distance in km} * \text{emission factor} = \text{Total emissions}$$

- The weight of the full bottles is described in Table 2.
- The product is manufactured in Manchester, M24 4DP which is 215 miles (344 km) from Basingstoke Hospital, RG24 9NA.
- The Emissions Factor is 0.127 kg per tonne.km for an average laden, non-refrigerated HGV lorry.

The weights of the full bottles and the total number purchased over a year were supplied by the domestic's team and is shown in Table 2.

Table 2. Total emissions of transportation

Cleaning product	Weight per full bottle (kg)	Number used per year	Total weight (kg)	Distance travelled (km)	Emission Factor (kgCO ₂ e per tonne.km)	Total emissions kgCO ₂ e (*)
R6 (750ml bottle)	0.829	2208	1830.4	344	0.127	80.0
Hospec Liquid detergent (740ml)	0.815	4923	4012.3	344	0.127	175.3
Toilet Cleaner (750ml)	0.793	6904	5474.9	344	0.127	239.2
Total						494.4

Total carbon emissions

The total carbon footprint is calculated from emissions from raw materials and waste (3104.3 kgCO₂e), combined with transport emissions (494.4 kgCO₂e). For the current cleaners, the total emissions are 3,598.7 kgCO₂e per year.

New detergents

The new detergents and cleaners are:

- Toilet Cleaner.
- Toilet boost.
- Disinfectant.

Each cleaner is delivered in powder form within a sachet. One pack contains 20 sachets of cleaner. The 20 sachets are packed within a paper pack weighing 12g. Each empty sachet weighs 6g. They are diluted on site in reusable plastic bottles which is made from HDPE and weighs 52g.

The weights of the full and empty sachets, the paper packaging and the reusable plastic bottles along with the number expected to be purchased over a year, were supplied by the domestic team and shown in Table 3.

Table 3. New cleaning agents with their weights per sachet and pack.

	Number of packs used per year	Weight full pack/ bottle (kg)	Total weight of product transported per year (kg)	Weight of pack packaging/ bottle (kg)	Weight of single empty sachet packaging (kg)	Total weight of waste per year (kg)
Toilet boost	110	0.213	23.43	0.012	0.006	14.52
General purpose disinfectant	246	0.213	52.40	0.012	0.006	32.47
Toilet cleaner	345	0.213	73.49	0.012	0.006	45.54

Reusable plastic bottle	200	0.052	10.40	0.052	n/a	10.40
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Calculating the emissions per pack (20 sachets + packaging) and reusable plastic bottle is shown in Table 4. The total emissions are from the raw materials and waste disposal combined.

Table 4. Materials and weights of the pack packaging and bottles and their calculated emissions for their raw materials and waste disposal.

Pack of 20 sachets	Material	Weight* (g)	Emission Factor (kgCO ₂ e/ tonne)	Packaging Emissions per pack (kgCO ₂ e)	Emission Factor disposal in domestic waste	Waste disposal Emissions (kgCO ₂ e)	Total emissions per pack/ bottle (kgCO ₂ e)
Toilet boost	Paper	132	1343.6	0.1774	172.0	0.0227	0.2001
General purpose disinfectant	Paper	132	1343.6	0.1774	172.0	0.0227	0.2001
Toilet cleaner	Paper	132	1343.6	0.1774	172.0	0.0227	0.2001
Reusable plastic bottle	HDPE	52	3092.9	0.371	172.0	0.0206	0.3916

*20 empty sachets + packaging or bottle

For the three new cleaning products, the emissions for production of packaging and waste disposal per pack of 20 sachets is 200 gCO₂e (0.200 kgCO₂e). Per sachet, this equates to 10 gCO₂e.

For the packs, 701 packs will be used per year, with total emissions are 140.3 kgCO₂e. For the bottles, a total of 200 will be used with total emissions of 78.32 kgCO₂e. The weight of for one full pack (20 sachets and pack packaging) is 132g, and the total annually is 92.53 kg.

Transport emissions

Transport emissions were calculated by weight of product, distance travelled and emissions per tonne.km travelled and number of journeys taken.

$$\text{Weight in tonnes per delivery} \times \text{distance in km} \times \text{emission factor} = \text{Total emissions}$$

- The weight of a pack of 20 sachets is 213g (0.213 kg). In total, 701 packs are used annually. The total weight of all packs is 149.3kg.
- The distance of a single journey from manufacturer PVA Hygiene based in Bristol, BS40 5PA to Basingstoke Hospital, RG24 9NA is 93 miles/148 km.
- The Emissions Factor is 0.127 kg per tonne.km for an average laden, non-refrigerated HGV lorry.

Pack transport emissions

If all deliveries to meet the annual requirement 701 packs were delivered once a year, the emissions would be: $0.149 \times 148 \times 0.127 = 2.8 \text{ gCO}_2\text{e}$

Bottle transport emissions

It is assumed the reusable plastic bottle is delivered separately. 200 are bought and each weigh 52g. The total weight is 10.4kg.

For the bottle, emissions are $0.0104 \times 148 \times 0.127 = 0.195 \text{ kgCO}_2\text{e}$.

Total emissions

The total carbon footprint is the production and waste emissions combined with transport emissions $\text{kgCO}_2\text{e pa}$.

For the packs, there are 701 packs used with emissions from raw materials, production and waste of $140.3 \text{ kgCO}_2\text{e}$. Transport emissions are $2.81 \text{ kgCO}_2\text{e}$. For the bottles, a total of 200 are used with emissions of $78.32 \text{ kgCO}_2\text{e}$. Transport emissions are $0.195 \text{ kgCO}_2\text{e}$.

Combining all emissions, packs are $143.11 \text{ kgCO}_2\text{e}$ and bottles are $78.5 \text{ kgCO}_2\text{e}$ or **$221.6 \text{ kgCO}_2\text{e}$ in total**.

Current annual emissions from plastic bottles, packaging and transport were calculated as $3,598.7 \text{ kgCO}_2\text{e}$.

The proposed sachet-based system generated only $221.6 \text{ kgCO}_2\text{e}$ annually.

Annual carbon reduction: $3,377.1 \text{ kgCO}_2\text{e}$.

Current waste generation consisted of 950.76 kg of HDPE plastic bottles.

The new system generates 92.53 kg of packaging waste, predominantly paper-based packaging together with a small number of reusable bottles. The annual waste reduction would be 858.23 kg . Transport emissions fell substantially because concentrated sachets require significantly less weight to be transported and travel a shorter distance from supplier to Trust.

Economic sustainability:

The financial costs of purchasing the cleaning products and associated waste disposal are demonstrated for the current products in table 5 and the new products in Table 6. For domestic waste, the cost of disposal is $\text{£}127$ per tonne.

Table 5. Total costs to purchase current cleaning materials and dispose of waste after use.

Cleaner	Cost per unit (£)	Number per year	Cost to purchase (£)	Cost for empty bottle disposal (£)	Total cost (£)
R6 (750ml bottle)	£2.73	2208	£6,027.84	£18.23	£6,046.07
Hospec Liquid detergent (740ml)	£0.75	4923	£3,692.25	£39.39	£3,731.64
Toilet Cleaner (750ml)	£0.69	6904	£4,763.76	£63.13	£4,826.89
Total			£14,483.85	£120.75	£14,604.60

Table 6. Total costs to purchase new cleaning materials and dispose of waste after use.

Product	Unit cost (£)	Quantity per year	Total cost per year (£)
New toilet cleaner (pack 20)	10.45	345	3,605.25
New toilet boost (pack 20)	4.89	110	537.90
New disinfectant (pack 20)	5.65	246	1,389.90
Reusable plastic toilet bottles	0.78	200	156.00
Total			£5,689.05

The current system costs **£14,604.60 per year**, including both procurement and waste disposal costs. By comparison, the proposed sachet system would cost **£5,689.05 annually**, resulting in an **annual saving of £8,915.55**. This represents a significant reduction in operational expenditure, delivering substantial cost efficiencies while maintaining the required service provision.

No significant capital investment is required. Reusable bottles are inexpensive and included within annual product costs. The project therefore achieves immediate financial benefit from implementation.

The reduction in waste volumes may also reduce handling and disposal burden, providing further unquantified efficiencies.

Social sustainability:

Domestic staff benefit from participation in a visible sustainability initiative aligned with NHS values. Staff can actively contribute to waste reduction while continuing established cleaning routines. The reduction in bulky deliveries and discarded bottles reduces storage pressures and waste handling requirements. The project provides positive engagement opportunities and demonstrates organisational commitment to environmental responsibility.

Following the staff questionnaire in relation to this project, Staff feedback demonstrated strong support for sustainability initiatives and a desire for further environmental improvements. The most frequently suggested actions were reducing paper use through paperless working, reducing disposable items and plastic use, and improving recycling practices. Additional themes included the use of more environmentally friendly chemicals, reusable products, staff education on sustainability, and increased funding for sustainability projects. While respondents were generally supportive of the organisation's sustainability goals, budget constraints and resource availability were identified as the main barriers to further progress (Appendix C).

Discussion:

The proposed change to the cleaning products used across all three sites will deliver an **annual saving of £8,915.55** and an **annual carbon reduction of 3,377.1 kgCO₂e**. This is the equivalent of avoiding 103,032.8 miles driven in an average size petrol car. These benefits will be achieved without causing

any adverse impacts on patients or the wider population, while also contributing positively to social value objectives. The proposal therefore offers a more sustainable and cost-effective solution, supporting both financial efficiency and environmental responsibility.

This project demonstrates the significant environmental impact associated with routine cleaning Products. Although each bottle individually carries a relatively small footprint, procurement volumes create substantial cumulative impacts. The most important environmental benefit comes from eliminating single-use HDPE bottles.

Secondary benefits arise from lower transportation requirements and reduced waste disposal. Barriers identified included, staff familiarity with existing products, ensuring consistent dilution processes (no over or under dosing) and management of reusable bottles. These risks can be mitigated through training, standard operating procedures and monitoring.

The methodology can also be applied to other consumables where disposable packaging is a major contributor to environmental impact.

Conclusions:

Replacing traditional cleaning bottles with dissolvable chemical sachets provides a practical and scalable sustainability intervention. The project demonstrates annual savings of 3,377.1 kgCO₂e, £8,915.55 and 858.23 kg of waste. These benefits are achieved without reducing cleaning standards or affecting patient care. Key success factors include staff engagement, data-driven decision making, procurement support and alignment with organisational sustainability goals. Future work should include rollout monitoring, review of additional cleaning products and wider implementation opportunities within Trust itself. Currently the service has rolled out a structured training plan and implementation of use in small, selected areas, with a planned roll out for all remaining areas from the beginning of October 2026. This incorporates all domestic staff trained including General Domestic Assistants, Domestic Kitchen Assistants, Supervisors, Storemen and Floor teams.

References and Resources

- NHS England (Greener NHS)- *Delivering a Net Zero NHS*. This national strategy sets out the NHS commitment to achieve net zero emissions by 2040 for emissions under direct NHS control and by 2045 for emissions the NHS can influence through its supply chain and procurement practices.
- Hampshire Hospitals NHS Foundation Trust -*Climate Action and our Green Plan*. The Trust's Green Plan outlines its approach to embedding sustainability in all aspects of healthcare delivery, including waste reduction, sustainable procurement, and achieving compliance with NHS Net Zero ambitions.
- Centre for Sustainable Healthcare (CSH) - *Sustainability in Quality Improvement (SusQI)*. The SusQI methodology was used to assess the environmental, social and financial impacts of the project through a triple bottom line approach.
- Centre for Sustainable Healthcare - *NHS Green Plan Resources and Support*. Guidance on measuring environmental, social and financial outcomes and developing sustainable Healthcare projects.

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. Highlighted boxes in yellow are the chosen factors.

People	Process	Resources	Context
☐ 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	☐ 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/organisation	☐ Dedicated time ☐ QI training / information resources and organisation process / support ☒ Infrastructure capable of providing teams with information, data and equipment needed ☐ Research / evidence of change successfully implemented elsewhere ☐ Financial investment	☒ aims aligned with wider service, organisational or system goals. ☐ Links to patient benefits / clinical outcomes ☒ Links to staff benefits ☐ 'Permission' given through the organisational context, capacity and positive change culture.

Activity/Task	2: PVA Toilet Cleaner
Cleaning products used for activity	Cleaning products used for activity: PVA Toilet Cleaner
Standard precautions when using products	Standard precautions when using products: - COSHH - Follow the manufacturers guidelines
PPE required for activity	PPE required for activity: - Gloves - Apron - Goggles
Equipment and materials used for this activity	Equipment and materials required: - PVA toilet cleaner sachets - PVA labelled dilution bottle
Standard precautions when using equipment	Standard precaution when using equipment: Ensure the dilution bottle is clean, intact, and fit for purpose prior to use. Verify that the bottle is clearly and correctly labelled in accordance with Trust procedures and COSHH requirements before filling, ensuring safe identification and use of the cleaning solution.
Method statement	Method: - Perform hand hygiene in accordance with NHS Hand Hygiene Guidelines. Check hands for any cuts, abrasions, or broken skin and ensure these are securely covered with a waterproof dressing. Select and don the appropriate Personal Protective Equipment (PPE) for the task being undertaken. Position and display all required caution signage in the work area, ensuring signs are clearly visible to staff, patients, and visitors always. - Prior to using any cleaning chemical, review the relevant Safety Data Sheet (SDS), COSHH assessment, and risk assessment to ensure safe handling and compliance with local procedures. These documents are located within the COSHH folder in the domestic cupboard. They provide essential information regarding the chemical's hazards, safe use, storage requirements, personal protective equipment (PPE), and the actions to be taken in the event of accidental exposure or spillage. - Use all cleaning chemicals strictly in accordance with the manufacturer's instructions, relevant COSHH assessments, and Trust training procedures. Never mix chemicals unless specifically authorised by the manufacturer, as this may create hazardous reactions. Only approved cleaning products supplied by the Trust should be used, ensuring safe and effective cleaning practices while minimising risks to staff, patients, visitors, and the environment. - Throughout the cleaning process, ensure all cleaning chemicals are stored securely within the locked compartment of the service trolley when not in use. Chemicals must never be left unattended or accessible to patients, visitors, or unauthorised personnel, thereby maintaining a safe environment and reducing the risk of accidental exposure, misuse, or spillage.

5. Prepare the diluted cleaning solution by filling the dilution bottle with cold water up to the 1st designated black fill line. Ensure the correct dilution ratio is achieved in accordance with the manufacturer's instructions and Trust procedures to support the safe and effective use of the cleaning product.
6. Wearing appropriate dry gloves, add one toilet cleaner sachet to the dilution bottle. Secure the lid firmly and gently agitate the bottle to ensure the solution is thoroughly mixed. (This will turn blue).
7. Remove the lid and carefully top up the dilution bottle with cold water to the 1-litre fill line. Secure the lid tightly and gently shake the bottle to ensure the solution is fully mixed and ready for use. (This will turn green).
8. Following preparation of the solution, carefully open the directional cap to safely release any built-up pressure. Once the pressure has been released, securely close the cap and allow the solution to stand for several minutes to ensure it is fully activated and ready for use, in accordance with the manufacturer's instructions.
9. Ensure the toilet area is adequately ventilated throughout the cleaning process by maintaining appropriate airflow where possible. Effective ventilation helps to minimise exposure to chemical vapours, promotes a safe working environment, and supports compliance with COSHH and Health and Safety requirements.
10. Using the toilet brush, carefully lower the water level within the toilet pan by pumping the brush three to four times. This will displace the water below the waterline, enabling effective application of the cleaning solution to areas that are normally submerged and ensuring a more thorough clean of the entire toilet bowl.
11. Apply the toilet cleaner/descaler evenly around the inside of the toilet bowl, paying particular attention to the area above the waterline and beneath the rim. Using the toilet brush, gently agitate the solution to ensure full coverage of all internal surfaces. Allow the product to remain in contact with the surface for the recommended dwell time to facilitate the effective removal of limescale, staining, and microbial contamination. Following the prescribed contact time, thoroughly clean the interior of the toilet bowl using the toilet brush, ensuring all surfaces are visibly clean and free from deposits.
12. To maintain safety, hygiene, and compliance with COSHH and chemical handling procedures, all traces of the PVA toilet cleaner must be completely removed following use. The toilet should be flushed thoroughly to ensure the cleaning solution is fully rinsed from the bowl. Where any residue remains, a second flush must be carried out to ensure the toilet bowl is free from cleaning product and safe for use.
13. Upon completion of the task, thoroughly clean and dry all equipment in accordance with Trust procedures. Ensure all equipment is inspected for cleanliness and serviceability before being returned to the designated storage area, where it must be stored safely, securely, and in an organised manner.
14. Clean and remove caution signs when the area is safe and dry.

	15. Carefully remove (doff) all Personal Protective Equipment (PPE) in the correct sequence to prevent cross-contamination and dispose of it in accordance with Trust waste management and infection prevention policies. 16. Perform hand hygiene in accordance with NHS Hand Hygiene Guidelines, ensuring hands are washed thoroughly using the appropriate technique to maintain infection prevention and control standards. 17. As a final safety and security check, ensure the Domestic Services cleaning cupboard is left clean, tidy, and organised. Confirm that all chemicals and equipment are stored correctly and that the cupboard door is fully closed and securely locked in accordance with Trust procedures.
Standard precautions when undertaking activity	Standard precautions when undertaking: • Wear the appropriate Personal Protective Equipment (PPE), including gloves, apron, and eye protection, throughout the task. • Ensure the correct dilution is prepared and used in accordance with the manufacturer's instructions and Trust procedures • Never mix cleaning chemicals, as this may result in a hazardous chemical reaction and pose a risk to health and safety. • Handle PVA toilet cleaner sachets with dry hands to prevent premature activation of the product • Display caution signs in a prominent position before commencing work to alert staff, patients, and visitors to potential hazards. • Store cleaning chemicals securely within the service trolley and never leave chemicals unattended or on top of the trolley. • Ensure the toilet area is adequately ventilated throughout the cleaning process to minimise exposure to chemical vapours. • Follow COSHH assessments, risk assessments, and Trust procedures always. • Use safe working practices to prevent cross-contamination and maintain infection prevention and control standards. • Remove PPE safely on completion of the task and dispose of it in accordance with Trust waste management procedures. • Perform hand hygiene in accordance with NHS guidelines after completing the task. • Ensure all equipment and chemicals are cleaned, stored safely, and secured within the locked domestic cleaning cupboard following use.

Standard Operating Procedure Risk Rating High

Activity/Task	3: PVA Toilet Descale Booster
Cleaning products used for activity	Cleaning products used for activity: PVA Toilet Descale Booster
Standard precautions when using products	Standard precautions when using products: - COSHH - Follow the manufacturers guidelines
PPE required for activity	PPE required for activity: - Gloves - Apron - Goggles
Equipment and materials used for this activity	Equipment and materials required: - PVA toilet descale booster - PVA labelled dilution bottle
Standard precautions when using equipment	Standard precaution when using equipment: Ensure the dilution bottle is clean, intact, and fit for purpose prior to use. Verify that the bottle is clearly and correctly labelled in accordance with Trust procedures and COSHH requirements before filling, ensuring safe identification and use of the cleaning solution.
Method statement	Method: 1. Perform hand hygiene in accordance with NHS Hand Hygiene Guidelines. Check hands for any cuts or abrasions and cover these with a waterproof dressing if required. Select and don the appropriate Personal Protective Equipment (PPE). Position caution signs around the work area, ensuring they are clearly visible to all persons entering the area. 2. Prior to using any cleaning chemical, review the relevant Safety Data Sheet (SDS), COSHH assessment, and risk assessment. These documents are in the COSHH folder within the domestic cleaning cupboard. They provide essential information regarding the safe handling, storage, use, and emergency procedures associated with the product. 3. Use all cleaning chemicals strictly in accordance with the manufacturer's instructions and you're training. Never mix chemicals. Only use cleaning products supplied and approved by the Trust. 4. Throughout the cleaning process, ensure all chemicals are stored securely within the locked compartment of the service trolley when not in use. 5. Fill the dilution bottle with cold water up to the black mixing line. 6. Using dry gloved hands, add one toilet cleaner sachet to the bottle. Secure the lid firmly and shake the bottle thoroughly to begin dissolving the contents. 7. Remove the lid and continue filling with cold water to the 1-litre fill line. Replace the lid securely and shake again to fully mix the solution. 8. Carefully open the directional cap to release any built-up pressure, then close the cap and allow the solution to stand for several minutes. 9. Ensure the toilet area remains well-ventilated throughout the task. 10. Where heavy limescale deposits are present, add the Toilet Descale Booster to the prepared toilet cleaning solution and shake thoroughly before use.

	11. For routine toilet cleaning, flush the toilet. Using a toilet brush, agitate the water to reduce the water level within the bowl and loosen any debris present. 12. Apply the Toilet Descale Booster evenly beneath the rim of the toilet bowl, allowing the solution to flow around the bowl and into the trap. The solution will change colour from green to fresh blue. Allow a contact time of approximately five minutes. Using the toilet brush, thoroughly clean beneath the rim, around the bowl, and at the base of the pan before flushing to rinse. 13. To maintain safety, hygiene, and compliance with chemical handling standards, ensure all Toilet Descale Booster residue is completely removed following use. If any product residue remains, flush the toilet a second time to ensure the bowl is fully rinsed and free from cleaning chemicals. 14. Upon completion of the task, clean, dry, and inspect all equipment before storing it safely and tidily in the designated secure storage area. 15. Remove and clean caution signs only when the area is safe, dry, and free from hazards. 16. On completion take off (doff) and dispose of PPE as per your local trust policy. 17. Perform hand hygiene in accordance with NHS Hand Hygiene Guidelines. 18. Ensure the domestic cleaning cupboard is left clean, secure, and locked upon completion of the task.
Standard precautions when undertaking activity	Standard precautions when undertaking: • Wear the appropriate Personal Protective Equipment (PPE), including gloves, apron, and eye protection, throughout the task. • Ensure the correct dilution is prepared and used in accordance with the manufacturer's instructions and Trust procedures. • Never mix cleaning chemicals, as this may result in a hazardous chemical reaction and pose a risk to health and safety. • Handle PVA toilet booster sachets with dry hands to prevent premature activation of the product • Display caution signs in a prominent position before commencing work to alert staff, patients, and visitors to potential hazards. • Store cleaning chemicals securely within the service trolley and never leave chemicals unattended or on top of the trolley. • Ensure the toilet area is adequately ventilated throughout the cleaning process to minimise exposure to chemical vapours. • Follow COSHH assessments, risk assessments, and Trust procedures always. • Use safe working practices to prevent cross-contamination and maintain infection prevention and control standards. • Remove PPE safely on completion of the task and dispose of it in accordance with Trust waste management procedures. • Perform hand hygiene in accordance with NHS guidelines after completing the task. • Ensure all equipment and chemicals are cleaned, stored safely, and secured within the locked domestic cleaning cupboard following use.

Standard Operating Procedure

Risk Rating



Activity/Task	4: FF-40 Detergent
Cleaning products used for activity	Cleaning products used for activity: FF-40 Detergent
Standard precautions when using products	Standard precautions when using products: - COSHH - Follow the manufacturers guidelines
PPE required for activity	PPE required for activity: - Gloves - Apron - Goggles
Equipment and materials used for this activity	Equipment and materials required: - PVA FF40 Detergent sachets - PVA labelled dilution bottle
Standard precautions when using equipment	Standard precaution when using equipment: Ensure the dilution bottle is clean, intact, and fit for purpose prior to use. Verify that the bottle is clearly and correctly labelled in accordance with Trust procedures and COSHH requirements before filling, ensuring safe identification and use of the cleaning solution.
Method statement	Method: - Perform hand hygiene in accordance with NHS Hand Hygiene Guidelines. Inspect hands for cuts, abrasions, or broken skin and cover any wounds with a waterproof dressing. Select, inspect, and don the appropriate Personal Protective Equipment (PPE). Position caution signs around the work area, ensuring they are clearly visible to all persons entering the area. - Prior to commencing the task, review the relevant Safety Data Sheet (SDS), COSHH assessment, and risk assessment for the chemical being used. These documents are in the COSHH folder within the domestic cleaning cupboard. They provide essential information regarding the safe handling, storage, use, and emergency procedures associated with the product. - Always use cleaning chemicals in strict accordance with the manufacturer's instructions and you're training. Never mix chemicals and only use cleaning products that have been approved and supplied by the Trust. - Throughout the cleaning process, ensure all chemicals are stored securely within the service trolley when not in use. - Fill the appropriate colour-coded bucket with 3 litres of cold water and add 3 cleaning sachets. - Stir the solution thoroughly until the sachets have fully dissolved. Commence cleaning in accordance with your training and local cleaning procedures. - Upon completion of the task, clean, dry, and inspect all equipment before storing it safely and tidily in the designated secure storage area. - Remove and clean caution signs only when the area is safe, clean, and dry. - Doff and dispose of PPE in accordance with local Trust policy and waste management procedures. - Perform hand hygiene in accordance with NHS Hand Hygiene Guideline

	11. Ensure the domestic cleaning cupboard is left clean, secure, and locked upon completion of the task.
Standard precautions when undertaking activity	Standard precautions when undertaking: • Wear the appropriate Personal Protective Equipment (PPE), including gloves, apron, and eye protection, throughout the task. • Ensure the correct dilution is prepared and used in accordance with the manufacturer's instructions and Trust procedures. • Never mix cleaning chemicals, as this may result in a hazardous chemical reaction and pose a risk to health and safety. • Handle PVA FF-40 sachets with dry hands to prevent premature activation of the product • Display caution signs in a prominent position before commencing work to alert staff, patients, and visitors to potential hazards. • Store cleaning chemicals securely within the service trolley and never leave chemicals unattended or on top of the trolley. • Ensure the toilet area is adequately ventilated throughout the cleaning process to minimise exposure to chemical vapours. • Follow COSHH assessments, risk assessments, and Trust procedures always. • Use safe working practices to prevent cross-contamination and maintain infection prevention and control standards. • Remove PPE safely on completion of the task and dispose of it in accordance with Trust waste management procedures. • Perform hand hygiene in accordance with NHS guidelines after completing the task. • Ensure all equipment and chemicals are cleaned, stored safely, and secured within the locked domestic cleaning cupboard following use.

Appendix B – Staff Questionnaire

SUSTAINABILITY & ENVIRONMENTAL IMPACT REVIEW Anonymous Staff Questionnaire

Department/Team: Domestic Services

Rating Scale: 1 = Poor/Not at All | 2 = Below Average | 3 = Adequate | 4 = Good | 5 = Excellent

1. How important is sustainability in the services we provide?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

2. Do you believe our current service supports environmental sustainability?

☐ Significantly ☐ Somewhat ☐ Neutral ☐ Not Enough ☐ Not at All

3. How would you rate our efforts to reduce environmental impact?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

4. Is enough consideration given to environmental impact when designing or delivering services?

☐ Always ☐ Often ☐ Sometimes ☐ Rarely ☐ Never

5. What are the biggest barriers to improving sustainability? (Tick all that apply)

☐ Budget Constraints ☐ Lack of Awareness ☐ Limited Resources

☐ Technology Limitations ☐ Competing Priorities ☐ Other: _____

6. How confident are you that our organisation will meet its sustainability objectives?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

7. What one change would have the greatest positive environmental impact?

Additional Comments

Thank you for your feedback. Estimated completion time: 2 minutes.

Appendix C – Questionnaire Results

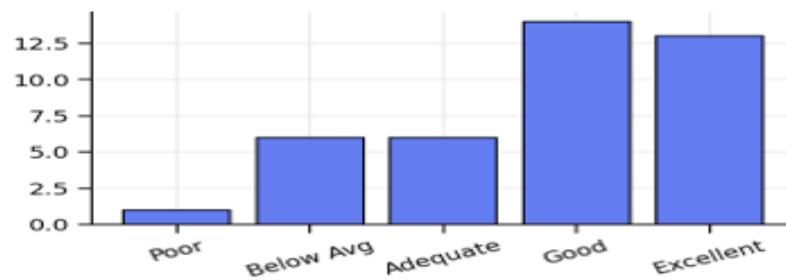
Sustainability & Environmental Impact Review

Domestic Services Questionnaire Results (40 Responses)

Question 1

How important is sustainability in the services we provide?

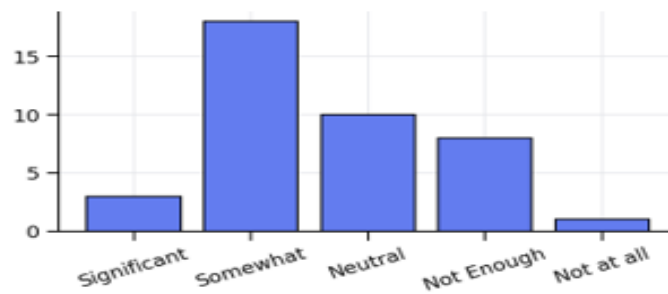
67.5% rated Good or Excellent.



Question 2

Do you believe our current service supports environmental sustainability?

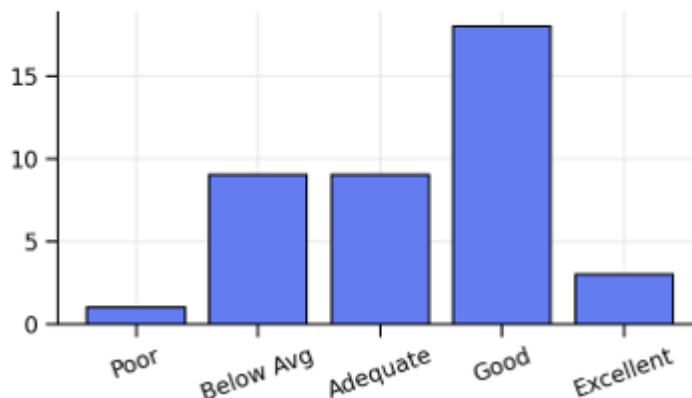
52.5% selected Significantly or Somewhat.



Question 3

How would you rate our efforts to reduce environmental impact?

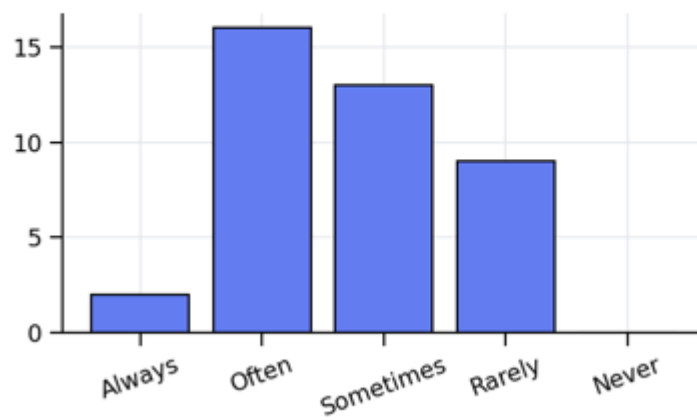
52.5% rated Good or Excellent.



Question 4

Is enough consideration given to environmental impact when designing or delivering services?

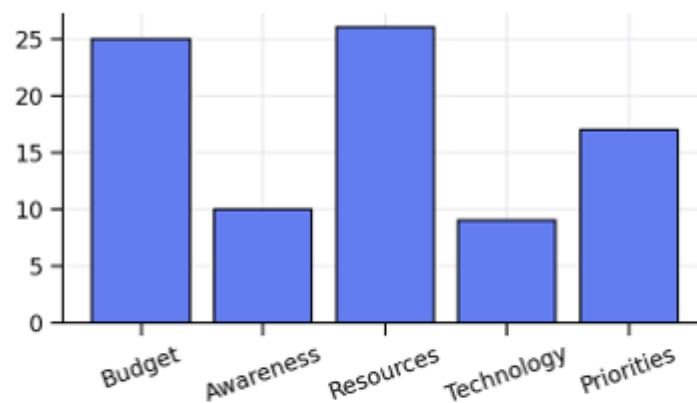
45% selected Always or Often.



Question 5

What are the biggest barriers to improving sustainability?

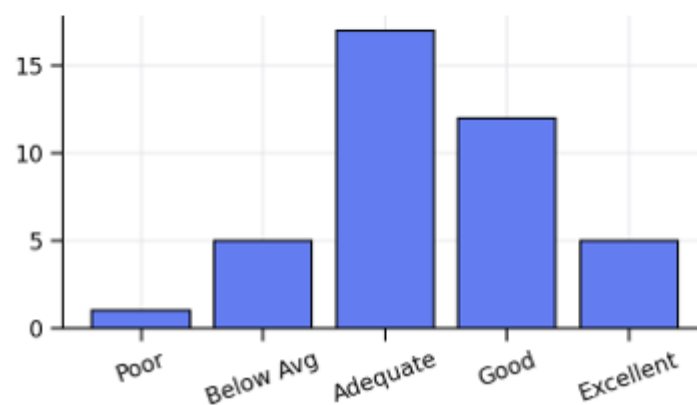
Top barriers were Limited Resources (65%) and Budget Constraints (62.5%).



Question 6

How confident are you that the organisation will meet its sustainability objectives?

85% rated Adequate, Good or Excellent.



Question 7 - Suggested Improvements

Reduce plastic use (5 responses); Paperless working/reduction (7); Reduce waste (2); Reduce disposable usage (6); Better budget (2); Better chemicals (3).

Additional Comments

More recycling, eco-friendly chemicals, reusable items, environmental education, and funding for sustainability projects were common themes.

Conclusion

Staff strongly support sustainability initiatives. Resource availability and budget constraints remain the main barriers. Respondents would like greater recycling, reduced paper and disposable usage, greener products, and increased investment in sustainable technologies.

Appendix D. – Costings

Old product 01.04.2025 - 31.03.2026					New Product 01.09.26 onwards					
Old product	UOM	Unit price (ex.Vat)	Qty	Total Spend	New Product	UOM	Unit price (ex.Vat)	Cost of each	Qty	Total Spend
MKJ85078	Each	£0.69	6904	£4,763.76	TOILET CLEANER BOX (10 PACKS OF 50 SACHETS)	10 PACKS OF 50 SACHETS	£270.00	£0.54	13.808	£3,728.16
MFF85010	Case of 6	£16.40	368	£5,711.90	TOILET CLEANER BOOSTER BOX (10 PACKS OF 50 SACHETS)	10 PACKS OF 50 SACHETS	£144.20	£0.29	4.416	£636.79
MKK85046	Bottle	£0.75	4923	£3,692.25	FF40 TRIGGER SACHETS PER BOX (10 PACKS OF 50 SACHETS)	10 PACKS OF 50 SACHETS	£155.00	£0.31	9.846	£1,526.13
				£14,167.91						£5,891.08

Appendix E. – PVA Hygiene Commitment.

COMMITTED TO THIS & FUTURE GENERATIONS

Every business has a responsibility to the environment and future generations. PVA Hygiene sachets allow businesses to eliminate single-use plastic and significantly reduce their carbon emissions, without compromising on effective cleaning.



REDUCE CARBON FOOTPRINT BY 95%

Compared to transporting liquid concentrates, PVA Hygiene products result in no transportation of water.



NO SINGLE-USE PLASTIC

Our bottles are designed to be durable and last a lifetime. Through reusing our bottles, the system reduces waste by 90% compared to using traditional commercial cleaning solutions.



BIODEGRADABLE, PRE-DOSED FORMULATIONS

No risk of chemical overdosing, which has the potential to negatively impact the environment.



PLANET FRIENDLY PACKAGING

All of our packaging is recyclable, and our pouches are also compostable.

