GV Health
Life. Protected.

Life Protected Cleaner
Water Soluble Matrix

CASE STUDY: LIFE PROTECTED CLEANER
University Hospital Southampton

Serco FM, which provides Soft FM services to University Hospital Southampton, collaborated with GV Health as part of Serco's national cleaning chemical sourcing project. University Hospital Southampton was one of the sites where the outcome of this project was implemented.

By replacing multiple products with GV Health's Life Protected Cleaner (LPC), Serco reports that, at University Hospital Southampton (one of the implementation sites), the change was associated with:

- 51% annual cost savings
- 82.8% overall carbon footprint reduction
- 2904* plastic containers eliminated annually (Based on average annual usage)
- Improved cleaning performance outcomes and staff satisfaction

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Introduction

GV Health, a science and technology company specialising in innovative and sustainable environmental hygiene solutions, has been working in partnership with Serco FM since 2019 as the main provider of clinical waste bags and hypochlorous acid–releasing NaDCC tablets.

In 2024, Serco FM initiated a cleaning chemical sourcing project aimed at reducing the number of cleaning chemicals used across its healthcare sites, prisons, and leisure centres. The goal was to identify high-quality products that ensure sites maintain optimal conditions while prioritising sustainability and meeting both Serco's and its customers' ESG requirements.

As part of this project, GV Health's Life Protected Multi-Purpose Cleaner (LPC), a single pH-neutral, multi-purpose cleaner in the form of a thin dissolvable sheet—was introduced to replace 33 separate cleaning chemical products.

With sustainable practice being key to reaching net-zero targets, this case study explores the process of rationalising the number of chemicals used within a healthcare environment, implementing a new cleaning chemical, simplifying cleaning processes, and outlining the resulting operational and sustainability outcomes.

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>
> Christine Pope, Contract Director for Serco

Background

Environmental hygiene within the NHS is critical for reducing the spread of infections, protecting vulnerable patients, staff, and visitors, and supporting antimicrobial stewardship. This has become increasingly important as the prevalence of healthcare-associated infections (HCAIs) continues to rise.

According to the UK Health Security Agency (UKHSA), HCAIs affected 7.6% of patients in 2023, an increase of 1% compared with the last reported figure in 2016.

As one of the largest public sector organisations in the UK and a significant contributor to national carbon emissions, the NHS relies heavily on cleaning and hygiene operations that involve substantial use of energy, water, and chemicals, often leading to waste and pollution.

With ambitious targets, Net Zero NHS by 2040 for direct emissions, sustainability in cleaning and environmental hygiene is vital not only to reduce the NHS's environmental footprint but also to enhance patient safety, improve public health, comply with regulations, and ensure long-term cost savings and resilience.

As the cleaning, hygiene and waste industry contributed nearly £66.9 billion to the UK economy in 2022, as published by The British Cleaning Council, 2025, healthcare providers have a huge choice of cleaning and disinfectant chemicals for consideration (Table 2.) The selection process of cleaning and disinfecting chemicals can vary within each hospital based on hospital size, procurement policies, infection prevention & control (IPC) guidance and different framework agreements.

Cleaning processes can often be complex due to the diversity of clinical environments, the risk of healthcare-associated infections (HCAIs), and the need to comply with national standards such as the National Standards of Healthcare Cleanliness, 2025.

Challenges faced when selecting the correct cleaning & disinfecting chemicals across healthcare environments:

1. Dilution, Contact Time and Use Instructions
- Many chemicals require precise dilution, particularly concentrates (Table 3.)
- Different chemicals require specific contact times (Table 2.)
- Variability can lead to misapplication and reduced efficacy without thorough training and clear usage guidance.

2. Staff Training and Consistency
- Cleaning teams must be trained to understand which product should be used where, how to dilute it, and how long it should remain on surfaces.
- Hospitals operate continuously, meaning cleaning must take place while patients, visitors, and staff are present, requiring safe and efficient procedures.

3. Storage and Risk Management
- A larger number of chemicals requires more storage space, additional COSHH assessments, and potentially greater risk.
- Certain chemicals cannot be safely stored together.

4. Chemical Compatibility and Surface Safety
- Harsher cleaning or disinfecting chemicals can damage certain materials if used incorrectly or excessively.

5. Efficacy Against Pathogens
- FR1 and FR2 areas require chemicals proven to be bactericidal, virucidal, and sporicidal under BS EN 1276, EN 14476, or EN 13704 standards.
- Lower-risk areas may not require the same level of microbiological efficacy.

Functional Risk (FR) Category	Example Areas	Audit Requirements
FR1	Critical clinical risk: ICU, operating theatres, chemo-therapy /immunocompromised units, A&E/resus/ minor injuries/major trauma	Audit target score: 98% Audit frequency: Weekly
FR2	Acute and community wards Dementia wards Treat-ment rooms where invasive procedures take place.	Audit target score: 95% Audit frequency: Monthly
FR3	Mental health and learning disabilities wards. Urgent care centres Dental outpatient departments Sexual health (GUM) clinics	Audit target score: 90% Audit frequency: Bi-monthly
FR4	Treatment rooms where invasive procedures do not take place X-ray (non-invasive)/MRI/CT rooms. Entrances, receptions, and public corridors, waiting areas, consulting/therapy rooms. departure/dis-charge lounges, rehabilitation units and day centres	Audit target score: 85% Audit frequency: Quarterly
FR5	Electrical and biomedical engineering/medical physics Chapel/prayer area Family/visiting rooms (not directly associated with a ward/department). Main receptions.	Audit target score: 80% Audit frequency: 6-monthly
FR6	Administration/offices Medical records Education/ postgrad and training centres Stores department	Audit target score: 75%, Audit frequency: Annually

Table 1: Functional Risk Category (FR), National Standards of Healthcare Cleanliness 2025

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Type of Cleaning Product	Indication for use	Contact Time Required
Detergent Cleaners	General areas. To be used prior to disinfecting.	No
Sanitisers	Kitchens & patient food prep areas	Yes
Disinfectants	High risk areas	Yes
Combined Detergent & Disinfectant	High risk areas	Yes
Toilet Cleaners	Toilet	Yes
Washroom Cleaners	Toilet and Washroom	Yes
Descaler	Toilet and Washroom	Yes
Floor Cleaners	Floors	No
Hand Hygiene Products (soaps, sanitisers)	Hand Hygiene	No
Odour Neutralisers / Air Fresheners	Toilet and bathrooms, waste disposal areas, etc.	No
Specialist Products (e.g. spill kits)	Varied depending on specialist product	Varied depending on specialist product

Table 2: Type of Cleaning Products (not an extensive list)

Cleaning Chemical Format	Instruction for use
Ready-to-use liquids	Ready to use solution
Pre-concentrates	Dosed at point of use using manufacturer required dilution ratios or auto-dosing system
Wipes (detergent, disinfectant, alcohol, sporicidal)	Ready to use
Solid (e.g. tablets, sachets, sheets)	Dosed at point of use, using manufacturer required dilution ratios or auto-dosing system

Table 3: Cleaning Chemical Format

With a broad range of cleaning & disinfecting chemicals available, complexities of healthcare environments and ambitions net-zero targets, we must start to think of innovative ways of working to ensure appropriate products are being used and chemicals are rationalised and streamlined where necessary. Serco have led by example with a recent cleaning chemical sourcing project.

Serco cleaning chemical sourcing project, spearheaded by Caroline Fennessey, FM Specialist (Cleaning)

Serco had a portfolio of 300+ cleaning items with an annual spend of £889K being used across all the Serco Business Units. The objective of the Cleaning Chemicals sourcing project was to rationalise the current product portfolio down to 25-30 items and to contract with a suitable manufacturer and purchasing all requirements via our primary distributor, Bunzl. Having a small selection of products for the business to choose from ensures consistency across all business units.

To initiate the project, Serco issued RFPs for 13 suppliers (manufacturers) and received quotes for the various products. As part of the RFP evaluation process, suppliers were evaluated and shortlisted based on quantitative (commercial) and well as qualitative (Risk essentials, technical capabilities and ESG capabilities) aspects.

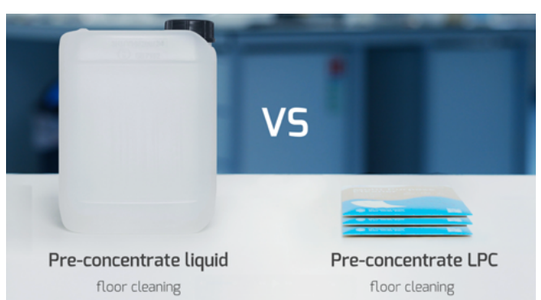
Following this evaluation, 13 suppliers were then reduced to 5, and testing on different chemicals took place across 3 of our sites to determine best outcomes. Once this was completed, 3 suppliers were chosen based on impact from service users, the overall sustainability and cost benefit.

Life Protected Cleaner (LPC)

At the time of the sourcing project, GV Health were just gearing up to launch their brand-new multi-purpose cleaner – Life Protected Cleaner (LPC), a solid, multi-purpose, pH neutral cleaner in the form of a thin dissolving sheet, designed to be used on all environmental surfaces, including, but not limited to, hard surfaces, floors and toilets across a wide range of environments.

Developed in-house by GV Health's Technical R&D team on an innovative Water-Soluble Matrix Technology, the surfactant-based formula water-soluble sheets dissolve in water in seconds to create a high-performance cleaning solution.

Provided in an outer cardboard pack, eliminating the need for plastic containers, each pack contains 36 sheets of LPC, which can make up to 36L of ready-to-use solution for hard surface cleaning, and up to 90L for floor cleaning. The cleaning formula is pre-measured in each LPC sheet, eliminating the need to measure or use a pump dispenser.



> According to Serco's internal evaluation, LPC was perceived as more effective at removing soil than products used previously on their sites

Implementing LPC at University Hospital

University Hospital Southampton is one of the largest hospitals in the UK, with approximately 1,362 beds, making it the second-largest hospital in the UK by bed capacity. Since 1 June 2017, Serco has provided soft FM services to the hospital, including cleaning, housekeeping, and waste management.

In November 2024, following Serco's cleaning chemical sourcing project, the hospital's range of cleaning chemicals was reduced from eight products to six. LPC was selected for floor cleaning, replacing a well-known washroom sanitiser.

Serco introduced the product in accordance with the Trust's infection prevention and clinical governance processes and implemented it in relevant areas in line with local governance procedures.

Implementing LPC at University Hospital cont.

Christine Pope, Contract Director for Serco at University Hospital Southampton was responsible for driving the cleaning chemical project forward with the team. Below, Christine's provides feedback on the implementation process for LPC:

Serco Contract Director (UHS site) feedback (operational perspective).

'The LPC cleaner was a completely new way of working for the Domestic staff as they did not understand how a small sheet of what they called paper could clean an area.

Whilst we were running down our old stock of floor cleaner (which came in 5ltr containers) GV Health came on to site to provide some training to Manager, Supervisors and also some of the frontline staff.

One of the initial challenges was from the night team who use large sit on and ride machinery for cleaning all of the corridors. I spoke directly to GV health who were helpful in working with me to overcome this issue and after a little more training with the night staff, the dosage was then done correctly, and no further issues were identified'.

End user feedback

Christine goes on to say, *'LPC is so much easier to use, and the Domestics have come to recognise this and prefer it to the previous floor cleaner. Whilst we will always have challenges with floors in certain areas of the hospital due to the age of the estate or the high footfall, the audit scores have improved.'*

During the evaluation and implementation process, 10 domestics provided the following feedback on LPC:

90% said it was easy to prepare than the previous product

100% were satisfied with the cleaning performance

90% said it was easy to use

90% said they preferred it to other products used

80% said it saved them time, compared to the previous product

Feedback was collected by Serco for internal operational evaluation purposes.

LPC vs previous floor cleaning product

Following a successful implementation, below is an in-depth comparison of LPC vs the previous floor cleaning product, to further highlight the positive benefits of switching.

Product	Type	Packaging	Format	Dosing	RTU solution*
LPC	pH neutral detergent	Cardboard pack	Solid sheet	Pre-measured for easy dosing	54 litres per pack
Former floor cleaning product	Sanitiser & cleaner	5l plastic container	Pre-concentrate	Dosed at point of use using manu-facturer required dilution ratios	50 litres per 5l container

*LPC dosage guidance for floor cleaning has been developed based on 5l of water per mop bucket, which means 1 pack of LPC can create up to 90l of solution for floor cleaning.

University Hospital Southampton use pre-dosed microfibre cloths to clean the floors, fitting 10 mops into the pre-dosing containers on their trollies. With this number of mops, they add 1.5 litres of water which is enough to wet the mops, but not to leave them dripping wet. This means they are using 1 LPC sheet to 1.5 litres of water which creates 54 litres of ready to use solution per LPC pack.

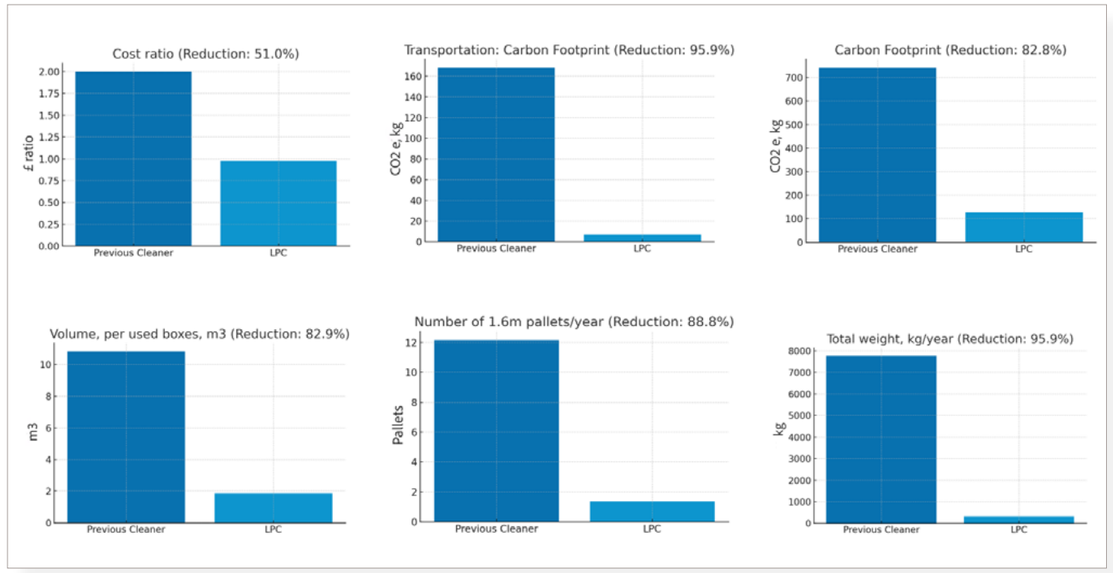
Sustainability benefits of LPC vs previous floor cleaning product

University Hospital Southampton are a long-time user of GV Health's, GV App (formerly Clematis) which is a user-friendly system that simplifies monitoring consumables across your hospital and associated sites. The GV App provides detailed information of where and when products are used around the hospital via the different reports available in the system, allowing you to compare usage, keep track of spend and reduce waste.

Utilising data from the GV App, a like-for-like comparison between LPC and the previous floor cleaning product was conducted. The outcomes of this comparison demonstrated significant improvements in both sustainability and cost savings:

Metric	Improvement achieved switching to LPC
Annual Cost Savings	51%
Transportation Carbon Footprint Reduction	95.9%
Overall Carbon Footprint Reduction	82.8%
Onsite Storage Space Reduction	82.9%
Pallet Usage Reduction	88.8%
Outer Packaging Weight Reduction	95.9%

Sustainability & cost saving outcomes



Additionally, LPC offers:

- **Fewer safety hazards**, as indicated in the SDS, compared to the previous floor cleaning product.
- **Longer 4 year shelf life**, ensuring a reduction in waste and chemicals going down the drain, into the water system.

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Key outcomes

Significant sustainability benefits	Environmental factors
· 51% Annual savings · 95.9% Annual transportation carbon footprint reduction · 82.8% Annual carbon footprint reduction · 82.9% Annual storage reduction · 88.8% Annual number of pallets reduction · 95.9% Annual weight of outer packing reduction	· Reduction in plastic - 8,000 containers per year eliminated · Multi-purpose cleaner can be used across multiple environments supporting rationalisation across Serco healthcare sites, leisure centres and prisons · LPC alignment with NHS Net Zero goals · University Hospital Southampton's Green Plan · Increase measures to reduce single use plastics (Waste & resources) · Carbon reduction pathway

LPC benefits - Operational observations reported by Serco at this site

- Provided in a convenient, lightweight and space saving cardboard pack
- Water soluble sheets dissolve in water in seconds to create high-performing cleaning solution
- Easily removes various soiling from surfaces including dirt, grease and tacky residues
- Safe and easy to dispense – no splash risk with the solid sheet and no need for manual pump dispensers

The cleaning formula is pre-measured in each LPC sheet, which eliminates the need to measure or use a pump dispenser

- Pre-measured sheets reduce waste and simplify training and processes for staff
- A pH-neutral cleaner is less harmful to surfaces and the environment
- A simplified chemical inventory reduces the risk of chemical reactions, spills, and occupational hazards

Summary

Innovative approaches to sustainability in the NHS are essential to achieving net-zero targets. Introducing LPC, a multi-purpose pH-neutral cleaner in the form of a dissolvable sheet, enables the rationalisation of cleaning chemical inventories while delivering significant carbon reductions, simplified staff training, and notable cost savings.

In recognition of Serco's work, and in partnership with GV Health, LPC was shortlisted for the Cleaning Excellence Awards 2024 – Innovative Product of the Year, where it was awarded Highly Commended.

Innovative Product of the Year 2024
Awarded Highly Commended
Cleaning Excellence Awards

Non-endorsement: This document is a Serco/GV Health case study. The Trust does not endorse or recommend products or suppliers. Any outcomes presented are site-specific and are reported by Serco/GV Health; they do not constitute a Trust recommendation or procurement decision.

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