



GV Health
Life. Protected.



Life Protected Cleaner
Water Soluble Matrix

CASE STUDY: LIFE PROTECTED CLEANER

Queen Alexandra Hospital, Portsmouth

Equans, which provides facilities management and environmental cleaning services at Queen Alexandra Hospital, Portsmouth, collaborated with GV Health to evaluate and implement Life Protected Cleaner (LPC) as a simpler, controlled-dose approach to routine cleaning.

By replacing multiple cleaning products with LPC across floors, hard surfaces, toilets and selected machine-cleaning applications, the project delivered:

- Approximately 32% estimated annual cost savings
- 100% staff rating for ease of preparation, use and dosing confidence
- 92% positive cleaning performance rating
- Reduced product waste, residue and cleaning complexity

Disclaimer: This case study has been produced by GV Health. Queen Alexandra Hospital does not endorse or recommend any specific commercial products or suppliers. References to the Trust are included for factual context only. Any data, results or outcomes stated are reported by GV Health. Results are based on GV Health analysis and have not been independently verified by the Trust; outcomes may vary.



Introduction

GV Health, a science and technology company specialising in innovative and sustainable environmental hygiene solutions, worked with Equans to evaluate a new approach to routine environmental cleaning at Queen Alexandra Hospital, Portsmouth.

Equans provides facilities management and environmental cleaning services across the large acute hospital site, where cleaning teams operate across a diverse range of clinical and non-clinical environments. As part of an ongoing review of cleaning performance and operational efficiency, Equans identified an opportunity to simplify the number of cleaning products in use, improve dosing control and address issues including product overuse and residue on high-footfall flooring.

GV Health's Life Protected Cleaner (LPC), a pH-neutral, multi-purpose cleaner supplied as a pre-measured water-soluble sheet, was introduced for evaluation as a versatile alternative across floors, hard surfaces, toilets and selected machine-cleaning applications.

With healthcare cleaning teams under continued pressure to maintain high standards while improving efficiency, reducing waste and controlling costs, this case study explores how Equans trialled and implemented LPC at Queen Alexandra Hospital, the response from frontline cleaning teams and the operational and financial outcomes achieved.



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

“LPC cleaned the hard floors in Emergency Department very well... the floors came up straight away, leaving no residue.”

Cleaning Technician, Queen Alexandra Hospital

“LPC trial produced strong results that demonstrated both quality and reliability.”

Dean Lewis, Soft FM Manager, Equans

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



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.

Queen Alexandra Hospital

Equans provides facilities management and environmental cleaning services at Queen Alexandra Hospital in Portsmouth, a major acute hospital with approximately 1,600 beds.

Cleaning teams operate across a wide variety of environments, from wards and public areas to toilets, hard surfaces and the busy Emergency Department.

Before LPC was introduced, multiple products were being used for routine cleaning across the hospital. This created additional complexity for cleaning teams, increased storage requirements and made it more difficult to achieve a consistent approach across different areas and shifts.

One particular challenge was residue left on flooring, especially in the Emergency Department and other heavily trafficked areas.

In an effort to improve results, teams could use more cleaning product than required, increasing consumption and cost without necessarily improving the finish. including, but not limited to, hard surfaces, floors and toilets across a wide range of environments.

Equans wanted a solution that could:

- Improve cleaning performance and reduce floor residue;
- Simplify the number of products required;
- Make correct dosing easier and more consistent;
- Reduce unnecessary product consumption;
- Improve staff confidence and compliance;
- Reduce storage and stock-management requirements; and
- deliver meaningful cost savings.

Life Protected Cleaner (LPC)

Developed in-house by GV Health's Technical R&D team using innovative Water-Soluble Matrix Technology, Life Protected Cleaner (LPC) is a pH-neutral, multi-purpose cleaner supplied as a pre-measured water-soluble sheet.

Its surfactant-based formulation dissolves in water within seconds to create a high-performance cleaning solution, removing the need to manually measure or dispense liquid concentrates.

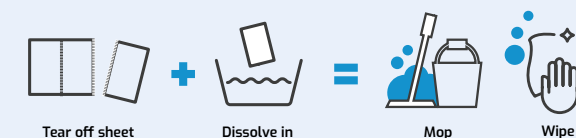


Staff simply add the required LPC sheet to water, providing a simple, consistent and controlled approach to preparation and dosing. Its versatility enabled Equans to evaluate LPC across multiple routine cleaning applications, including:

Floors | Hard surfaces | Toilets | Scrubber machines



Dissolve in seconds...



For Equans, LPC presented an opportunity to rationalise multiple cleaning products into one versatile solution, simplifying cleaning processes while improving control over dosing and product use.



**Less to transport.
Less to store. Safer.**

Putting LPC to the test

Rather than moving directly to implementation, Equans and GV Health established a structured live trial.

Following an on-site demonstration and staff training, LPC was tested across a variety of operational environments, including high-footfall areas within the Emergency Department.

Teams evaluated:

- Cleaning performance;
- Ease of preparation;
- Ease of use;
- Confidence in achieving the correct dose; and
- Performance compared with existing products.

Feedback was formally captured through questionnaires completed by 12 end users, alongside observations from supervisors and the results seen during day-to-day cleaning.

GV Health provided ongoing support throughout the trial, helping teams become familiar with the dosing system and ensuring LPC was being used consistently.

Following the successful evaluation, LPC was introduced across relevant hospital departments and applications.

Its use was subsequently expanded into scrubber-machine cleaning, where Equans reported improved results compared with the previous degreaser.



LPC Floor Cleaning vs Previous product

Following the successful implementation of LPC, the comparison below provides a more detailed view of LPC against the previous floor-cleaning product, highlighting how, in addition to creating better cleaning outcomes, LPC can deliver practical, operational and cost benefits.

Manual mop cleaning

LPC dosage guidance for manual floor cleaning is based on a standard 5L mop bucket. At the recommended dosage, one pack of LPC can create up to 90L of ready-to-use cleaning solution, providing a simple and consistent approach to routine floor cleaning.

Machine floor cleaning

For floor-cleaning machines, one pack of LPC can create up to 180L of ready-to-use solution.

Vs previous product

A 5L container of the previous concentrated floor-cleaning product produces approximately 416L of ready-to-use solution, compared with 180L from a single pack of LPC. However, an LPC pack is only a fraction of the size and weight of a 5L jerrycan, creating significant advantages for storage, transport, handling and distribution across a hospital site.

To put this into context, a typical 24-bed NHS acute ward is around 1,400m². At Queen Alexandra Hospital, a single 65L machine fill using just 13 LPC sheets can provide approximately 1,600m² of cleaning coverage, equivalent to the floor area of an entire typical ward. The larger 113L machine, using 23 sheets, can provide around 2,800m² of coverage, equivalent to approximately two typical wards.

This demonstrates how a relatively small, lightweight pack of LPC can generate a substantial volume of ready-to-use solution and support cleaning across large floor areas. The same pre-dosed LPC format can be used for both manual and machine floor cleaning, helping simplify dosing, reduce storage and handling requirements, and potentially replace multiple conventional cleaning products.



Product	Type	Packaging	Format	Dosing	RTU solution*
LPC	pH neutral detergent	Cardboard pack	Solid sheet	Pre-measured for easy dosing	90 litres per pack for mop cleaning
LPC	pH neutral detergent	Cardboard pack	Solid sheet	Pre-measured for easy dosing	180 litres per pack for machine cleaning
Former floor cleaning product	Sanitiser & cleaner	5L plastic container	Pre-concentrate	Dosed at point of use using manufacturer required dilution ratios	416 litres per 5L pre-concentre container for machine cleaning



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The results...

32% Estimated Annual Cost Saving

Moving to LPC enabled Equans to rationalise its existing cleaning products while gaining greater control over dosing and consumption.

The result was an estimated annual cost saving of approximately 32%.

Pre-measured dosing also reduced the potential for excessive product use, helping Equans gain greater control over cleaning consumable costs.

100% Confidence in Preparation and Dosing

Staff response to the new system was particularly strong.

100% of respondents rated LPC 5 out of 5 for:

- ease of preparation;
- ease of use; and
- confidence in achieving the correct sheet-to-water ratio.

The pre-measured format removed much of the uncertainty associated with manual dilution and created a straightforward, repeatable process for cleaning teams.

Strong Cleaning Performance

92% of respondents rated LPC's overall cleaning performance positively, scoring it either 4 or 5 out of 5.

Feedback was particularly positive in challenging high-traffic areas, where staff reported improved removal of ingrained dirt and stubborn marks together with reduced residue.

“LPC cleaned the hard floors in ED very well... the floors came up straight away, leaving no residue.”

A Solution Staff Preferred

The trial also demonstrated strong end-user acceptance:

- 83% said they would be likely or very likely to recommend LPC.
- 75% said they preferred cleaning with LPC compared with the previous product.

This helped support a smooth transition and embed LPC into established cleaning routines.

End user feedback

92%
were satisfied with the cleaning performance

83%
would likely or very likely recommend LPC

75%
preferred cleaning with LPC vs previous product

100%
ease of use and preparation

100%
confidence in achieving correct dosage

“Very efficient cleaning on the floors in ED, a very high-traffic area and the busiest department in the hospital.”

“Takes the floor right back and lifts out all the grime”

Beyond Cost Savings

The benefits of implementation went beyond the financial saving.

Greater standardisation

Using one multi-purpose solution across several routine applications reduced variation in product selection and preparation.

Reduced product waste

Pre-measured dosing helped prevent unnecessary product use and provided greater control over consumption.

Simpler stock management

Product rationalisation reduced the number of separate cleaning products that needed to be ordered, stored and managed.

Improved staff confidence

A simple, repeatable preparation process made correct dosing easier for teams to understand, follow and supervise.

Wider operational use

Following the initial trial, LPC was successfully extended into scrubber-machine applications, creating further opportunities to simplify the cleaning product range.

Key outcomes

Significant sustainability benefits	Environmental factors
• Approx. 32% annual cost saving • Reduced product consumption through improved dosing control • Reduced storage requirements through product rationalisation • Greater standardisation across cleaning teams and applications • 100% confidence in correct dosing among trial respondents • 75% preferred LPC to the previous cleaning product	• Reduction in product waste through pre-measured, controlled dosing • Rationalisation of multiple routine cleaning products into one multi-purpose solution • Fewer separate products required to be ordered, stored and managed on site • Reduced potential for unnecessary chemical consumption caused by over-dosing • Supports reduced packaging, transportation, storage and product waste • Supports NHS objectives around resource efficiency and Net Zero

One Cleaner. Multiple Applications. A Simpler Process.

The Queen Alexandra Hospital project demonstrates how changing the format of a cleaning product can deliver benefits far beyond the cleaning solution itself.

By replacing several routine products with Life Protected Cleaner, Equans has created a simpler and more consistent approach to environmental cleaning while reducing product consumption, storage requirements and cost.

Most importantly, the change was supported by the people using the product every day, with strong staff preference, dosing confidence and cleaning-performance results.

The outcome: a more controlled approach to cleaning, an estimated 32% annual cost saving and a versatile solution that can support multiple cleaning applications across a complex acute hospital environment.

Better Outcomes

“Since the opening of the new Emergency Department (ED) at Queen Alexandra Hospital (QAH), we have been using LPC from GV Health within our scrubber drier machines. Throughout this period, we have seen a significant improvement in cleaning standards and overall cleaning performance.

The product has performed exceptionally well within the scrubber machines, delivering consistent cleaning results and supporting the high standards required within a busy clinical environment. In addition to its cleaning effectiveness, LPC offers a safer solution for operational staff, as it can be easily and safely added to the scrubber machine water tanks, reducing handling risks and supporting safer working practices.

Based on the positive results achieved within the ED, we are now using this in our public areas and are now trialling it in other areas of the hospital to achieve improvements in cleaning quality, operational efficiency, and staff safety.”

Dean Lewis, Soft FM Manager, Equans



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