NHS
Great Western Hospitals
NHS Foundation Trust

Infection Prevention & Control and Sustainability

Exemplar site project report

THE CLIMATE EMERGENCY IS A HEALTH EMERGENCY

Introduction

In October 2020, the NHS became the world's first health service to commit to reaching net zero carbon, stating that:

"The climate emergency is a health emergency. Climate change threatens the foundations of good health, with direct and immediate consequences for our patients, the public and the NHS."

Healthcare currently causes four per cent of the UK's carbon emissions; achieving net zero across the NHS thus requires changes to the ways in which healthcare is delivered. Whilst the requirement to identify and make those changes is now embedded in legislation and is a key section highlighted in the Chief Nursing Officer's strategy, there can be a perceived conflict between the Infection Prevention and Control (IPC) rationale for existing practices and the need to review those practices in the light of their impact on NHS carbon emissions.

Environmental sustainability and IPC practices are interconnected in several ways, and understanding these connections is crucial for addressing both public health and environmental challenges. Impacts of climate change to IPC include the increase of vector-borne and waterborne diseases, respiratory infections, likelihood of extreme weather events, malnutrition and the impact of that on immune function, antimicrobial resistance (AMR), and vulnerable populations.

Although there are many examples of excellent joint-working between Sustainability and IPC Teams, these have largely been the result of ad-hoc collaboration between particular individuals rather than as a result of formal, existing processes. As such, the scaling and spreading from these initiatives is limited.

A more integrated approach that recognises the interconnectedness of sustainability and IPC, that seeks to minimise conflicts while maximising the benefits of both, is more crucial than ever to protect human health and the planet.

The vision of NHS England's exemplar site project is for participating sites to showcase quality improvement projects that connect and benefit IPC and sustainability outcomes, sharing best practice principles of both and breaking down perceived barriers to encourage and enable adoption of these projects across other sites and healthcare settings. It is hoped that this will demonstrate better patient experience and outcomes through improved infection control practices and savings in carbon and cost.

Following discussion with NHS England in late 2023, Great Western Hospitals NHS Foundation Trust (GWH) became the pilot site for the exemplar site project, with funding for a four-month programme to implement a variety of initiatives and to create a model for the governance and reporting structures which would support this joint-working in the longer term.

4%

of the UK's CO_2 emissions are from healthcare

Project summary

The project proposal from NHS England suggested that a glove or cannula reduction project could be used as a vehicle for demonstrating the benefits of formal joint working between IPC and Sustainability Teams. Since GWH was one of the sites at which collaboration between those teams had already been taking place on an ad-hoc basis, both teams saw this also as an opportunity to formalise that approach and thus additional projects were brought into the scope of the exemplar site work. The list of projects is below:

1. Green ED

Gaining Green ED accreditation from the Royal College of Emergency Medicine (including a cannula reduction project).

2. Gloves off

Implementing the Intensive Care Society's Gloves Off in Critical Care project.

3. Linen procedures

Reviewing linen procedures (use of couch roll and frequency of sheet changing).

4. Skin preparation

Reviewing the skin preparation needed for venepuncture.

5. Bag to Bedside

Implementing the 'Bag to Bedside' waste optimisation system.

6. PPE in theatres

Reviewing Personal Protective Equipment (PPE) in theatres – moving to reusable theatre caps and reducing the use of overshoes.

7. Infectious waste

Infectious waste definition and sharps bin lockdown dates – providing clarity to clinical staff in the light of updated national guidance (HTM 07-01).

8. Reusable tourniquets

Beginning a trial of reusable tourniquets.

9. Non-alcohol hand sanitiser

Trialling a more sustainable hand sanitiser.

10. Recyclable curtains

Trialling curtains that can be used for longer and recycled.

11. Recycling bins

Wider roll-out of recycling bins in clinical areas.

Clinical Sustainability Group

In order to maintain and monitor progress on the above projects, many teams formed their own project groups (e.g. Green ED, Gloves Off in Critical Care) and there were existing groups focusing on sustainability in areas such as Theatres and the Trust's Academy.

For other projects, especially those being driven by small numbers of individuals (or an individual), there has previously been no formal oversight and it can be easy for progress to stall in that scenario. This was seen previously at GWH, when a sustainability working group in maternity folded once key personnel left.

To bring all projects together, with the aim of enabling the sharing of ideas, the celebration of success and the tracking of actions, a Clinical Sustainability Group (CSG) was established. The CSG has met monthly since January 2024, chaired by the Clinical Sustainability Lead (a newly created hybrid role held by the Associate Director of IPC) with the Head of Sustainability supporting as Deputy Chair.

Terms of reference for the group have been signed off, with membership and reporting structure agreed. Membership includes representatives from:

- IPC Team
- Sustainability Team
- Quality Improvement Team (Improving Together)
- Facilities Management
- Heads of Services from each Division
- Working Group Leads (e.g. Theatres, Green ED, Academy)
- Pharmacy Team
- Procurement Team

The CSG formally reports to the Estates and Facilities Management Board, as the Trust's Green Plan is monitored through that forum, and the CSG also provides regular updates to groups overseeing patient safety and quality from a clinical perspective, such as the Senior Nursing, Midwifery and AHP Forum.

1. Green ED

Project aim

The Trust's Emergency Department (ED) have pledged to reduce their carbon footprint. The Royal College of Emergency Medicine (RCEM) has a Green ED initiative which sets out objectives for EDs to reduce their impact on the environment. With the cultural shift Green ED brings, the team will be able to embed sustainable practices within the department which supports the NHS goal of being Net Zero Carbon by 2040.

Stakeholders

Associate Director of Infection Prevention and Control, Matron of ED, Nurse Manager of ED, wider staff in ED and UTC, Pharmacy, and Procurement.

The Green ED Team also worked alongside the Transformation and Improvement Team, to ensure that the Trust's improvement methodology, Improving Together, aligned with the Green ED initiative.

Budget

£3,015

This money was allocated to:

- RCEM registration: £799
- Bank Shifts for sustainability nurse: £1,163
- Magnetic bin labels: £115
- Recycling bins: £938

Project delivery

An ED sustainability group was created and the group identified objectives to meet in order to achieve bronze level accreditation. Two ED nurses became Sustainability Leads and project funding was used to enable them to work additional shifts to work on this. The Trust also signed up to the RCEM framework.

Results

A key goal from an IPC perspective and for this exemplar site project was to achieve a reduction in the use of cannulation equipment. With support from Clinical Leads in the department, as well as engagement with the key staff who inserted most cannulas, practice has moved away from cannulation as a default. Criteria for cannulation have been developed and displayed for staff. Procurement data was used to monitor this and a reduction in cannula use of 29 per cent was seen across the three months of the project.

Below are other Green ED objectives already achieved

- Cutlery has been swapped from plastic to wooden or reusable metal.
- Removal of plastic cups – replaced with Vegware cups that are compostable.
- Staff have been encouraged to use their own reusable bottles and mugs.
- An online feedback form was distributed for staff to suggest sustainability improvements.
- An online patient feedback/suggestion form was also launched - feedback is displayed in the waiting area.
- A sustainability board was added to the ED staff room.
- Dry powered inhalers (DPIs) were made available in the ED.
- Reusable sharps bins were already in use.
- The Trust had already (March 2023) decommissioned the piped supply of nitrous oxide.
- The Trust achieved both the Bronze and Silver accreditations in August 2024.

Bronze Green ED accreditation

Silver Green ED accreditation

29%

reduction in cannula use

reusable products introduced

piped N_2O supply decomissioned

2. Gloves off in Critical Care

Project aim

To reduce the inappropriate use of gloves in the Critical Care Unit by implementing the Gloves Off in Critical Care project devised by the Intensive Care Society (ICS).

Stakeholders

Using the implementation guide available on the ICS website the following stakeholders were identified: Project Leads (two Critical Care Staff Nurses volunteered to lead this project), Unit Matron and Manager, Procurement and Stores, Clinical Lead, Pharmacist, Practice Education Facilitator, Intravenous Access Team and Nutrition Team.

Budget

£400 for staff time.

Much of the work for this project was fitted around the project leads' clinical duties, within their existing contracted hours, thanks to the support of the Unit Manager and Matron. In addition to that, 20 hours of protected time was given (via additional bank shifts) to support the pre- and post-intervention auditing.

Project delivery

The first steps were to conduct an audit of current practice. The Procurement Team shared usage data which revealed that the unit spent £6,286.80 per year on gloves which, using data from Rizan C, Reed M and Bhutta MF (2021, https://doi.org/10.1177/01410768211001583), can be estimated to generate 7.2 tonnes of CO_2e emissions.

The tool for auditing glove use was included in the ICS's implementation pack and the following results were obtained from two days of audit in January 2024:

- 34 per cent of procedures were observed to include inappropriate use of gloves.
- 63 per cent of staff observed performed a procedure where their inappropriate use of gloves risked cross-contamination.
- Hand hygiene before applying gloves was observed in 15 per cent of cases.
- Hand hygiene after removing gloves was observed in 22 per cent of cases.

The Project Leads then designed a poster to introduce unit staff to the Gloves Off project and this was displayed at key locations throughout the unit. This was followed with a display board showing the project's progress and with tea-trolley teaching.

Posters showing examples of when (and when not) to wear gloves were displayed by each patient's bedspace. An article on the project was shared in the unit's monthly staff newsletter, e-mails about the campaign were sent to all team members, and a recording of a webinar on glove use was posted on the unit's MS Teams page.

Results

The post-intervention audit, carried out over two days in March 2024, gave the following results:

7%

Seven per cent of procedures were observed to include inappropriate use of gloves (improved from 34 per cent).

20%

20 per cent of staff observed performed a procedure where their inappropriate use of gloves risked cross-contamination (improved from 63 per cent).

70%

Hand hygiene before applying gloves was observed in 70 per cent of cases (improved from 15 per cent).

90%

Hand hygiene after removing gloves was observed in 90 per cent of cases (improved from 22 per cent).

Furthermore, procurement data showed there had been a 22 per cent reduction in glove use from January to March. If sustained, that would lead to a £1,382 annual saving and prevent 1.6 tonnes of CO_2e emissions.

22%
reduction in glove use

1.6 tonnes
emissions prevented

£1,382
annual savings

3. Review of linen procedures

Couch Roll

Project aim

Couch roll (sometimes known as blue roll) is often used to cover examination couches and is changed between patients. It is not impervious and it does not cover the whole couch, therefore the use of couch roll does not remove the need to clean couches between patients.

Work by an IPC Lead Nurse at Nuffield Health Warwickshire Hospital found that by stopping the use of couch roll where patients were not having invasive procedures (e.g. smear tests), savings of nearly £4,000 per year could be achieved while preventing more than 300kg of CO_2e emissions. GWH, as a much larger site than Warwickshire Hospital, would be expected to be able to achieve larger savings.

Stakeholders

The IPC and Sustainability Teams liaised with the Procurement Team and discovered that the Trust spends £11,000 on couch roll annually, using 155 miles of the product, generating 5 tonnes of waste and more than 800kg CO_2e.

£11,000 annually

155 miles/ 5 tonnes

800kg CO_2e

Delivery

The following guidance, based on a Standard Operating Procedure (SOP) developed at Northampton General Hospital, was shared with all settings where couch roll was being supplied (based on data from the Procurement Team):

- Couch roll/blue roll is not needed for routine use. There is no IPC benefit and it is unnecessary for the patient and the planet.
- Clean the couch between patients with universal wipes (or sporicidal wipes if the patient has *C. diff*).
- Any blankets/sheets used for maintaining patients' dignity must be changed after each patient use.

Many departments were able to stop using couch roll completely (for example the Emergency Department, Occupational Health and the main Outpatient Department). Other departments (for example those seeing children who might not all be potty-trained, those using it to protect clothing from ultrasound gel, and those frequently examining patients who are bleeding) instead moved to an individual patient risk assessment approach, only using couch roll if required rather than for all patients.

Results

This is a recent change so we do not yet have data on the reduction in usage.

Frequency of sheet changing

Project aim

To review whether a reduction in the frequency of changing sheets would be acceptable and feasible, and to implement changes to practice if approved.

Stakeholders

Nursing Leads, Linen Services Manager, Head of Patient Experience and Engagement, Public and Patient Engagement Groups.

Delivery

It is standard practice in most UK hospitals to change all patients' sheets daily, whether soiled or not. This does not appear to be mandated or advised in any guidance, but it is certainly a routine daily task in all inpatient wards at GWH. Noting a move in the hospitality industry in recent years to move away from that approach, the IPC Team explored whether a similar move would be feasible in healthcare.

Initial discussions with the ICB IPC Team, one of whom trained in Ireland, revealed that twice-weekly sheet-changing has been the norm in many organisations in Ireland for a number of years. Liaising again with Northampton General Hospital's IPC lead, the team established that they had recently moved to changing sheets on alternate days, with exceptions for patients with infections and immunocompromised patients. Discussions with the Linen Services department yielded further support, suggesting a possible additional benefit in a reduction in patient lost property (due to items such as hearing aids inadvertently being caught up in sheets sent for laundry).

A proposal to adopt a similar approach at GWH was taken to the Trust's Infection Control Group (a monthly meeting chaired by the Cheif Nurse) and to the Senior Nursing, Midwifery and AHP Group. It was approved at both groups, with a recommendation to undertake some patient and public engagement work prior to making the change.

The proposal below was sent to a variety of community groups and to public members of the Trust for comment:

Inpatient areas

- All linen must be changed between patients.
- Sheets and pillowcases: change twice-weekly (Sunday and Wednesday).
- Blankets: change when soiled or contaminated.
- Patients requiring isolation: change all linen daily.
- Any wet, soiled or contaminated linen: change immediately.

Augmented care areas

- Critical Care, Dove [oncology ward], Neonatal Unit: change all linen daily.

Results

Feedback from the public was very positive, with no negative comments received.

Next steps are to work with the Communications Team on launching this change in a positive way and to work with ward teams on implementing it.

Feedback from the public

"With regard to changing sheets every day, I agree that twice weekly for the majority of the patients is a good idea, unless, as you have stated, they need to be changed for whatever reason for certain patients. It will save so much time, money, water, energy and will be less hassle for the patients too."

"I think it's a sensible idea for changing sheets weekly. In your home you only do it weekly. However, if there are times when an accident occurs (tea/ or food or meds are spilt) the sheets need to be changed. Someone at last has their thinking head on. Good luck with it."

"I think this is a very sensible idea. It is not necessary for certain groups of patients. It is a waste of time and money. I would not have a problem with this if I were an inpatient."

"Having previously worked as a ward housekeeper I would suggest this makes absolute sense. I do recall patients asking why they had the sheets changed daily, when there had not been any reason for this. I am sure GWH will change as and when needed and there would be a policy to protect and guide on best practice. We all need to take sensible steps to reduce the energy we use and think about what /how we can play a part in safeguarding the precious environment we are living in. In my humble view this is a step in the right direction."

4. Reviewing the skin preparation needed for venepuncture

Project aim

To review whether the use of skin preparation prior to venepuncture was necessary in all circumstances.

A member of the IPC Team with a background in community nursing highlighted a discrepancy between community and hospital practice. In hospital, prior to venepuncture, patients' skin is prepared by use of a wipe containing two per cent chlorhexidine in 70 per cent alcohol. In community settings such as GP surgeries, it is common practice to use no skin preparation provided the skin is visibly clean.

The IPC Team therefore investigated the evidence behind the practice in hospital, to determine whether the use of skin preparation wipes might be leading to unnecessary carbon and financial costs.

As with many clinical procedures, venepuncture practice at GWH follows that described in the Royal Marsden Manual of Clinical Nursing Procedures. This does state to 'clean the patient's skin carefully for 30 seconds using an appropriate preparation, for example chlorhexidine two per cent in 70 per cent alcohol, and allow to dry.' It gives references for this advice:

1. epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England (http://dx.doi.org/10.1016/S0195-6701(13)60012-2)
2. Ayliffe's Control of Healthcare-Associated Infection: A Practical Handbook, 5th edn. London: Hodder Arnold.
3. Clean Safe Care: High Impact Intervention – Taking Blood Cultures: A Summary of Best Practice. Department of Health 2010.

The IPC Team reviewed all three documents. The first two make no mention of venepuncture, with the only reference to skin preparation being in the context of intravenous cannulation. The third only covers venepuncture when taking blood cultures, when reducing the number of bacteria on the skin is important in reducing the likelihood of skin organisms contaminating the sample. Since none of the three documents covered venepuncture in the absence of blood cultures, the team approached one of the authors of the epic3 guidance. They replied "I would agree that skin preparation is not necessary for venepuncture. The risk of carrying sufficient skin organisms to establish a BSI [bloodstream infection] with the needle is negligible. The risk is obviously significantly greater when the device remains in situ [e.g. a cannula] as it provides a portal of entry."

Stakeholders

Academy Trainers, Clinical Practice Educators, Procurement, Phlebotomy, Nursing Leads.

Delivery

Guidance was shared with clinical and training teams that visibly clean skin required no skin preparation prior to venepuncture in the absence of blood cultures, and that visibly dirty skin should be cleaned with soap and water. The IPC Team also attended Phlebotomy Team meetings to discuss this and answer any questions.

Results

This change has been well received and, though we do not yet have usage data to show the reduction in use of wipes, with hundreds of blood tests being undertaken across the Trust every day it is hoped this will have a noticeable impact on usage.

5. Implementing the ‘Bag to Bedside’ waste optimisation system

Project aim

To reduce the volume of infectious waste and improve the patient experience. Industry averages in UK healthcare suggests that up to 50 per cent of the waste put into the infectious waste stream is made up of general or offensive waste which can add as much as 20 per cent onto a hospital’s clinical waste budget.

The ‘Bag to Bedside’ system aims to improve this by removing offensive and infectious waste bins from patient rooms, replacing them with bag dispensers so that bags are taken to the bedside when required, before being disposed of in a central location on the ward.

Stakeholders

Manufacturer of bag dispensers, Swindon Intermediate Care Centre (SwICC) Matron and staff.

Budget

£500 for trial in SwICC

Delivery

SwICC was chosen for the trial as it is a separate building on the acute site where the waste contractor provides monthly reports on the volumes of waste collected. SwICC provides in-patient stroke and general rehabilitation support.

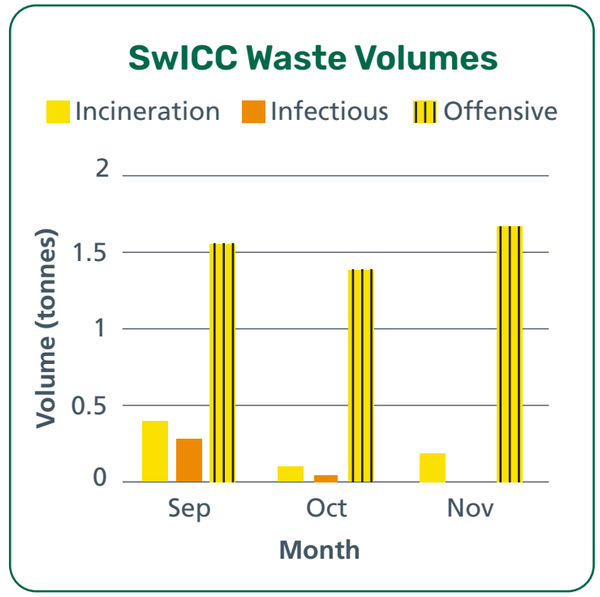
To make it easier for nursing staff to identify which bag to choose from, dispensers for both offensive and infectious waste streams are provided by the door. Procedures are conducted at the bedside, with the waste then taken to a dirty utility room for disposal.

The bag dispensers, bag grabbers and printed material were installed in September 2023 and training of staff was conducted later that month.

Results

The results showed a decrease in the volume of infectious waste sent for alternative treatment and an increase in the volume of offensive waste sent to an energy from waste recovery facility.

Feedback from staff showed there were fewer smells and fewer bins getting in the way. We estimate an annual cost saving of £30,000 when this project is rolled out across the acute hospital site.



6. Reviewing PPE in theatres

Reusable theatre hats

Project aim

To reduce the volume of disposable theatre hats used each year and enhance patient safety by ensuring that staff are more easily recognised.

Stakeholders

Theatres clinical leads.

Budget

£7,000

Delivery

GWH had a volume of disposable Covid push stock to utilise and this stock would have been used up by the end of the financial year. Instead of ordering further stock of disposable hats, the Sustainability Team investigated whether reusable hats could be used. The reusable hats can be embroidered with staff names and roles or departments so staff can be identified quicker as when other PPE such as masks and gowns are worn this can delay facial recognition.

Infection control developed, following risk assessment, a new standard operating procedure for staff to launder the reusable hats in a 40°C wash and this was approved through the Trust's Infection Control Group. The uniform policy was drafted to include details for Theatre staff on the reusable hats and a uniform ordering form was developed for the theatre hats also.

The reusable hat supplier was able to offer reusable hats in a variety of colours and clinical leads were deciding upon whether one colour for all staff could be used or whether different colours for different teams could be used.

It was later decided a single colour was prefered to not cause confusion when staff rotated.

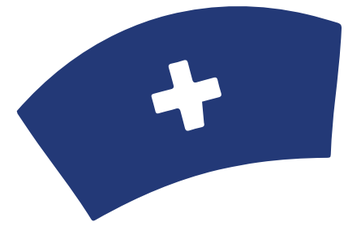
The supplier was also able to provide larger hats for braided hair, hijab style hats and tie-backs or elasticated backs as options. To help ensure laundry loads would be more effective staff would have been given up to four hats when working full time and prorated for fewer days.

A cost analysis was performed which took into the consideration the four-year lifecycle of the hat and staff turnover and this was a more cost-effective option than the disposable hats. A small stock of disposable hats would still be required for visitors and those that forgot to bring their hat.

Staff would also have been able to claim tax relief with HMRC when laundering the hats at home as per the Trust's uniform policy.

Results

This project was not completed as a decision on what type of reusable hats to order could not be reached for delivery of this project within the financial year. However, it is hoped that this project will be revisited next financial year as a long-term cost and carbon saving measure.



Overshoes

Project aim

To review whether the use of single-use plastic overshoes could be reduced or stopped.

Stakeholders

Theatre Teams, Maternity Teams.

Delivery

The Sustainability Team were approached by an anaesthetist, asking whether there was an opportunity to improve sustainability in theatres by reviewing the use of overshoes, which all birthing partners were being asked to wear when in maternity theatres.

The Sustainability Team linked with the IPC Team, who reviewed both the guidance and the evidence on this. It was clarified that there is no evidence for overshoes reducing the risk of surgical site infection and that recent guidance from the Association for Perioperative Practitioners does not recommend their use.

The above information was shared with Maternity and Theatres Teams. A decision to stop using overshoes was then formalised at a departmental governance meeting.

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7. Infectious waste definition and sharps bin lockdown timeline

Project aim

To reduce the volume of incorrect waste going into the infectious waste stream and increase the volume of sharps being sent for incineration in each reusable container.

Stakeholders

All members of staff, waste leads.

Delivery

The recent update of national guidance (HTM 07-01 Safe and sustainable management of healthcare waste) and the necessary update of Trust policy to align with this was taken as an opportunity to clarify for staff the definition of infectious waste.

The definition offered in HTM 07-01 is broad: “waste containing viable micro-organisms or their toxins which are known or reliably believed to cause disease in man or other living organisms” and could be interpreted to include or exclude different items by different people.

Discussion between the IPC and Sustainability Teams led to the aligning of our Waste Policy to our Isolation Policy. The latter stratifies patients into their priority for needing isolation in a single room, thus we were able to state that these patients also require their waste to be treated as infectious. This approach was agreed by the Trust’s external waste contractor.

Once the policy was updated, new mandatory waste training was created for all members of staff to complete once for their relevant area and also for all new members of staff to complete once on induction. The waste training ensures that all staff are aware of the waste management procedures and what types of waste go where in line with legislation.

There was also a review of process for the use of reusable sharps containers. These had previously been required to be closed and sent for processing within a three-month period of being opened, however that is no longer a requirement in national guidance. New local guidance was issued to remove this timescale and sharps bins are now closed once the volume of waste has reached the fill line.

Results

Staff are undergoing the waste management training and all new members of staff will be required to undergo this training which should see a reduction in infectious waste volumes over time. Volumes of sharps waste per container should also increase, which reduces the resources needed to empty and clean each reusable container when they are underutilised and previously sent for treatment when not full.

8. Trial of reusable tourniquets

Project aim

To determine whether replacing single-use disposable tourniquets with reusable ones was financially viable and clinically acceptable.

Stakeholders

Phlebotomy Teams in both hospital and community settings, Occupational Health and Community Midwifery Team.

Budget

£2,860

Total spend for the purchase of 130 reusable tourniquets.

Delivery

Procurement supplied data showing that the single-use tourniquets used at GWH cost 4.04p each (£1.01 for a roll of 25), not including disposal costs. 291,600 were used across the Trust in 2023. The reusable tourniquets proposed for this trial cost £22 each and the wipe used to clean them after each use costs 1.7p, meaning they would need to be used 935 times to be cost-effective. The manufacturer states they will last for at least 10,000 uses, however, as the initial financial outlay is not insignificant, a trial was needed to demonstrate whether this is the case in practice and acceptable to both patients and staff. Exemplar site project funding was therefore used to purchase 130 tourniquets.

To gauge the effectiveness of the reusable tourniquet the Phlebotomy Teams were chosen to trial the product. Although this is largely due to the high number of blood tests undertaken by them, another reason was that it would be possible to allocate each member of the team their own tourniquet, thereby ensuring consistency of training and feedback.

At GWH there is a Hospital Team (22 staff) and a Community Team (5 staff). Two other teams were chosen to trial the product in settings which are not primarily focused on blood-taking: the Community Midwifery Teams and the Occupational Health service. Tourniquets were given to each member of staff. Training was given in person by a representative from the manufacturer or by a member of the IPC Team. A short e-learning package was also made available to teams.

Staff and patient feedback forms were created, accessible via QR code or by paper if necessary for patients.

Results

Although the trials are still underway (and yet to start in maternity) and staff feedback is still being gathered, patient feedback so far has been positive with 87 per cent of patients rating the product favourably.

130 tourniquets

87% of patients rated favourably

9. Trial of non-alcohol hand sanitiser

Project aim

Through attendance at IPC learning events, we became aware of a non-alcohol-based hand sanitiser which appeared to offer various safety and sustainability benefits over alcohol-based products:

1. Effective against *C.diff* and norovirus, which alcohol-based products are not.
2. Shown to be non-inferior to alcohol-based products via a recent in-use evaluation at a London NHS Trust (Evaluation of a Novel Hypochlorous Acid Based Hand Hygiene Product With Sporicidal Activity in an Inpatient Ward Setting[v1] | Preprints.org)
3. Promoted as being kinder to skin, with the active ingredient (hypochlorous acid) being used in treating skin conditions.
4. Non-toxic so harmless if ingested.
5. Non-flammable so easier to store, making topping up less time-consuming as stock can be kept near to where it is needed rather than in a special storeroom.
6. Cheaper and more sustainable to dispose of used dispensers, due to having no COSHH or flammability concerns so can go for recycling rather than special treatment.
7. Uses less energy to produce than alcohol gel.

The Trust therefore wished to trial this product to determine its usability and acceptability.

Stakeholders

Procurement, Occupational Health, Health and Safety, Gastroenterology Ward (chosen due to risk of deliberate ingestion of alcohol-based products by patients) and Children's Ward (chosen due to risk of accidental ingestion of alcohol-based products by patients)

Budget

No cost – product provided free of charge by the manufacture for trial.

Project delivery

The product was trialled on these two wards for a four-week period in January/February 2024, with all bed-end sanitiser dispensers replaced with the trial product. It was not possible to replace the wall-mounted dispensers due to the disruption this would have caused. Feedback was collected from staff by the Trust's Sustainability Officer, with ratings received which were more positive than negative.

One staff member commented: "I can't use current products so this would be a great alternative. It does not destroy my hands."

Informal feedback from staff was also positive and it was discovered that specialist nurse teams visiting the wards were borrowing the trial stock because they liked the effect on their skin.

Following the successful trial, a meeting was held with the manufacturer, Procurement, Sustainability and IPC, where the manufacturer submitted a proposal for a **cost-neutral changeover** to their product. It is possible that in fact a cost saving will be realised, since dispensers appear to last longer as this product is a spray rather than a gel, and also because disposal costs will be reduced.

The product has now been rolled out across the Trust and any cost saving will be monitored over the current financial year.

Question	Average score (out of 5)
Strongly Disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly Agree (5)	
The product was easy to use	**4.5**
I liked the feel of the product on my skin	**3.5**
The product has a non-offensive smell compared to other hand sanitisers	**4.0**
I'd be happy to use the product instead of current products in use	**3.7**

Have there been any problems with spillages on the floor from the product?

Yes	No
3	23

10. Recyclable curtains with an antimicrobial coating

Project aim

Curtains are available with an antimicrobial coating which the manufacture claims rapidly kills a wide range of harmful pathogens in under one minute. This means the curtains do not necessarily need to be changed after every infectious patient and potentially, following a risk assessment which would need to be signed off by the Trust's Infection Control Group, could be routinely changed less often. Using each curtain for longer would give a sustainability benefit and the curtains are also recyclable.

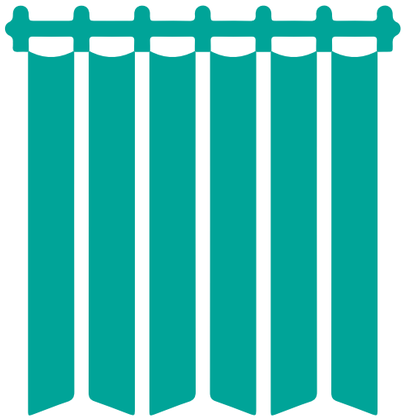
The Trust's aim was to trial these curtains to see if the quality and usability of the curtains matched the curtains currently used.

Stakeholders

Stakeholders included Facilities Team, Procurement, Ward Manager and staff members from the identified ward.

Budget

Currently, the Trust has only completed trials, so no costs have been associated with this.



Project delivery

A plan was agreed to trial the curtains and a date was set for them to be hung on site. A survey was created for staff to provide feedback during the trial.

The overall feedback was good and matched the current curtains we use. However, one area of the questionnaire was highlighted as being unsatisfactory, which was the movement of curtains across the rails. Staff were unable to provide patient privacy quickly as the curtains did not move in one movement and had to be pulled across in sections.

This concern was responded to by the manufacturer and they changed the type of hooks hoping to improve the fluidity of the curtains. However, feedback collected shows there is still an issue of movement of the curtains. The manufacturer has since developed a new hook and the Trust is currently trialling these.

Results

The Trust has not yet decided on whether it will pursue wider use of these curtains.

11. Recycling bins

Project aim

To supply recycling bins to the whole hospital to decrease the amount of rubbish entering the domestic waste stream and increase the amount the Trust recycles.

Stakeholders

Stakeholders included Serco Facilities Team, Procurement, Fire Team and department leads.

Budget

£16,000

Project delivery

The Trust was lacking recycling bins throughout all floors. One of the Estates capital delivery projects over the past number of financial years has been to roll out recycling bins, however limited capital availability has slowed progress on this. Following the success of the joint IPC/ Waste/Sustainability review of waste bin placement as part of Green ED, which led to the provision of recycling bins in that department, the decision was taken to use both the learning from that and the exemplar site funding to provide recycling facilities across the site.

Sign off was required from the Fire Team on the specification of bins - metal swing lid bins were signed off. Foot pedal bins were not chosen due to the risk of clinical waste accidentally going into these bins if they looked similar.

Audits were completed to identify suitable areas for recycling bins, taking into consideration space and types of recycling streams needed. Discussions were held with staff members on what bins they would benefit from.

Costings were quoted for floor by floor, to ensure a staggered delivery of new bins by the Sustainability Team.

Bins were distributed onsite, and posters were also added to the recycling hubs, to educate staff on what items go in each bin.

Results

This has resulted in access to recycling facilities across the whole organisation which has led to an additional 40 tonnes of recycling waste collected in financial year 23/24 compared to 22/23.

Summary

Formalising the relationship between IPC and Sustainability Teams at GWH has been a positive process, allowing the progression of projects at a faster and more consistent pace than would otherwise have been achieved.

We have also been able to demonstrate how releasing small amounts of staff time to focus on sustainability (in both the ED and Critical Care projects) allowed significant savings to be made which are likely to be larger than the cost of the staff time.

GWH now have structures in place to maintain this progress as we strive to meet – or ideally exceed – the NHS' Net Zero goals.

"Collaboration between our Estates and Clinical Teams has been vital in delivering sustainability projects within our clinical services.

By bringing together the expertise of IPC and Sustainability, we've been able to overcome perceived barriers and find practical solutions.

Understanding the opportunities and realities in a clinical environment, while applying our knowledge from estates, has allowed us to implement these initiatives more smoothly and effectively.

We are thrilled to be chosen as an exemplar site for IPC and sustainability, recognizing the success of our joint efforts and paving the way for future innovation."

— Graham Pike, Associate Director of Nursing & IPC and Clinical Sustainability Lead

— Caroline Railston-Brown, Head of Sustainability, Estates and Facilities Management

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