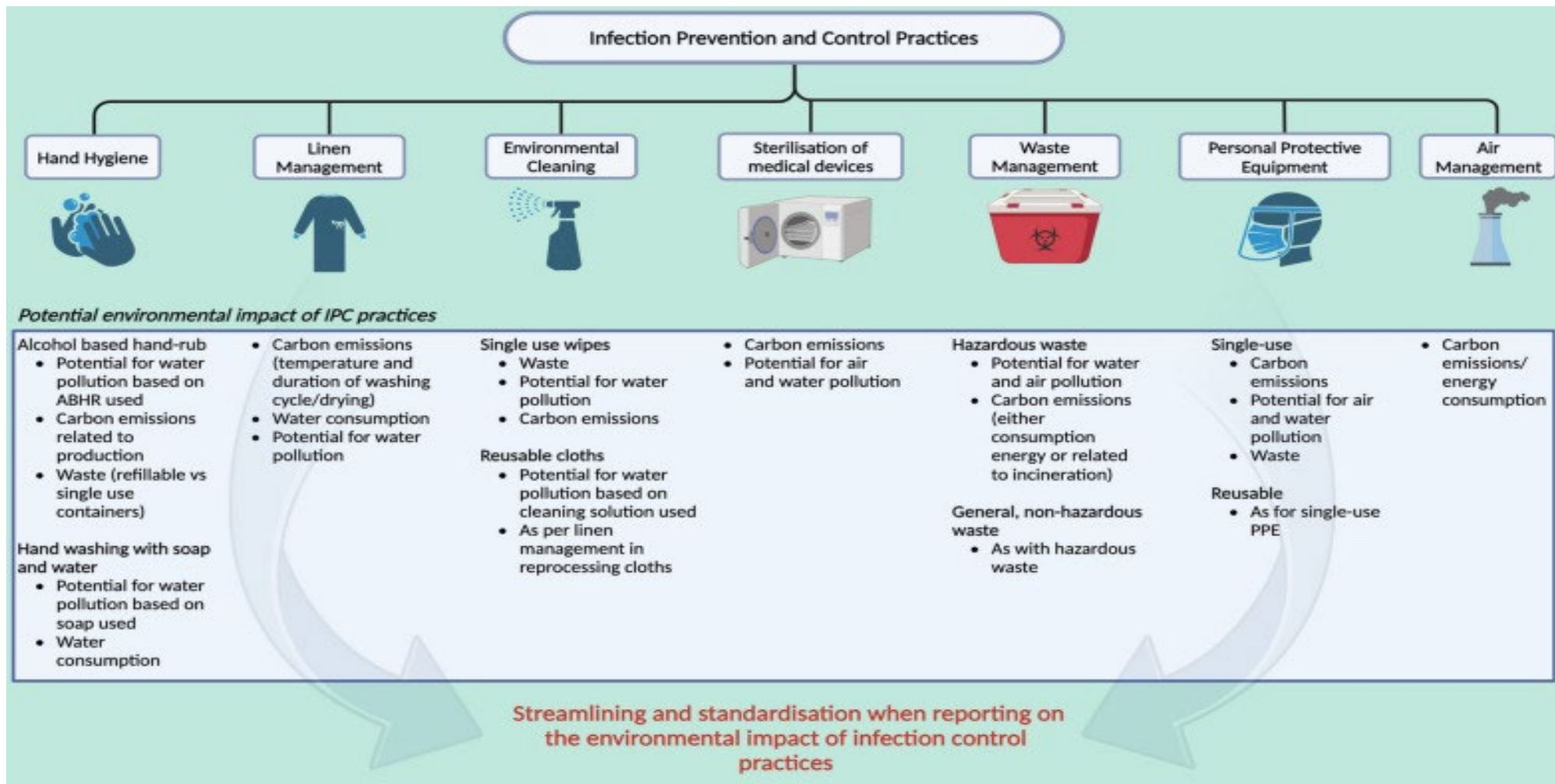


Cutting Waste, Not Safety: Driving Sustainable IPC Through the Gloves Off Campaign



Ashley Flores

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Lim et al (2024) The environmental impact and sustainability of infection control practices: a systematic scoping review *Antimicrobial Resist Infect Control*. 2024 Dec 24;13:156

Key Focus Areas for IPC and Net Zero

- Reusable Equipment: Trialling reusable equipment (e.g. inhaler recycling), curtains, theatre gowns, and drapes. Reusable theatre linen at planning stage at KCH. Recyclable sharps.
- Waste Reduction: Reducing the use of disposable couch rolls and reviewing routine sheet changes.
- Procurement and Estates: Partnering with suppliers for sustainable procurement and using more sustainable products.
- Clinical Practice Changes: "Gloves Off" campaigns, antibiotic IV to oral switch, and optimizing waste streams.

The impact of IV antibiotics in the Trust

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1474

Inpatient beds



1327

IV antibiotic doses given every day



£3.4m

annual IV drug & ancillary cost



30% of patients on IV antibiotics could have been on oral antibiotics.



It takes

22 minutes

to prepare and give a dose of IV medication



An oral antibiotic takes

80 seconds

to administer

IV to oral antibiotic switch can shorten the length of stay by

1 day



Oral antibiotics can be less harmful than IV antibiotics



Adverse events **10%** lower

Cannulated patients **18x** more likely to develop a bloodstream infection



A 10% reduction in IV antibiotic use would result in annual savings of

£340,000



and release **7** WTE nursing staff per year



Net Zero

Saving **140,000kg CO₂**



Journal of Hospital Infection 86S1 (2014) S1-S70
Available online at www.sciencedirect.com

Journal of Hospital Infection 86S1 (2014) S1-S70
ELSEVIER

American Journal of Infection Control
Volume 45, Issue 7, 1 July 2017, Pages 774-784
ELSEVIER

Infection Prevention in Practice
Volume 2, Issue 4, December 2020, 100091

epic3: National Evidence-based Guidelines for Preventing Healthcare-Associated Infections in English NHS Hospitals
H.P. Loveday^{a*}, J.A. Wilson^a, R.J. J. Browne^a, J. Prieto^b, M. Wilcox^c
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Applying human factors to the misuse of non-sterile gloves in acute care
Jennie Wilson PhD, MSc, RN, Aggie
<https://doi.org/10.1016/j.ajic.2017.02.019>

Continued wearing of gloves: a risk behaviour in acute care
M. Lindberg^{a,b,c}, B. Skytt^{a,b}
<https://doi.org/10.1016/j.infpip.2020.05.001>

Use of non-sterile gloves in the ward environment: an evaluation of healthcare workers' perception of risk and decision making
Ashley Flores¹, Martha Wrigley², Peter Askew³, Rachel Craig⁴, Bernadette Egan⁵, Linda Towey⁶, Jill Shawe²
Affiliations + expand
PMID: 32494294 PMCID: PMC7238697 DOI: 10.1177/1757177420907687

Executive Summary
National evidence-based guidelines for preventing healthcare-associated infections in England were originally commissioned by the Department of Health in 2007. A cardinal feature of evidence-based guidelines is technological advances can be identified, appraised and guidelines. Periodically updating the evidence base and authority.

Background
The Department of Health commissioned a review of prevention and control recommendations. A critical assessment in 2007 remain robust, relevant and appropriate, but so number of new recommendations were required. These underpinning the guideline recommendations have been inappropriate NSCG use.

Background
The wearing of gloves is associated with the transmission of organisms how common it is for surfactant hygiene compliance; the main risks are missing opportunities for hand hygiene and gloves being a vector for microbial transmission.

Abstract
Background: Studies have found that inappropriate use of non-sterile gloves (NSG) can affect hand hygiene compliance; the main risks are missing opportunities for hand hygiene and gloves being a vector for microbial transmission.

Quality Improvement – ‘Gloves Off’ at KCH

- **Stakeholders**

Medical staff, Patient rep, Procurement, Sustainability Team, IPC, Facilities, clinical staff, QI team

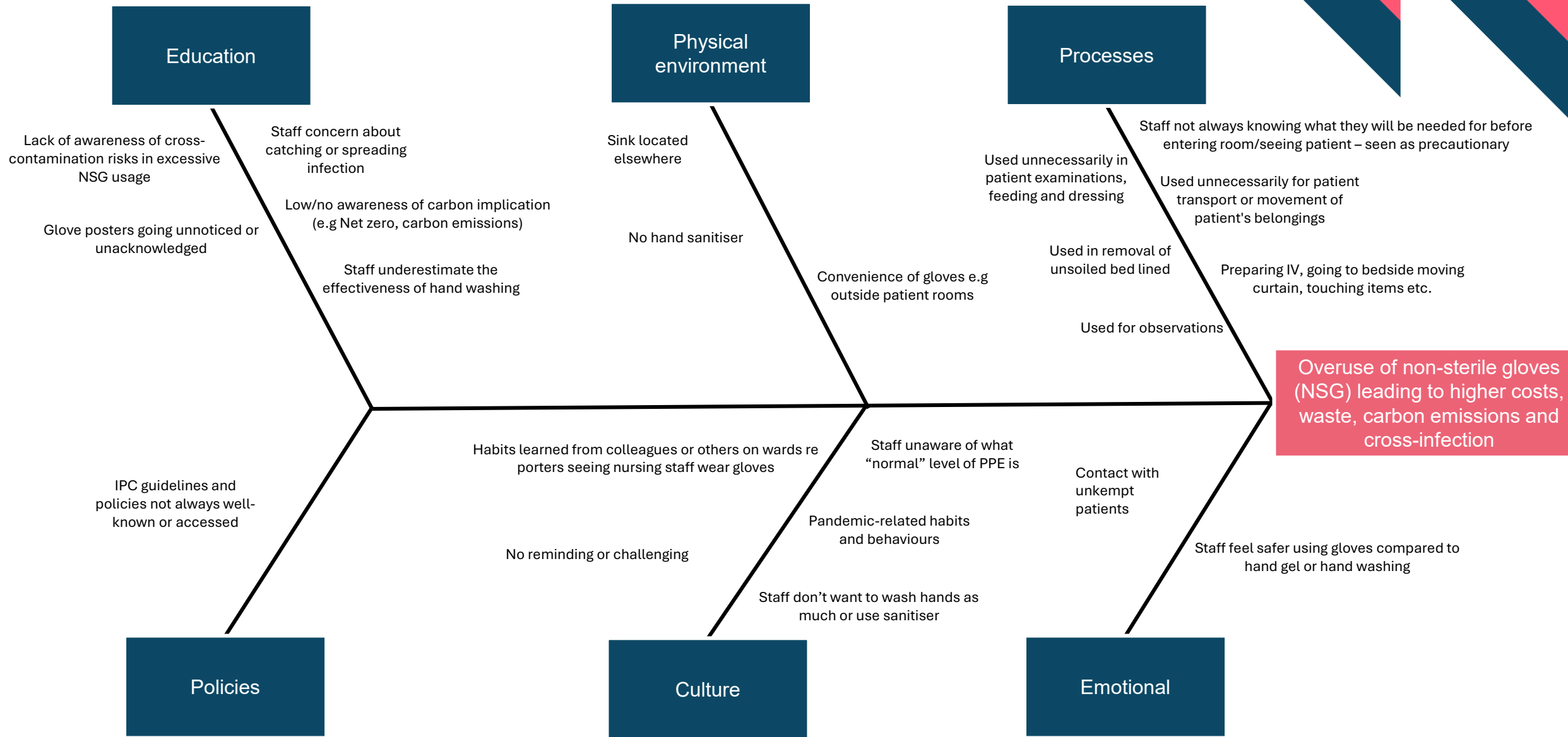
- **Aim**

Reduce use of non-sterile gloves by 30% (achieved 6.9% thus far)

- **Measurement plan**

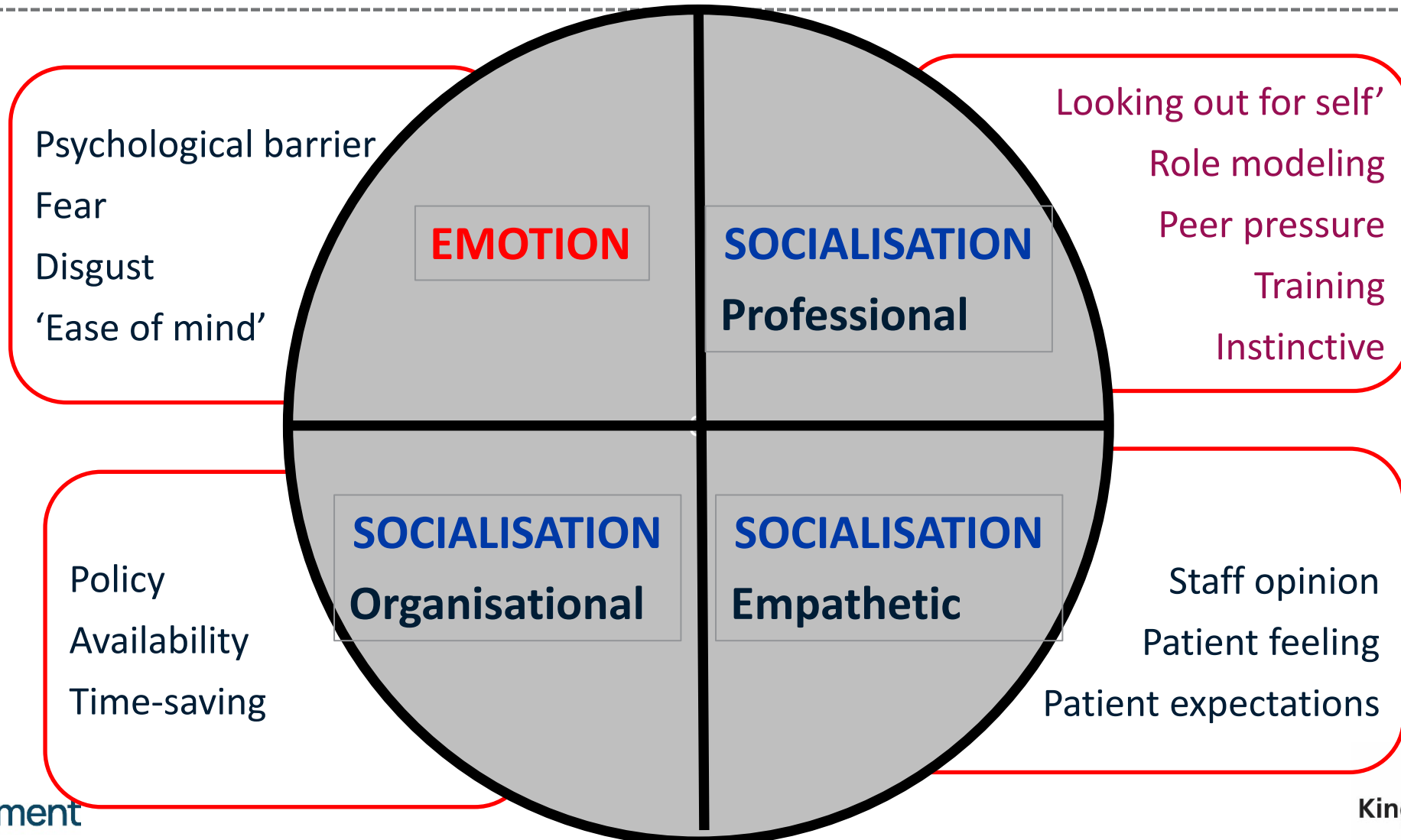
Glove use figures, financial savings, carbon savings, observations of glove use practice.

Unnecessary use of non-sterile gloves



Drivers of non-sterile glove use

Modeled from interviews with staff



Aim (goal)

Primary Driver(s)

Secondary Driver(s)

Change Ideas

Reduce overuse of non-sterile gloves by 30%

Organisation culture & leadership

Staff knowledge

Attitudes and beliefs

Environment & processes

Trust governance

Policy documentation

Behaviour & awareness

Staff empowerment

Educational resources

Training & development

External contractors

Misconceptions of staff

Physical environment

Project work to be included as item on agenda of existing governance meetings

Review of existing policies around glove use involving H&S, nurses and Doctors

Patient focused questionnaire around experiences of care

Inclusion of information around correct glove use for patients in admission pack

Local staff campaign on appropriate glove use, including quotes and participants from all staff groups/levels (including sustainable incentives)

Gloves off champions

Incentivised inter-ward competition on gloves use reduction (regular data reporting visualised)

Visual display as part of plastic free July

Educational glove use video competition

Glove use training video, separate from individual training (not IPC developed)

Bolt-on training developed as addition to induction training

Quick reference guide around appropriate / inappropriate use of gloves

Method statements built in around glove use as part of training for contracted staff

Challenge signs / posters (visually showing cross contamination due to gloves) "STOP: gloves might not be the answer to keep you & patients safe. Nothing beats washing your hands"

Reminder infographic on appropriate use with every dispenser

Remove glove dispensers from non-clinical areas or areas where they are not required

Staff resources
> Helpful resources for staff
> Useful ICT Information
Library and knowledge services
Core Brief
Useful links and information
Book a meeting room
Electronic Staff Record (ESR)
Speak up (FTSU)
NHS Mail
ICT Portal
View all apps
Learning, training and education
Equality, diversity and inclusion
Sexual safety
King's Improvement Method (KIM)
Health and wellbeing
Human resources
Jobs and recruitment
Values and vision
Our values
Sustainability
Strategy
People Promise
Rewards and benefits

Gloves Off campaign

The **Gloves Off** campaign aim to reduce unnecessary use of non-sterile gloves at King's through education and training.



After the COVID-19 pandemic, there is a legacy of overuse and confusion in healthcare around when and where to PPE and specifically gloves.

That's why the IPC team at King's has launched a campaign to help colleagues feel informed and empowered to make the right choices. The Gloves Off campaign aim to reduce unnecessary use of non-sterile gloves through education and training.

We know that inappropriate glove use — such as taking a patient's observations or pushing beds along corridors — can increase the risk of infection and hand health issues such as dermatitis. It also increases plastic waste which harms the environment, and wastes money as we buy more gloves than we need.

That is why we have launched a Quality Improvement Group, led by IPC, which takes place on a bi-weekly basis. Audits have been carried out in a few select wards with a number of interventions planned to drive down inappropriate usage.

To get involved, please contact kch-tr.infection-control@nhs.net or kch-tr.sustainabilityteam@nhs.net.

Gloves Off posters

Do you
need to
wear
gloves?



Search 'Gloves Off' on Kingsweb or scan the QR code for more information about when it's appropriate to wear gloves.



Gloves off

NHS
King's College Hospital
NHS Foundation Trust

For porters, housekeepers, hostesses and transport

Wear gloves when...



- in contact with blood and/or bodily fluids
- Handling hazardous chemicals (e.g disinfectant wipes)
- Handling waste contaminated with bodily fluids
- Handling sharps
- Hands-on contact with an infectious patient
- Handling clinical waste bags
- Cleaning side rooms for patients with an infection
- Handling chlorine (including chlorine-soaked clothes)
- Cleaning toilets

Inappropriate glove use can increase the risk of infection, harm the environment and waste money.

Scan the QR code for more information about when it's appropriate to wear gloves.



Don't wear gloves when...



- Delivering meal trays
- Collecting meal trays
- Giving patient menus
- Giving patient drinks
- Transferring patients on beds, trolleys or chairs
- Pushing beds and trolleys in the corridor - to ambulances or other departments
- Holding mops to clean the floor
- Using a dust pan and brush
- Preparing or serving patient food and drinks

Did you know...?

The Trust used 44.6 million gloves in 2023 - costing £1.1 million and 1,160 tonnes of carbon emissions

Gloves off

Inappropriate glove use can increase the risk of infection, harm the environment and waste money.

Wear gloves when...



- in contact with blood and/or bodily fluids
- in contact with mucous membranes
- in contact with non-intact skin
- in contact with hazardous chemicals (COSHH)
- using transmission-based precautions (for hands-on care)

Did you know...?

The Trust used 44.6 million gloves in 2023 - costing £1.1 million and 1,160 tonnes of carbon emissions

Gloves must be put on immediately before an episode of patient contact or treatment, and removed as soon as the episode is completed.

Scan the QR code for more information about when it's appropriate to wear gloves.



NHS
King's College Hospital
NHS Foundation Trust

Don't wear gloves when...



- taking a patient's observations
- dressing or feeding a patient
- transporting a patient or assisting them with mobility
- writing on charts, using bedside computers
- providing oral medications
- mobilising (e.g. physiotherapy)
- assessing a patient (e.g. chest auscultation)
- facilitating movement/exercises

Gloves Off: patient survey Nov 2024 – April 2025

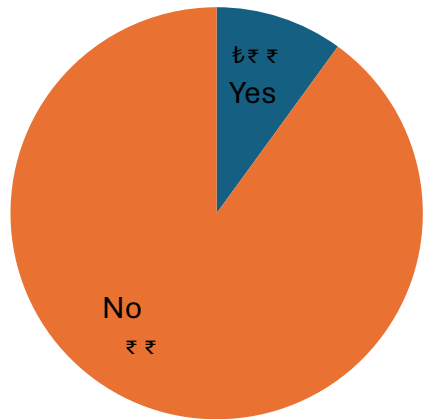
40 responses

Age 18-78

24 current/recent inpatients, 11 current/recent outpatients, 2 friends/relatives, 2 public

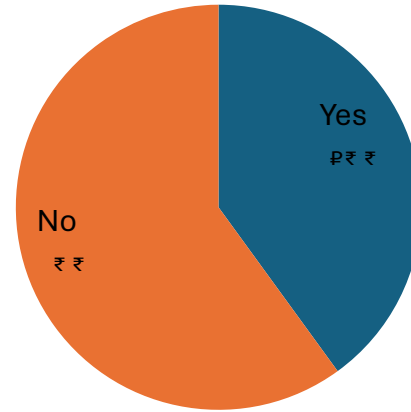
Mixture of department experience: 41% medical wards, 43% surgical wards, 20% maternity, 30% blood testing, 5% paediatrics.

Can you recall an occasion where a health professional did not wear gloves, and you think they should have?



New connection for a drip/cannula .
Changing meds
examining me in clinic.
I think when he talk to me
Phlebotomy

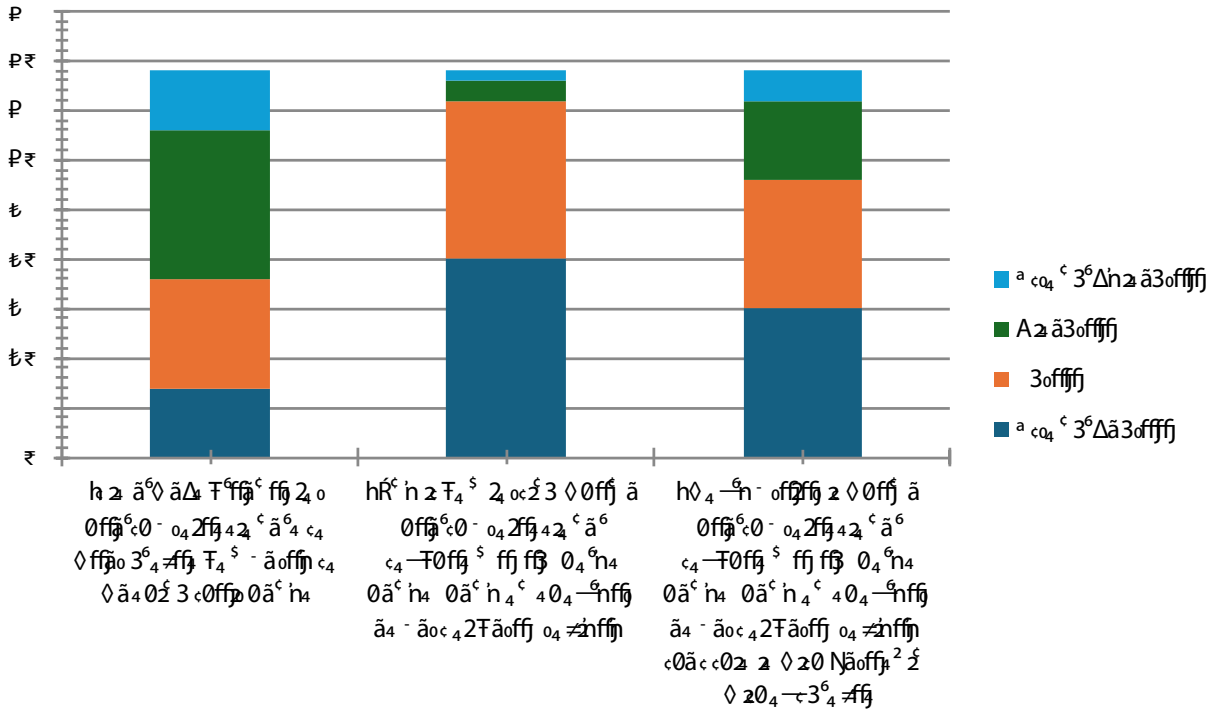
Can you think of any occasion where a health professional did wear gloves, and you think they should not have?



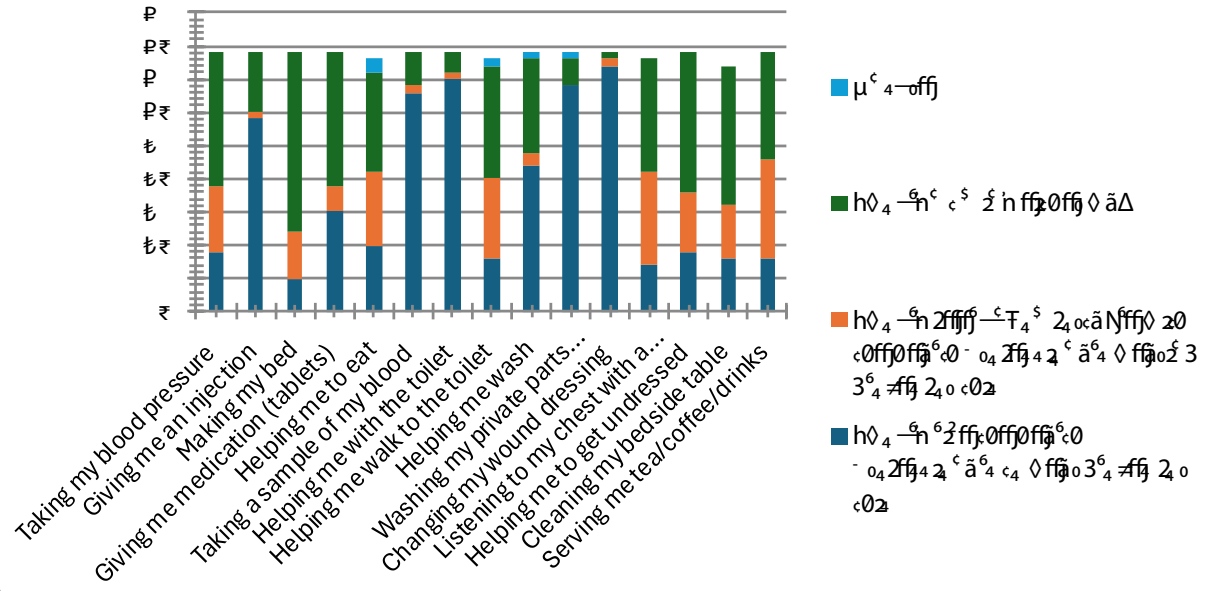
Taking obs, and using computer
When serving meals and when pushing wheelchair to have an xray.
2 nurses were transferring a lady in a bed to the space opposite It was an open bay
Example while talking to me
Just talking to me
Helping me get in/out of bed.
Don't need to wear gloves to listen to my chest
Just speaking to me
Helping me to walk
feeding me, helping me to walk. measuring my blood pressure
Don't need to wear gloves when talking to me only
In clinic - I'm clean, why do they need to wear gloves ?
On Ward rounds when they just talk. No need for gloves
Observed changed gloves to often as same patient and multiple gloves used
Pushing it wheelchair

Gloves Off: patient survey

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Only 2% had ever challenged a health professional about their use of gloves

A lot of use in circumstances where I consider it unnecessary

Only important if risk of contamination, otherwise handwashing is fine

Health professionals are human and can forget to do the basics of washing hands well or thoroughly and given the environment they work in and range of people they work with cleanliness is important. Gloves can offer reassurance to a patient even if wrongly so!

You can edit the [green copy](#).



Gloves off campaign

Information for patients and visitors

This leaflet aims to explain when and why gloves are used and why the Trust is resetting the use of plastic (nitrile) gloves after the COVID 19 pandemic

Why start the "Gloves off" campaign?

Clinical staff are trained to decide when to use gloves and when not for routine activities. Since the COVID 19 pandemic, there has been a change in the use of gloves when undertaking these activities. It is now time to reset this and move back to "business as usual".

Overuse of gloves:

- Reduces the opportunity to clean your hands
- Increases environmental contamination
- Increases your environmental impact through the production and the disposal of gloves. In 2022/23 the Trust used 44.6 million gloves, the equivalent of 1,160 tons of carbon emissions or 290 return flights from London to Sydney.
- Carries significant cost to the Trust of buying and disposing of gloves
- Increases the risk of skin conditions for clinical staff.

When should gloves be used?

The use of gloves in and of themselves do not protect patients from cross infection. Handwashing with soap and water or using alcohol hand rub is much more effective.

Clinical staff will wear gloves:

- Behaviour change discussions with consultants, sustainability champion, senior nursing leadership.
- Bespoke posters
- Patient engagement
- Evidence review

Designing human factors into the healthcare environment



WHAT 'GOOD' LOOKS LIKE

When Human Factors is done well, it can help to:

- **Recognise human needs** and provide for them.
- **Provide effective integration** of human, technological and organisational capabilities.
- **Design out the potential for people to make mistakes**, helping them succeed in what they set out to do.
- **Design work and workplaces** that enable people to perform tasks in a sustained manner with minimum need for training or frequent recourse to instruction.
- **Enable people to work in ways that maximise system safety** and reduce risk.
- **Standardise terminology** and encourage consistency in interactions (with people, places and equipment) to improve safety and performance.
- **Develop systems** that are fit for purpose.
- **Optimise human capabilities** and mitigate physical, cognitive, psychological and social limitations.
- **Identify multiple root causes** of an incident where they exist so a solution does not focus on behaviour change to accommodate poorly-designed systems.
- **Enable everyone to be involved** in the successful operation of a system.
- **Support any industry** in meeting statutory safety requirements.

Designing human factors into the healthcare environment

- Change Trust policy for administration of IV medication (gloves no longer required for drawing up IV medication) - acknowledgements GOSH
- Procurement automatic % reduction in glove top up

'Gloves Off' video competition



Gloves off

Non-sterile glove use reference guide

Glove use is required following a risk assessment, as part of Standard Infection Prevention & Control Precautions (SIPCs) and Transmission-based Precautions.

SIPCs are the basic IPC measures necessary to reduce the risk of transmitting infectious agents from both recognised and unrecognised sources of infection.

The indications for non-sterile gloves are:

- Invasive procedures
- Contact with non-intact skin and mucous membranes
- All activities that have been assessed as carrying a risk of exposure to blood or body fluids
- When handling sharps or contaminated devices
- Contact with chemicals
- Transmission-based precautions (for hands-on care)



Gloves must:

- Be worn as single-use items;
- Be put on immediately before an episode of patient contact or treatment and removed as soon as the episode is completed
- Changed immediately after each patient and/or after completing a procedure/task even on the same patient.

Last year the Trust used 44.6 million gloves - the equivalent of 1,160 tonnes of carbon emissions or 290 return flights from London to Sydney

Remember

Gloves are not required to carry out near patient administrative tasks, e.g.

1. when using the telephone, using a computer or tablet, or writing in the patient chart
2. giving oral medications
3. distributing or collecting patient dietary trays
4. taking a patient's observations
5. doing any task that does not involve contact with blood or body fluids.

The use of gloves does not replace the need for hand hygiene as gloves may leak and hands may become contaminated during the removal of gloves. Potentially pathogenic organisms can be recovered from gloved hands as well as skin.

Do not wash or apply alcohol hand rub to gloved hands.

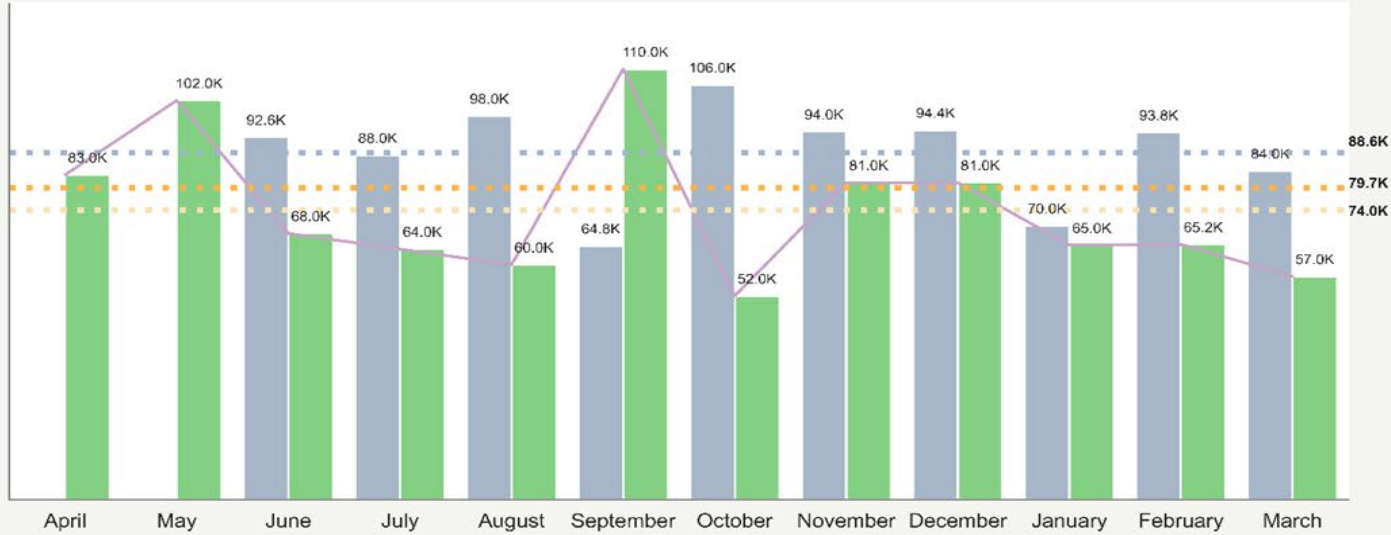
Dispose into the appropriate waste stream i.e. offensive waste (tiger stripe) or orange clinical waste (for patients with a known infection).

Gloves Off

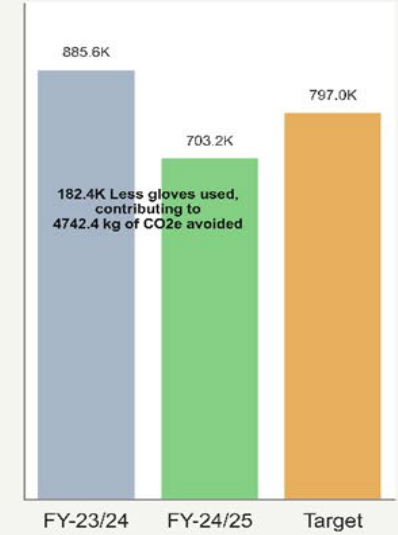
DMH - Jack Steinberg Ward - April 1 2024 - April 1 2025



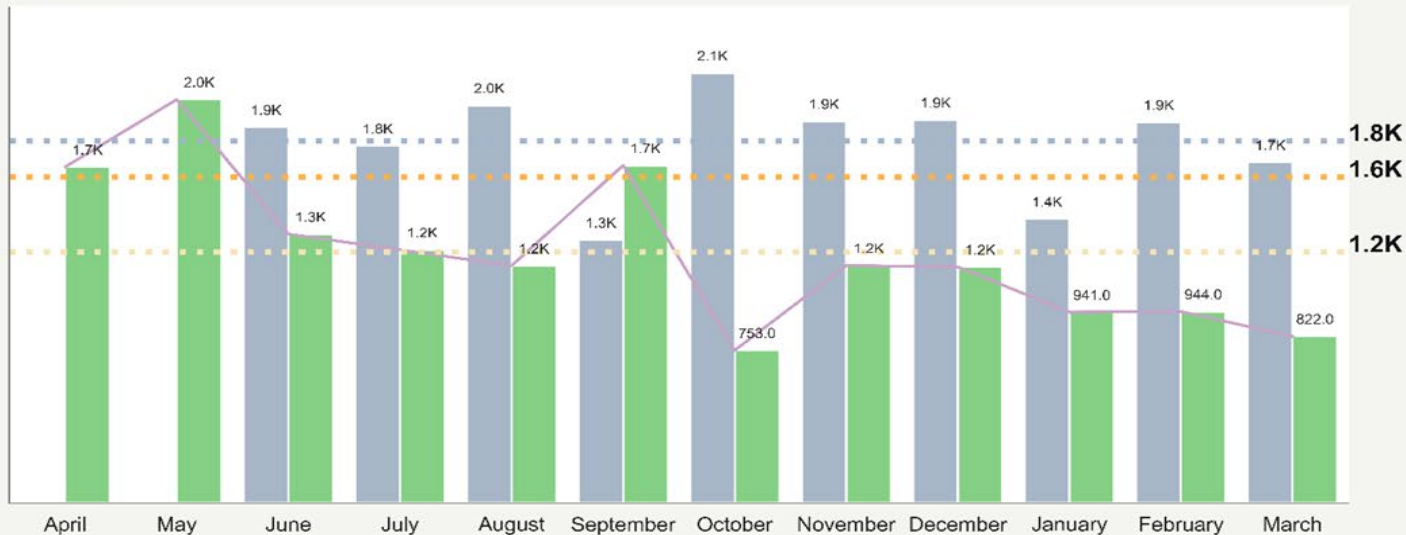
Gloves procured (single glove) AVG - 23/24 Target AVG - 24/25 2023/2024 2024/2025



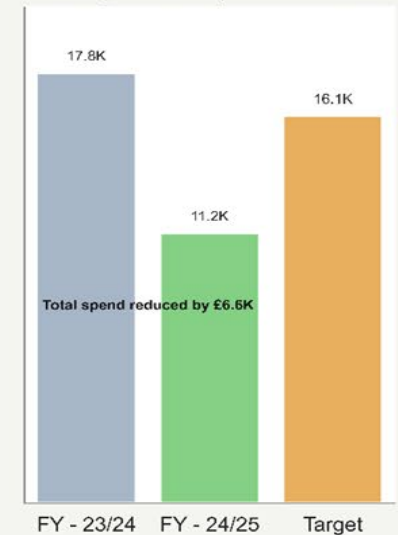
Total Gloves Procured (10 months June - March)



Spend in £

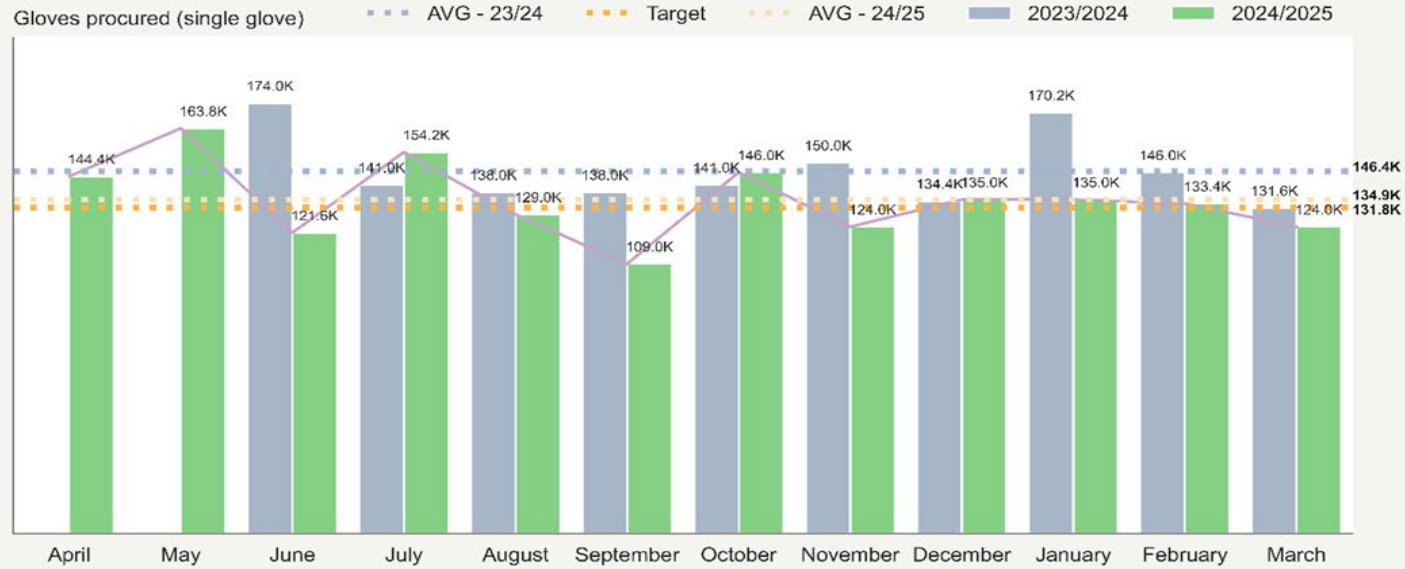


Total Spend in £ (10 months June - March)

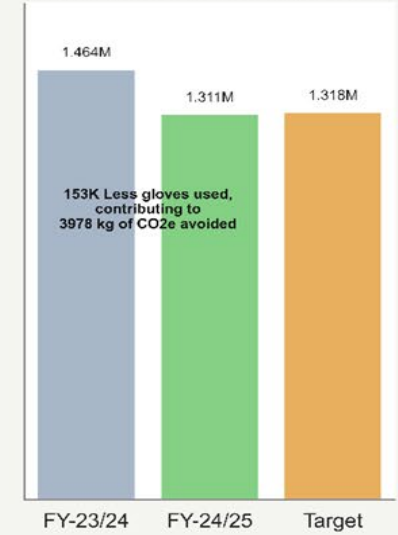


Gloves Off

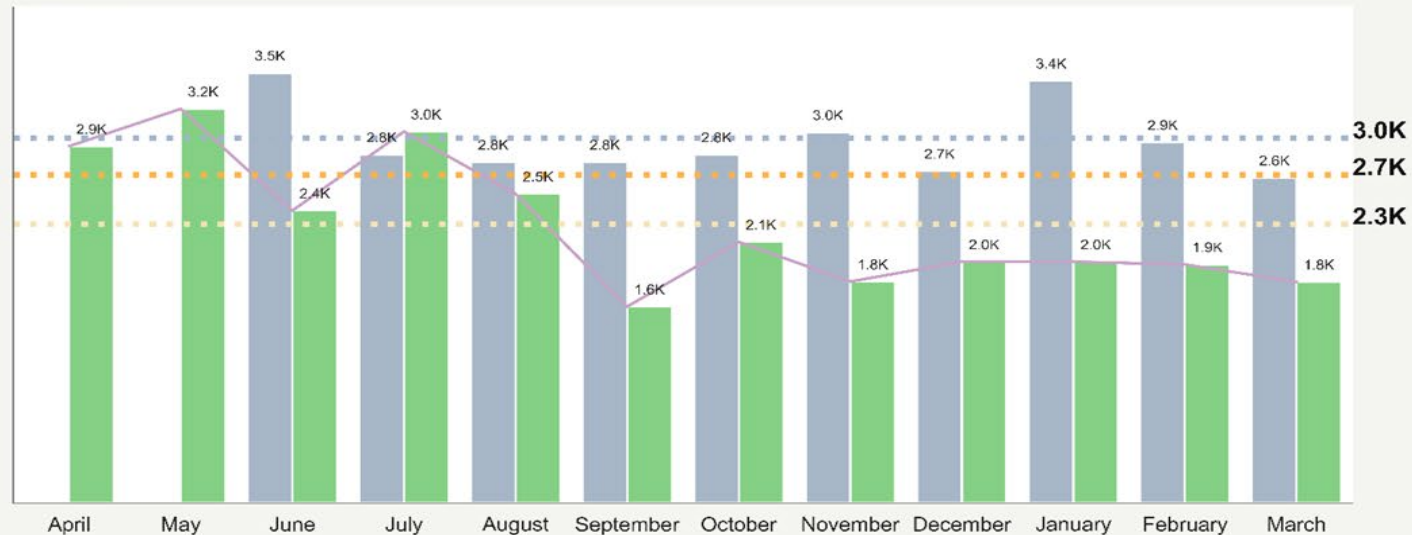
DMH - A and E - April 1 2024 - April 1 2025



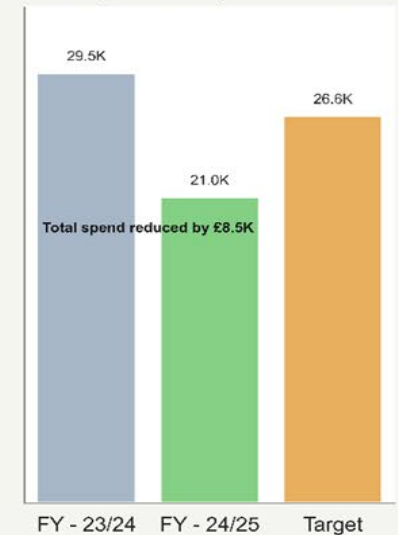
Total Gloves Procured (10 months June - March)



Spend in £



Total Spend in £ (10 months June - March)



- **Balancing Patient Safety and Environmental Impact:** The primary responsibility of IPC is reducing infection risk, and there is often a perception that disposable products are safer, which may lead to resistance against reusables. Sustained behaviour change an issue.
- **Increased Waste from Pandemics:** Events like the COVID-19 pandemic significantly increased demand for single-use PPE, leading to massive spikes in waste production and plastic pollution.
- **High Costs and Resource Constraints:** While long-term savings are possible, the initial investment for green initiatives (e.g., proper reprocessing equipment for reusables) can be high, particularly for low- and middle-income countries (LMICs).
- **Complex Regulatory Hurdles:** Current regulations and manufacturer guidelines (e.g., IFU) sometimes limit the reusability of products or require toxic sterilization methods like Ethylene Oxide (ETO).
- **Lack of Data and Evidence:** There is a scarcity of studies evaluating the environmental impact of specific IPC measures, especially in resource-limited settings.



Saravanos et al (2024) Infection Prevention & Control programme priorities for sustainable health and environmental systems Letter BMC Global Public Health Feb 1;2:6
<https://doi.org/10.1186/s44263-023-00031-4>