GLOVES OFF
in critical care

Intensive Care Society

An implementation guide

This guide is based closely the Keep it Simple Without Gloves project and supplementary implementation guide by Dr Sam Clark and the team at Wirral University Teaching Hospital (WUTH). It recounts the methods used by the team in their highly successful campaign to reduce unnecessary glove use at WUTH.

It is a guide for anyone looking to implement Gloves Off in Critical Care, Keep it Simple Without Gloves, or a similar change project, with a degree of success like that experienced by the WUTH team. You can find out more about the campaign at Wirral University Teaching Hospitals NHS Foundation Trust at the end of this document.

You can also find more information about our sustainability work, including Gloves Off in Critical Care, at ics.ac.uk/sustainability.

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About this guide

The team at WUTH used the NHS change model to aid in implementing their change. This guide, and the WUTH guide it is based on uses the 8 components of the model pictured below.

NHS Change Model (2017)

Our shared purpose

Our vision is a world where every member of the multi-professional intensive care team is able to deliver the best quality care for those who need it, when they need it. You can find our full strategy on our website.

The primary goal of our Sustainability Working Group in creating our Gloves Off in Critical Care Campaign was to empower all those working in intensive care and beyond to think critically about the use of gloves in their daily practice, and to reduce their use when gloves are unnecessary. Our secondary goal was to promote good hand hygiene, as unnecessary glove use can present a barrier to this.

The team at WUTH were motivated by similar goals. They were to:
- improve hand hygiene
- reduce unnecessary glove use
- reduce expenditure

Spread and adoption

The WUTH project sought buy in from individuals with influence in the critical care team, and from other teams, including those listed below. If you're planning to implement Gloves Off in Critical Care we would recommend engaging those in these roles to help embed the change. This list is not exhaustive, and anyone looking to implement this change or a similar project should look to include as many members of the wider hospital team as possible. Beyond the critical care team, two key approaches would be your organisation's infection prevention control team, and sustainability team.

You may also find it helpful to contact your:

- Critical Care Clinical Lead
- Critical Care Consultant Infection Control Lead
- Critical Care Matron and Unit Manager
- Critical Care Infection Control Link Nurses
- Critical Care Pharmacy Team
- Critical Care Practice Education Facilitators
- Intravenous Access Team
- Nutrition Team
- Clinical Skills Team
- Procurement Team

Throughout the project the WUTH team also gained support of others within the organisation including:

- Chief and Deputy Chief Nurse
- Director & Deputy Director of Infection Prevention and Control
- Divisional Managers
- Facilities Team
- Communications Team
- Occupational Health Team

This change can affect almost everyone within your unit, or even your organisation, so it is important that as many people as possible are included in the process.

Improvement tools

The team at WUTH used the five-step approach to improvement, endorsed by the NHS Change Model.

1. Preparation

Everything you need to do before the official start of your project. This includes gaining approval from the necessary people within your organisation and building an improvement team to lead it. You'll also need to start identifying stakeholders to make sure they're represented as part of the improvement team and are involved in the project. This includes all members of the critical care team, like nurses, medical staff, Health Care Assistants, porters, etc.
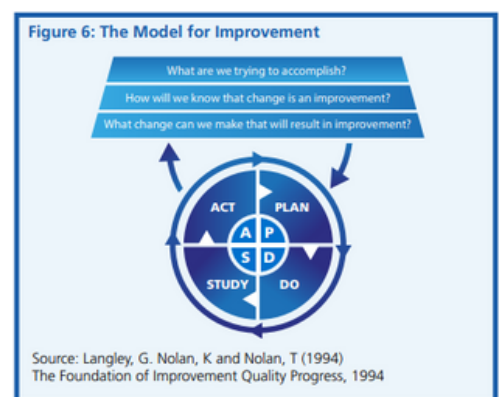
2. Launch

Official start of the project. This means meeting with your improvement team, establishing your shared purpose/goals, and setting an agenda.

3. Diagnosis

Understanding the current process, dispelling assumptions, using data to define the problem and to build upon the baseline data. This involves gathering data about current practice through audit (you'll be able to read more about measurement below), and procurement data (this can be obtained by your procurement team). We would also recommend undertaking some simple process mapping to help with decision making about when to wear gloves. This can help you highlight problems in your existing process, and work out how to make changes. This article may be useful for learning about how to set about process mapping.

4. Implementation

Test and measure potential solutions using a Plan Do Study Act cycle, implement the best solution and introduce standard work and mistake proofing for a quality sustainable process. The team at WUTH started their improvement project on the critical care unit as a pilot area. This allowed them to complete their first PDSA cycle, test interventions, and identify barriers and facilitators to their change in that environment.

Figure 6: The Model for Improvement

What are we trying to accomplish?
How will we know that change is an improvement?
What change can we make that will result in improvement?

ACT PLAN
STUDY DO

Source: Langley, G. Nolan, K and Nolan, T (1994)
The Foundation of Improvement Quality Progress, 1994

NHS Change Model (2017)

Improvement tools

Whilst this pilot project was underway, work was ongoing at an organisational level to amend current policies and guidelines, and to plan for organisation wide change.

5. Evaluation

Achievements are celebrated, learning outcomes are disseminated and the improvement becomes the norm. Learning from their ongoing pilot project on critical care allowed the team at WUTH to identify and address potential barriers, and drive the improvement forward at an organisational level.

Project and performance management

Top tips:
- Hold regular core group meetings to check progress and discuss barriers, and importantly make action plans to overcome them.
- Add a timeline for key points of implementation to all emails so milestones are clear to all involved.
- Regularly update stakeholders with your progress and timeline.
- Amend existing policies and guidelines, ensuring that competency assessments match updated standards and recommendations. Updating your organisation's hand hygiene audit template to include glove use will also enable you to track and manage performance at ward/departmental levels.

Measurement

A validated audit tool

To gain a baseline measurement and to measure the impact of their intervention on hand hygiene practices, the team at WUTH used an audit tool published by <u>Wilson et. al. in the Journal of Infection Prevention, in an article titled "The misuse and overuse of non-sterile gloves: application of an audit tool to define the problem"</u>.

They made some formatting changes to the original article to facilitate in staff data collection, but you can find the original at the link above. This could be adapted, as the WUTH team have done, to aid in data collection.

Measurement

Procurement data

The WUTH team contacted their procurement team (materials management) to obtain the number of gloves supplied to their critical care unit and the associated cost, over a 1 year period.

They chose to exclude the period of the COVID-19 pandemic, where it can be surmised that gloves use increased but procurement took place through many channels making data more difficult to obtain.

Environmental impact

The WUTH team estimated the number of kilograms of CO_2 equivalents by multiplying the number of gloves procured each year by 0.026.

This figure comes from data calculated by Rizan et. al. in their article published in the Journal of the Royal Society of Medicine, titled "Environmental impact of personal protective equipment distributed for use by health and social care services in England in the first six months of the COVID-19 pandemic"

It is important to note that different processes in production, delivery and disposal of gloves, will impact the overall environmental impact.

System drivers

Greener NHS

Two clear and feasible targets are outlined in the Delivering a 'Net Zero' National Health Service report:

- The NHS Carbon Footprint: for the emissions we control directly, net zero by 2040
- The NHS Carbon Footprint Plus: for the emissions we can influence, net zero by 2045.

Greener NHS

System drivers

UK Health Alliance on Climate Change (UKHACC)

The Society is a member of UKHACC, a membership organisation, with members from across various medical speciality organisations, that brings together health professionals to advocate for just responses to the climate and ecological crisis, promotes the health benefits that flow from those responses, and empowers members and health professionals to make changes in their professional and personal lives to respond to the crisis.

High profile campaigns

- "The gloves are off" campaign by Great Ormond Street Hospital
- Glove awareness campaign by the Royal College of Nursing

Guidance from national organisations

National infection and prevention control manual (NIPCM) for England (NHS England, 2022)

This is an evidence-based practice manual for use by all those involved in care provision in England. It should be adopted as mandatory guidance in NHS settings or settings where NHS services are delivered, and the principles should be applied in all care settings. Relevant recommendations include:

Gloves must be:
- worn when exposure to blood and/or other body fluids, non-intact skin or mucous membranes is anticipated or likely
- worn for contact with suspected or confirmed cases of high-consequence infectious diseases (HCIDs). See appendix 11b
- changed immediately after each patient and/or after completing a procedure/task even on the same patient
- never decontaminated with alcohol based hand rub (ABHR) or soap between use

epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England (Loveday et. al., 2014)

These evidence based guidelines for use in hospitals and other acute care settings were accredited by NICE at the time of publication, funded by the Department of Health, and received input from various national stakeholder organisations. They make specific recommendations with regards glove use:

System drivers

Gloves must be worn for:
- invasive procedures;
- contact with non-intact skin or mucous membranes;
- all activities that have been assessed as carrying a risk of exposure to blood or body fluids; and
- when handling sharps or contaminated devices.

Gloves must be:
- worn as single-use items;
- put on immediately before an episode of patient contact or treatment;
- removed as soon as the episode is completed;
- changed between caring for different patients; and
- disposed of into the appropriate waste stream in accordance with local policies for waste management.

Hands must be decontaminated immediately after gloves have been removed

Essential Practice for Infection Prevention and Control (RCN, 2017)

Relevant recommendations regarding glove use include:
- Gloves should only be used if a risk assessment identifies them as necessary. Typically the use of gloves is justified when the wearer is at risk of exposure to blood/ bodily fluids, non-intact skin, or mucous membranes.
- Healthcare workers also need to protect themselves from chemical risks such as cytotoxic drugs and chemicals.
- Gloves should be put on immediately before the task is to be performed, and then removed… as soon as the procedure is completed
- Gloves should never been worn 'just in case' as part of routine nursing care.

Infusion Therapy Standards of Practice (Infusion Nurses Society, 2021)

Although this is a US based guideline, it was used by WUTH's IV access team to influence local guidance, therefore was included in their review process. Relevant recommendations include many similar to those already mentioned, such as assessing the need to wear gloves.

They also refer to the NIOSH List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings (CDC, 2016) for a list of drugs that would require glove wearing during preparation and administration.

System drivers

Standards for infusion therapy (RCN, 2018)

These evidence based guidelines make several relevant recommendations including that 'gloves should be used with discretion when performing infusion-related procedures'. It also recommends a similar risk assessment for deciding whether gloves are required for a particular task. Specifically it notes that 'gloves are not required for the preparation of antibiotic infusions'.

Motivate and mobilise

This section is structured using the three domains of 'Motivating change theory', written by Breckenridge et. al., published in BMJ Open Quality (2019). The information provided is based on the successes of the team at WUTH and the barriers they overcame.

Psychological conditions

Providing evidence for change can be useful, but delivery of that message needs to align with individuals' intrinsic values. This is where reflecting on your Shared purpose can be useful. There will always be the motivator of "self" - i.e. 'Whats in it for me?'.

Some evidence for change can be found in the System drivers section above. You can also draw on local evidence for change, using Measurement.

One of the benefits to individuals of reducing glove use is lessening the incidence of dermatitis. The Glove awareness campaign by the Royal College of Nursing provides some further information regarding this.

Further sense of self and autonomy (which is important for intrinsic motivation) comes through providing staff with the opportunity to perform their own risk assessment each time they perform a task, rather than being entirely prescriptive with a list of 'always and never'.

Lastly, seeing evidence that change is working can be motivating, therefore it is important to repeat Measurement and feed this back to all involved.

Motivate and mobilise

Social conditions

Social conditions for change centre around trust. Key to this is engaging leaders in the change at all levels and across all departments.

During their initial pilot project, although the team at WUTH had involvement and buy in from leaders within critical care who were role modelling and creating positive energy for the change, they had issues with staff visiting the unit. This was because their leaders were not involved in the change, and so were not seen by these visiting staff to be backing the change.

This changed once the team engaged those leaders of other divisions/departments who communicated their support within their own teams.
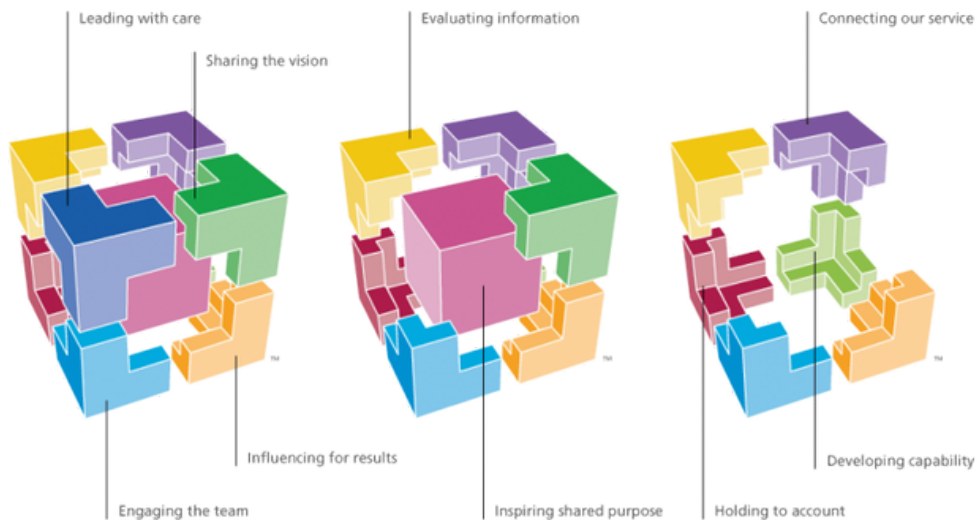
Another component of social conditions for motivating change is positive peer pressure. WUTH is updating their ward hand hygiene audit tool to incorporate the glove use audit tool mentioned earlier. This will enable practice across divisions and wards to be compared, successes celebrated, which will hopefully spread motivation of change to other areas.

Lastly, change will inevitably elicit potential negativity and concern. To address this, the team held regular meetings with stakeholder groups and responded openly to negativity and concerns to create constructive responses/changes.

Structural conditions

This refers less to the physical environment itself (though provision of hand hygiene resources/supplies i.e. access to sinks, soap, alcohol gel, and waste receptacles is important to consider) and more about visual cueing in the physical environment (for example, achievement boards), which overtly displays evidence of improvement, fuels positive peer pressure and supports turning evidence of change into evidence for change. This is where your organisation's communications team can be a helpful resource.

Leadership by all

Leading with care

Sharing the vision

Evaluating information

Connecting our service

Influencing for results

Engaging the team

Inspiring shared purpose

Holding to account

Developing capability

NHS Healthcare Leadership Model

Shared leadership is a helpful facilitator in instigating any change. It is about leaders and followers working together on a project, with a Shared purpose, and recognising that all can have power and influence over the change. The <u>NHS Healthcare Leadership Model</u> is a great reference point for change leaders.

Frequently encountered barriers

Further information on aseptic non touch technique

Aseptic non-touch technique refers to the practice of an aseptic technique (one that aims to minimise the risk of transmission of infection), which includes the principles of protection of Key-Parts and Key-Sites. It is underpinned by the trademarked 'ANTT Clinical Practice Framework' (ASAP, 2021), as well as being supported in numerous national and international consensus guidelines. The same principles of appropriate glove use apply during procedures performed using an ANTT, as outlined in the NIPCM and mentioned above.

In their work at WUTH, the team worked with the infection prevention control, intravenous access, pharmacy, and clinical skills teams in amending their organisation's ANTT policy and guidelines to reflect these practice principles.

Further information relating to health and safety

The handling of chemicals, including those contained within disinfectant wipes and medicines, falls under the remit of the Control of Substances Hazardous to Health (CoSHH 2002) Regulations. Useful information regarding the handling of the chemicals contained in disinfectant products can be found in the product's safety data sheet (the most up to date version of this will be available from the manufacturer). It is important to realise though, these do not constitute a CoSHH risk assessment, rather they act as a starting point for one. We recommend liaising with your organisation's health and safety team who can direct you towards existing, or help you to update or create, risk assessments for the products used where you work.

Of use to change teams may be some awareness about the 'hierarchy of controls'. Control options are chosen to reduce the hazards presented by harmful chemicals, and the hierarchy of these controls is based on the inherent reliability and likely effectiveness of each. For example, eliminating the hazard all together (i.e. substituting it for a safer product) is considered the most reliable and effective control option. Personal protective equipment however, is considered to be 'the final control option'. You might also find it helpful to ask your procurement team to incorporate the cost of gloves, solely for use of a particular product, over another product that would not require gloves, in their cost analysis.

Frequently encountered barriers

Further information relating to medicines management

The Health and Safety Executive provide guidance specifically related to the 'Safe handling of cytotoxic drugs in the workplace', describing these as medicines that contain chemicals that are cytotoxic to cells, used to treat cancer and a number of other disorders. As above, they recommend a CoSHH Risk Assessment is performed and adequate controls implemented to safeguard employees. The Infusion Nursing Society refer to the 'NIOSH List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings (CDC, 2016)' for a list of drugs that would require glove wearing during preparation and administration. Although this is a US based resource, at this time we are not aware of an equivalent resource published within the UK or Europe.

The team at WUTH provided employees with practical guidance to identify potentially harmful drugs, reflecting campaigns by others, and utilising guidance from the sources mentioned above. Their pharmacy team were involved in order for them to be able to support staff in implementation of their campaign.

Other useful resources

Video - Using Gloves in Healthcare Appropriately

This short animated video by the Infection Prevention Society (IPS) and the Healthcare Infection Society is all about about transmitting infection in healthcare gloves use. You can find it on YouTube, or on the IPS website.

Keep it Simple Without Gloves

You can find more information on the success of the Keep it Simple Without Gloves project via their Sway. This includes background information about the drivers of change and the success of the project so far. The full document can be found <u>here</u>.

You can also find the original WUTH implementation guide via Sway <u>here</u>.

The posters produced as part of the team's implementation of the change can also be found at <u>ics.ac.uk/sustainability</u>.