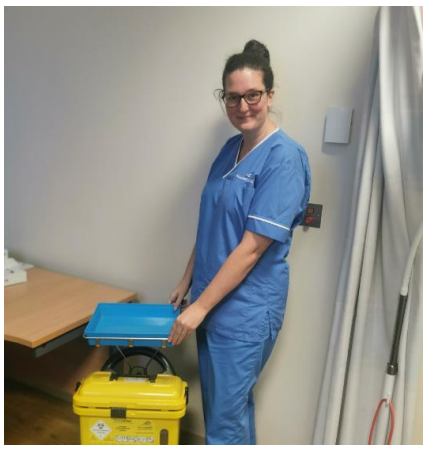
SUSQI PROJECT REPORT

Assessing the financial and environmental impact of sending phlebotomy trays for unnecessary external steam sterilisation.

Start/End date of Project: September- December 2023
Date of Report: January 2024

Team Members: Rachel Darling, Health Adviser



Background:

Sustainability is something that the wider members of the Sexual Health Sheffield (SHS) team regularly discuss. We already have several initiatives running and are keen to expand this further. One element of the clinic that was confusing to some team members was the rationale behind blue phlebotomy trays being sent off site for weekly steam sterilisation. The trays are located in each clinical room on top of the sharps disposal bins and are used to temporarily store components required to collect patient samples and to place treatments prior to administration.

These trays are not required for aseptic procedures and so can be cleaned on site. Around 10-15 trays are being sent weekly. The purpose of this project was to assess whether this could be stopped and what financial and environmental savings this would bring.

Specific Aims:

To stop unnecessary sterilisation of phlebotomy trays in the sexual health unit, by implementing a change to department policy.

To promote myself as the departmental link for sustainability for staff to bring any questions to or suggestions for improvements that could be made to improve the environmental impact of clinic.

Methods:

We reviewed our current practice to find that blue phlebotomy trays were being sent off site weekly for steam sterilisation. We confirmed with Infection Control that there was no barrier to stopping this process in favour of cleaning in the clinic. We made enquiries with other departments within STH to see whether they were sending trays for external sterilisation and found that all other departments that use trays were already cleaning on site, and therefore had no concern that patient safety would be compromised.

An online team survey was sent to gauge staff knowledge on current practice and engage them in thinking around other areas of clinic where practices could be improved with no detriment to patient care, to improve aspects relating to departmental sustainability.

We discussed findings with the senior management team and the department Service Manager with a view to implementing the changes suggested and the change to policy has been implemented with immediate effect. This information has been cascaded to staff at team briefing.

The sustainability link team is now operational and available to increase staff awareness surrounding cleaning requirements within clinic and engage staff in thinking about further opportunities to improve department sustainability such as the legionella policy.

Measurement:

Patient outcomes:
As confirmed with infection control, there is no detriment to patient safety or clinical outcomes. No measurement of patient outcomes is required.

Environmental sustainability:
Total carbon footprint per sterilised tray (Tray Wrap and Sterilisation Equipment - NHS Supply Chain) was calculated based on GHG emissions associated with sterilisation, transport and packaging.

To calculate the carbon footprint of sterilisation per tray, we used figures derived from Rizan et al 2021. GHG emissions associated with transporting the trays to the sterilisation centre (1 return journey of 7.2 miles per week) were estimated using distance (km) and conversion factors from the UK Government 2023 Carbon Conversion Factor Database. Each tray came wrapped in a paper or plastic wrapping, for GHG emissions associated with packaging, packaging was weighed and converted into carbon using the UK Government 2023 Carbon Conversion Factor Database. All packaging is single use and disposed of in clinical waste by Steris.

Cleaning of the tray was not included as no additional resource would be required - trays are cleaned with tristel and cloth which was already used for cleaning in the clinic room.

Average carbon footprint per tray sterilised: 1.652 kgCO2e

Our CO2e reduction was translated into miles driven using emission factor 0.3386 kgCO2e/ mile driven in an average car with unknown fuel, from the UK Government Greenhouse gas reporting: conversion factors 2023.

Economic sustainability:
The cost of sterilisation was provided by the Trust Deputy Operations Director (Decontamination) via the Steris (sterilisation service) online system. We have taken the average number of trays sent weekly and multiplied this against the estimated costing of £2.5 per tray.

Social sustainability:
We conducted a staff survey to assess team perceptions of the problem, project and sustainability in healthcare more widely.

Results:

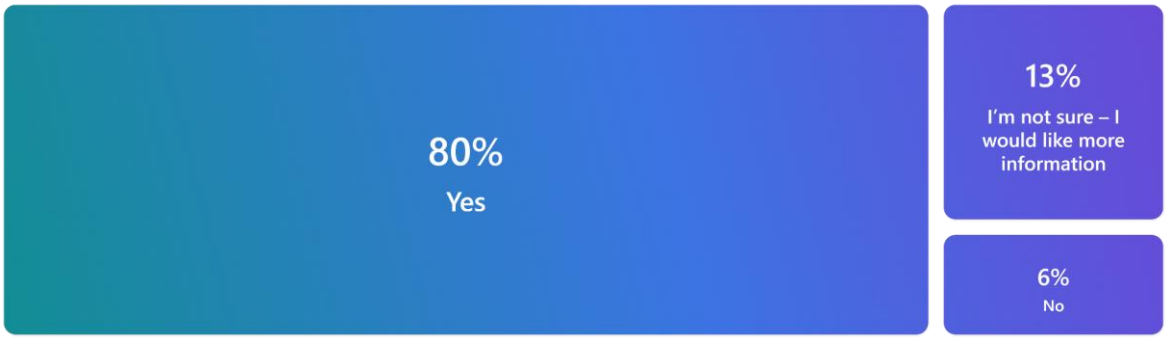
Patient outcomes:
Previously there were delays to patient care as staff members had to unpackage newly received blue trays to undertake sampling. Trays are now cleaned with tristel and cloth which were already available within each clinic room and are ready for use at the start of each clinic session.

Environmental sustainability:
13 trays are sent for sterilisation per week, equating to 21.48 kgCO2e. Projected across a year, this is a saving of 676 trays sent and 1,116.75 kgCO2e. This is equivalent to driving 3,298 miles in an average car.

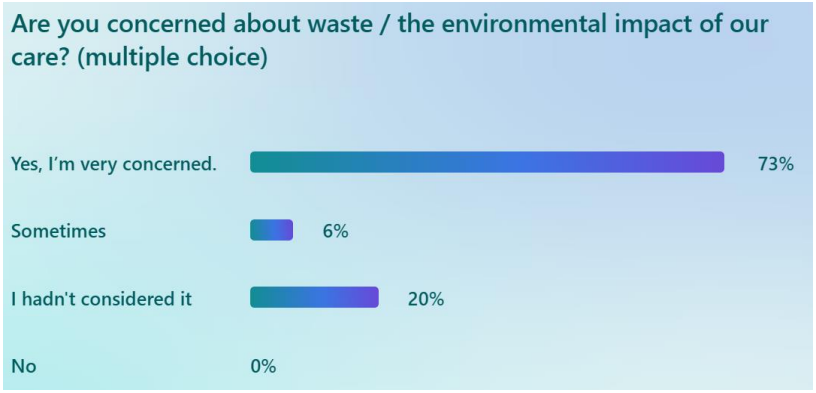
The department currently has a large stock of trays which are rotated. Some of these have become warped and damaged from the sterilisation process. Ending this cleaning will prolong the lifespan of the trays which may lead to additional savings.

Economic sustainability:
While an estimated cost of £2.50 per tray (£1,690 per year) was provided, in practice there will be no financial savings to the service as we are already paying a minimum service level for our sterilisation requirements.

Social sustainability:
15 staff members completed the staff survey from 36 eligible clinicians ranging from Support Workers to Consultants. 80% of these team members were agreeable to stopping sending trays for external sterilisation. As the response was not unanimous, I have explained to staff that it has been agreed by infection control that we do not require steam sterilisation and I am available to discuss this further should anyone have any concerns.



73% of team members responded that they were very concerned about waste and the environmental impact of our care.



This change brought around a real boost to morale within clinic. Multiple staff members approached me acknowledging how we were moving forward with common sense sustainability plans in clinic. There is a passion at SHS for continuing to question our practices and develop them and I have been approached with further areas for improvement. One such example of this is the departmental Legionella policy. Currently, each tap within the unit is turned on each morning and left to run. It is then the responsibility of someone to go around and turn them all off. Occasionally, taps get missed and you can enter a room in which the taps have been running for several hours resulting in unnecessary water wastage. We have created a sustainability link team with a view to meeting monthly to continue to look at clinic processes and drive further improvements. This team is planning to rewrite the departmental Legionella policy in line with the trust policy to flush only little used outlets weekly, rather than all taps daily.

Discussion:

Sexual Health Sheffield is a relatively small team. We had initially planned to enter the green team competition as a team of three clinicians but due to operational needs, two team members were no longer able to participate. This left one part time team member and with annual leave, sickness and extremely busy work scheduling, it was very difficult to take on a project with too great a depth. I am very grateful for the support of the green team competition organisers who have kept the project moving forwards and look forward to being part of the Sexual Health Sustainability Group to keep the momentum going.

When looking at whether our project was scalable within the trust, we found that no other departments sterilise their trays. We do hope however that this project will encourage other teams to consider and question unnecessary processes within their own departments.

Conclusions:

This is a very simple change of a practice, challenging an unnecessary process that continued only because it was seen as "routine". Although a small project, it can hopefully be the start of positive change in the clinic. Staff now have a contact in the sustainability links and feel that if they question

why something is done, they can push for an answer rather than accept practices as “routine” and how it's always been done.

Critical success factors

Please select one or two of the below factors that you believe were most essential to ensure the success of your project changes.

People	Process	Resources	Context
☐ Patient involvement and/or appropriate information for patients - to raise awareness and understanding of intervention X Staff engagement ☐ MDT / Cross-department communication ☐ Skills and capability of staff ☐ Team/service agreement that there is a problem and changes are suitable to trial (Knowledge and understanding of the issue) ☐ Support from senior organisational or system leaders	☐ clear guidance / evidence / policy to support the intervention. ☐ Incentivisation of the strategy – e.g., QOF in general practice ☐ systematic and coordinated approach ☐ clear, measurable targets ☐ long-term strategy for sustaining and embedding change developed in planning phase ☐ integrating the intervention into the natural workflow, team functions, technology systems, and incentive structures of the team/service/organisation	☐ Dedicated time ☐ QI training / information resources and organisation process / support ☐ Infrastructure capable of providing teams with information, data and equipment needed ☐ Research / evidence of change successfully implemented elsewhere ☐ Financial investment	X aims aligned with wider service, organisational or system goals. ☐ Links to patient benefits / clinical outcomes ☐ Links to staff benefits ☐ ‘Permission’ given through the organisational context, capacity and positive change culture.