



TRASH IT, DON'T FLUSH IT! - Estates Department, 2019



TEAM MEMBERS: Emma Harris (Administrator) and team.

Background:

There are a high number of drain blockages in the Trust in common with national trends in the NHS and general sewers¹. Prior to the project the impact of blockages was not being monitored. On investigation it was found that 714 requests regarding blockages were made to estates at the Wonford site January -July 2019.

Dealing with these blockages is costly financially, often requiring an external contractor from 'Exjet' to attend; Exjet were called out 57 times between January and July 2019.

Blockages contribute to low morale in Trust trade-staff as the blockages are unpleasant and hazardous to deal with (there is a risk of infection, especially gastrointestinal infection, from contact with human waste) and it is frustrating for trade staff to see blockages occurring recurrently, especially in certain areas, whilst no effective preventative action taken.

From a clinical perspective when a toilet or macerator becomes blocked it causes **disruption to staff** as they are **unable to dispose of bodily fluids**, which can lead to a health hazard occurring, or have **fewer toilets** to serve the patients. For **patient dignity** it is important to have private area where they can toilet near to their bed space, especially for those patients experiencing bowel disturbance, reduced mobility, urinary incontinence or vomiting. Blockages can also cause **flooding**, which can be an **infection risk** as well as a **slip hazard**. Blockages impact on the quality of the care environment which is measured Trust-wide as part of the Patient Led Assessment of the Care Environment (PLACE) and cause the healthcare setting to fall below the CQC standards set out in regulation 15.

¹ <https://www.theguardian.com/environment/2017/dec/12/baby-wipes-93-percent-matter-causing-uk-sewerblockages>

Environmental issues related to blockages include **emissions** due to call outs of contractors with consequent impact on air quality and high-volume **water usage** to clear more significant blockage. One significant contributor to blockages is when staff inappropriately dispose of wipes in drains and macerators rather than in domestic or clinical waste. These wipes contribute to **microplastic pollution**; microplastic pollution may adversely affect aquatic life when organisms ingest microplastics and enters our food chain with concerns around toxins in the plastics and toxins that associate with microplastics. Unfortunately, some manufacturers contribute to the problem by incorrectly labelling wipes as 'flushable', when no wipes are suitable for flushing².

The team saw entering the competition as an opportunity to raise awareness more broadly of the problem of drain blockage and to work on inter-departmental solutions to reduce the number of blockages, starting with the estates department meeting with clinical staff to engage them in a collaborative approach to solving this problem.

Goal: to reduce the number of blocked toilets and macerators at the Wonford site in both public and clinical areas.

Approach:

Orientation: Emma does not have a clinical background and is not familiar with the clinical environment, being office-based in the estates department. She arranged a meeting on a ward with 2 members of the housekeeping team to learn about how the ward is structured, view the sluice and to see how widely wipes are used on the wards. She estimated that 15 - 20 opened packs of wipes were present on a single ward.

Pictorial data: the team asked Estates Supervisors and Tradestaff to photograph blockages in toilets, drains and macerators, especially when wipes are the main blockage, to gather information on the cause of the blockages and to be used in an awareness campaign.

Staff Engagement Strategy:

- Interviews with trade staff to ascertain the impact of callouts to deal with blockages with within and outside working hours.
- Attending a matrons' meeting to listen to the matrons' perspective on blockages, address any misconceptions and work together on solutions.



² <https://www.theguardian.com/environment/2017/dec/12/baby-wipes-93-percent-matter-causing-uk-sewerblockages>



- Meeting with ward housekeepers.
- Meeting with infection control leads to discuss this project and consider how they could collaborate in making changes to reduce the infection risk caused by blockages and maintain clinical standards of cleanliness (given that wipes are used for cleaning but are also a significant cause of blockages).
- Walkabout in hospital to engage staff ad hoc.

Campaigns:

- Poster campaigns; Emma devised posters to display in the hospital.

Quantitative data: the team generated reports from the Estates system, Backtraq, with information on the number of blockages (date, time, location) occurring per month and costs for internal and external staff dealing with the blockages. A run chart (QI method) was used to keep track of the data trends over the duration of the competition. Exjet was contacted to gather information on the type of vehicle, distance travelled, and amount of water used to allow a calculation of the carbon footprint of call-out of external contractors to be made.

Results:

Pictorial data: Staff were surprised when presented with photographs of the items contained in blockages. Staff could see that the blockages were caused by wipes and other clinical items that were inappropriately disposed of in macerators or down toilets. Previously clinical staff believed that blockages were caused by faulty macerator or WC design.

Macerators [get] blocked when [the] complete contents of bed pans are emptied into macerators including wipes, syringes, plastic materials, pants, nappies etc.

Staff Engagement:

- **Trade staff:** reported that out-of-hours call outs had a negative impact on their wellbeing and productivity due to loss of rest time or sleep, especially as they would have to work a full day following the call out. Staff take compensatory leave after lengthy jobs out-of-hours which leaves the day shift short staffed. Of the 51 reports of blockages received and attended by RD&E staff between 6th June and 6th July, 6 were out of hours. There were also reports of gastrointestinal upset following dealing with blockages.
- **Nursing and Housekeeping staff:** Emma Harris attended a Matron's Meeting to highlight discuss the cause of the blockages. Staff incorrectly believed that blockages were due to poor design of the WCs and macerators. Emma was able to show the photographs of blockages that the trade staff had taken as evidence that blockages were due to staff placing items in the macerator inappropriately. The matrons agreed for posters to be displayed in sluices to help raise awareness of what items were suitable for maceration as a first step in changing the practice of ward staff. The matrons suggested repeating poster campaigns every 2 months, letting staff know how many blockages there have been in their department.
- **Ward Housekeepers:** the team would be interested in switching back to using jay cloths that staff are more likely to dispose of in the bin rather than in the macerator or toilet.



- **Infection Control:** Emma visited a selection of wards with the Lead Nurse for Infection Control to ascertain what wipes were used, the purpose of use and what the advice was on disposal. They found that 3 types of wipes were used on wards:

1. Personal washcloths (used for hands before meals and also general skin friendly wet wipes) – cannot be flushed or macerated.
2. Detergent wipes for surface cleaning – cannot be flushed or macerated
3. Dry Wipes used for patient washing – cannot be flushed but **can** be macerated (although not large amounts can be macerated at once) according to manufacturer instructions.



So, none of the wipes are suitable to flush down WCs and the dry wipes are the only wipes which can be macerated, according to manufactures' instructions, although it is known that disposing of wipes in the macerator contributes to microplastic pollution.

Emma also attended an Infection Control Link Nurse Course; explained the role of estates and the problem faced with wipes, paper towels and other items flushed down WCs and macerators. Response; amazed that this is happening when show pictures. The nursing staff were shocked by the photographs that had been taken by trade staff and motivated to support the campaign in their clinical areas.

Ad hoc engagement: Emma visited a number of wards and areas in the hospital, focussing on areas with the highest frequency of blockages, to put up posters in WCs and sluices. She had the opportunity to chat with ward clerks and nursing staff about the campaign and when ask for permission to display posters.

Campaigns:

Poster Campaign: an initial campaign to inform staff that only 'pee, poo and paper' were flushable (see appendix 1) was followed by a further campaign started on 23 July linking disposing of wipes down the drain with environmental pollution (see appendix 2). This was accompanied by a post on HUB, a Twitter post and information on all comm cells. Some teams got back to Emma with requests for more posters. Emma designed the posters for these campaigns with feedback from CSH.

Collaboration with South West Water: this was set up a collaboration with South West Water, following a suggestion from CSH. The water company provided pamphlets and posters that were placed in high risk areas. They have also offered to help with staff engagement by visiting wards.

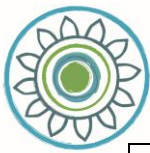
Quantitative Data:

The average number of blockages per month sorted by the inhouse team were 123 pre-project (with an average of 9 out-of-hours attendances) and an average of 111 post-competition (3 out-of-hours attendances on average meaning a member of staff drove into the hospital from home). Pre-project data was an average of data gathered in January-May 2019. Post-project was an average of data from June and July.

Exjet contractors travelled 50 miles round trip to visit the RD&E, carrying 700 litres of water to use to clear blockages, of which they used 400-500 litres and returned to their depot with approximately 300 litres of water. The number of Exjet call outs pre-project were 9.2 visits per month increasing to 13 visits postproject (6th June-6th July). The number of visits increased but interestingly the costs went down, suggesting that visits were shorter and therefore blockages less severe. If trend continues then can reasonably assume that Exjet visits will decrease so decreasing carbon and financial costs.

The total number of call outs were monitored using the RD&E Run Chart template, provided by the QI team.

<p>Environmental benefit</p>	<p>Emissions for the RD&E team related to travel for out of hours calls decreased by 71% from 51 kgCO₂e pre-project to 15 kgCO₂e (June-July).</p> <p>Emissions associated with Exjet in the month 6th June- 6th July were 560 kgCO₂e, a 45% increase on the monthly pre-project average of 438 kgCO₂e, due to an increased number of visits. The cost of visits decreased however, suggesting shorter visits and blockages that were cleaned more easily. This may mean a reduction in the amount of water used to clear blockages.</p>
<p>Social sustainability; benefit to patients, staff and community</p>	<p>Not formally assessed. Benefits in building relationships between clinical and estates teams to reduce frustration on both sides and to help encourage collaboration on solving a problem that has an impact on both teams.</p>
<p>Financial benefit</p>	<p>There was an 18% reduction in costs incurred for the RD&E estates team; the spend decreased from £3,382 per month pre-project to £2,778 per month postproject.</p> <p>The cost of blockages handled by Exjet decreased from £1,919 per month preproject to £1,383 per month post-project, a reduction of 28%.</p> <p>If these numbers are representative, then forecast for annual savings is £13,680, although longer is needed for the campaign to embed and the impact of the campaign to be assessed.</p>



Clinical outcomes	Not formally assessed. There is a potential to improve continence and reduce falls through availability of toilet facilities and to help to control infection if fewer blockages occur.
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Next steps:

Campaign:

- Emma will visit the next housekeeping team meeting with the aim of recruiting housekeepers to act as champions on this project in their different ward areas. This follows on from feedback from an HCA & member of domestic staff that 'people know not to flush wipes down the toilet or sluice, but it happens through bad practice'. Having champions in place to model good practice will therefore be key.
- Regular reminders via the HUB, Twitter and on Comm Cells
- Ensure posters are in all sluices and areas where there are toilets, with a focus on areas with a high frequency of blockages.
- Display posters in paediatrics so that older children can influence their parents

Systems change;

- Start reporting blockages via the Trust's Datix incident report system, with reports sent to the ward matrons and possibly infection control. This will help to keep momentum going on the project. The trends could also be discussed at the Estates Governance Group and reported to the Trust Health and Safety Group meeting.
- One ward carries out preventative action and they see this as part of their job. Could they influence their colleagues?

Data Collection:

- Continue collecting and analysing data using the systems (including run chart) set up during the Green Ward Competition to assess the impact of engagement, continue to focus on 'hotspots' of the highest frequency of blockages. This will be especially important when, as part of the Energy Performance Contract, the Trust installs low flush cisterns. This will reduce the water flow and reduce water use; it will be interesting to see if blockages also increase.

Collaborations:

- To set up a meeting with John Malloch, Head of Procurement, to investigate possible alternative and relative costs.
- Rose Gallagher, MBE, Lead in Sustainability & Infection Prevention and Control has asked the team to contribute to a national consultation on blockages in the NHS and use of wipes.