SUSQI PROJECT REPORT

Project Title: Introducing Intermittent self-catheterisation in urgent care.

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Team Members:

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Background:

Climate change poses a major risk to health and wellbeing. The impacts on health can be seen across the UK but are particularly harmful for those who are at greatest risk of poor health. In 2020, the NHS become the first healthcare system in the world to commit to becoming net zero. Healthcare in England is estimated to contribute between 4% and 5% of the national emissions, and around 40% of all emissions generated by the public sector (NHS England, 2025).

Northampton General Hospital (NGH) see's high numbers of catheter insertions, with over 20% of in-patients having an indwelling catheter. On average Urgent Care see's approximately 600 patients per year (50 patients a month) with acute urinary retention that require indwelling catheterisation. This has a high financial and environmental cost associated with it, along negative social and patient outcomes.

Having a long-term or temporary catheter can significantly affect a patient's life, especially after initial insertion. Fear of dislodging the catheter may hinder daily activities, limit leaving the house, cause social isolation, and, depending on their job, prevent them from working.

Prolonged catheterisation significantly elevates the risk of catheter-associated urinary tract infections (CAUTI's). Infection risks increase by approximately 5% for each day the catheter remains in situ (Kang et al., 2015), with an estimated annual cost to the NHS of over 1 million pounds. Additional complications include; loss of bladder tone which reduces the likelihood of a successful trial without catheter (TWOC), urethral trauma, and bladder spasms. Our patients would go home with an indwelling catheter and wait 2-4 weeks for a TWOC appointment. During this time, they could develop a CAUTI or experience reduced bladder tone leading to TWOC failure.

The high volume of patients requiring catheterisation is placing considerable strain on multiple services. Urgent Care is experiencing increased reattendances due to catheter-related complications, while the urology department faces additional pressure managing follow-up and TWOC appointments. District nursing teams are similarly impacted, frequently addressing problematic catheters and performing TWOC procedures in the community.

In 2020, the Emergency Department in Guernsey (McDermott, P. and Cooper, B., (2020). Teaching self-catheterisation in an emergency department. Nursing Times, 116(6), pp.32–35.) carried out a project replacing indwelling catheters with intermittent self-catheterisation for patients presenting to the Emergency Department (ED) with acute urine retention. They reported positive outcomes, including improved patient experience, fewer infections, and reduced clinician time and resource use.

Intermittent self-catheterisation (ISC) is the process of inserting a catheter into the bladder at scheduled intervals to drain urine, then removing it immediately after. Unlike indwelling catheters, intermittent catheters do not remain in place, reducing infection risk and complications. Patients are often trained to perform ISC themselves, promoting independence and improving outcomes. ISC is considered the gold standard for bladder drainage by NICE (National institute for health and care excellence). A single episode of intermittent self-catheterisation often restores normal bladder function, meaning many patients may receive indwelling catheters unnecessarily.

Patients correctly performing aseptic touch technique for ISC, will reduce their infection risk and help maintain their bladder tone. The Guernsey article identified 50% of their patients taught ISC, only had to use the intermittent catheters once before their bladder function returned.

Transitioning from indwelling catheters to ISC offers significant benefits across clinical, financial, and environmental domains. ISC reduces the incidence of catheter-related complications, leading to fewer hospital visits and lower healthcare costs. By minimising the use of single-use catheter kits and associated consumables, this approach also contributes to reduced carbon emissions and supports sustainability goals. Most importantly, ISC enhances patient experience by promoting independence, reducing discomfort, and lowering the risk of infection compared to prolonged indwelling catheter use.

With an ever-increasing population, demand and pressure from all healthcare providers are higher than ever before, but never more so than within Urgent Care. On average the emergency department and same day emergency care (SDEC) are seeing over 450 patients per day.

SDEC had initially introduced the concept of ISC at the beginning of 2025, but the strict exclusion criteria and limited staff confidence due to minimal training, meant that no suitable patients had been identified for ISC.

Specific Aims:

The aim of this project was to provide patients with a choice, wherever clinically appropriate, between learning ISC or having an indwelling catheter. This approach ensures patient autonomy and improves the standard of care by offering options rather than defaulting to an indwelling catheter as the sole solution. ISC is recognised by NICE as the gold standard for bladder drainage, supporting best practice and enhancing patient outcomes.

1. Where possible, allow patients presenting in Urgent Care with acute urine retention, a choice between intermittent self-catheterisation or an indwelling catheter.

2. To reduce the number of indwelling catheters inserted for acute urine retention in Urgent Care and the associated infections.

Methods:

The decision to partner with Wellspect for the supply of ISC products, was based on their proven track record in supporting successful implementations. Notably, Wellspect provided comprehensive guidance and resources that enabled Guernsey Emergency Department to adopt ICS effectively. Their expertise, reliable product range, and commitment to clinical best practice make them a trusted choice for ensuring patient safety, comfort, and continuity of care.

ISC was not previously an intervention used within Urgent Care (only in outpatient clinics) and represented a significant change in practice. There were apprehensions regarding the change by

ED staff, so a visit from the Wellspect rep was arranged to demonstrate the product simplicity and benefits.

Following collaborative discussions with urology consultants, the original ISC pathway and exclusion criteria used in SDEC were reviewed. They were amended to ensure greater inclusivity and allow more patients to choose ISC as an alternative to indwelling catheters. The revised pathway has since been approved by both ED and SDEC for implementation.

Original exclusion criteria:

- >800mls on bladder scan
- Female
- UTI
- Risk of post op diuresis
- Known hydronephrosis
- Poor cognitive ability/poor manual dexterity
- Post prostatectomy
- Tachycardic or bradycardia
- Known false passages
- Bladder, urethral, penile or prostate malignancy
- Known urethral stricture
- Chronic high-pressure retention
- Deranged U&Es.

Updated and implemented exclusion criteria:

- Deranged U&Es (deterioration from baseline)
- Known hydronephrosis
- Signs of urosepsis (e.g. fever)
- Poor cognitive ability/poor manual dexterity
- Post prostatectomy
- Known false passages
- Bladder, urethral, penile or prostate malignancy
- Known urethral stricture
- Chronic high-pressure retention.

Wellspect, started to provide training for staff in both ED and SDEC, but would need to provide further training in ED before official implementation. In addition, they supplied the initial teaching stock and provided take-home packs for patients. The introduction of ICS went live in SDEC on 01/12/25, the launch date will be confirmed for ED, once winter pressures ease.

Measurement:

Before starting the project, various data collection methods were explored, but time constraints limited their accuracy. Our current system only tracked inpatients with catheters, so we could not determine how many were discharged home with one. Attempts to gather data from TWOC clinic referrals were also inconclusive, as referrals originate from multiple locations and care settings and could not be identified specifically for Urgent Care. Consequently, the project data relied largely on predictions. The main aim was to facilitate patient choice between ICS and indwelling catheters; therefore, outcomes would focus on pathway embedment and patient choice.

The average data for urinary retention doesn't include patients attending Urgent Care for different reasons that go on to require a catheter. As seen in the data collected a considerable amount is being spent on catheters in comparison to what is predicted for this project.

Patient outcomes:

The number of patients requiring in-dwelling catheters for acute urinary retention for 2024-2025 was identified. The number of patients swapping from indwelling to the NICE gold standard intervention of ISC was modelled on a 20% estimate, as suggested by the Guernsey article.

The data for the number of patients with new indwelling catheters returning to Urgent Care with complications was modelled for pre and post ISC introduction. The hope was to not only see a reduction in patients returning to urgent care due to complications but also a reduction in CAUTI rates.

Population outcomes:

For this project, there were no predicted negative outcomes or health inequalities; all patients would receive the same treatment choices, if possible, as per the inclusion and exclusion criteria. Patients meeting exclusion criteria still had access to indwelling catheters. On review of Guernsey paper, they identified half of the patients taught ISC only needed to do so once to gain normal bladder function. This paper has been used to predict outcomes from ISC over indwelling within

NGH.

***Environmental sustainability*:**

We collected data from the ED supplies team for indwelling catheterisation, with the aim of reducing indwelling catheters by introducing ICS. A hybrid approach was used to estimate the greenhouse gas (GHG) emissions associated with the indwelling insertion consumables, along with intermittent male and female catheters as summarised in table 1 below. The home consumables for 28 days were also included, averaged on the assumption that 50% of patients would require 4 ISC's a day for 28-days and 50% would only require 2 per month (i.e. urine retention resolved itself). See table 3 for the summary. The carbon footprint was processed based for all items, except for instillagel and sterile water packet, which were based on an extended environmentally input-output analysis (EEIOA). The analysis included GHG emissions associated with primary material production, transport and disposal as all products were single use.

Table 1. List of items carbon footprinted per catheterisation episode

Procedure	item	No. of items per catheterisation episode
Indwelling Catheterisation	Sterile gloves (1 pair)	1
	Swab non-woven	5
	Plastic Bag	1
	Tissue Backed sterile field	1
	Dressing Towel	1
	Compartment tray	1
	Catheter	1
	Syringe for balloon(50ml) syringe)	1
	Statlock	1
	Sterile water packet	1
	Leg bag	7
	Instillagel	1
	Night bag	28
Intermittent Catheterisation	Intermittent catheter for females	1(56 home)
	Intermittent catheter for males	1 (56 home)

The material data for each consumable was converted into GHG emissions using carbon conversion factors from the 2025 UK Government Greenhouse Gas Conversion Factors database UK DESNZ Database. For transport emissions, where supplier address location was available, distance in miles was collected from the manufacturer location to the country-of-origin main port if imported, the distance between the port to UK main port of entry, from the UK main port to the NHS supply chain distribution centre in Rugby and then to the hospital. For locally manufactured products, distance from the manufacturer to the hospital was considered. This distance was converted into emission using carbon conversion factors from the 2025 UK Government Greenhouse Gas Conversion Factors database UK DESNZ Database. For end-of-life treatment, disposable equipment was assumed to be disposed of as clinical waste, while the packaging waste was assumed to be dry mixed recyclable with the corresponding emission factors taken from 1).

The emissions savings were translated into equivalent miles driven in an average car with unknown fuel using a factor of 0.3399 $kgCO_2e$ per mile, as published by the UK Government Greenhouse gas reporting: conversion factors 2025. This factor is inclusive of fuel and well-to-tank emissions.

Economic sustainability:

The cost of consumables for insertion of indwelling catheters and ISC, along with 28 days of home supplies and waste avoidance was collated. The reduction in costs was modelled on 20% of patients with acute urine retention attending Urgent Care swapping from in-dwelling catheters to ISC. All financial data was obtained from either NHS supply chain or directly from consumable suppliers.

The average time taken for a patient in urinary retention to be catheterised is 1 hour, this includes performing the bladder scan, explaining the procedure to patient gaining consent, collecting equipment, preparing the trolley, preparing the patient, catheter insertion, disposing of all supplies, ensuring patient is comfortable and providing catheter care teaching. The average time for performing ICS, including performing the bladder scan, consenting the patient, explaining the procedure and collecting and disposing of the consumables is 30 minutes.

The cost of nursing time for inserting both in-dwelling catheters (60 minutes) and ISC (30 minutes) was identified. The financial cost efficiency for swapping to ISC was modelled based on a 30-minute time saving per ISC, at the PSSRU hourly band 6 rate.

In 2024-2025 on average 30 patients a month attended Urgent Care with problematic and blocked catheters, this number would however include new and long-term catheters. It was predicted that 5 patients a month (60 per year) would be patients reattending with new problematic catheters, with 12 requiring ambulance transfer. These problems can take an hour or longer to resolve and have additional costs, such as inserting a new catheter if it can't be unblocked.

The reduction in return Urgent Care attendances from catheter associated complications, was modelled on 20% of patients swapping to ISC. The associated reduction in nursing costs (1-hour per complication at the PSSRU hourly band 6 rate) and ambulance journey costs was modelled. The cost of avoided CAUTI's treatment was also based on 20% of patient's swapping to ISC.

Social sustainability:

There are numerous benefits of this project for both the Trust and patients. By giving patients a choice, we empower them and support a greater sense of control over their health. Patients with indwelling catheters often feel restricted in their daily activities due to fear of pulling the catheter or embarrassment that it may be visible. For working individuals, an indwelling catheter may affect their ability to perform certain jobs or make them feel unable to continue working.

If a patient can perform ISC, they can maintain greater independence and continue with their normal day-to-day activities. They can adapt the timing and frequency of ISC to fit around their lifestyle, which further supports their autonomy. A patient survey was conducted to identify the social benefits of ISC.

This project will reduce the need for hospital re-attendance due to catheter-related complications, saving both patient and clinical time. For some patients, a single visit can take an entire day, when factoring in travel and waiting time, unblocking or inserting new catheters, blood tests and urology reviews. Resolving catheter issues often requires at least one hour of clinical nursing time, this may be longer if the patient requires blood tests or a urology review. Reducing these attendances will save valuable clinical time and improve patient experience.
The avoided time for return Urgent Care visits was modelled for both patients and nurses.

Results:

On average in 2024-2025, 600 patients attended Urgent Care (50 per month) with acute urinary retention, requiring catheterisation (75% males and 25% females). Due to the previous exclusion criteria and lack of training, ISC was not performed on any of these patients, meaning all 600 required in-dwelling catheters. The average data for urinary retention excludes patients that had catheters inserted for reasons other than acute retention. As seen in the data collected a considerable amount is being spent on catheters in comparison to what is modelled for this project.

Based on the Guernsey article we modelled that 20% of indwelling catheters would be replaced by ISC, with 120 patients a year swapping to ISC and 480 still requiring in-dwelling catheters. It's estimated that 60 patients a year (5 per month) with a new catheter would return to Urgent Care due to a problematic catheter while waiting for their TWOC appointment, this could be for several reasons such as the catheter bypassing, blockages or discomfort.

Patient outcomes**:**

The project modelled a significant improvement in clinical practice, with 20% of Urgent Care patients presenting with acute urinary retention (120 per year) now receiving the NICE recommended gold standard care (ISC), compared to zero prior to implementation.

In 2024-2025 there were 39 CAUTI's diagnosed at NGH, but we were unable to identify the specific data for our Urgent Care patient population. Some patients may also have presented to their GP with CAUTI's, that we cannot account for. We have made a conservative prediction that the 20% reduction in indwelling catheters would lead to 2 less CAUTI's per year. Reducing CAUTI's delivers substantial benefits for patients by improving safety, comfort, and overall health outcomes. Lower infection rates reduce the risk of serious complications such as sepsis, kidney damage, and prolonged hospital stays. This not only enhances patient quality of life but also minimises the need for additional treatments, decreases antibiotic use, and supports faster recovery.

Bootsma *et al*, 2013, demonstrated a functional decline encompassing reduced mobility and ability to perform daily living activities with in-patients with catheters, compared to those without. Although this data could not be collected for our patient cohort, a presumption can be made that mobility decline can be avoided in patients swapping to ISC.

Population outcomes**:**

ISC is not anticipated to negatively impact population level outcomes. While some patients, such as those with limited dexterity or learning disabilities, may be unable to access ISC, they will continue to have indwelling catheters as an alternative. Current data cannot confirm that ISC improves overall population outcomes.

Environmental sustainability**:**

The carbon emissions for the consumables associated with inserting an indwelling catheter are 1.20 $kgCO_2e$, with 28 days' worth of home consumables adding an additional 7.6 $kgCO_2e$. This totals 8.79 $kgCO_2e$ per episode of care, using the items listed in table 1. In comparison the consumables associated with initial insertion of an ICS are 0.058 $kgCO_2e$, with inclusion of home consumables (based on an average of 50% of patients requiring 2 catheters per month and 50% requiring four times daily ICS) totals 3.27 $kgCO_2e$ per patient episode of care. Switching from indwelling to ICS saves 1.14 $kgCO_2e$ (95%) per patient for the initial insertion consumables and 5.52 $kgCO_2e$ (62.8%) per patient episode including 28-days consumables. The ISC results have been averaged to account for the difference in weight of the male and female catheters, with 75% of the patients being male and 25% being female. These results are summarised in table 2.

Table 2. Catheterisation items carbon footprint

Procedure	Items	Carbon footprint (kgCO2e) per equipment	Number of items required per episode	Total Carbon footprint per episode (kgCO2e) per episode	Total carbon footprint by catheterisation type (KgCO2 per patient per episode/ month)		Cost per unit Catheterisation episode (£)
	Sterile gloves (1 pair)	0.078	1	0.08			£ 10.88
	Swab non-woven	0.017	5	0.09			
	Plastic Bag	0.016	1	0.02			
	Tissue Backed sterile field	0.119	1	0.12			
	Dressing Towel	0.084	1	0.08			
	Compartment tray	0.033	1	0.03			
	Catheter	0.073	1	0.07			
	50ml Syringe for balloon	0.125	1	0.12			
	Statlock	0.037	1	0.04			
	Sterile water packet	0.139	1	0.14			
Indwelling Catheterisation	Instillagel	0.408	1	0.41	1.20		
Home Consumables	Leg bag	0.171	7	1.19			
	Night bag	0.228	28	6.39	7.6	8.79	
	Intermittent catheter for females	0.033	1	0.03	0.058		£ 1.76
Intermittent Catheterisation	Intermittent catheter for males	0.067	1	0.07		3.27	£ 1.89
Savings from switching from Indwelling to ICS per episode					**1.14**	**5.51**	**£ 9.02**

Extrapolating these savings with a partial (20%) introduction of ISC on the projected 600 patients annually, would save the department 917.8 $kgCO_2e$ per year. An additional 71.9 $kgCO_2e$ savings were realised from avoided second round of problematic indwelling catheterisation, 399.7 $kgCO_2e$ from avoided travel emissions due to second round (where 12 out of the 60 returning patients were predicted to require ambulance) and 551.6 $kgCO_2e$ from avoided healthcare service provision for infection treatment. Cumulatively, the modelled yearly carbon savings is 1941.1 $kgCO_2e$ as summarised in table 3.

Table 3 Environmental savings accrued by partial switch from indwelling catheterisation to ISC

Parameters	**Emission per episode ($kgCO_2e$) per month**	**Emission per episode by catheterisation type ($kgCO_2e$) per year**	**Carbon savings ($kgCO_2e$)**	**Activity contribution to carbon savings (%)**
Baseline _pre project indwelling catheterisation	439.31	5271.70	917.8	47.3
Projected indwelling catheterisation (Post project)	351.45	4217.36		
Projected ISC	11.38	136.52		
Males ISC-av. 2cath/month	0.1	1.61		
females ISC- av. 2cath/month	0.1	0.79		
Male ISC -av. 4cath/ day	7.5	89.95		
Females ISC_ av. 4cath/day	3.7	44.17		
Avoided 2nd round- indwelling ($kgCO_2e$)			71.9	3.7
Avoided Emissions due to second round indwelling travel ($kgCO_2e$)			399.7	20.6
Carbon savings from avoided infections ($kgCO_2e$)			551.6	28.4
Total Carbon saving ($kgCO_2e$)			**1941.1**	

***Economic sustainability*:**

The economic savings have been modelled on 20% of patients (120) swapping to ISC, with the remaining 80% (480) requiring indwelling catheters per year. The economic savings have been calculated based on the consumables for insertion (and 28 days aftercare), nursing time for initial catheter insertion in Urgent Care, along with avoided complication costs from CAUTI's and return visits to Urgent Care (see table 4).

Table 4. Financial savings accrued by partial switch from indwelling catheterisation to ISC

Parameters	**Financial cost per month (£)**	**Financial Savings (£) per month**	**Financial Savings (£) per year**
Baseline _pre project indwelling catheterisation	£544.00	-£ 307.30	-£3687.60
Projected indwelling catheterisation (Post project)	£435.20		
Projected ISC	£ 416.10		
Males ISC-av. 2cath/month	£14.175		
females ISC- av. 2cath/month	£4.40		

Male ISC -av. 4cath/ day	£793.80	
Females ISC_ av. 4cath/day	£ 246.40	
Nursing hours saved for insertion (£)		£3180.00
Cost of avoiding infection (£)		£14540.00
Total financial savings per year (£)		**£14032.40**

Consumables

The total cost for all products required for inserting an individual indwelling catheter is £7.88, the baseline costs for inserting 600 indwelling catheters for 2024-2025 was £4,728. The ongoing home consumables needed for 28 days (4 leg bags and 28-night bags), would be supplied by GP prescription, making the total for consumables for insertion and home use to be £10.88 per patient. The yearly cost for consumables for inserting 600 in dwelling catheters and 28 days of home consumables is £6,528.

This was modelled on clinicians collecting individual items for indwelling insertion and not a catheter tray which is considerably more expensive. SDEC currently only use individual items for catheterisations whereas Urgent Care use 50% trays and 50% individual items. All financial calculations were based on the predominant method of individual items. If using the catheter tray packs, the costs would vary depending on which type of bag was required, the tray packs price varies from £10.39-£14.76.

The cost of one intermittent catheter is £1.76 for females and £1.89 for males; patients are predicted to only require one during their Urgent Care visit. A box of 5 catheters will be supplied to patients if required for discharge, costing £8.80 for females and £9.45 for males per box. Ongoing consumables would be provided via GP prescription. Modelling on patients needing to carry out the maximum ISC 4 times a day for a 28-days, the 28-day cost for ISC would be £197.12 for females and £211.68 for males. But many patients often only require one or two ISC before their bladder function returns to normal, with the 28-day costs as low as £1.76 - £3.52 for females and £1.89 - £3.78. It is predicted that 50% of patients will need 4 times a day for 28-days and 50% will only need 1-2 episodes of ISC before normal bladder function returns.

The cost for the trust for the single catheter in urgent care and a stock of 5 catheters sent home on discharge for a female patient if requiring 4 times a day ISC would be £10.56 and for males £11.34. Therefore, compared to the in-dwelling insertion cost of £10.88 from collecting items individually, there would be a £0.32 reduction in cost for females and a small increase of £0.46 for males. If staff chose to use the catheter trays for in-dwelling, there would be a decrease of anything up to £5.96 for females and £5.31 for males. This minimal increase from consumables will be offset by the reduction in nursing time and complications.

Initially Wellspect have provided ISC stock free of charge, but once this stock has been used the trust will need to purchase them.

Nursing time

On average it takes 1-hour of nursing time to insert an in-dwelling catheter for acute retention, this includes collecting equipment, preparing the trolley, preparing and consenting the patient, catheter insertion, waste disposal and providing catheter care training.

It is predicted that to perform and teach a patient ISC it would take around 30 minutes. This would include performing a bladder scan, explaining how an intermittent catheter works and ensuring the patient is happy to proceed, watching the patient perform the procedure and doing a post bladder scan.

Based on 120 patients swapping from indwelling to ISC and saving 30 minutes per patient, there would be a saving of 60-hours of nursing time per year. Based on a band 6 nurse salary per working hours of £53 (from the PSSRU) this would be a financial efficiency saving of £3,180 per year. There would also be staff time saved from these 120 patients avoiding return episodes to Urgent Care.

Complications

The average number of patients currently attending Urgent Care with problematic and blocked catheters is 30 patients a month (360 per year), this number will however include long term catheters. It is predicted that 5 patients a month with a new catheter, (60 a year) would reattend with problematic catheters. Out of those 60 patients reattending it is predicted that at least 12 may require an ambulance to bring them into hospital. The cost for an ambulance is £367 (from PSSRU), equating to £4,404 per year. For patients presenting with problematic catheters such as blockages, it could take an hour or longer of clinical time to resolve depending on the issue. This would also come with additional consumable costs and nursing time costs, such as inserting a new catheter.

Infection costs

Between 1st April 2025-20th November 2025 within our trust, 360 patients had a gram-negative bloodstream infection/sepsis. Out of those patients, 93 had urosepsis (25.8%). Of the 93 urosepsis, 39 (41.9%) had a catheter in situ and the source of infection was CAUTI.
It currently costs £7,270 to treat a patient with sepsis, meaning within 8 month it cost £283,530 to treat CAUTI related sepsis. The cost of CAUTI related urosepsis in one month is £35,441. It is estimated that 120 patients swapping to ISC, could prevent 1-2 CAUTI's per year, with financial savings of between £7,270 and £14,540.

The only data available for this project that was not based on prediction was the number of CAUTIs and the associated cost of treating them within the Trust between 1 April 2025 and 30 November 2025. However, this dataset did not capture outpatients who may also have been treated for catheter-related infections. Despite this limitation, the high number of patients treated for CAUTI's and sepsis clearly demonstrates the need to avoid catheter insertion unless necessary.

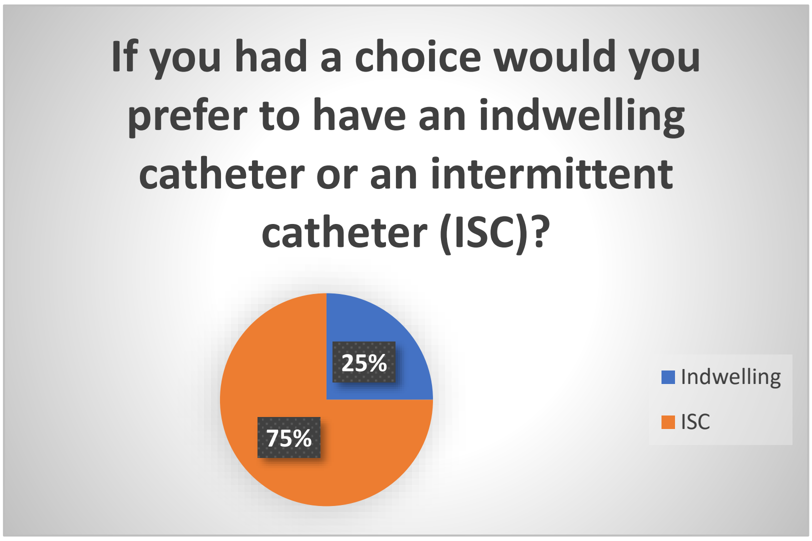
When the modelled cost of the change of consumables, reduced nursing time and infection avoidance are combined, a yearly saving of £14,032 was predicted.

***Social sustainability*:**

Reducing in-dwelling catheter use will likely decrease the number of patients needing to reattend hospital for problematic catheters or follow-up appointments. Many patients rely on family members, hospital transport, or even ambulance services to attend these appointments, which increases pressure on both the patient and the healthcare system. Depending on the circumstances surrounding the presenting complaint, it could mean the patient and relative is in the department for anything from 1-6 hours. Factors that could alter this time would be, if the team were unable to resolve the blockage meaning new insertion, if they suspect an infection or if the catheter had been blocked for a considerable time, bloods and doctor review would be required. When considering the financial burden of treating catheter-related infections, the potential benefit to both patients and hospital resources becomes even more evident.

Prior to commencing the project, a survey was carried out on patients that were attending Urgent Care due to urinary retention. Out of the 20 patients asked, 15 were male and 5 were female, results were as follows:

Question 1 - If you had a choice, would you prefer to have an in-dwelling catheter or an intermittent catheter (ISC)?

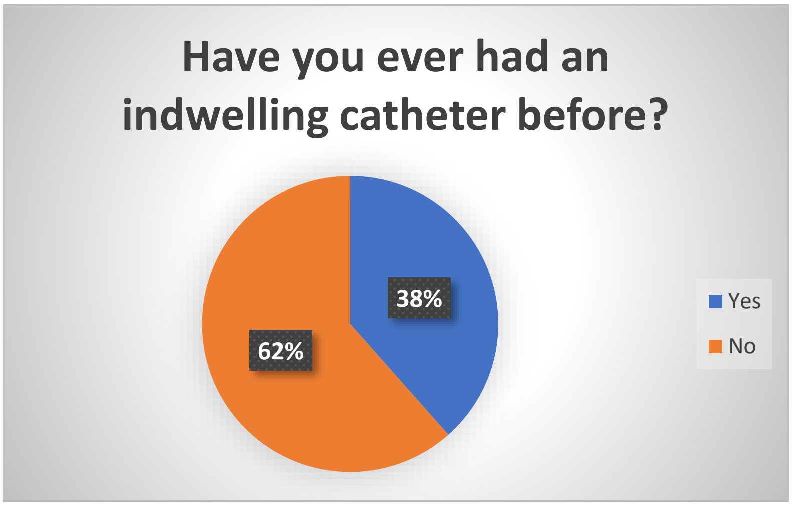


The 5 answering In-dwelling felt apprehensive about inserting a catheter themselves.

Question 2 - How do you feel about having an in-dwelling catheter?

All patient stated they didn't want a catheter but understood they needed one. Many patients felt a sense of anxiety around caring for their catheters at home and the potential wait time to have the catheter removed.

Question 3 - Have you ever had an indwelling catheter before?



The survey demonstrated there was a clear desire amongst the patient population for change in the current pathway, to allow the choice for ISC and avoid unnecessary in-dwelling catheters.

Discussion:

At the time of writing the project report, the pathway had been introduced to SDEC and aims to go live in ED, early summer 2026 when winter pressures have eased. There is an initial modelled 20% reduction in in-dwelling catheters, with a higher increase once staff become more confident with the process.

Urgent Care sees an average of 50 patients per month with urinary retention. We aim to reduce the number of indwelling catheters by approximately 20%. Additionally, around 30 patients per month attend due to complications with indwelling catheters, such as bypassing or blockage, out of those patients it is predicted 5 would have a blockage due to a new catheter. If patients are successfully taught ISC instead of receiving an indwelling catheter, we anticipate a similar reduction in these complication-related attendances. This would lower the number of patients returning to hospital, reduce the clinical time required for catheter changes or unblocking and enhance quality of life for patients with urinary retention.

Extrapolating these savings with a partial (20%) introduction of ISC on the projected 600 patients annually saved the department 917.8 $kgCO_2e$. Additional 71.9 $kgCO_2e$ savings were realised from avoided second round of problematic indwelling catheterisation, 399.7 $kgCO_2e$ from avoided travel emissions due to second round and 551.6 $kgCO_2e$ from avoided healthcare service provision for infection treatment. Cumulatively, the project realised a yearly carbon savings of 1941.1 $kgCO_2e$. This is the equivalent of driving 5,711 miles in an average car of unknown fuel.

The project outcomes are predominantly modelled data due to limitations in available data and the project only going live in SDEC on 01/12/25. These predictions are based on staff feedback and the success demonstrated in the Guernsey project. The staff were excited by the concept of the ISC but also had their reservations due to the process being so new to them. From the pre project questionnaire, patients facing the prospect of an indwelling catheter gave positive feedback that if they had the choice they would prefer to carry out ISC rather than have an indwelling.

If successful in SDEC and ED the next steps would be to introduce the pathway Trust wide, this would capture patients who may have needed to be catheterised at the start of their admission to be offered the choice of whether they would prefer to be taught self-catheterisation if appropriate and if the catheter was going to become a long-term requirement. It would also help to avoid unnecessary catheter insertion for those patients who maybe incontinent but require a urine sample. We could use an ISC to obtain the sample instead of placing an indwelling.

This project highlighted problems with inadequate documentation of catheterisation**,** potentially resulting in unnecessary long-term catheters. It also identified inadequate data collection on long-term outcomes and complication rates, and we recommend the Trust reviews it's data collection for this patient cohort, to further improve long-term outcomes. As the trust continues to develop Nerve centre, it's crucial that documentation improves for catheter insertion, ongoing care and the removal to try and prevent the unnecessary discharges with catheters.

Over £33,000 was spent in ED alone on catheter consumables between April 2024 and March 2025, this is significantly higher than the 600 patients identified for acute urine retention. It is unclear why this spend is so high. It could be due to unnecessary catheter insertion, wasted stock from failed catheterisation attempts, unnecessary stock or other departments taking stock. We recommend a more detailed review of this stock utilisation.

I will be leaving the trust as continence specialist Nurse in January 2026, but I would recommend the project to be continued by the nurse taking over my role, supported by the Trust sustainability lead and IPC lead.

Conclusions:

This project has modelled that if 20% of patients with indwelling catheters inserted for acute urine retention in Urgent Care and SDEC, swapped to ISC, 1941.1 $kgCO_2e$ emissions and £14,032 could be saved per year. There are no predicted negative population outcomes from this project and patient outcomes are predicted to improve with the reduction in catheter related complications, such as CAUTI's and long-term catheters. Social value is also added for patients in terms of increasing patient choice, empowerment and control over their life, whilst reducing return hospital visits with complications. Social value is also gained for staff by a reduced workload from inserting indwelling catheters and dealing with complications.

To maintain a long-term positive impact, the continence nurse and Wellspect will continue to provide regular refresher training for all ED and SDEC staff, ensure take-home packs are consistently available, and offer any additional support. It is important to emphasise that all post-project expectations and data are currently modelled. Actual data will need to be collected following full implementation in both ED and SDEC to determine whether the modelled outcomes have been achieved.

References and Resources

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This template is adapted from SQUIRE 2.0 reporting guidelines.
Template References

- SQUIRE | SQUIRE 2.0 Guidelines (squire-statement.org)
- Home | Sustainable Quality Improvement (susqi.org)

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 ☐ 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	☐ 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.