

Naughty CAUTI: Reducing risks with intermittent catheters

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Disclosures

- Currently working as an Independent Nurse Consultant and have received consultancy payments from the following companies;
 - Vernacare
 - Tookie Limited
 - Novaerus
 - Wellspect
- This presentation is based on evidence and my experience in implementing a change

Learning outcomes

- An outline of the infection risks associated with urinary catheters
- An understanding of biofilm formation and its relationship with CAUTI
- An overview of a project to introduce intermittent catheters in an acute trust
 - How we did it
 - Who we needed to get on board
 - What improvements did we see

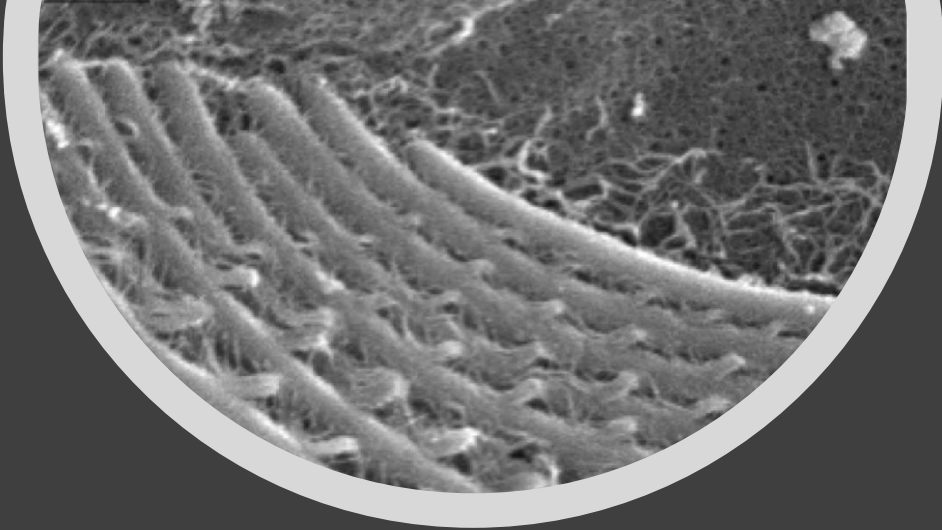
What is the problem.....

- 1 in 5 patient admitted to hospital are catheterized (Mitchell et al 2019)
- Prolonged and unnecessary use of catheters (Quinn et al 2020)
 - Catheters going unnoticed under clothing and bedding
 - Inconsistent review and daily assessment
 - Not seen as a priority for removal
 - Confusion on who has authority to remove the catheter
 - Communication barrier

Prevalence of healthcare-associated infections

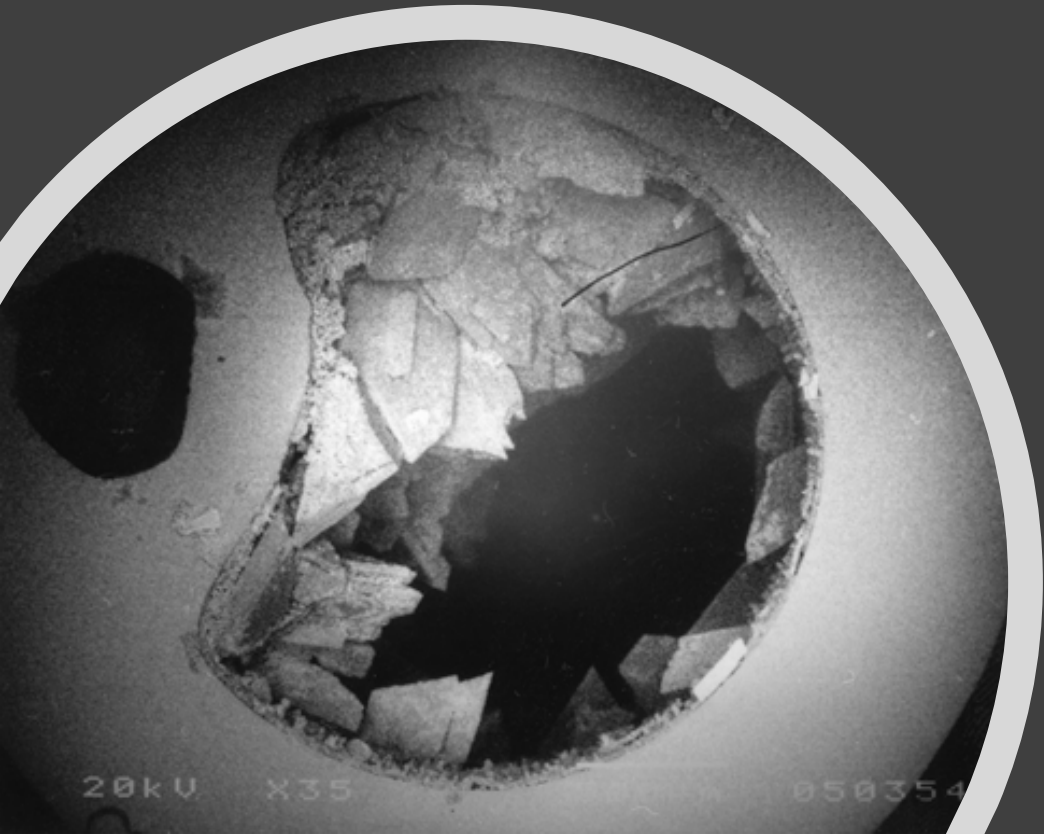
- UTI account for 18.9% of nosocomial infections (*Seuters et al 2018*)
- 43% of patients with UTI had a catheter within 7 days of infection¹
- Gram-ve organisms were the most frequently reported as healthcare associated¹
- Of these, 12.4% were resistant strains¹

¹*The English National Point Prevalence Survey on Healthcare-associated Infections and Antimicrobial Use, Health Protection Agency 2011*



CAUTI and the role of Biofilms

- Time is a major factor
 - Bacteriuria develops in 30% within 2-10 days with 24% developing a CAUTI (Saint 2000)
 - 3.6% of patients with CAUTI will develop bacteraemia or sepsis with a mortality rate up to 33% (Chang et al 2011)
 - Virtually all catheterized patients will develop bacteriuria within 28 days (Gould et al 2010)
- Biofilms (Chenoweth & Saint 2013)
 - Created by the bacteria on the catheter surface
 - Bacteria excrete extracellular polysaccharides to produce biofilm
 - Some bacteria produce enzymes changing pH and crystal formation leading to encrustation

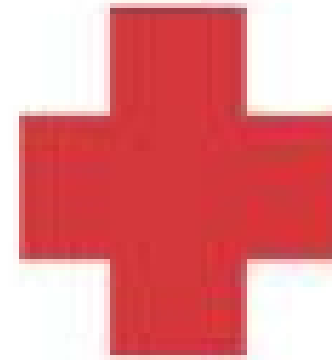


The risks of long-term catheters

One-year prospective study of 1,540 patients with long term urinary catheters

- Patients catheterised for > 75% of year
 - 3x more likely to be hospitalised
 - 3x more likely to receive antibiotics
 - 3x more likely to die

Tsan et al 2008, Kunin et al 1992



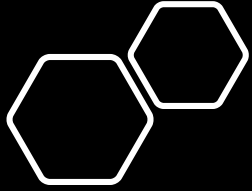
Project Aims and Methods

- The aim was to implement IC for 1st line management for retention of urine
- Business case developed for the CCG for funding
- Project nurse (B6 part-time for 2 years)
- Initially selected Stroke Ward
- Need to address knowledge and skills gap



Engagement

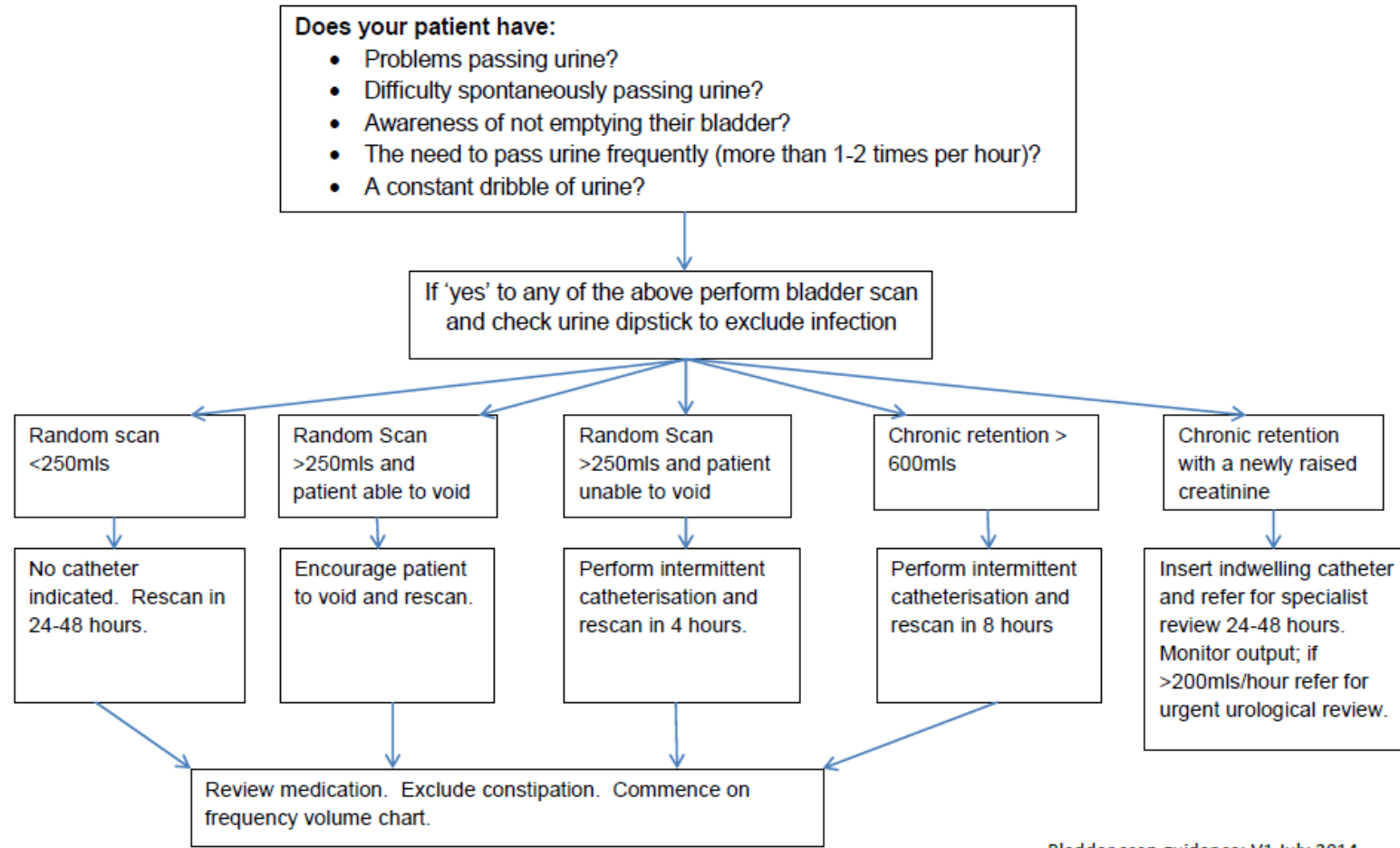
- Contenance service
- Urology team
- Ward staff and Medical teams
- Data analyst
- Procurement
- Senior staff e.g. Matrons



Implementation

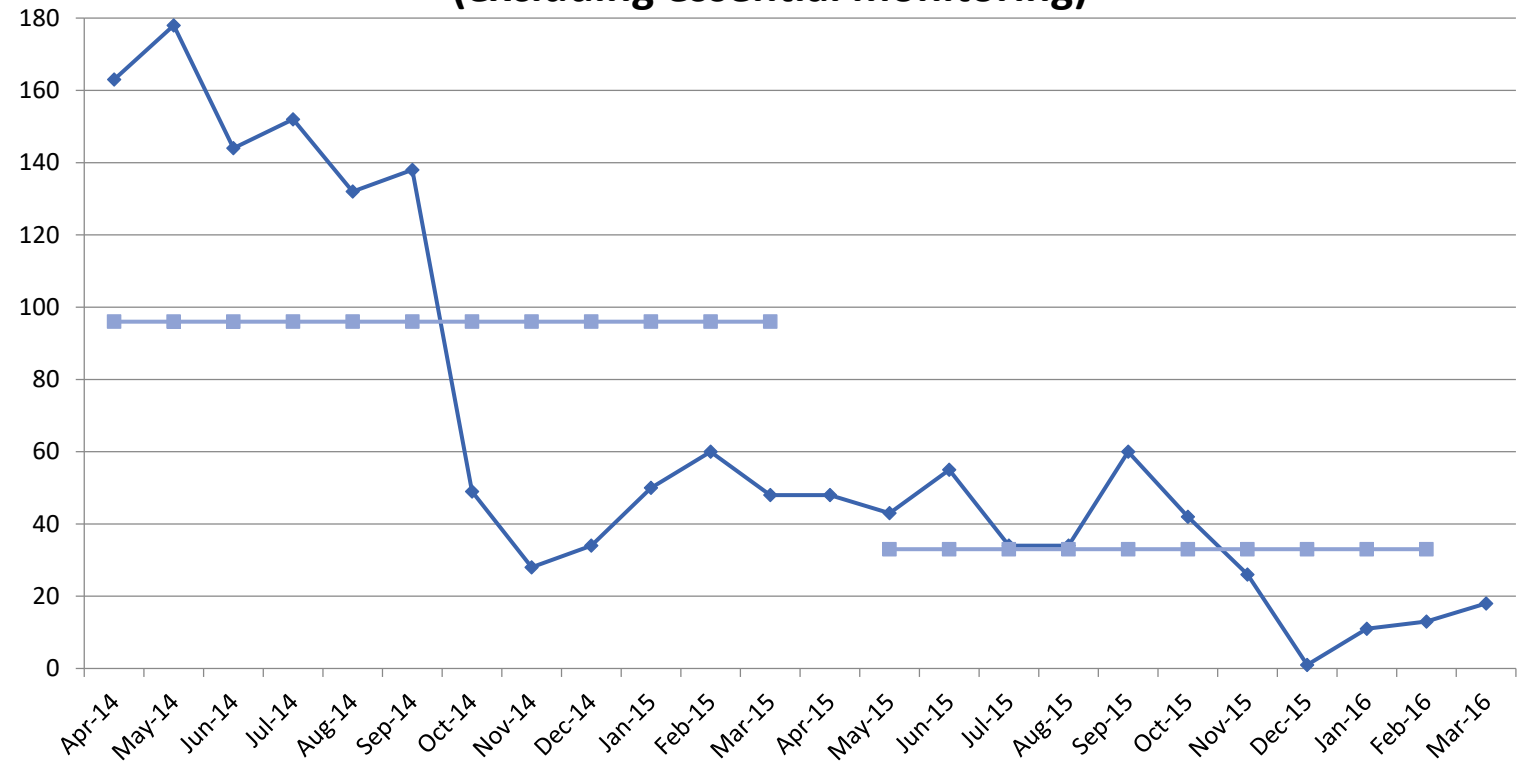
- Training and competency framework
- Data collection
- Equipment: Intermittent Catheters, Bladder scanners
- Bladder function assessment and management algorithm
- One ward at a time
 - Stroke ward
 - Rehab ward
 - Complex care ward
 - Orthopaedic ward

Bladder Function Assessment and Management (in-patients)



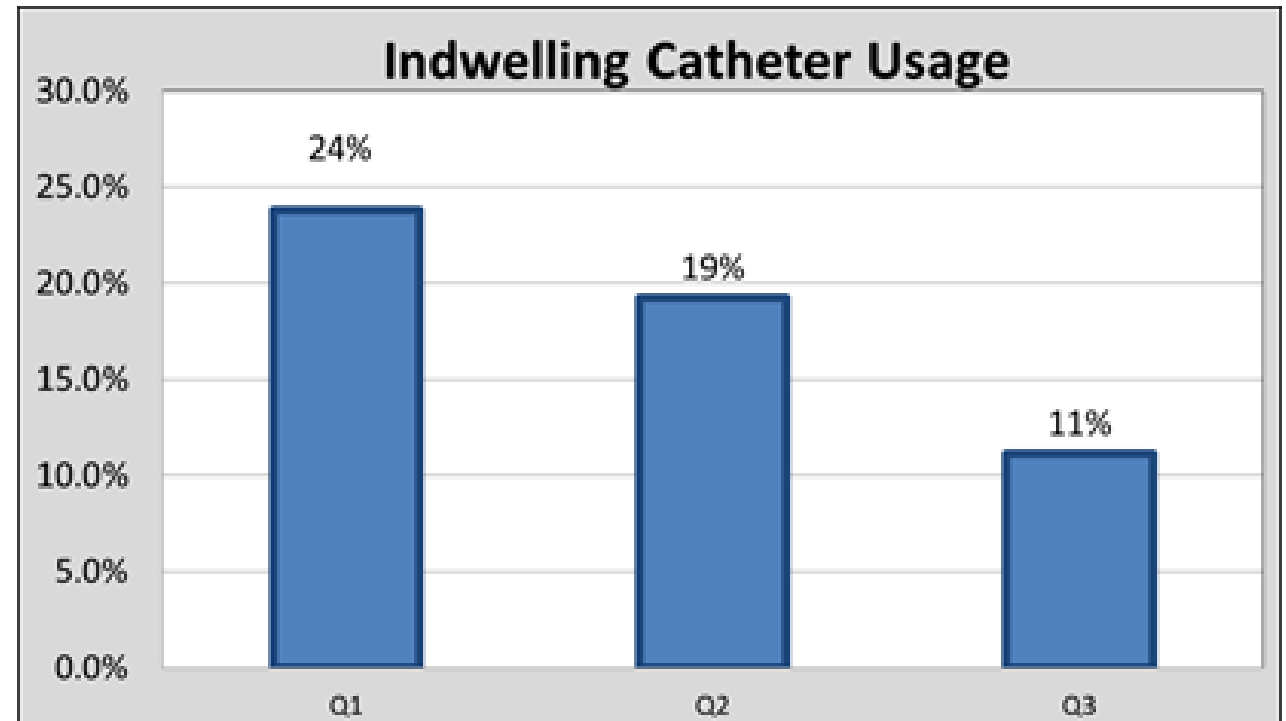
Measures of
success

**Number of Indwelling Catheters by Month
(excluding essential monitoring)**



Cost benefits

- Significant reduction in catheter usage
- Estimated cost savings of £12,000 per year



Patient feedback

- 75 year old retired nurse – *“A far better experience than before with an indwelling catheter”*
- 66 year old gentleman – *“I could concentrate on my mobility rather than worrying about a bag of urine hanging down my leg”*

At the end of 2 years

- 6 wards included in total
- IC included in the local catheter training programme
- No further funding for the project nurse
 - The continence service has no allocated time in job plan for secondary care
- Project published in the Nursing Times

Conclusions

- The project resulted in a significant reduction in the number of patients with indwelling catheters
- It provided the opportunity to offer IC to patients unsuitable for self-catheterisation, who previously would have had an indwelling catheter inserted as a matter of course
- Training and education at ward level empowered staff to make the right choice for their patients.

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