

Reducing Postpartum Voiding Dysfunction to Zero - Introducing the VESSI Protocol using QI Methodology

G Guinness¹, E Dunlop², N Layyous³, L Cushley³, N Rogan³, C Daly⁴
^{1,3}FY2 Trainee, ²FY1 Trainee, ³Midwife, ⁴Consultant O&G



Introduction

- Urinary retention can occur at any point during pregnancy causing bladder distension, voiding dysfunction and potentially lifelong catheterisation¹
 - NICE Caesarean Birth Guidance recommends catheter removal at 12 hours post procedure. Practice in our unit was removal at 24 hours with potential delay to discharge.
 - In line with NICE guidelines, our Postpartum Bladder Protocol was updated. Additionally, following a case of unrecognised, postpartum voiding dysfunction (requiring long-term self-catheterisation), we introduced the 'VESSI protocol' (published by Cardozo *et al*, 2022¹) focusing on patient **symptoms** following catheter removal to minimise the risk of unrecognised voiding dysfunction (see Fig. 1).
 - IHI Model for Quality Improvement Methodology was used to introduce the protocol at Ulster Maternity Hospital April 2024- Sept 2024.
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Aim Statement - ‘We aim to have zero cases of unrecognised postpartum voiding dysfunction by August 2024’

Methods

- Collaborative process with Multidisciplinary team. Stakeholder engagement commenced April 2024 & included patients and senior clinical staff across relevant areas (Labour Ward, Midwifery-led care teams, Continence and Physiotherapy) to determine Drivers for change (Fig. 3) and measures. Project logged with SET QI team. Plan Do Study Act PDSA cycles (x5) were used for each change idea. Quantitative data analysed using a Run Chart.

- Quantitative data (n=138 total, n= 99 Elective caesarean births) were collected by the core QI team and analysed using a Run Chart with regular feedback to staff via messaging groups, posters, daily huddle, Audit and Teaching meetings.

Fig. 1. The VESSI Questions and Flow Diagram

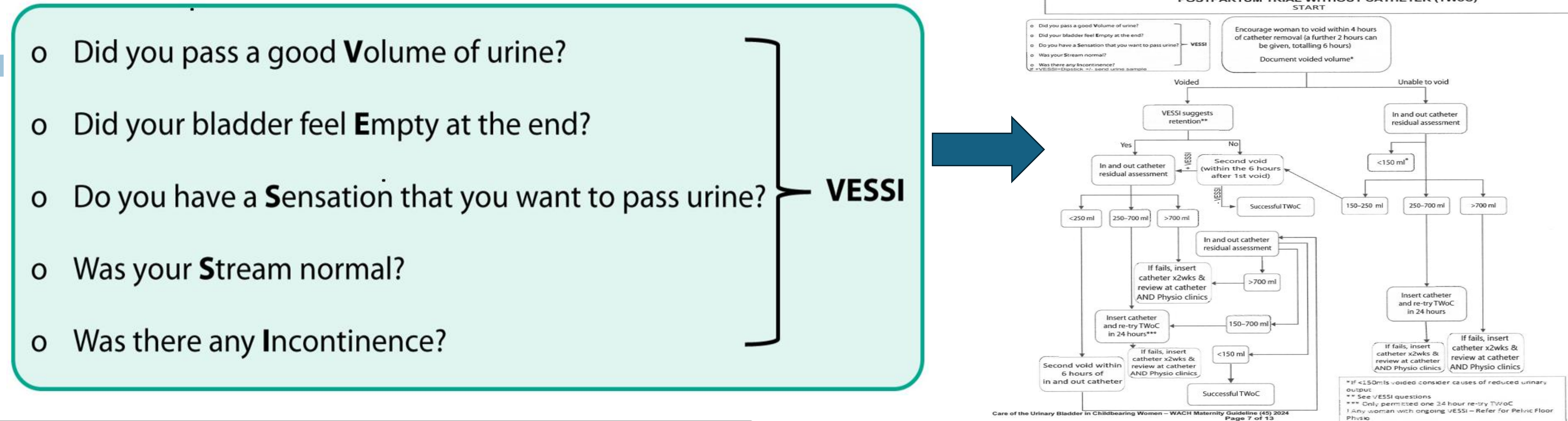
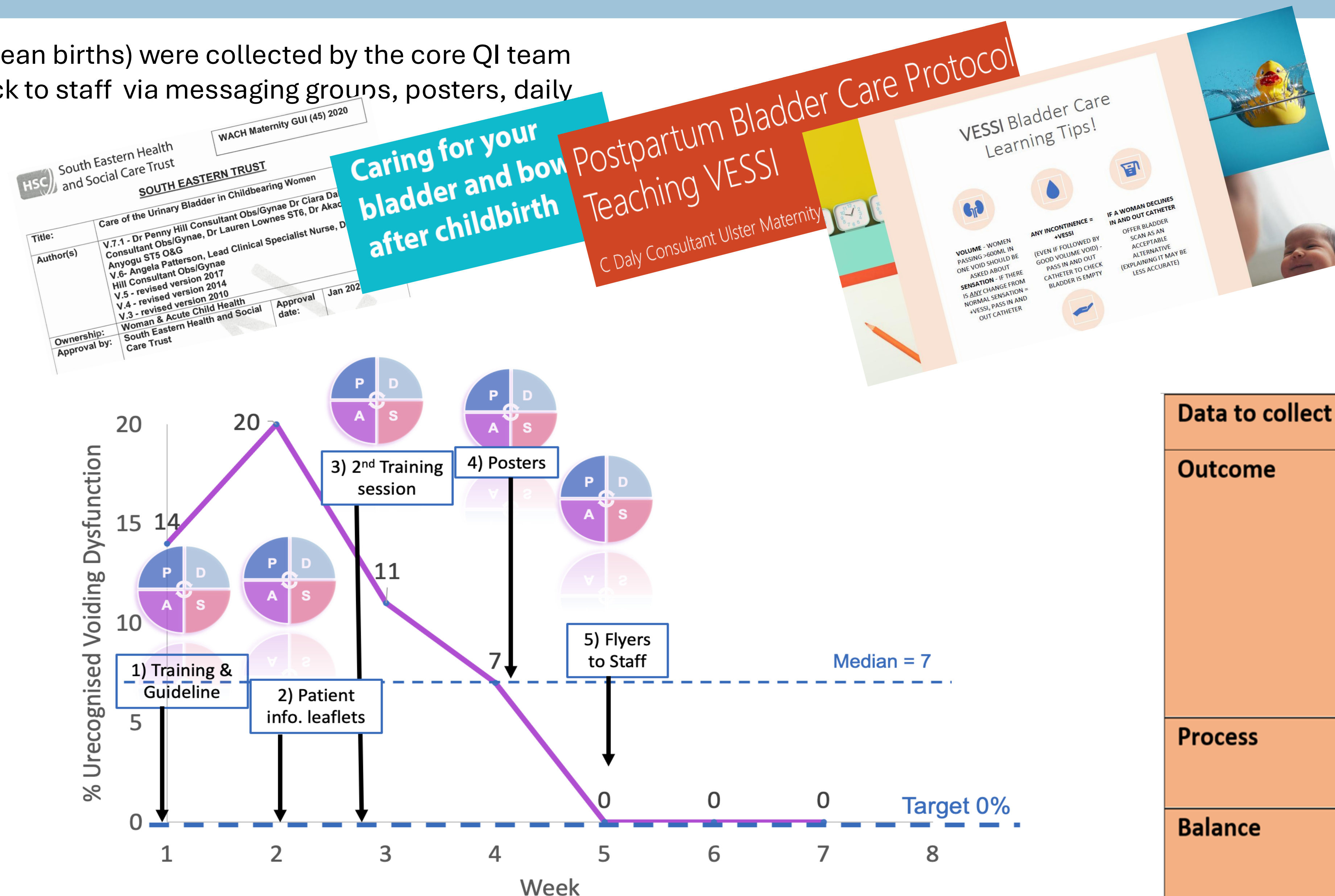


Fig. 3 Driver Diagram

Aim	Primary Drivers	Secondary Drivers
100% ELSCS follow VESSI Protocol with n=0 unrecognised voiding dysfunction (defined as +ve VESSI, but not following the protocol) by 1st Aug 2024	-Staff education -Patient knowledge on bladder care -Patient and Staff concordance & satisfaction with Protocol -Ensure new protocol is safe	-Raise awareness of new protocol -Patient Information -Audit of adherence to protocol -Staff and Patient feedback -QI Methodology to revise protocol



Data to collect – What are you measuring to show an improvement?	
Outcome	% women that are satisfied or very satisfied with postpartum bladder care given on survey 100% Hours to discharge from insertion of catheter in women having elective caesarean birth Reduced by 3 hours to 50 hours
Process	% of all women with a catheter who followed the protocol 69%
Balance	% of all women experiencing voiding dysfunction (Recognised) 8%

Patient and Staff engagement & experience

Staff survey: More (43%) found the new protocol either difficult or very difficult to use however, median confidence scores for use did not change (=7). Teaching sessions were arranged to clarify and update the protocol

- **n=7** (baseline n=2) had recognised voiding dysfunction, going home with a **catheter for 2-weeks** postpartum
- **Mean volume of urinary retention** at diagnosis was 1279ml (range 800-2500ml)



Patient survey: 100% had catheter removal at a time convenient to them, commenting “Staff worked around me (for catheter removal)”

Our service user reviewed our new patient information leaflet

Conclusions and Next Steps

- As a result of this project, unrecognised cases of postpartum voiding dysfunction have fallen to zero. High patient satisfaction is seen.
- Increasing awareness of the symptoms has led to more women having follow-up at the postpartum Trial Without Catheter (TWOC) Clinic.
- A reduction of inpatient stay of **3 hours** was noted with catheter removal at 12 hours; this is clinically significant in a Maternity unit with a high bed-turnover
- There is scope for regional adoption of the VESSI protocol with spread and scale

References

1. The management of urogynaecological problems in pregnancy and the postpartum period. Karim F, Araklitis G, Robinson D, Cardozo L. The Obstetrician and Gynaecologist. 2022 <https://doi.org/10.1111/tog.12816>.
- Acknowledgements to Dr A Anyogu ST5 O&G & Dr P Hill Consultant O&G who updated the Postpartum Bladder Care Guideline & Dr L Lownes ST6 O&G who wrote the Patient Leaflet