

Introduction

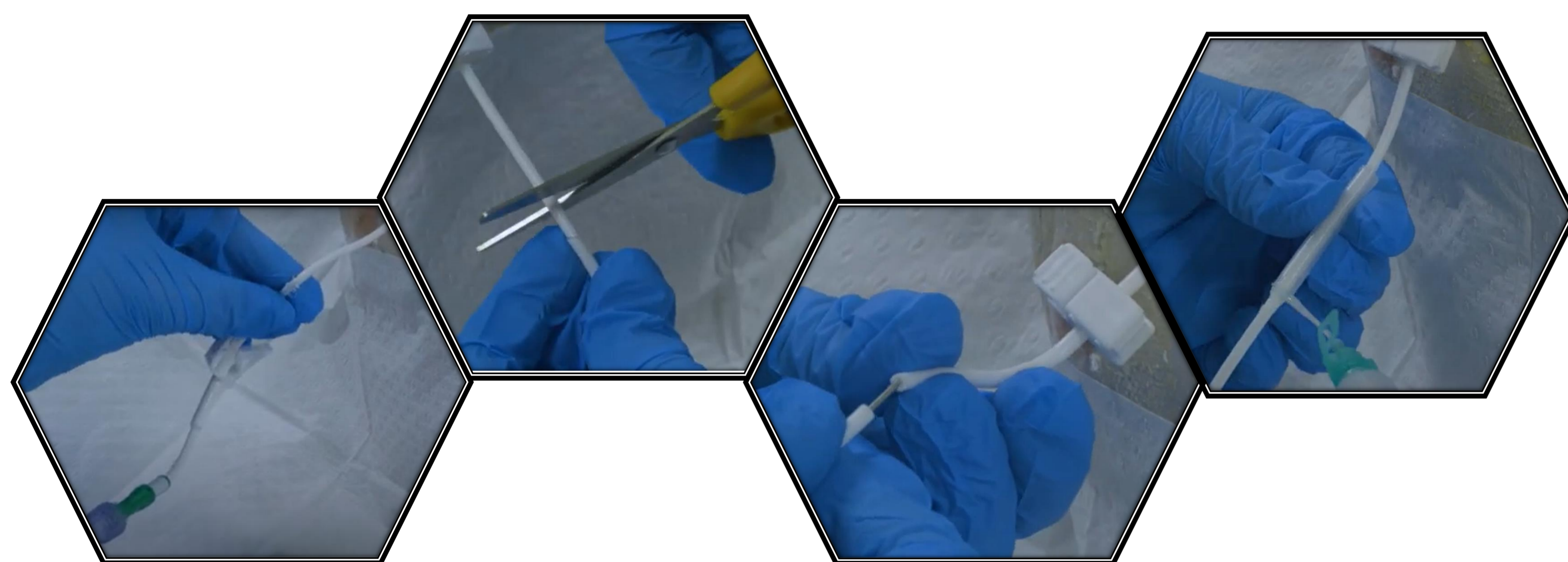
The Intestinal Failure Unit at Salford Royal is a recognised centre of excellence for Intestinal Failure care and a National Reference Centre, managing patients with Intestinal failure on Home Parenteral Support (HPS) from across the UK

We established a Nurse led Outreach service with an aim to provide patients with a point of access to treatment for the management of any arising HPN complications

Patients receiving HPS require the insertion of a Central Venous Catheter (CVC). CVC complications are possible, with CVC fracture/breakage being a common example, which can compromise the catheter rendering it unusable and leave the patient at risk of infection if not managed

One solution is CVC removal and replacement, however a minimally invasive technique used to repair such breakages can be more cost effective, avoid catheter replacement, preserve vascular access and prevent hospital admission

We sought to evaluate the effectiveness of our Nurse led service in managing catheter repairs.



Results

During the study period, there were 137 catheter repairs performed (105 tunnelled CVC, 32 PICC) from a total of 773 of HPS dependent patients managed by our centre

120/137 (88%) of catheter repair attempts were successful with the patient being able to continue to receive HPS without any further intervention

Only 3 patients experienced a catheter related blood stream infection (CRBSI) within 90 days post repair, yielding a CRBSI rate of 0.03/1000 catheter days in patients with a successful CVC repair

Patients required admission to hospital for refeeding on 14 occasions following successful catheter repair, therefore hospitalisation was avoided in 103/120 occasions (86%)

The mean length of stay following an unsuccessful repair was 8.75 days (range 2-22 days)

Consequently, an estimated 901.25 bed days were potentially saved for those undergoing successful catheter repair in an outpatient setting during the study period

Catheter longevity post repair was reassuring with a median catheter survival of 336 days. Additionally, there was no marked difference seen in catheter survival for devices repaired once or on multiple occasions.

Conclusion

The results have demonstrated that a Nurse led service is an efficient and effective service, allowing patients quick and easy access to treatment. Furthermore, we have proven that catheter repair techniques are highly successful without an increased risk of CRBSI. Importantly, a substantial fiscal and bed occupancy saving can be achieved with CVC repair compared to replacement. Additionally, the ability to perform such techniques in an outpatient setting has prevented many hospital admissions, thus keeping patients out of hospital and at home.

Key Considerations

- If CVC blocked post repair – consider CVC unblocking
- Is a repair possible? Consider location of fracture/break and length of CVC
- Consider CVC cultures post repair if indicated



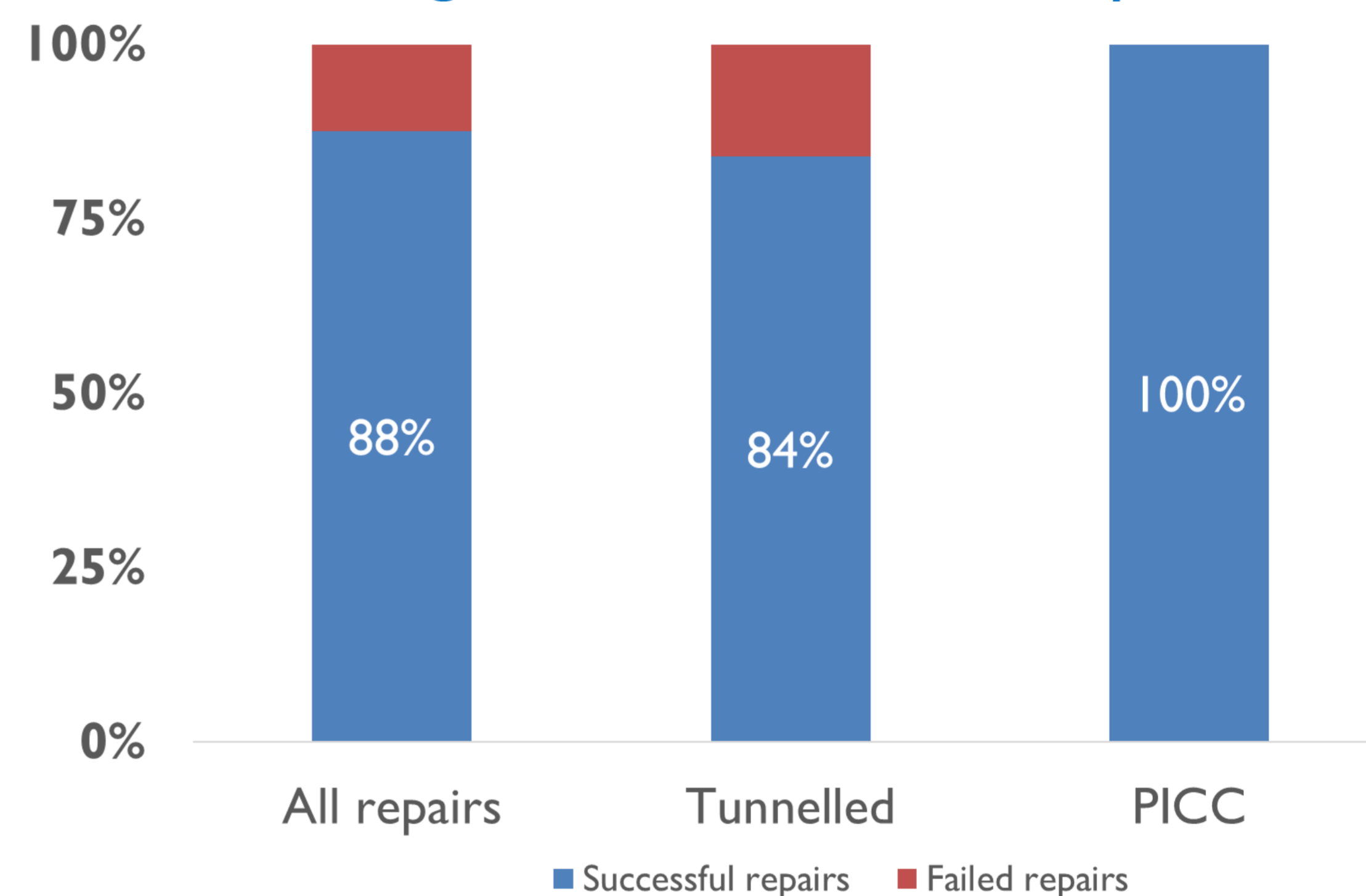
Method

A retrospective observational study was undertaken utilising a prospectively maintained dataset. All patients in the study had attended the nurse led service for CVC repair between the dates 1/1/18 and 31/3/23

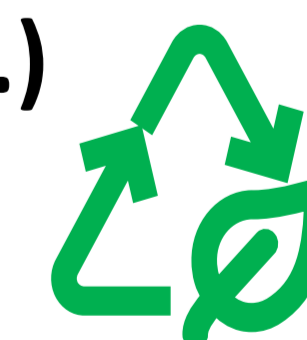
The data included repairs performed on tunnelled CVC's and Peripherally Inserted Central Catheters (PICCs)

The primary outcome measures used were repair success, longevity of catheter post repair and catheter related blood stream infection (CRBSI) rates.

Percentage of successful line repairs



• Cost of catheter repair £131.21 (approx.) vs £1500.00 (approx.) for catheter replacement



• No requirement to limit number of repairs on a single device

