



Metro North Hospital and Health Service *Putting people first*

Cancer Care Services, Royal Brisbane and Women's Hospital

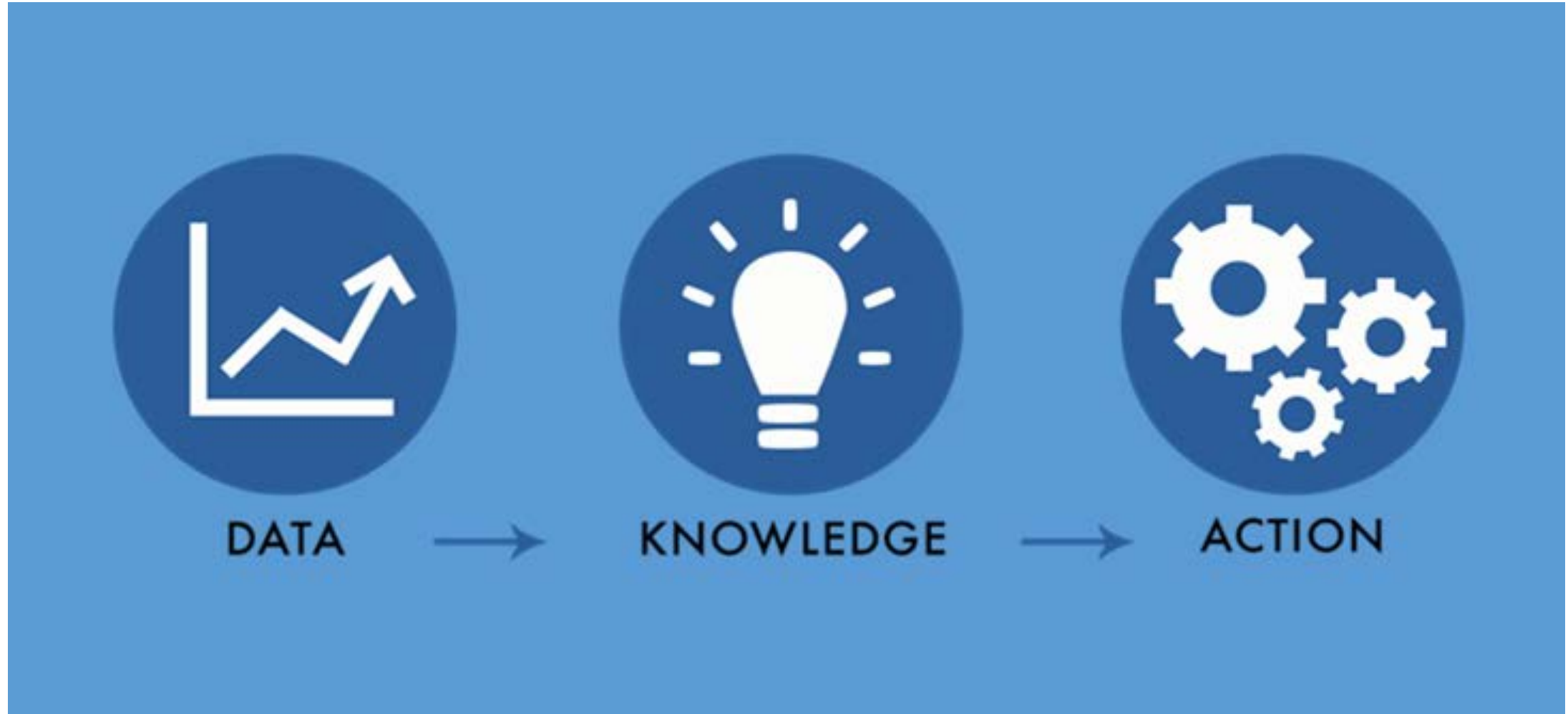
Let's look at the big picture: how CVAD registries inform evidence-based practice

Nicole Gavin

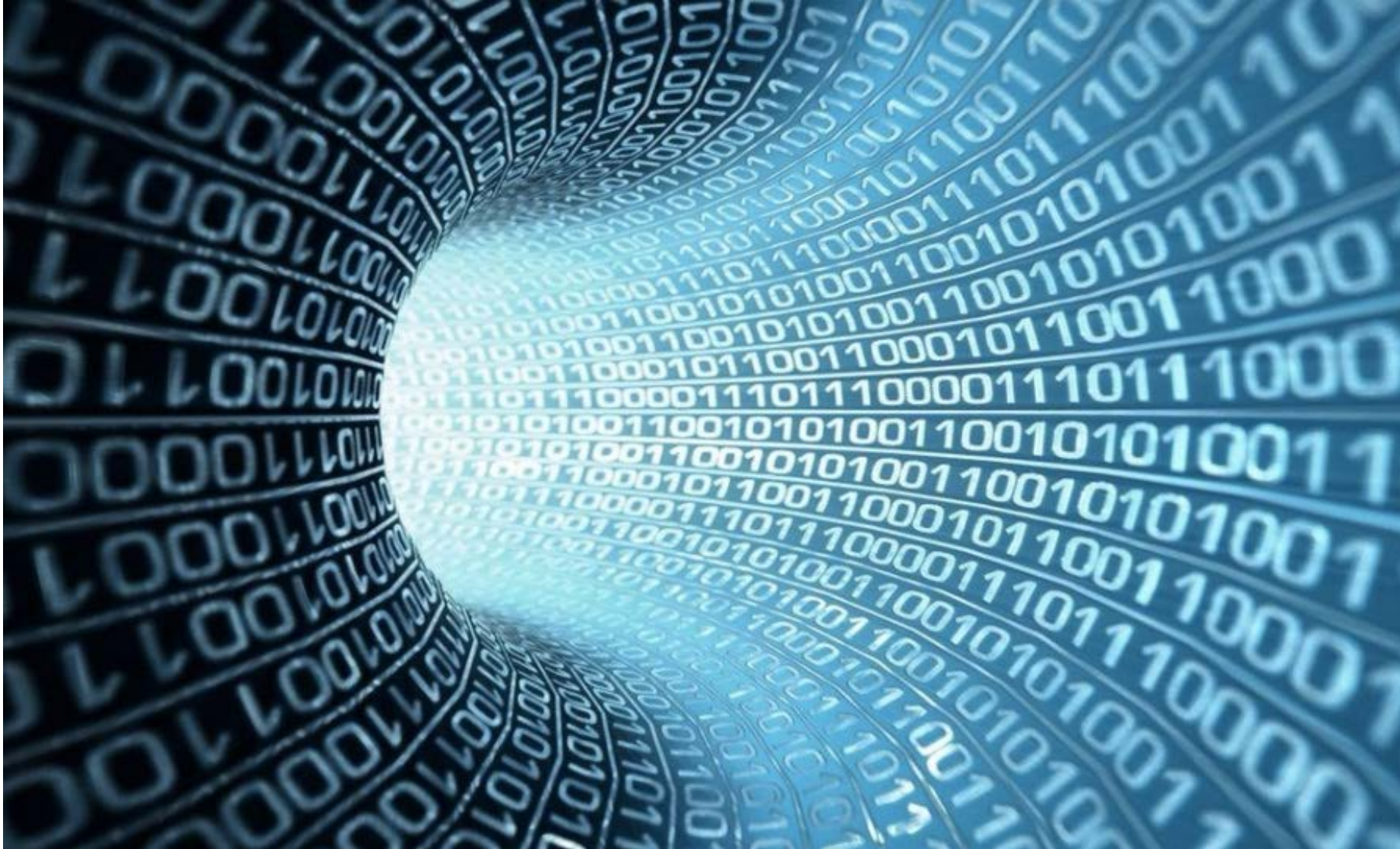
Acting Nurse Researcher

Australian Vascular Access Society Annual Scientific Meeting Perth May 2017

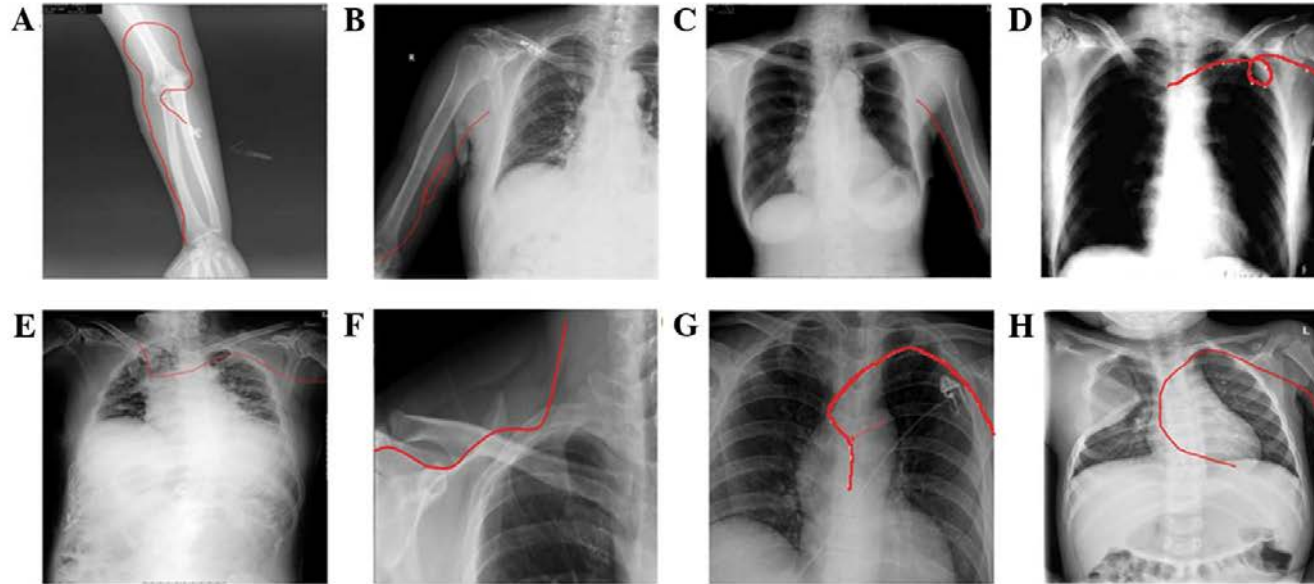
The impact of clinical registries on quality



The challenges of clinical registries



Why do we need CVAD registries?



Reporting CVAD failure

Mechanical

- Blockage
- Dislodgement
- Vein thrombosis
- CVAD rupture

Infective

- Local infections
- Catheter-related blood stream infections (CRBSI)
- Central line-associated bloodstream infections (CLABSI)
- Catheter-related infections (CRI)



Our research questions & minimum data set

1. How many CVAD-days are there in the population?
2. What is the CVAD failure per 1000 –catheter and –patient days?
 - i. What are the rates of CRBSI, CLABSI and CRI?
 - ii. What are the rates of occlusion (partial and complete), catheter-related thrombosis, migration, dislodgement and CVAD rupture?
3. What are the demographics of patients requiring a CVAD?
4. What is the dwell time of CVADs?
5. What is the CVAD utilization ratio?
6. How many CVADs do patients have during their treatment?

Data entry using REDCap (Research Electronic Data Capture)

| REASON FOR NEW CVAD INSERTION | |
|--|--|
| Clinical indication for CVAD insertion: <i>* must provide value</i> | <input type="checkbox"/> Poor peripheral venous access <input checked="" type="checkbox"/> Type of IV treatment <input type="checkbox"/> Haemodynamic monitoring <input type="checkbox"/> Patient preference <input type="checkbox"/> Failure of previous CVAD <input type="checkbox"/> Unknown please select all that apply |
| If 'type of IV Treatment' is selected above - please select all that apply: <i>* must provide value</i> | <input checked="" type="checkbox"/> Vesicant and / or irritants <input type="checkbox"/> Prolonged treatment (=> 7 Days) <input type="checkbox"/> Dialysis <input type="checkbox"/> Other |
| Please select type of vesicant and / or irritant (please select all that apply): <i>* must provide value</i> | <input type="checkbox"/> Antibiotics <input checked="" type="checkbox"/> Chemotherapy <input type="checkbox"/> Parenteral Nutrition <input type="checkbox"/> Vasopressors <input type="checkbox"/> Other |
| INSERTION DETAILS | |
| Date & Time of Device Insertion: <i>* must provide value</i> | <input type="text" value="05-04-2016 09:00"/> <input type="button" value="Now"/> D-M-Y H:M |
| Has the Central Vascular Access Device (CVAD) Insertion Bundle Checklist been completed? <i>* must provide value</i> | <input type="text" value="Yes (fully completed)"/> |
| Device Type: <i>* must provide value</i> | <input type="radio"/> tunnelled non-cuffed CVAD <input type="radio"/> tunnelled cuffed CVAD <input type="radio"/> non-tunnelled CVAD <input type="radio"/> totally implantable CVAD <input type="radio"/> tunnelled PICC <input checked="" type="radio"/> non-tunnelled PICC <input type="radio"/> haemodialysis CVAD |

RBWH data since 1 April 2016 to 31 March 2017

1602 RBWH
CVADs

- 1191 PICCs
- 413 other CVADs

594 CCS
CVADs by
device

- 322 PICCs
- 109 tunneled CVADs
- 148 implanted ports
- 10 permacath
- 1 vascath
- 4 non-tunneled CVADs (CVL)

594 CCS
CVADs by team

- 369 haematology & BMT
- 162 medical oncology
- 6 radiation oncology
- 20 gynae oncology
- 37 cancer patients under another treating team

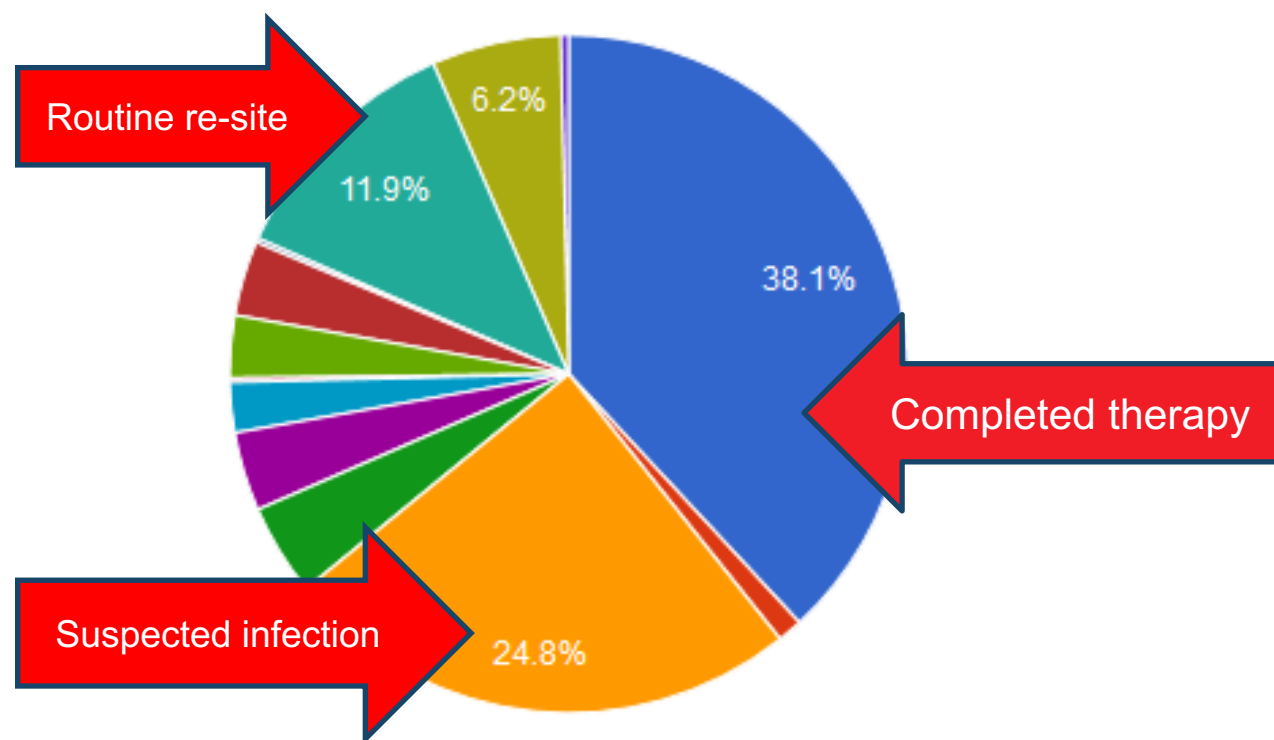
What is the Primary Reason for CVAD Removal?

[Refresh Plot](#) |

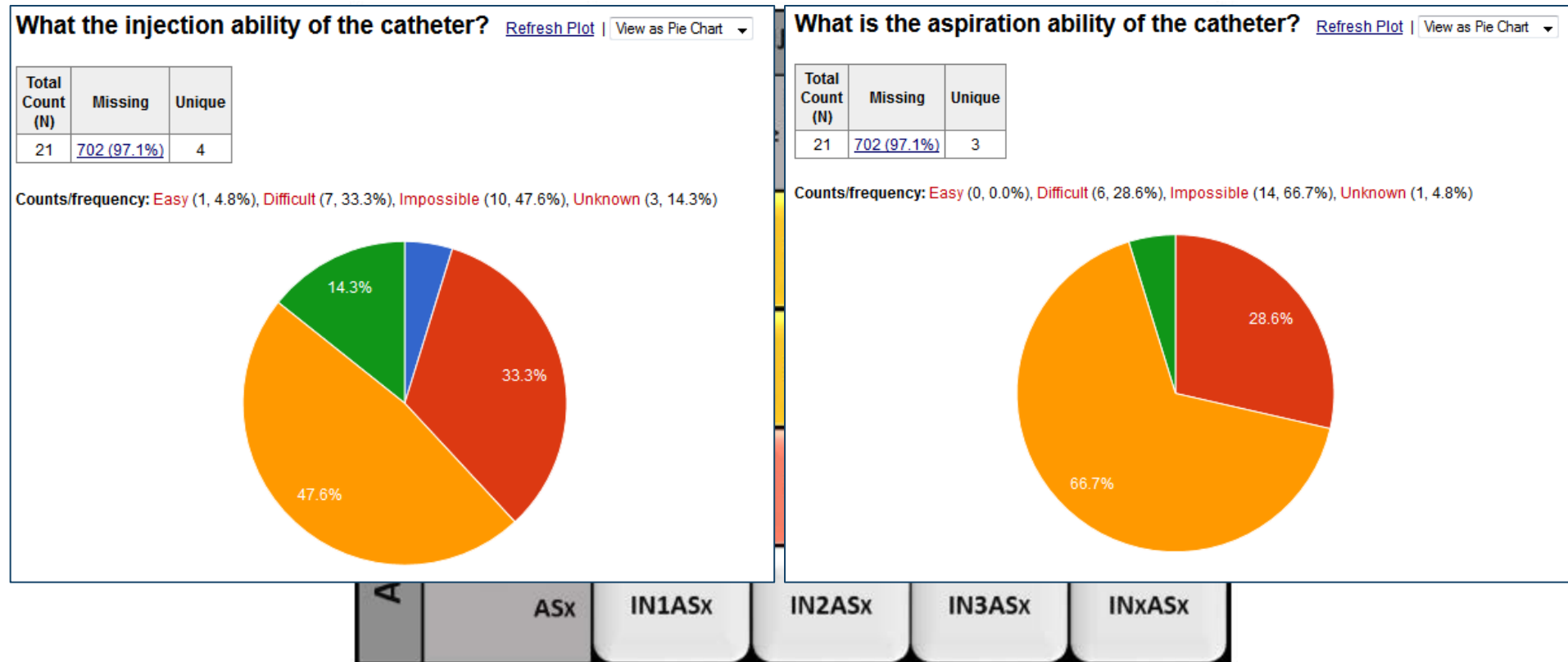
[View as Pie Chart](#) ▼

| Total Count (N) | Missing | Unique |
|-----------------|-----------------------------|--------|
| 503 | 220 (30.4%) | 13 |

Counts/frequency: Completed Therapy (191, 38.0%), Placement Failure (6, 1.2%), Suspected CVAD-associated Bloodstream Infection (BSI) (125, 24.9%), Occlusion (22, 4.4%), Accidental Dislodgement (19, 3.8%), Catheter Migration (12, 2.4%), Catheter Rupture / Fracture (1, 0.2%), Local Infection (15, 3.0%), Catheter-Related Thrombosis (18, 3.6%), Extravasation (1, 0.2%), Infiltration (0, 0.0%), Routine Resite (60, 11.9%), Other (31, 6.2%), Unknown (2, 0.4%)

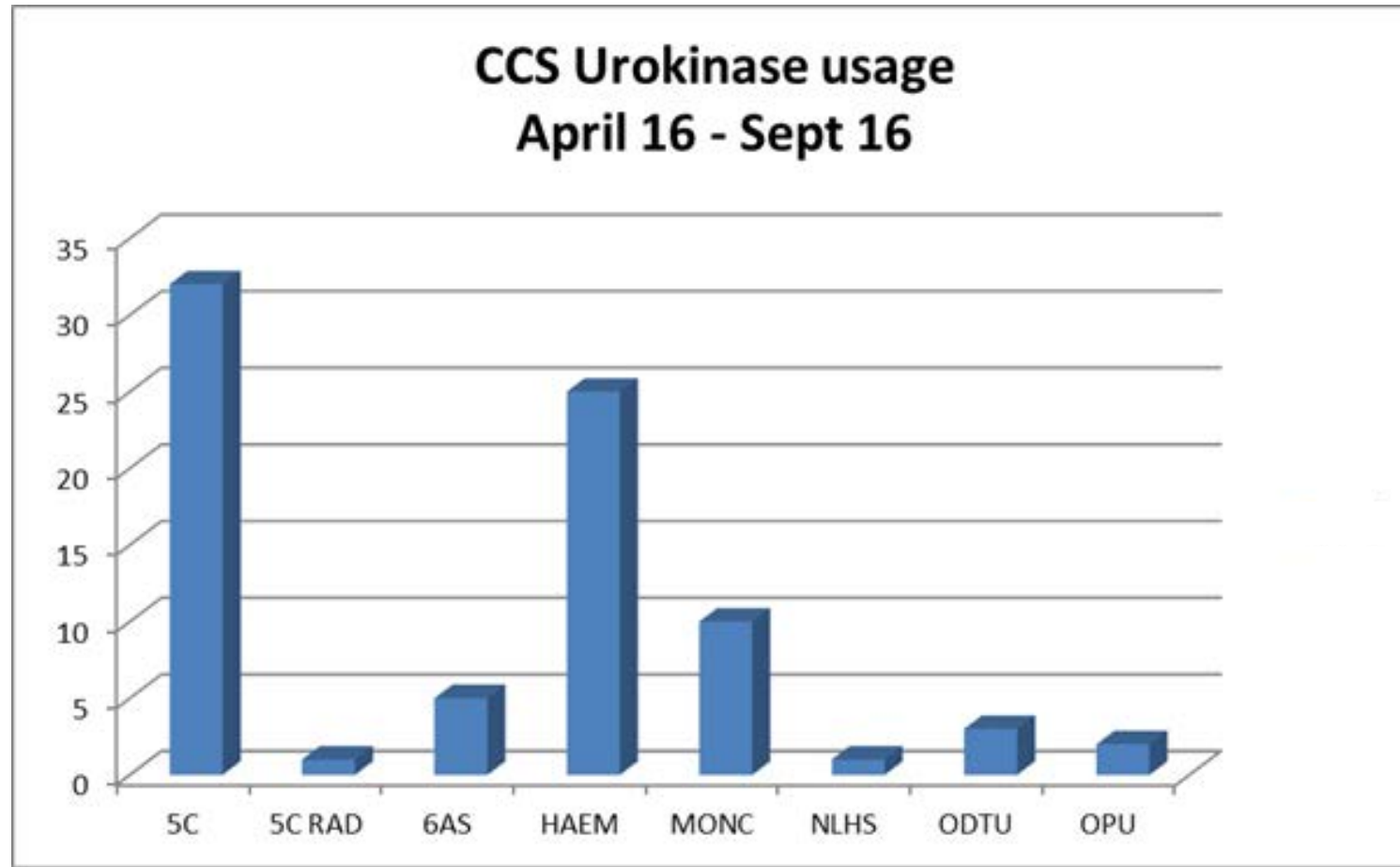


Catheter injection and aspiration (CINAS) tool



Goossens et al (2016) Diagnostic accuracy of the Catheter Injection and Aspiration classification for assessing the function of totally implantable venous devices. Support Care Cancer 24(2) 755-761

Cancer Care urokinase use from 1 April to 30 September 2016

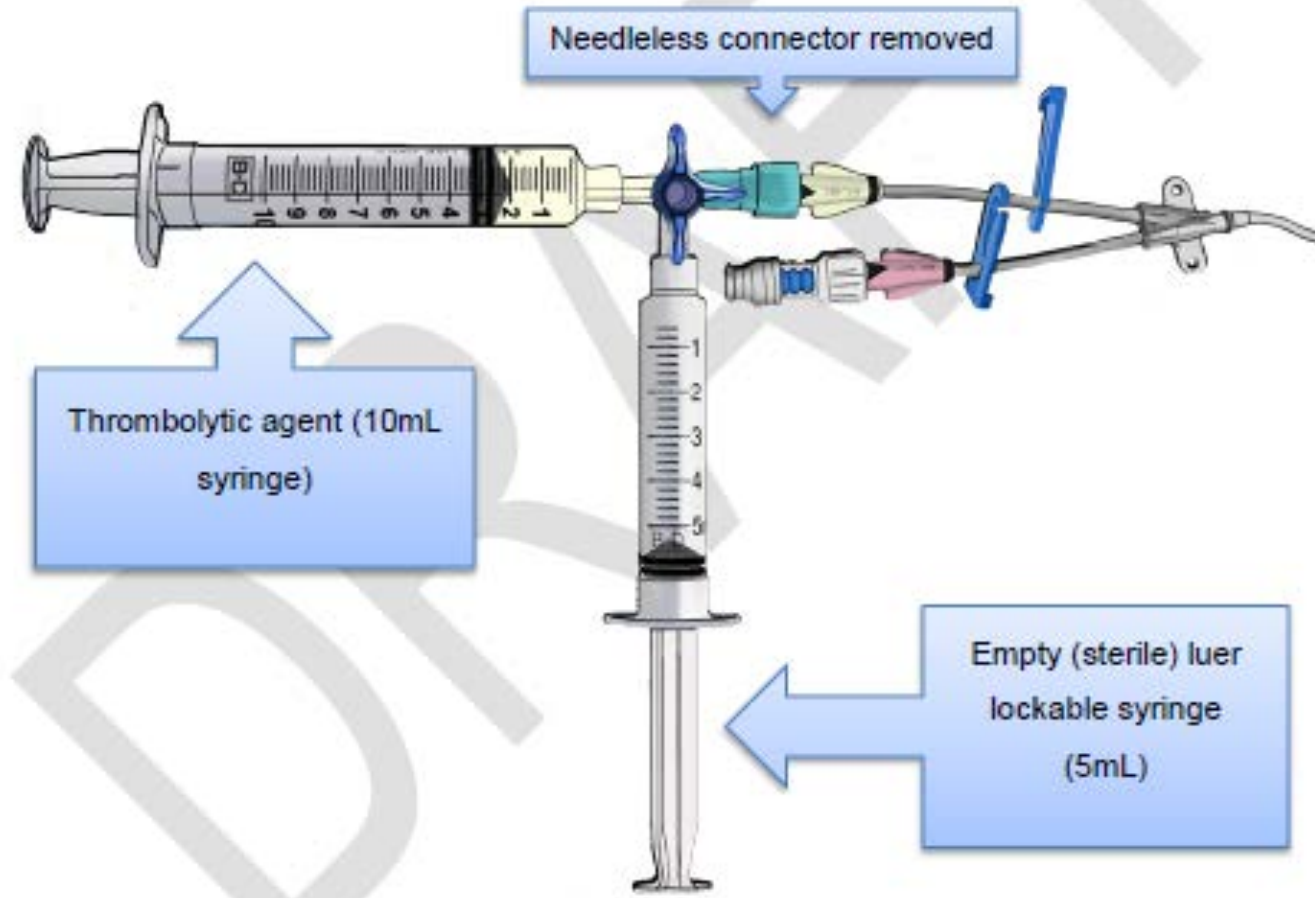


79 vials urokinase = \$5,560.02

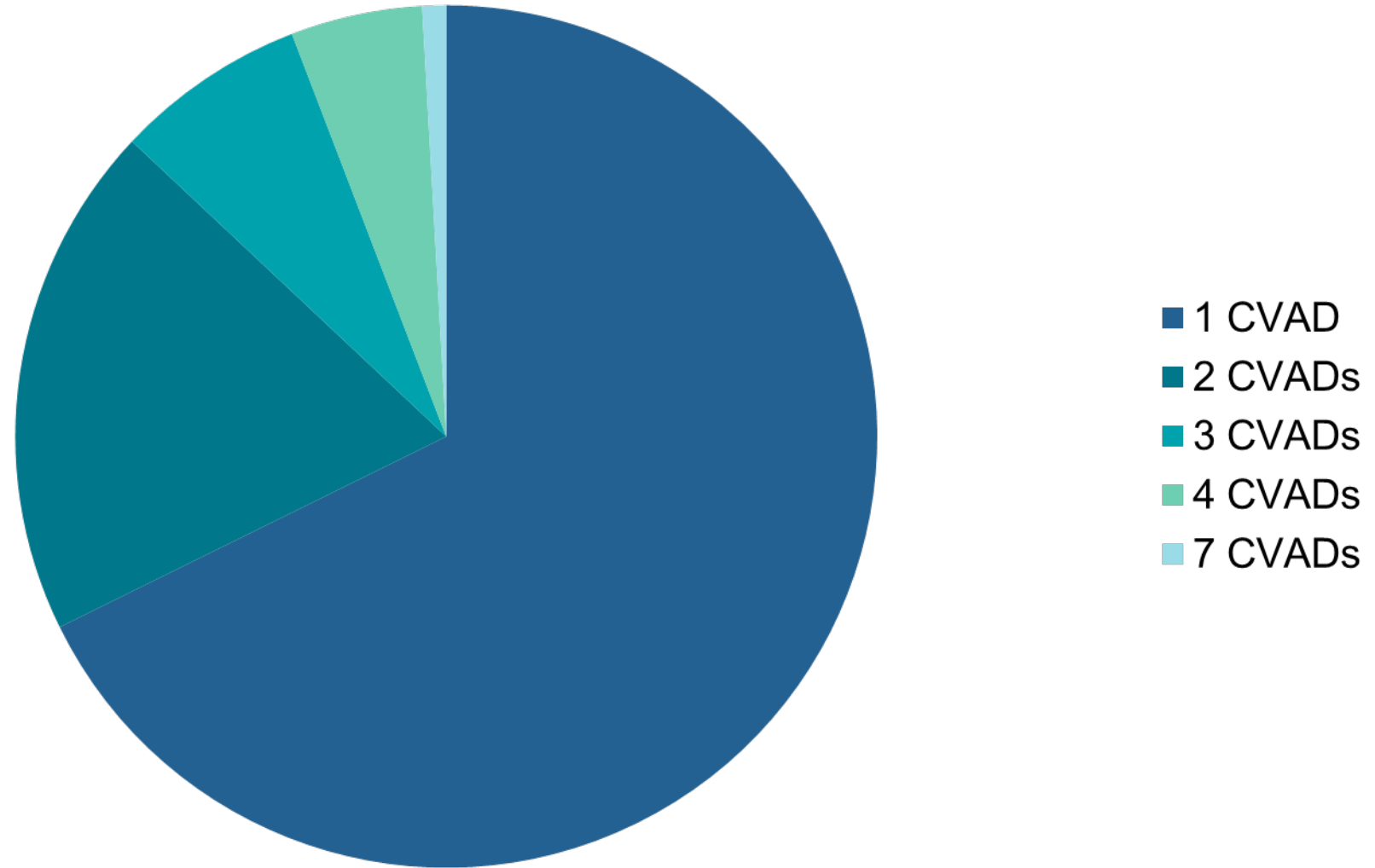
Targeted education for restoring CVAD patency

Figure 9: Unblocking a CVAD: Complete Occlusion

Setup for 3-way tap negative pressure configuration



Number of CVADs per person



Into the future...



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