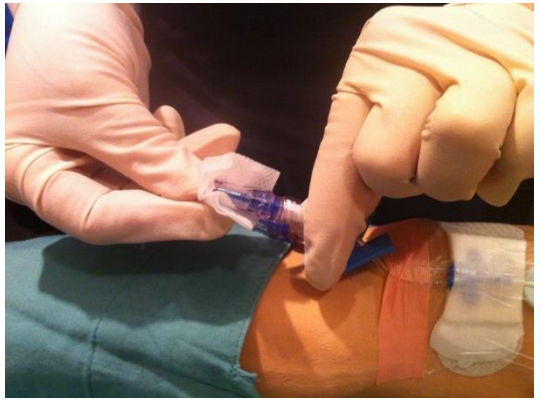
Building a central vascular access device (CVAD) registry in an adult intensive care unit: feasibility study



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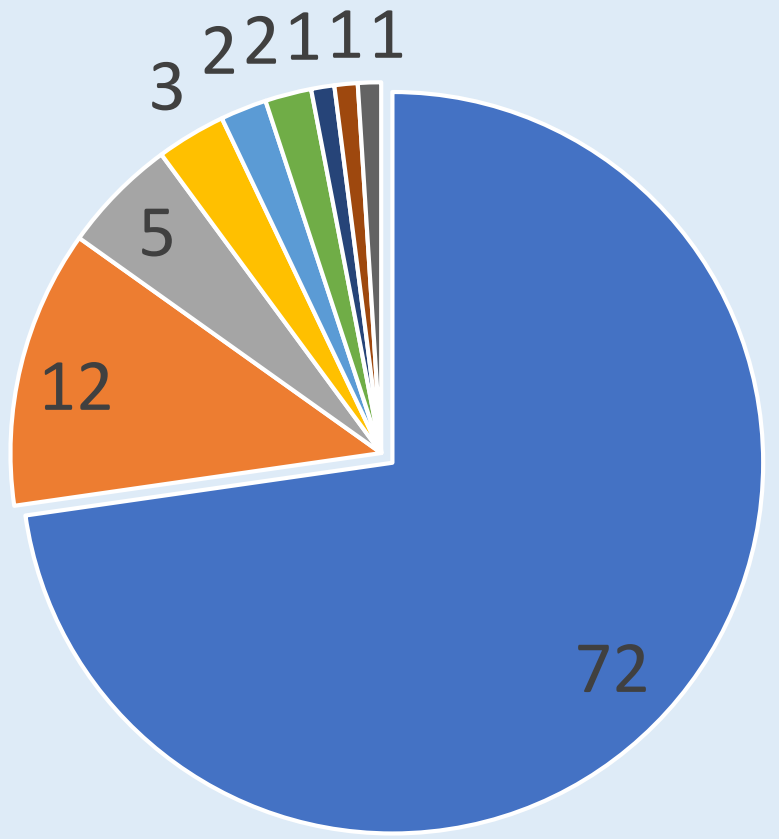
Feasibility Outcomes

Criteria 1: Consistency ✓	• PICC failure was systematically identified in EMRs. • Type of device failure - only captured if it was recorded by the end users.
Criteria 2: Governance ✓	• Received both ethics and governance approvals.
Criteria 3: Operational requirements ✗	• Required 10-30 mins for each PICC data when using EMR. • The use of a research nurse is not sustainable in the long-term unless the EMR platform enables auto-population of the registry fields.
Criteria 4: Scope ✓	• Entire ICU population was captured.
Criteria 5: Capturing necessary data ✗	• Approximately 50% were transferred to a hospital ward that lacked EMR system. • Challenging and time-consuming task to gather the removal information from the paper charts.
Criteria 6: Clinically meaningful indicators ✓	• Used outcome indicators routinely collected for infection surveillance and other well established CVAD failure outcomes.
Criteria 7: Infrastructure ✗	• 20% of patients were lost to follow up post ICU-discharge due to lack of EMR in general wards. • Registry was able to capture 100% of eligible patients from EMRs.

Reason for PICC Removal (%)



280 PICCs/ 225 patients (3000 CVL days)

- Removed with no complications
- Suspected BSI
- Other
- Occlusion
- Thrombosis
- Dislodgement
- Placement failure

Recommendations

- The study highlighted the inefficiencies of using paper-based charts for registry implementation.
- The EMR was superior for efficient data collection -
  - However, there is a need for registry questions to auto populate.
  - Unique PICC device number need to be allocated at the time of insertion to correctly calculate dwell time and follow-up.
- For future registry projects to be successful, there is a need for accessible EMRs throughout the **entire** episode of care.