

Clinical Significance of a Nurse-Driven Vascular Access Protocol

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BACKGROUND/FRAMEWORK

Problem Statement: Lack of standardized practices with IV placement in adult patients and inconsistent availability of advanced-skilled vascular access nurses were identified at a 275-bed public district hospital in August 2017.

Background: Patients are frequently subjected to repeated IV attempts, placing them at risk for vascular access device (VAD) complications. Established criteria to identify patients with difficult venous access (DVA), acceptable nursing practice standards, and guidelines when to seek assistance from nurses specially trained in vascular access device (VAD) placement were lacking. In addition, inconsistent availability of advanced-skilled vascular access nurses occasionally led to depletion of viable peripheral vein options. Vein depletion required placement of a central line (PICC or CVC) which would otherwise not have been medically indicated and further increased costs and risks to the patients.

To address the gap in practice, a performance improvement project was piloted on four medical/surgical units using the standard plan-do-check-act method of quality improvement and Donabedian's theory of quality assurance in healthcare.

PURPOSE STATEMENT

The aim of the project was to determine if, in an adult population with difficult venous access, would the use of an evidence-based vascular access protocol and development of a specialized nurse team affect first-time success rates, cost, catheter dwell times, and complications of peripheral vascular access placement.

IMPLEMENTATION

The Infusion Nurses Society (INS) 2016 *Infusion Therapy Standards of Practice* were incorporated into a nurse-driven protocol and workflow for the identification of patients with DVA. The standards were combined with an evidence-based practice (EBP) VAD selection algorithm to guide nursing actions and improve clinical outcomes.

The INS standards included: a) Limiting the number of nurses and number of attempts to place a peripheral IV (PIV), and, b) utilizing advanced-skilled nurses to place difficult IVs with specialty guidewire-associated PIV catheters (GAPIV) and vein-enhancing equipment. Thirty-three nurses in various units and on differing shifts were trained to insert the GAPIVs with ultrasound and were called upon to assist with DVA patients.

