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Vascular Access Teams and Their Success in the Acute Care Setting

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Introduction

Peripheral intravenous catheters (PIV) are frequently used in acute care settings for “short-term delivery of intravenous (IV) medications and fluids” (Marsh et al., 2018). While this is a common practice in the hospital, the insertion of these PIVs can be quite difficult. According to Marsh et al. (2018), “multiple insertion attempts are common, and post-insertion failures from complications such as occlusion are as high as 69%, triggering the insertion of subsequent catheters.” This research analyzed the use of a vascular access team, commonly known as an IV team, to improve PIV outcomes in the acute care setting. These vascular access teams are comprised of individuals who have specialized, extensive knowledge having to do with the insertion of vascular access devices, one of which is a PIV.

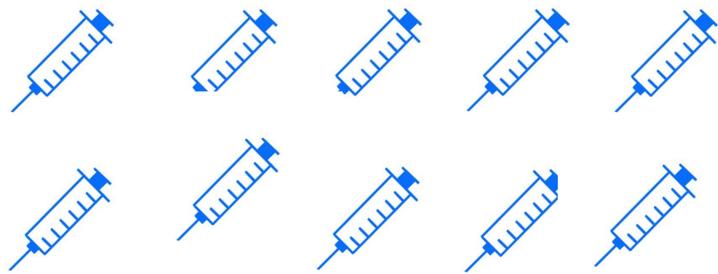


Figure 1. There is an average usage of 10 PIVs per new patient admission.

Change Theory Utilized

For this research Spradley’s change theory was utilized. This theory is based on Lewin’s theory of change and it involves an eight-step process which allows for constant evaluation of the changes being implemented to ensure success. These steps include recognizing the need for a change, diagnosing the issue, analyzing all the possible solutions, selecting the change to be implemented, planning the change, implementing the change, evaluating the implementation, and stabilizing the change.

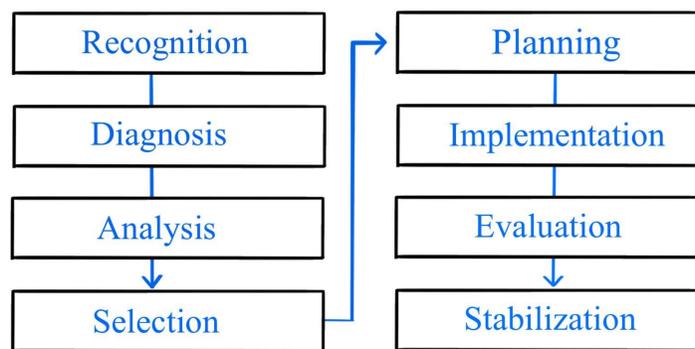


Figure 2. Spradley’s eight steps of change.

Implementation

The first step to implementing an IV team at the hospital is to bring the proposal to the Centra Southside Community Hospital (CSCH) Board Members. The CSCH Board is made up of 15 individuals who oversee the management and operations of the hospital. This proposal would include research from other hospitals on the success of these teams, the finances needed, potential spaces for this new team, and any other key information. After receiving approval from the board, current employees should be notified of the upcoming change and the hiring process for the IV team should begin. During this step, an office space will be located to allow for the team to be easily accessible to all units of the hospital. The implementation process will not be as simple as stated above, so this process could take anywhere from five to six months.

- V. **PERIPHERAL INTRAVENOUS (IV) CATHETER (Short length and Midline): Policy, insertion and removal**
- A. **POLICY:**
1. A physician’s order is necessary to perform venipuncture, including insertion, capping, and discontinuation of peripheral IV catheters except in circumstances where there are existing emergency or procedural protocols (e.g. Rapid Response Team).
 2. A peripheral IV must be removed if there are signs of infection, phlebitis, or catheter malfunctioning and reported to the physician.
 3. A physician’s order is not required to restart an IV that has been discontinued because of infiltration, phlebitis, catheter dislodgment, infection or other adverse reaction.
 4. Registered nurses or other caregivers with demonstrated competency may perform venipuncture. No more than two attempts at placing a peripheral IV cannula will be made by one individual.
 5. Document the venipuncture site, type and gauge of needle or catheter, and placement attempts in the medical record.
 6. Peripheral IVs should be inserted only in an upper extremity unless it is necessary to use the lower extremity as an alternative site. A physician order is necessary to use a lower extremity. Peripheral IVs inserted at an alternate site should be changed as soon as a satisfactory site can be established elsewhere (Camp-Sorrell, 2010).

ASNA System Policy #1007 – Intravenous (IV) Catheter Care:
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Figure 3. Acute Care IV Insertion Protocol.

Assessment Tools and Evaluation

The main component to the assessment and evaluation of the discussed change is the Cerner documentation system currently in use at CSCH. There is a section entitled “Adult Lines and Devices” where any kind of line or connection to the patient is documented. This includes the PIVs examined in this research. Under this section the nurse documents the action taken with the PIV including assessment, insertion, flushing, and discontinuation. The insertion section allows the nurse to document the number of attempts used for the IV access. By examining this documentation, we can see if a patient needed more than one insertion attempt to have IV access. We would be able to compare numbers before and after implementation of the vascular access team to see if there is any change or improvement in IV attempts. We could also send surveys to patients and employees to gauge the level of satisfaction with the new IV team.

Pros and Cons

Pro: Improving patient outcomes and satisfaction. For example, “observational studies and audits report that vascular access specialists-inserted peripheral venous catheters have fewer first-time insertion attempts, less phlebitis, less inflammation and catheter-related sepsis and higher patient satisfaction” (Marsh et al., 2018).

Pro: An IV team could also remove some burdens from the nursing staff on the unit. If the nurse is caring for five or six patients that day it would take a lot of time out of their schedule to insert an IV, especially on the more difficult veins.

Con: An IV team would come with a cost burden placed on the hospital. However, the cost of an IV insertion averages around \$45 which would include one catheter, flush syringe, needleless connector, and one IV kit, so in the long run IV teams may save the hospital money (Pyrek, 2018).

Con: Lastly, there would only be one IV team for the entire hospital, so depending on how many nurses need their services it may cause quite a delay in the care of a patient.

Contact

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