Reduce harm related to vascular access

Practical application of continuous improvement methods address difficult IV access.

Challenge
A high volume of calls for IV insertion and reliance on PICU nurses to assist with difficult IV access (DIVA), prompted Nemours Children’s Hospital in Orlando, Florida, to gather details about vascular access practices.

After 49 days of tracking, staff discovered 42% of patients were stuck three or more times prior to a call for assistance. Those calls for help pulled PICU nurses from their regular duties approximately 132 times.

“Based on survey feedback, the team decided if the family said their child was a difficult stick, staff would immediately treat them as a DIVA patient moving forward.”

Path to a Solution
The initial research period revealed that 85% of calls were to assist the emergency department (ED), the Med Surg unit and the PICU. The organization initiated a three-day rapid improvement event to observe the issue. Senior leadership visited floors and talked to staff to better understand how clinicians handled DIVA.

Details
The family advisory council helped assess the situation, and in their survey asked the care team if they sought input from the family to determine if the child was a difficult stick. All of the respondents answered “no.” This feedback informed the decision to consider a patient as DIVA based on family input. The rapid improvement event and assessment lead to:

- Improved resource access
  - Trained additional nurses on difficult vascular access an using ultrasound for DIVA patients.
  - Added float pool to DIVA team to relieve burden on PICU nurses.
- Standardized DIVA process flow
  - IV access needed.
  - Bedside nurse completes DIVA assessment.
  - If difficult stick, DIVA team activates.
  - DIVA team educates family on ultrasound guided IV process.

Results and Outcomes
After five weeks of following the new process, the Nemours care teams made progress in all areas of original concern.

- Patients stuck three or more times decreased from 47% to 5%.
- PICU nurses time away from the unit decreased from 40 minutes to 15-20 minutes.
- Response time for DIVA requests reduced by 50%.

METRICS
Daily DIVA team huddles and management system audits:
- DIVA score in Epic.
- DIVA child life, transport and RN tracker.

LESSONS LEARNED
- Discovered DIVA requests came from nurses who were not educated on heel-stick procedure for infants. Requests decreased following heel-stick education.
- DIVA education created excitement and engagement throughout the organization.
- Data results alleviated concern that DIVA involvement would reduce nurse IV skills.

CHILD HEALTH PROGRESS
- Reducing the number of patient sticks makes care more expedient and more comfortable for the child.

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