Rapid Cycle Process Improvement in Urinary Catheter Utilization

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NICHE (Nurses Improving Care of Healthsystem Elders)
Infection Prevention
Quality

Background:

PDSA is a process improvement model to design and test change in order to continually improve the quality and safety of health care. The steps of PDSA are Plan-Do-Study-Act.

Plan: What quality improvement should be studied.

Do: Execute the plan on a small scale.

Study: How did the change work.

Act: Accept the plan (ADOPT) or revise it (ADAPT) and start the cycle over.

Method

Determine Root Cause:

- Drill down for root causes included:
  - Lack of awareness of the AAH Urinary Catheter Removal Management/Removal Algorithm (fig. 2) by some nurses
  - Delay in removal of catheters per the algorithm.

PDSA Cycle 1

Plan: Education using existing resources

Do: Laminate and post AAH CAUTI Prevention Standards including the Alternatives to Catheter use and the Removal/Management protocol on unit boards with communication of this intervention at unit huddles for 1 week.

Study: Some nurses reported that they were more aware of the resources but, on review, only 69% of records reviewed had criteria for catheter usage. We noticed a delay in removing catheters that were no long needed.

Act: Adapt the Plan. Keep educational tools available but add a way to create a sense of urgency.

PDSA Cycle 2

Plan: Systematic plan to check all catheters every day and touch base with nurses to ensure care and documentation is complete.

Do: Infection Prevention Device Huddle at noon 5 days a week with report by unit leadership on documentation of insertion and removal criteria

Study: Track daily documentation of the necessity of catheters for 10 days and prompt removal of those that do not meet criteria. There was 100% compliance in Cycle 2

Act: Adapt the Plan for catheter criteria. Consider Adapt since device huddle only tracks devices that have already been placed. Can we find a way to prevent catheters from being inserted at all? No Catheter means No CAUTI.

PDSA Cycle 3

Plan: Train champions to hold High Risk Huddles prior to insertion of Urinary Catheters.

Do: Train champions via Teams to lead a High Risk Huddle when a nurse has an order to insert a catheter. Collaborate to review the Catheter Management protocol and coach use of SBAR when nurse communicates with providers regarding catheter orders.

Study: Trained 43 unit based champions, leads and educators to lead High Risk Huddle to go over the Catheter Management protocol and coach use of SBAR.

Results

- There were no CAUTI reported during our 3 PDSA cycles with a resulting SIR of 0.
- Device utilization was reduced for all units. SUR improved from 0.1226 to 0.1092 during the project, an 11% reduction.
- Following the project, South Suburban Hospital went 200 days without a CAUTI with an average SUR of 0.71

Implications for Practice

- Treating CAUTI is estimated to cost $48,108 per incident. Return on Investment of CAUTI reduction is a potential metric for future projects.
- Device Huddle and High Risk Huddle are tools to prevent the use of unnecessary catheters.
- Reducing the number and duration of catheters, reduces the average device days per unit, decreasing the risk of CAUTI.

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Reference