

PURPOSE

The purpose of this quality/performance improvement project was to minimize central line-associated bloodstream infections (CLABs) in a high-risk, immunocompromised, critically ill patient population and to ensure that the unit's CLAB rate remains consistently below the NDNQI national mean CLAB rate benchmark for Magnet Hospitals and All Hospitals.

SIGNIFICANCE

Avoiding CLABs is particularly crucial in bone marrow transplant patients due to the high incidence of mortality associated with infections in this patient population. As nurses, our role is to promote patient safety and minimize patient risks. We are empowered to improve patient outcomes by utilizing best practices.

In the first 3 months of FY2009 (July 1 to September 30, 2008), our unit experienced 6 CLABs, which was a significant increase over the FY2008 CLAB rate of 0.84 CLABs/1000 device days:

CLABs/1000 device days, first quarter FY2009 Month CLABs/1000 device days 1.1., 2000 0 4 0

July 2008	8.13
August 2008	2.27
September 2008	4.54

The early FY2009 rates represented a variance of more than 400% from the CLAB rate for FY2008 (July 1, 2007 to June 30, 2008).

STRATEGY and NURSING ACTIONS

All 6 CLAB cases on the unit were reviewed and analyzed. No trends were found related to pathogen, physician, or line site. Accurate and proper line care became the multidisciplinary focus.

Intense observations of line care revealed three central line-care issues that may have led to the increased CLAB rate:

- Staff failing to wipe the central line port (hub) consistently
- Staff not allowing clorhexidine to dry
- Central line dressings repeatedly found not adhering to the skin

Immediate action was taken to remedy these factors. The multidisciplinary team met with the nursing staff to discuss current trends, issues, and best practice related to central line care.

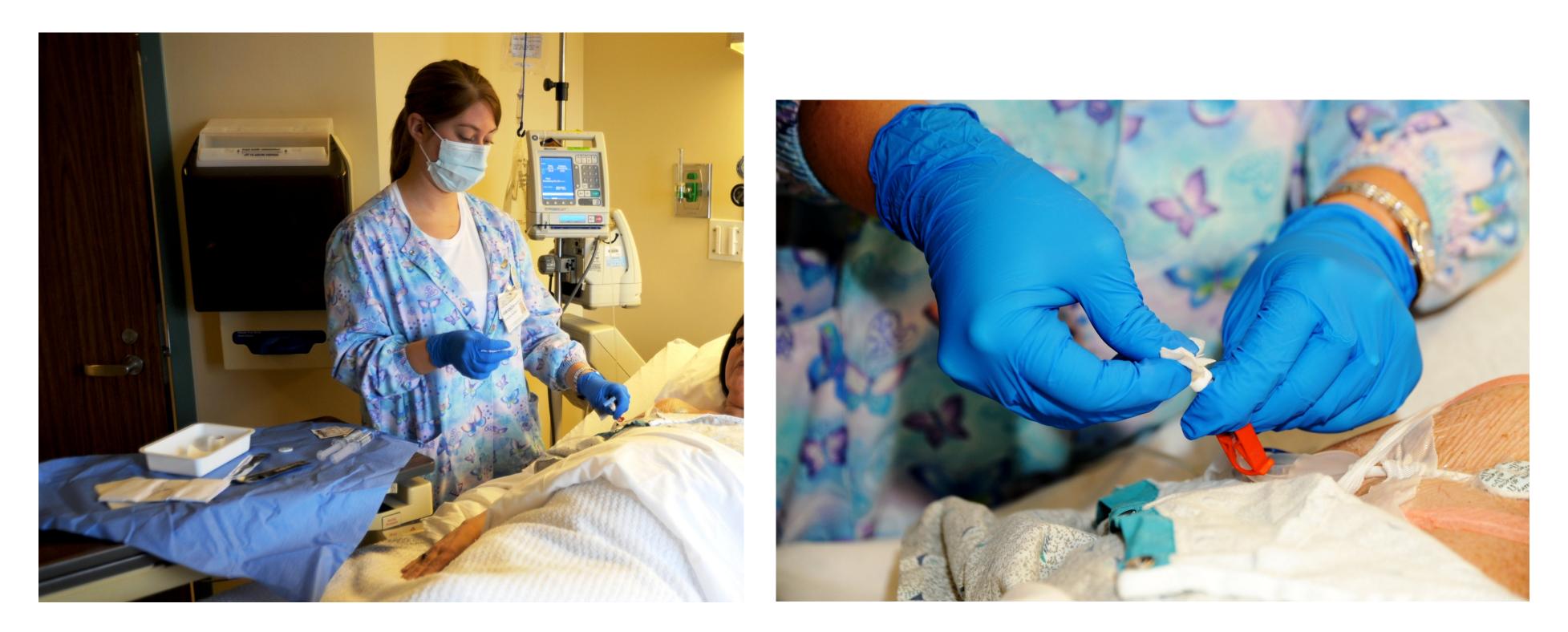
CONTACT INFORMATION

For more information, contact: Jacqueline Collavo, jcollavo@wpahs.org Josephine Tutro, jtutro@wpahs.org

"Scrub the Hub" Reducing Central Line–Associated Bacteremias in a Bone Marrow Transplant Setting

Jacqueline Collavo, BSN, RN, NE-BC, Director, Magnet Recognition Program Josephine Tutro, MSEd, BSN, RN-BC, Manager, Hematology/Oncology/Bone Marrow Transplant Unit

As a result of the information presented, the nurses initiated a "Scrub the Hub" campaign and the unit manager and clinical coordinator monitored all nurses performing line care for proper technique. In October 2008, the IV Team observed all central line dressings for evidence of proper central line care technique, and nursing staff members were required to complete an online IV education module.



A nurse "Scrubs the Hub" on West Penn Hospital's Hematology/ Oncology/Bone Marrow Transplant Unit

"Scrub the Hub" Quality Checklist Used on West Penn Hospital's Hematology/Oncology/Bone Marrow Transplant Unit (T7)

Patient ID (list all patients on Unit that have a central line)	Line Location F=Femoral EJ=External Jugular IJ=Internal Jugular SC=Subclavian Pc=PICC PT=Port	Dressing Dry and Intact (Y or N)	Line Documented in CHAS (central line list)	Comments

REFERENCES

National Database of Nursing Quality Indicators, <u>https://www.nursingquality.org/</u>

Association for Vascular Access, "SAVE That Line!" campaign, http://www.avainfo.org/website/article.asp?id=40777&navitemid=532&linkid=240238

The Western Pennsylvania Hospital, Pittsburgh, Pa.

EVALUATION and **OUTCOMES**

The following graphs show CLAB rates monthly throughout FY2008 and FY2009 at West Penn Hospital (Figure 1) and rates at West Penn Hospital with the NDNQI benchmarks for Magnet Hospitals and All Hospitals.

Figure 1. CLABs/1000 Line Days on the Hematology/Oncology/Bone Marrow Transplant Unit at West Penn Hospital, Before and After "Scrub the Hub" (red arrow) Campaign

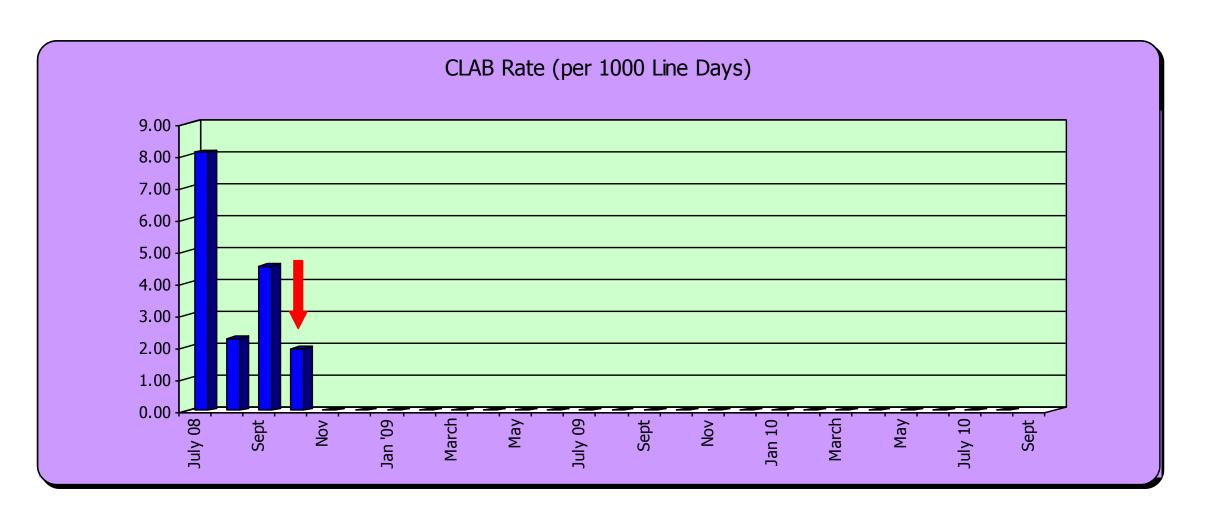
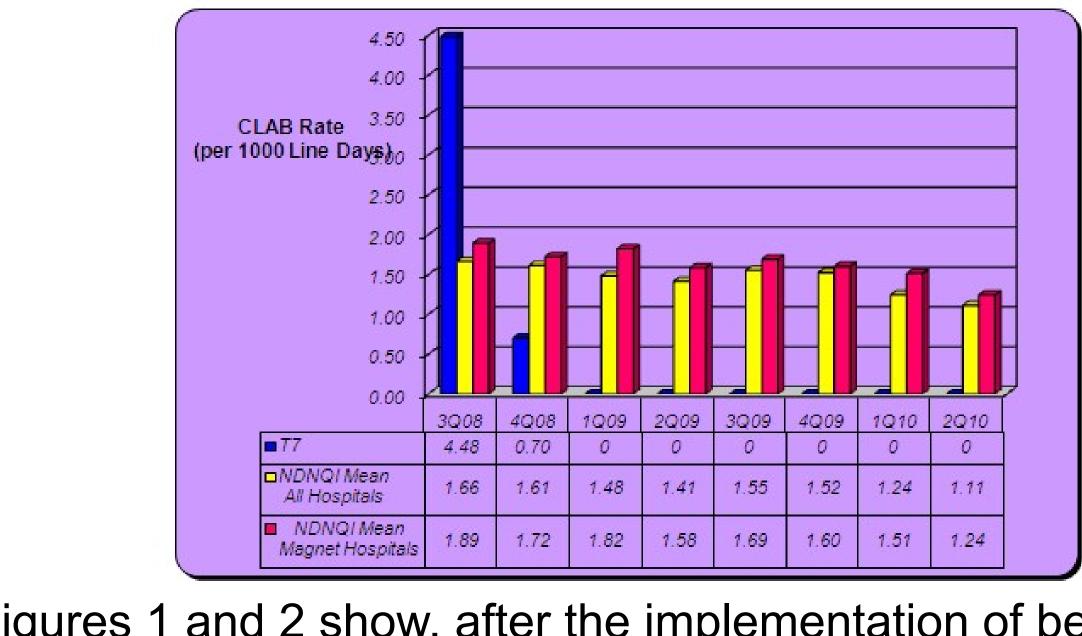


Figure 2. CLABs/1000 Line Days by Quarter, FY2008-FY2010, at West Penn Hospital ("T7") Before and After "Scrub the Hub" Campaign (4th Quarter FY2008), with NDNQI Benchmarks for "All Hospitals" and "Magnet Hospitals"



As Figures 1 and 2 show, after the implementation of best practice on T7 at West Penn Hospital in October 2008, a dramatic, sustained reduction in CLAB rates was achieved. The unit has been CLAB-free since November 2008. This rate of 0 CLABs for all of 2009 and the first 2 quarters of 2010 is significantly below the NDNQI means for All Hospitals and Magnet Hospitals and the unit's FY2008 rate.

IMPLICATIONS for BEST PRACTICE

Successful quality initiatives always start with evaluating current practice and end with implementing solid evidence-based practice. Peer accountability, continued vigilance, and commitment to "scrub the hub" and to monitor lines daily are key.

Nurses committed to these best practices have been revitalized by patient outcomes — there have been 0 (zero) CLABs on our unit since the campaign was implemented 2 years (24 months) ago.

