



AMERICAN NEPHROLOGY NURSES' ASSOCIATION

## ANNA'S 45<sup>TH</sup> NATIONAL SYMPOSIUM

APRIL 13-16, 2014

HILTON ANAHEIM & ANAHEIM CONVENTION CENTER, ANAHEIM, CALIFORNIA

### **A Pilot Quality Improvement Program to Minimize Catheter-Related Bloodstream Infection in an Outpatient Hemodialysis Setting**

*Nancy Culkin, RN, BSN, CNN; DaVita HealthCare Partners, Denver, CO*

*David Van Wyck, MD; DaVita HealthCare Partners, Denver, CO*

*Peter Provonost, MD, PhD, FCCM; Johns Hopkins University Armstrong Institute for Patient Safety and  
Quality, Baltimore, MD*

*Christine Goeschel, ScD, MPA, MPS, RN; Johns Hopkins University Armstrong Institute for Patient Safety and  
Quality, Baltimore, MD*

*Mahesh Krishnan, MD, MPH, MBA; DaVita Clinical Research, Minneapolis, MN*

*Levi Njord, MSc; DaVita Clinical Research, Minneapolis, MN*

*Allen Nissenson, MD; DaVita HealthCare Partners, Denver, CO*

**Background:** Technical and adaptive approaches from the Johns Hopkins University Armstrong Institute have reduced catheter-related bloodstream infection (CRBSI) in hospitals.

**Methods:** To evaluate whether similar approaches could prevent CRBSI in chronic dialysis patients, we conducted a collaborative, multifaceted, quality improvement program in 26 Maryland-area DaVita hemodialysis facilities. We used the Armstrong Comprehensive Unit-based Safety Program (CUSP) to survey elements of culture and practice in patient safety, adapted tools and interventions for the dialysis setting and monitored CRBSI rates.

**Results:** The survey was completed by 431/497 teammates (employees). We found areas for systematic improvement in pre-, intra-, and post-dialysis central venous catheter (CVC) care from the medical literature. We created a procedural kit with checklist, antimicrobial swabs for skin prep, triple-antibiotic ointment for exit site application, alcohol swabs to facilitate hub scrub, and exit site dressing. Another kit/procedural checklist was created for CVC dialysis initiation and termination. To enhance teammate engagement, clinics implemented daily team briefings to collectively identify and plan for high-risk patients. Teammates charted each new CRBSI episode utilizing a calendar to monitor progress. During the evaluation period, we saw a greater decline in CRBSI rates in project clinics than in non-project DaVita clinics.

**Conclusion:** Safety assessment tools and interventional approaches that reduce CRBSI in hospitals can be successfully applied to reduce CRBSI in chronic dialysis facilities.

*Abstract selected for presentation at ANNA's 45th National Symposium, Anaheim, CA, 2014*