

## Pediatric Critical Care Medicine

### Eradicating Catheter-associated Blood Stream Infections – Phase II

#### *A Proven Initiative for Sustainable Change*

*“Few will have the greatness to bend history itself; but each of us can work to change a small portion of events, and in the total of all those acts will be written the history of this generation.”*

– Robert F. Kennedy

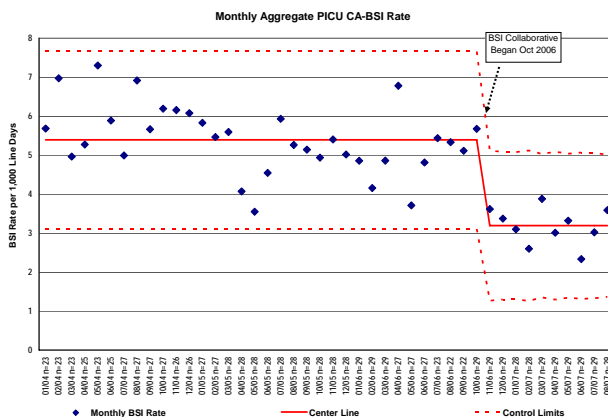
#### Introduction

The National Association of Children’s Hospitals and Related Institutions (NACHRI) and a team of expert clinical faculty launched a three-year quality improvement project in October of 2006 that focused on prevention of catheter-associated blood stream infection (CA-BSI) in the pediatric intensive care units (PICUs) of 27 children’s institutions. The results of Phase I of this collaborative have been remarkable. Phase II of the collaborative is now being offered to additional PICUs that seek to eradicate CA-BSI events. Progress to date from Phase I of the collaborative shows:

*The number of infections has decreased from a pre-collaborative CA-BSI rate of 5.39 per 1,000 catheter days to a sustained rate of 3.19 per 1,000 catheter days.*

*This reduction represents a 41 percent decrease in CA-BSI events. The reduced CA-BSI rate can be extrapolated to:*

- *Prevention of 177 infections in the 27 institutions*
- *Cost savings of approximately \$6 million*
- *Estimated 20 deaths prevented*



This project is approved by the American Board of Pediatrics (ABP) as a quality improvement project that meets its requirements for Maintenance of Certification (MOC) for subspecialists.

This Phase II CA-BSI project is part of NACHRI’s larger initiative to create a sustainable, collaborative network that educates, empowers and strengthens the patient safety culture and improves the outcomes of children in the more than 400 PICUs in the United States.

This initiative seeks to complement the existing successful change initiative of the Phase I collaborative by:

- Guiding the reliable implementation of established insertion and maintenance bundles
- Using quality improvement science that adds methodological rigor to the data collection
- Adding to new knowledge about PICU nosocomial infections
- Marrying a data collection approach with long-term education and safety culture changes to create a sustainable change in the PICU

To accomplish these goals NACHRI has engaged the resources of:

- American Board of Pediatrics to maintain MOC requirements
- Center for Children’s Healthcare Quality (CHCQ) to provide consultation on improvement science
- Johns Hopkins Bloomberg School of Public Health to provide rigorous data analysis and design
- Johns Hopkins Quality and Safety Research Group to administer and interpret the Safety Attitudes Questionnaire that evaluates cultural change in the unit
- VPS, LLC to standardized data sharing and benchmarking among PICUs with a focus on quality and comparative, multi-site data



***Participation:***

All hospital PICUs are invited to participate in this project. Participants will include clinicians specializing in pediatric critical care, infectious diseases and quality improvement, and infection control professionals from across the country. PICUs of all sizes are encouraged to participate.

Phase II will include three, one-and-one-half-day workshops per year. Monthly conference calls will be held along with the use of discussion lists and Web-based reports to facilitate training, data submission and group collaborative learning. The PICUs from Phase I will be involved in helping spread activities to the additional PICUs in Phase II.

For a detailed description of the initiative including the mission, goals and measures – please refer to the attached charter and/or attend a WebEx scheduled for Nov. 21 at 10:30 a.m. EST.

***Clinicians who participate will:***

- Receive the most current pediatric recommendations for the management of CA-BSI in children (pediatric specific vs. extrapolated from adult data)
- Receive materials for use in clinical practice
- Learn early the results of collaborative studies and quality improvement projects
- Establish and implement best practices
- Contribute to the advancement of science and clinical practice
- Learn improvement methods that can be applied to other topics
- Satisfy a requirement for Maintenance of Certification by the American Board of Pediatrics

***Project Requirements:***

Commit a senior leader – this may be the same person as the physician champion – to support and promote the team working on the collaborative improvement project.

Send two (required) or three (recommended) team members who have the authority to drive change, including the physician champion and, ideally, a nurse and/or infection control professional, to learning workshops (travel costs are covered by the hospital).

Provide resources and support to the hospital's team (includes attending workshops, devoting time to data entry, testing and implementing changes in the PICU, and promoting active senior leadership) including:

- Ensure monthly data collection
- Implement the standardized database collection tool to track patients and their care and submit monthly reports
- Agree to implement the central line insertion and maintenance bundle and test changes in at least two areas related to maintenance care of central venous catheters
- Commit staff to complete the approximately 40 hours of data collection required per month
- Be aware that if your central line days are "high," data collection time may increase – especially regarding those elements specific to CA-BSI events
- Commit to be transparent with data within the collaborative group
- Work to involve all of their staff as appropriate with the aim of helping the multidisciplinary clinical team become competent in safety and quality improvement
- Perform pre-work activities to prepare for workshops
- Connect project goals to the broader patient safety work in the hospital
- Participate in calls and a discussion list to share with and learn from others
- Make well-defined measurements at least monthly, plot them over time for the duration of the collaborative improvement project and share them with the other teams in the collaborative
- Maintain responsibility for IRB requirements for a quality improvement project (with option to publish aggregate data)

## Get Involved in Eradicating CA-BSI and Sustaining a Culture of Patient Safety

### How to Participate

To participate in Eradicating Catheter Associated Blood Stream Infections – An Initiative for Sustainable Change, complete the form below and return it by e-mail or fax no later than **Dec. 31, 2007**, to Beth Hunko at NACHRI (fax: 703/519-8553; e-mail [bhunko@nachri.org](mailto:bhunko@nachri.org)).

Questions? Call or e-mail: Lynne Lostocco, 401/732.8111, [llostocco@nachri.org](mailto:llostocco@nachri.org)  
Mitch Harris, 703/797.6062, [mharris@nachri.org](mailto:mharris@nachri.org)

Our hospital can meet the project requirements presented (complete remainder of form below)

**--OR--**

Our hospital cannot currently meet the project requirements presented but would like the opportunity to participate in the future (the next recruitment cycle is expected to occur in late in 2008 or early 2009). Complete the first table below.

Please forward information for the **Nov. 21 WebEx scheduled at 10:30 a.m. EST** to our hospital

Hospital Name	
Hospital City, State	
Size of PICU (in beds)	
Project Contact/Liaison Name and Title	
Project Contact/Liaison Telephone and e-mail	

### Multidisciplinary Team Members

Two members with the authority to drive change are required; three are strongly recommended

Team Leader (recommended: PICU intensivist or other physician leader)

Name:

Title:

Phone:

Fax:

E-mail:

Assistant's Contact Info. (if desired):

Team Champion (recommended: PICU nurse)

Name:

Title:

Phone:

Fax:

E-mail:

Assistant's Contact Info. (if desired):

Team Champion (recommended: infection control professional who works with the ICU)

Name:

Title:

Phone:

Fax:

E-mail:

Assistant's Contact Info. (if desired):

In addition to travel expenses for meeting participation, the hospital named above agrees to pay the following participation fee:

I already participate in VPS LLC - I agree to pay a fee of: \$18,000 per year

I do not participate in the VPS LCC - I agree to pay a fee of: \$20,000 per year

**Preventing one CA-BSI saves a minimum of \$39,000**

(For budget planning, billing will occur in March for each year of the project.)



**NACHRI**  
National Association of  
Children's Hospitals  
and Related Institutions

**Mark your calendar and make travel arrangements for the first Improvement Collaborative meeting:**

**February 19-20, 2008, in Dallas, Texas** meeting begins at 8 AM

Hotel: Marriott Dallas/Fort Worth Airport North

Phone: 1(800)228-9290; Fax: (972)692-8475

The block of rooms is listed under: CA-BSI Phase II LS 1

Reservations need to be made by participants no later than: Monday, January 28, 2008

Cost per room: \$184.00 per night

The best airport to fly into the meeting site is DFW International. The best way to get from the airport to the hotel is calling the hotel's complimentary shuttle service from the baggage claim area. The shuttle should arrive about 10 minutes after calling.