



Pittsburgh Regional Healthcare Initiative

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Naida Grunden, editor

Latest CLAB report: *is this a trend?*

In past issues of the PRHI Executive Summary we have noted relatively slow progress of safety measures and asked: Why? Now first quarter 2003 data on central line-associated bloodstream infections (CLABs) in intensive care units (ICUs) show something which, if true, represents a dramatic improvement across the whole region.

Just one question: Is this for real?

The information seems encouraging, showing the regional CLAB rate dropping from 3.6 to 2.4 infections per 1000 line days in one quarter. But one quarter's data does not a trend make.

The new data, when added to data collected since the third quarter of 2001, show that overall, however haltingly, the CLAB rate in the region has dropped from 4.2% to 2.4%—a 43% decrease.

“The information provides a starting point for the right conversation about how a community can work together to make care better for patients in ICUs,” says PRHI Director Ken Segel. “And it opens up some compelling questions.”

Calling the questions

Are these data meaningful? The PRHI Infection Control Advisory Committee (ICAC), a collaboration of infection control practitioners and others from hospitals across the region, has been addressing CLAB infections for over three years. Why the more significant decrease this quarter? Are infections being identified and reported consistently throughout the region? If this reduction is real, can it be sustained? Improved further? How close can we get to zero in one, finite area of hospital-acquired infection?

The answers may lie in whether we succeed in creating a **learning system** that is valuable for professionals. We must work to make sure these reports are useful tools in keeping patients safe, not creating blame. When the reports are integral to the work, data collection and submission will not be a burden, but will

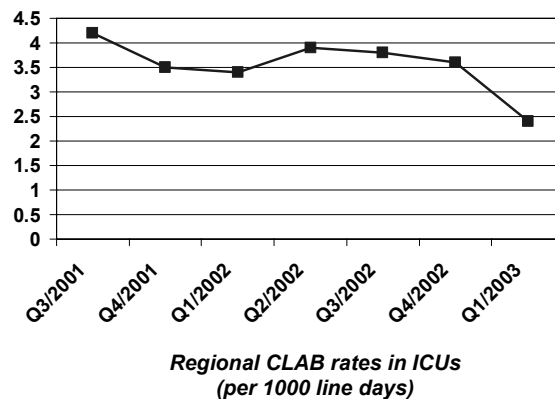
be accomplished in the course of work, giving us a clear way to learn whether what we are doing works.

PRHI Scorecard

Further raising awareness of CLAB infections is the *PRHI Scorecard*, developed by the PRHI Board and endorsed by leaders of healthcare organizations in our region. The *Scorecard* challenges hospital partners to eliminate CLABs in ICUs this year. The goal of *outright elimination* raises eyebrows. But experience in serious improvement models shows that once the ideas take hold, advancements never thought possible can be achieved.

This quarter's decline

The ICAC has proposed a number of interventions around insertion, maintenance and removal of central lines to reduce variation in practice and the possibility of nosocomial bloodstream infection. A “checklist” or procedure note for insertion of central lines was implemented in several area hospitals last fall. An “insertion kit,” containing all of the recommended items needed for insertion of a line, has also been implemented in some area facilities. The results from both interventions indicate they may make it easier for healthcare workers to adhere to recommended aseptic



technique. While the drop in CLAB rates may correspond with the introduction of the procedure note and insertion “kit”, it’s too early to tell whether the correlation is coincidental and short-term, or represents a more fundamental, lasting change.

Data vs. process-outcome links

The work of reporting is not the work of improvement. Perhaps some hospitals have fallen behind in reporting because they view “data” as the product (or worry that PRHI does), rather than the learning system it is intended to advance.

CLAB infection data, as currently collected, measures retrospectively across the region. Studying what already happened may be instructive, but it is incomplete. Unless we share information about the process used during placement, care and removal of a central line we will never be able to answer the question: *Why?* Why is what we’re doing working? Or why didn’t it work? Why was there a break in recommended practice? By asking—and answering—these additional questions we can begin to learn and use problem solving techniques to adapt and change.

Sustain the gain?

If this quarter’s gains hold, can they be sustained, let alone accelerated? Successful improvement efforts show

Quarter/year	# Persons contracting CLABs	# Hospitals submitting	Rate per 1000 line days
Q3/2001	121	28	4.2
Q4/2001	101	28	3.5
Q1/2002	106	28	3.4
Q2/2002	111	27	3.9
Q3/2002	113	27	3.8
Q4/2002	100	25	3.6
Q1/2003	58	23	2.4

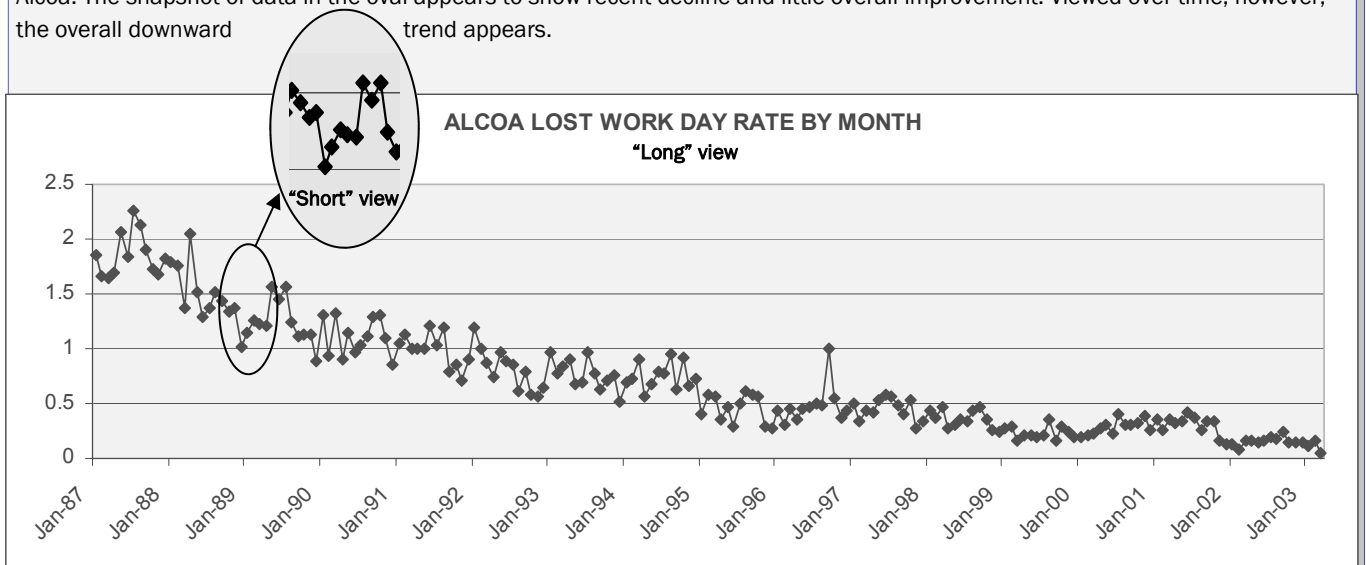
that where ambitious goals are set, where problems are quickly investigated to root cause, where processes and outcomes are linked, and where information is shared as part of a learning system, culture change is possible. Gains can be sustained in such an environment, and unimagined improvements can happen.

Each quarter’s report will add to the story of the hospitals across Southwestern Pennsylvania as they strive to eliminate CLAB infections. Over time, the story will be made richer, more questions will be raised, and more information will be shared. ☒

What does improvement look like?

Experience with Alcoa and Toyota, and other significant improvement efforts, confirm that the road to progress is not a straight line. Improvement may be noted for a quarter or two or three . . . often followed by a blip, or rise in the number of problems.

“It’ll drive you crazy to see the numbers go up,” says Paul O’Neill, former Alcoa CEO and Treasury Secretary, and current Chair of PRHI’s Leadership Obligation Group. “But over time, if the values and ideas of real improvement are in place, you will see an overall decline.” The illustration below demonstrates the “short” and “long” views of improvement, using actual lost work day rate from Alcoa. The snapshot of data in the oval appears to show recent decline and little overall improvement. Viewed over time, however, the overall downward trend appears.



Last month's PRHI Executive Summary disclosed a potentially encouraging development in the region's quest for zero hospital-acquired infections (CLABs). Recent regional reports show a decline in the number of central line-associated bloodstream infections. We asked: Could it be that fewer patients were contracting CLABs? Or could the decline be indicating some unintended consequence—such as narrowing the definitions of CLAB, or placing more lines of the type that are not tracked?

PRHI partners selected CLABs as a target area for 2003. On the way to eliminating all hospital-acquired infections, partners were challenged to: 1) eliminate

CLABs in ICUs, and 2) reduce CLABs in other areas of the hospital by 50%.

The goal is not to reduce a number; the goal is to see how close we can come to having zero patients in Southwestern Pennsylvania contract bloodstream infections due to contamination of a central line. Ultimately, the goal is to eliminate all hospital-acquired infections, without creating unintended consequences.

The Infection Control Advisory Committee (ICAC) has discovered variations across the region in the processes of care for the insertion, care and removal of central lines. Other PRHI committees, such as the Cardiac Working Group, have concluded that variations in care processes correspond to variations in patient outcome. That conclusion serves as the basis for the Cardiac Registry, (*article, facing page*).

Through the ICAC, the region's infection control practitioners have created suggested protocols, CLAB kits, and "progress notes" to reduce variation, minimizing the chances of any patient's contracting a bloodstream infection.

Will these measures, or others specific to individual hospitals, help to reduce the actual number of patients

getting infections? It's a hypothesis that needs to be measured through the accurate reporting of all bloodstream infections.

Focusing solely on lowering numbers can create unintended consequences like:

- ✧ Failure to capture all central line data—including that for femoral artery placement, for example.
- ✧ Increasing use of other types of lines that will not be counted.
- ✧ Failure to examine all central line infections, whether or not they meet an arbitrary "definition."
- ✧ Inability to understand whether progress is being made, and to learn from reporting.
- ✧ Failure to make patients safer.

It is likely that the best way to combat infection is to: a) investigate breaks in practice; and b) investigate infections as soon as a patient's blood culture tests positive. The cause of an infection can be more quickly and accurately determined when it is investigated as close as possible to the time and place it occurs. When it is reported, the entire region learns.

If CLAB numbers are declining because the standard of care has improved and process variations have decreased, and if a learning system is in place, then we can believe that hospital patients are indeed safer. But infections must not be excluded from the count in an attempt to improve the numbers. And our attention must not drift from the larger goal of eliminating *all* hospital-acquired infections. As a community endeavor, PRHI values people over numbers, and accuracy over news that may only seem good. ☞

The goal is not to reduce a number; the goal is for zero patients in Southwestern PA to contract a central line-associated bloodstream infection ... and for no unintended consequences to result.

Pittsburgh to pilot NHSN system

Eight PRHI partner hospitals will soon begin working with the CDC to pilot the National Healthcare Safety Network (NHSN) Blood Stream Infection (BSI) Prototype. NHSN is an expansion and enhancement of National Nosocomial Infection Surveillance System (NNIS). The new system will give the PRHI pilot sites an opportunity to measure central line insertion practices. The process measure component of NHSN will capture:

- ✧ *Reason for insertion*
- ✧ *Insertion technique*
- ✧ *Skin prep technique*
- ✧ *Location site (jugular, subclavian, femoral or brachial)*
- ✧ *Catheter type*

✧ *PRHI's Infection Control Advisory Committee (ICAC) comprises infectious disease physicians and infection control practitioners from partnering institutions, as well as representatives from the Centers for Disease Control and Prevention (CDC). This committee is responsible for establishing a region-wide nosocomial infection reporting system. ICAC also develops, conveys and facilitates practice interventions based on the National Nosocomial Infection Surveillance (NNIS) system. Carlene Muto, M.D., Hospital Epidemiologist/Director, Assistant Professor of Medicine, University of Pittsburgh School of Medicine, Division of Infectious Diseases, and Cheryl Herbert, RN, CIC, Director of Infection Control, Allegheny General Hospital, co-chair this committee.*

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