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Prescriptions for Excellence in HEALTH CARE

A COLLABORATION BETWEEN JEFFERSON MEDICAL COLLEGE AND ELI LILLY AND CO.

PHC4: Disseminating the Principles and Practices of Quality Improvement

By Flossie Wolf, MS

Last year, the Pennsylvania Health Care Cost Containment Council (PHC4) celebrated its 20th anniversary. The road to public accountability has not always been easy, but the journey has been rewarding. Today, PHC4 is widely recognized as a national leader in public reporting and health care transparency, and it remains committed to providing Pennsylvanians with unparalleled access to health care information. As PHC4 enters its third decade, it is venturing further into the next frontier of public reporting with an increased focus on payment data, readmissions, and hospital-acquired infections (HAIs).

Although PHC4 has been collecting and reporting HAI data for less than 5 years, the value of making this information public is already apparent. In addition to raising national awareness of HAI, a number of quality improvement initiatives have stemmed from these activities. This article provides an overview of PHC4's most recent HAI report and discusses how data collection and reporting on such infections are spurring quality improvement.

The First Hospital-Specific Report

In November 2006, PHC4 took an unprecedented step forward in the public reporting of HAIs. (Figure 1) Previous PHC4 reports had focused on the aggregate quality-of-care and financial consequences of HAIs. The latest report identified the actual number of infections reported by each of Pennsylvania's 168 individual hospitals for 2005, thereby establishing a baseline against which an individual hospital's future performance can be measured. As the first state to release a hospital-specific report on HAIs, Pennsylvania raised the bar for other states and the nation as a whole.

Statewide, the report presented the following highlights¹:

- Hospitals reported 19,154 cases in which patients contracted an HAI, a rate of 12.2 per 1,000 cases.
- The mortality rates for patients with and without an HAI were 12.9% and 2.3%, respectively.
- The average lengths of stay for patients with and without an HAI were 20.6 days and 4.5 days, respectively.

- The average hospital charges for patients with and without an HAI were \$185,260 and \$31,389, respectively. (Table 1)
- When looking at private sector insurance reimbursements, the average payments for a case with and without an HAI were \$53,915 and \$8,311, respectively.

American Journal of Medical Quality (AJMQ) Supplement: 3 Pivotal Studies

PHC4's public reporting on infections has sparked discussions among patients, policy makers, purchasers, and medical professionals. Contrary to conventional wisdom, HAIs are not inevitable, unavoidable by-products of health care. In fact, many can be prevented, a theme that was reinforced in the groundbreaking *AJMQ* supplement published a week after the release of PHC4's hospital-specific report. The 3 studies contained in the supplement were unveiled during a press conference at the National Press Club in Washington, DC. All noted that HAIs are not about what the patient brings to the table; they are about improving hospitals' processes of care.

The first article described one hospital's infection reduction efforts, demonstrating that the costs of treating an HAI can outstrip the payment system

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resulting in losses for the hospital, payors, and patients.² The study is the explicit business case for eliminating these infections.

Shannon et al found that although the average expense for a case with a central line-associated bloodstream (CLAB) infection was \$91,733, the average payment was \$64,894 – an average loss of \$26,839.² Additionally, the study found that the patient's severity of illness on admission was not a predictor of risk for developing a CLAB, but that dramatic reductions in the rates of CLABs could be achieved by standardizing processes of care and workflow redesign.

The supplement's other 2 studies confront and successfully challenge the issue of “blaming” patient characteristics (ie, age, risk factors, severity of illness) for the cost and quality impact of higher infection rates.^{3,4} Both of these articles reported on analyses of HAI data collected by PHC4.

Peng et al examined differences in mortality, length of stay, and hospital charges between hospitalizations with and without an HAI.³ They found that differences in these measures cannot be explained on the basis of how sick the patient was at admission.

The third study, by Hollenbeak et al, used statewide data collected on surgical wound infections to estimate the impact of patient-specific factors on the risk of infection.⁴ Although patient-specific factors had a significant association with risk of infection, much of the risk was determined by hospital factors.

Table 1. Report Findings: Cost Comparisons

PHC4 Report Findings	Average Hospital Charge	Average Commercial Payment
Cases <i>with</i> a hospital-acquired infection	\$185,260	\$53,915
Cases <i>without</i> a hospital-acquired infection	\$ 31,389	\$ 8,311

Demonstration Projects

The collection and reporting of data are necessary first steps in reducing HAIs; however, the ultimate goal is to provide infection-control practitioners with tools to identify areas of improvement. For this reason, PHC4 has collaborated on 2 major initiatives that emphasize infection reduction.

In 2005, PHC4 collaborated with the Jewish Healthcare Foundation in awarding grants to 5 hospitals for demonstration projects to quantify the costs and reduce the number of HAIs. The hospitals were challenged to duplicate the groundbreaking work pioneered by Shannon and staff at Pittsburgh's Allegheny General Hospital (ie, to reduce to near zero the number of infections in critical care units).

Although the 5 hospitals focused on different aspects of infection reduction, the results across the board were impressive, with each hospital reporting a decrease in infections. Notably, payment issues were somewhat less clear; some hospitals suffered financial losses on infection cases while others did not lose money. The consensus was that any determination about the economics of infection reduction depends somewhat on how hospital costs are allocated.

Ultimately, the work by the hospitals demonstrated that more study is needed, particularly around hospitals' disparate cost accounting methods. Each of the 5 hospitals reported that their awareness of issues relating to infections was significantly increased due to this project. The work also served as a springboard for other infection reduction strategies, and demonstrated what can be accomplished when organizations strive for perfection rather than unquestioningly accepting standard benchmarks.

In 2006, PHC4 launched a second pilot project aimed at infection reduction. PHC4 and the Highmark Foundation awarded grants to 10 Pennsylvania hospitals and 1 health system to implement new technology for tracking and proactively preventing HAIs. The hospitals selected for the *Reducing Hospital-Acquired Infections with Electronic Surveillance Demonstration Project* received funding to assist in their utilization of an electronic surveillance system that removes subjectivity from identification and reporting of infections. Although it is too early for results, the hospitals using this technology have said it frees infection-control staff from labor-intensive manual collection so they can spend more

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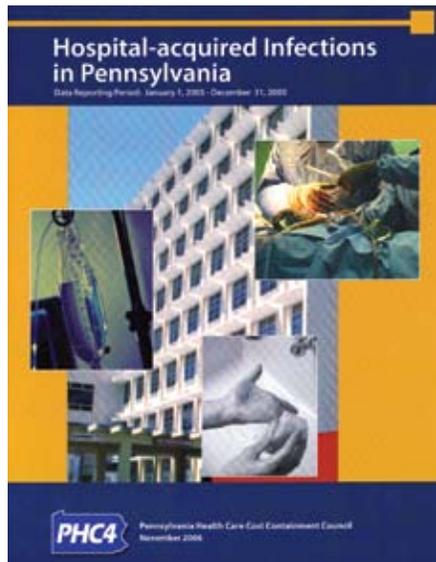
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time actually finding and preventing the causes of HAIs.

The Positive Impact of Public Reporting

Even though public reporting of the incidence of HAIs has just begun, there is evidence that such reporting of health care outcomes improves quality. Two examples from the literature highlight the benefits of publicly reporting hospital performance. Dr. Judith Hibbard and colleagues (from the University of Oregon) found that

Figure 1. PHC4 Report (11/06)



Wisconsin hospitals that publicly reported hospital performance were significantly more likely to increase their quality improvement activities than 2 comparison groups that reported privately or not at all.⁵ In addition, researchers found that, while coronary artery bypass graft surgery mortality rates have dropped nationally, they have dropped more significantly in states with public reporting (eg, Pennsylvania, New York).⁶

As the issue of HAIs has come to the forefront of patient safety, important quality improvement

efforts are being instituted. The Institute for Health Improvement's 100,000 Lives Campaign (now the 5 Million Lives Campaign) has provided many success stories among hospitals. Medicare has indicated that it will stop paying hospitals for expenses related to HAIs in 2008, and more states are passing laws that require public reporting of infection rates.

By continuing its history of public reporting, PHC4 hopes to spur additional quality improvement initiatives and further contribute to the ongoing national conversation about HAIs.

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