

# Understanding the Cost of HAIs and Building a Culture of Prevention

Hospital leaders must balance competing priorities on a daily basis. Improving the quality of care and increasing patient satisfaction are ever-present goals. At the same time, there is pressure to reduce costs and protect the bottom line.

The prevalence of healthcare-associated infections (HAIs) in hospitals has major impacts on both clinical and financial outcomes, but it is difficult for organizations to recognize the full range of direct and indirect effects. Moreover, effectively addressing the root causes of HAIs at a facility typically requires a bundle of unique solutions tailored to the organization's specific needs, goals, and culture.

## The True Cost of HAIs

As a result of the Patient Protection and Affordable Care Act and previous healthcare reform legislation, reimbursements are increasingly tied to clinical outcomes. Today, hospitals are not reimbursed for the cost of treating HAIs, or caring for patients readmitted within 30 days of discharge. Furthermore, the Centers for Medicare and Medicaid Services are now required to withhold a percentage of reimbursements for individual hospitals based on quality metrics such as readmission rates and patient satisfaction surveys.

Due to the lack of reimbursement for HAI-related care, these infections cause major financial losses for hospitals. The Pennsylvania Health Care Cost Containment Council<sup>1</sup> examined statewide data from 2006—2007 and determined that the average cost to the hospital of caring for a patient without an HAI is \$35,000. In contrast, the cost of treating a patient with an HAI is more than \$190,000.

Beyond the direct financial impact, there is also a significant opportunity cost associated with HAIs. An infected patient can be confined to a hospital bed for days or weeks beyond their initial treatment timeline, and the facility will not be reimbursed for the associated costs. Throughout this period, the hospital will not be able to place a new, revenue-generating patient in that bed. The Pennsylvania study determined that the average length of stay for a patient who contracts an HAI is 19.7 days—compared with only 4.4 days for a patient who does not acquire an HAI.

Other indirect costs of HAIs include the increased risk of malpractice litigation and public relations concerns. In today's increasingly consumer-driven healthcare market, negative media coverage of a hospital's cleanliness and safety can have a significant impact on the organization's ability to attract patients and generate revenue.

## Hand Hygiene Is a Critical Part of Hospitals' Defense Against HAIs

Hand hygiene is widely recognized as a cornerstone of infection control, and there is a growing body of scientific research linking HAIs to healthcare workers' hand hygiene practices. The Centers for Disease Control and Prevention summarized much of the evidence in their 2002 Hand Hygiene Guidelines for Healthcare Workers.<sup>2</sup> The World Health Organization also reviewed the scientific literature in the 2009 Guidelines on Hand Hygiene in Health Care.<sup>3</sup> More recently, the Society for Healthcare Epidemiology of America (SHEA) republished hand hygiene recommendations<sup>4</sup> in the Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals: 2014 Updates.<sup>5</sup>

The high cost of HAIs—and the abundance of evidence linking them to hand hygiene—underscores the need for hospital leadership to support innovative programs that improve compliance rates.<sup>6</sup> The Joint Commission Center for Transforming Healthcare has advocated a comprehensive approach to sustaining hand hygiene compliance through targeted, data-driven solutions.<sup>7</sup>

Hospitals participating in the Center's Hand Hygiene Project have reported an average improvement of 23% over their baseline compliance rates. In turn, these organizations have reduced HAIs by between 26% and 45%.

## The Status Quo Is Unsustainable

For any hospital seeking to improve hand hygiene compliance, the best place to start is with measurement. Studies have shown that direct observation—the current gold standard in healthcare—produces unreliable data. There are multiple factors that go into reducing the effectiveness of direct observation studies, including:

- > Small sample sizes
- > Inconsistent methodologies
- > Individual biases
- > The Hawthorne Effect

A recent study published in the *BMJ Quality & Safety Journal*<sup>8</sup> used an electronic monitoring system to measure and compare hand hygiene compliance rates in specific areas of a major acute care hospital before and after the arrival of an observer. Healthcare workers washed their hands three times more frequently in the presence of the auditor, suggesting that the compliance rates reported by hospitals are significantly inflated.

The lack of accurate data about hand hygiene compliance creates additional obstacles for hospitals seeking to reduce the prevalence of HAIs. If the leadership team believes that compliance rates are currently at 90%, they are unlikely to view improved hand hygiene as a viable means of making progress on their core goals of improving clinical quality and patient satisfaction while reducing costs. Instead, incorrectly assuming that they have reached a point of diminishing returns with hand hygiene, hospital leaders will invest their time, energy, and money in other areas.

## The Resources Needed to Sustain Improvements in Hand Hygiene

Technology can help to overcome these obstacles by enabling more accurate measurement of hand hygiene compliance. From mobile applications that make direct observation more effective to automated 24/7 monitoring systems, hospitals have a wide range of options. Electronic monitoring provides the objective, comprehensive data that hospital leaders need to understand current compliance rates and develop targeted interventions that result in sustained improvement.

A major benefit of automated systems is that they free up infection preventionists who were previously required to spend significant amounts of time performing observations, collecting data, and compiling reports. This is valuable time that can instead be spent coaching healthcare workers or taking other actions to promote hand hygiene and overall clinical quality.

When selecting a compliance monitoring solution, hospitals must consider their unique needs, goals, and culture. An optimal solution will provide multiple options for holding staff accountable, such as individual-, group-, or role-based monitoring.

It is also valuable to select a vendor that backs their technology with clinical expertise. Maintaining higher compliance rates presents multiple challenges, including communication of new metrics and expectations, and treatment of employee skin-health issues. A committed partner with deep expertise in hand hygiene can help hospitals overcome these obstacles as they emerge and achieve sustained improvement in compliance rates.

1 "Hospital-Acquired Infections in Pennsylvania." Pennsylvania Healthcare Cost Containment Council. 2009. <http://www.phc4.org/reports/hai/07/docs/hai2007report.pdf>

2 "Hand Hygiene Guidelines for Healthcare Workers." Centers for Disease Control and Prevention. 2002. <http://www.cdc.gov/handhygiene/Guidelines.html>

3 "Guidelines on Hand Hygiene in Health Care." World Health Organization. 2009. <http://www.who.int/gpsc/5may/tools/9789241597906/en/>

4 Ellingson K, Haas JP, et al. "Strategies to Prevent Healthcare-Associated Infections through Hand Hygiene." 2014. [http://journals.cambridge.org/abstract\\_S0195941700094819](http://journals.cambridge.org/abstract_S0195941700094819)

5 "Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals: 2014 Update." Society for Healthcare Epidemiology of America. <http://www.shea-online.org/View/ArticleId/289/Compendium-of-Strategies-to-Prevent-Healthcare-Associated-Infections-in-Acute-Care-Hospitals-2014-Up.aspx>

6 "Facts about the Hand Hygiene Project." Joint Commission Center for Transforming Healthcare. [http://www.centerfortransforminghealthcare.org/assets/4/6/CTH\\_HH\\_Fact\\_Sheet.pdf](http://www.centerfortransforminghealthcare.org/assets/4/6/CTH_HH_Fact_Sheet.pdf)

7 "Clean Hands: TST & hand hygiene prevent healthcare-associated infections." Joint Commission Center for Transforming Healthcare. [http://www.centerfortransforminghealthcare.org/assets/4/6/Infographic\\_TST\\_Hand\\_Hygiene.pdf](http://www.centerfortransforminghealthcare.org/assets/4/6/Infographic_TST_Hand_Hygiene.pdf)

8 Srigley JA, Furness CD, et al. "Quantification of the Hawthorne effect in hand hygiene compliance monitoring using an electronic monitoring system: a retrospective cohort study." *BMJ Quality & Safety Journal*. 2014.



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