

The ROI of Electronic Hand Hygiene Compliance Monitoring

The Value Your Hospital Can Realize
by Making the Switch



COVID-19 has changed the world in ways we never imagined. While people around the globe are practicing social distancing, healthcare providers work around the clock to fight this infection and return home to their loved ones. While tech companies and researchers continue to work on novel solutions to trace and slow the spread of the COVID-19 virus, leading health organizations continue to press the simplest way to break the chain of infection: wash your hands. The Centers for Disease Control and Prevention (CDC) cites hand hygiene as the most effective way to prevent the spread of infection, yet among those who most frequently come into contact with infectious diseases - healthcare workers - only 40% are compliant, putting themselves and their patients at risk for acquiring them.¹

Hand hygiene compliance is a key part of successful infection prevention and control, just as closely tracking hand washing is a key part of successful compliance improvement. And while there are many options available to measure and track hand hygiene compliance, electronic hand hygiene compliance monitoring (EHHCM) can offer a significant value over alternative compliance solutions, providing the data and insights hospitals need to accurately track, improve and sustain a healthcare facility's hand hygiene compliance. However, implementing such a solution can be an investment in time, money and energy for hospitals, so before selecting a vendor it's important to understand how their solution can truly impact a hospital's performance and outcomes. Here, we'll walk you through a few things to consider when thinking about a potential return on your investment with an EHHCM solution so that you can accurately evaluate how this type of hand hygiene system can help you, and determine which vendor is the right fit for your hospital.

Compared to other compliance monitoring options like direct observation, electronic monitoring solutions do generally have a higher price tag. However, even among electronic solutions, pricing varies depending on the system in question, as does the value that each system provides users. As budgets continue to tighten, much of the conversation around the purchase of electronic monitoring systems tends to focus on price. However, a holistic value assessment should be conducted so that a healthcare institution may realize tangible and intangible benefits with implementation.

There are many ways a hospital may define and assign value. Some, like price, are more tangible and can be monetized, while others, like staff satisfaction or the cultural impact EHHCM can have at a facility, cannot. But both ways carry worth and can deliver real impact.

Here is a list of the tangible and intangible value drivers we will consider in this article to help you evaluate electronic hand hygiene compliance monitoring solutions for your hospital.

- A Reduction in the Incidence of Healthcare-Associated Infections (HAIs) and Associated Treatment Costs
- Increased Revenue from New Patients Resulting from Less Lengthy Stays for Patients with HAIs
- HAC, Readmission, and VBP Penalty Avoidance
- Direct Observation Program Savings
- Success of Solution Installation and Implementation
- Continuous Improvement Through Positive Reinforcement
- A Consistent Patient Standard of Care Protocol
- Staff Satisfaction Due to Ease of Use
- The Knowledge that Staff Are Working in a Safer Work Environment
- Staff Understanding of What "Being Tracked" Means

Tangible Value Drivers

A Reduction in the Incidence of Healthcare-Associated Infections (HAIs) and Associated Treatment Costs

If a system can increase hand hygiene compliance you would expect to see the rate of HAIs decrease as well as the cost associated with treating HAIs. Vendor partners should be able to provide proof of this impact. **Table 1, for example, outlines the cost typically associated with treating CLABSI.** While there are numerous studies that quantify the “cost of treatment,” the specific financial benefits of electronic monitoring systems to reduce HAIs has not been established as an industry standard. HAI treatment cost is not typically tracked as an expense item on a hospital’s financial statements. The credibility and track record of your vendor partner will provide a degree of assurance that their system will achieve the desired benefits.

HELPFUL TIP:

Ask compliance monitoring system vendors: Can you provide data showing a reduction in HAIs when using your system? What is the average HAI rate reduction realized by your customers? Do you offer any outcome guarantees?

Increased Revenue from New Patients Resulting from Less Lengthy Stays for Patients with HAIs

In addition to a reduction in HAIs and costs of treating them, an EHHCM solution can boost hospital revenue as well. Let’s use CLABSI again as an example. If a patient acquires a CLABSI infection in the hospital, on average they will need to stay 17 excess days in the hospital, costing \$70,000.² In contrast, the daily revenue a hospital receives for that patient is just \$2,143 meaning its total revenue for all 17 days could be as high as \$36,431.³ That is a \$33,569 gap. By improving hand hygiene and reducing HAIs, hospitals can avoid the cost of treating HAIs and return patients home safely, thereby freeing up beds for new patients who can drive additional hospital revenue.

HELPFUL TIP:

Ask EHHCM vendors for data that demonstrates their ability to impact a hospital’s bottom line: Do you have a list of the HAIs you can impact with your system? Can you supply me with the data you use in calculating the cost of those HAIs (days in hospital, revenue per patient day, etc.)?



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An EHHCM solution can help

boost hospital revenue

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Industry Average Excess Length of Stay & Cost per HAI	Days in Hospital	Cost
CLABSI ² (Central Line-associated Blood Stream Infection)	17.0	\$70,000
Revenue per Patient Day in the Hospital ³		\$2,143

TABLE 1

HAC, Readmission, and VBP Penalty Avoidance

First let's define these three different Medicare programs:

Healthcare-Acquired Conditions (HAC) Penalty: Also known as the Healthcare-Acquired Conditions Reduction Program, this program compares a hospital against its peer group in how well they handle HACs within their facility. If a hospital falls into the lowest performing quartile within their peer group, the facility is penalized 1% of the hospital's Medicare/Medicaid budget for the federal fiscal year (Oct-Sep). More information is available from CMS (Centers for Medicare & Medicaid Services) on the [HAC Reduction Program](#).

Readmission Penalty: Also known as the Hospital Readmissions Reduction Program (HRRP), this program penalizes hospitals up to 3% of inpatient Medicare revenue for having worse-than-average readmission rates for selected conditions. In this program, a readmission is defined as a patient returning for unscheduled inpatient hospital care within 30 days of a prior acute care stay. Readmission after acquiring certain HAIs in the hospital qualifies under this program, but is not the only condition that would qualify for the penalty. More information is available from CMS on the [HRR Program](#).

VBP Penalty: Also known as the Hospital Value-Based Purchasing Program (VBPP), this program rewards/penalizes acute care hospitals with incentives/penalties for the quality of care they provide to people whose care is covered by Medicare. This program adjusts payments to hospitals based on the quality of care they deliver by up to 2% of inpatient Medicare revenue. As the most varied of the programs, the VBPP has a large and diverse set of metrics upon which it scores individual sites. More information is available from CMS on the [VBPP](#).

When an EHHCM system can help a hospital reduce HAIs and improve patient satisfaction through better outcomes and safer environments, the risk of having to suffer through Medicare/Medicaid funding penalties falls as well.

HELPFUL TIP:

The impact that improved hand hygiene compliance has on these penalties can vary, so pay special attention to what EHHCM vendors promise. Even with 100% compliance, hospitals may not be able to eliminate the potential for penalties.

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EHHCM systems may help hospitals

avoid funding penalties

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Direct Observation Program Savings

While the World Health Organization (WHO) recommends that acute care facilities use a combination of methods to calculate compliance, a hospital using EHHCM can cut back on their internal direct observation (DO) efforts, saving time and resources for the hospital. This is because EHHCM can perform the majority of 'observations' for the hospital, meaning the staff who were historically taken away from their normal duties to serve as the "secret shopper" can focus on their specific expertise within the facility, and the hospital doesn't need to fund an extra headcount to perform DO. It is advised to continue some DO because it affords situational coaching and is still the only method that can track all 5 moments of hand hygiene, but by using EHHCM systems, DO efforts can be reduced since compliance is driven by the data the system captures.

HELPFUL TIP:

While the WHO recommends the use of both direct observation and electronic monitoring, not all system vendors have the capability to support both methods of compliance monitoring. Ask if your EHHCM vendor has a direct observation solution they can provide you as well.



Intangible Value Drivers

As previously mentioned, intangible value drivers can be less concrete and more difficult to measure. However, it is generally accepted that they provide a positive impact to hospitals and are an important consideration when evaluating an EHHCM solution. Some intangible value drivers include:

Success of Solution Installation and Implementation

Just because a system has been purchased doesn't mean it is being used to its full advantage. A strong EHHCM solution provides strong training for staff and expert service to ensure the system is functioning as designed.

Continuous Improvement Through Positive Reinforcement

To make any lasting change, the right EHHCM system should use positive reinforcement to ensure the desired behavior change sticks, both for the sake of the patients being treated and for the morale of the staff using the system.

A Consistent Patient Standard of Care Protocol

A good EHHCM system empowers staff to continue to use their hospital's existing hand hygiene protocol. It should integrate with their existing processes so that they can focus on patient care rather than the adoption of a new, potentially challenging, process.

Staff Satisfaction Due to Ease of Use

When an EHHCM system works well, it's so simple to use that it becomes part of their normal workflow allowing them to learn the system quickly.

The Knowledge that Staff Are Working in a Safe Work Environment

Healthcare workers have a very important job, and these EHHCM systems are meant to enable them to continue working in a safer manner without fear that they will infect their patients, themselves, or their family and friends at home.

Staff Understanding of What "Being Tracked" Means

Some EHHCM systems only track employees as they interact with patients, rather than tracking all movements and exact locations of staff around the hospital, which may be considered an invasion of privacy.

EHHCM solutions provide
**strong training
and expert
service**



Conclusion

Improved hand hygiene through electronic hand hygiene compliance monitoring provides hospitals with the opportunity to realize not only the tangible benefits of reduced HAIs and costs, but intangible values that can alter the culture and performance of its operation for years to come. As you evaluate different EHHCM solutions, consider factors beyond the initial cost to ensure the one you select provides a strong, holistic return on investment for your facility.

The Ecolab Hand Hygiene Compliance Monitoring System

The Ecolab Electronic Hand Hygiene Compliance Monitoring (EHHCM) System is a complete offering that helps hospitals monitor and standardize hand hygiene compliance while driving measurable clinical, operational and financial value. Ecolab's EHHCM allows hospitals to accurately record hand hygiene events by individual, driving a 2x average improvement in hand hygiene compliance from a hospital's average observed baseline of 35-45%, resulting in sustained post-implementation levels of 80-90%. By arming healthcare workers with a badge and patient beds with monitors, the system tracks when a healthcare worker approaches a patient and reminds them via a subtle beep and blinking light when they have forgotten to wash or sanitize their hands. Customizable, clinician-friendly dashboards collect data, allowing hospitals to lead process improvements where they are needed most.



To learn more,
visit www.ecolab.com/compliancemonitoring

Ecolab Healthcare

Ecolab, a global leader in infection prevention and environmental hygiene, is driven to help health systems and hospitals realize clinical, operational and financial value through repeatable and measurable workflows. Our products, training, consultative service, standardized processes and digital dashboards provide actionable insights and opportunities for corrective actions that help reduce the costs and inefficiencies of infections, while improving margins and keeping patients and staff safe.

www.ecolab.com/healthcare

1. Centers for Disease Control and Prevention. Hand Hygiene in Healthcare Settings 2018. <https://www.cdc.gov/handhygiene/index.html>
2. Agency for Healthcare Research and Quality: <https://ahrq.gov/professionals/quality-patient-safety/cusp/clabsi-final-companion/clabsicomp4c.html>
3. Used in Calculator-Range estimates for additional cost for extending length-of-stay - default to \$2143 <https://www.kff.org/health-costs/state-indicator/expenses-per-inpatient-day-by-ownership/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>