Translating Infection Prevention and Control Initiatives Into Dollars and Sense

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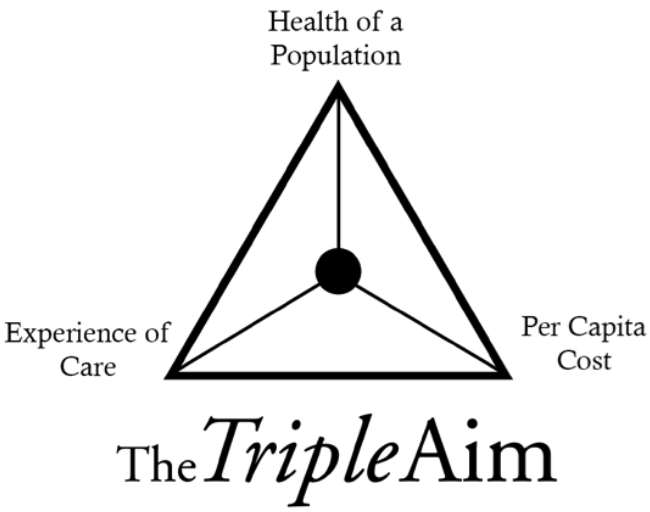
Background

Infection Prevention and Control has for many years been referred to by financial colleagues as "soft costs," yet in reality the prevention of Healthcare Associated Infections (HAIs) is a very serious matter and associated with significant cost savings. As healthcare reform efforts continue to evolve, there is an increasing focus on reducing the cost of care delivery. This is highlighted in the Institute for Healthcare Improvement's Triple Aim model as pictured below (Figure 1).[1] The prevention of HAI's has been identified as a tremendous cost savings by many scientific sources, and significant progress has been made according to a recent report released by the US Centers for Disease Control and Prevention (CDC).

Figure 1: Institute for Healthcare Improvement Triple Aim



Source: Institute for Healthcare Improvement

The CDC progress report on HAI Prevention has indicated some positive momentum in the fight towards achieving zero HAIs. There is, however, still significant room to grow.

It is estimated that one out of every twenty five hospitalized patients will contract an HAI. In the United States, the major sites of infection as identified by the new report include:

- Pneumonia
- Gastrointestinal Illness
- Urinary Tract Infections
- Primary Bloodstream Infections
- Surgical Site Infections from any inpatient surgery
- Other Types of Infections[2]

One of the most significant challenges facing Infection Prevention as well as healthcare in general is the threat of Antimicrobial Resistance. It is estimated that 50% of hospitalized patients receive some type of antimicrobial therapy during their hospitalization, which can potentially contribute to antimicrobial resistance. The cost of treating a patient with a pan resistant infection can be astronomical, and result in significant mortality and morbidity to the affected patient.[3]

Figure 2: Estimates of Healthcare-Associated Infections Occurring in Acute Care Hospitals in the United States

Estimates of Healthcare-Associated Infections Occurring in Acute Care Hospitals in the United States, 2011

MAJOR SITE OF INFECTION	ESTIMATED NO.
Pneumonia	157,500
Gastrointestinal Illness	123,100
Urinary Tract Infections	93,300
Primary Bloodstream Infections	71,900
Surgical site infections from any inpatient surgery	157,500
Other types of infections	118,500
Estimated total number of infections in hospitals	**721,800**

Source: US Centers for Disease Control and Prevention

Examples of Success and Best Practice in the Business Case for Infection Prevention

It is well documented that Hand Hygiene is the most important Infection Prevention initiative to reduce infection transmission, but many facilities spend thousands to millions of dollars annually in delivering clinical education programs to the healthcare delivery team. Most of this education is not well received as it focuses on meeting a regulatory or compliance requirement rather than ensuring a full understanding by the clinician. The cost of hand hygiene is minuscule in proportion to the total cost for an Infection Prevention Program, but the return on investment is tremendous when hand hygiene is the properly adhered to fully across the entire delivery system. The key to success is total adoption by every member of the care delivery team.

In a pediatric facility where the estimated internal cost of Central Line Associated Bloodstream Infections (CLABSIs) was estimated to be roughly $35,000, the impact of adhering to basic insertion and maintenance evidence-based bundles is impactful both financially and for improving patient outcomes. With an estimated average mortality of 25%, that translates to one out of every four patients that develops a CLABSI will not survive the event. These largely preventable infections can be mitigated by hard wiring the infection prevention process for both insertion and maintenance practices. The below is a sample cost benefit analysis based on annualized figures:

Cost of Hand Hygiene Program:	$30,000
Cost of Clinical Training on CLABSI Prevention:	$10,000
Cost of Infection Prevention Products for CLABSI Prevention:	$50,000
Total Cost of Infection Prevention Program for CLABSI:	**$90,000**
Total Cost of CLABSI Infection (Facility Estimate per case):	$35,000
Total Number of CLABSI Infections Annually:	43
Total Cost of CLABSI Infections for Facility:	**$1,505,000**
Benefit of CLABSI Prevention Program in Risk Mitigation (If Fully Implemented at the Bedside Throughout Facility)	**$1,415,000**

As demonstrated in the cost benefit analysis above, there is not only a significant return on investment for the initial cost of a comprehensive, unit-based CLABSI infection prevention program, but also a marked improvement in reducing unnecessary mortality and morbidity. Partnership and ongoing discussions with the C-Suite, particularly the Chief Financial Officer, are required to articulate the preventive value of Infection Prevention to senior executives and the Board of Directors. Building a detailed business case for Infection Prevention initiatives also creates opportunities to justify additional resources or new technologies for the Infection Prevention and Control program.

Conclusion

Infection Prevention has evolved into a collaborative specialty that is able to uniquely reach across disciplines and encourage cross-functional communication. Given one of the tenets of healthcare reform and payment reform is decreasing the cost of care delivery, the prevention of HAIs certainly is a component of this institutional strategy. It is critical for Infection Preventionists to work across all departments and disciplines and clearly articulate the business case for Infection Prevention. Rather than focus on the prevention of HAI transmission, there are many opportunities to prophylactically focus on the prevention of the pathogen itself instead. This approach will save time and money, and yield more positive results for patients across all spectrums of healthcare delivery.

About the Author:

Mrs. DeBaun has over twenty years of experience in healthcare in the fields of Infection Prevention and Quality/Performance Improvement. She is a frequent lecturer on a variety of infection prevention and healthcare quality topics. She holds a Master's Degree in Nursing, and is a member of the APIC National Board of Directors.

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