

## Making Sure Hospitals Heal – Not Harm

### The California Healthcare-Associated Infection Prevention Initiative

#### Hospital-Acquired Infections: A Leading Cause of Death in the U.S.

Each year across the nation, nearly one in 20 patients acquires an infection during their hospital stay. Of the 1.7 million people who suffer from hospital-acquired infections (HAIs) annually, 99,000 die, making it a leading cause of death in the United States, more than AIDS or auto accident deaths each year. What makes the problem so tragic is that a large number of these infections are preventable.

In recent years, this widespread public health problem has captured the attention of consumer organizations, state legislatures, and the media, who are shining a spotlight on the unnecessary burden, pain, and suffering associated with HAIs, as well as the heavy financial toll.

In California, an estimated additional \$2.2 billion in costs are reimbursed each year due to these deadly, yet preventable, breakdowns in the care process. Nationwide, HAIs account for:

- Half of all hospital-related complications
- An additional average cost of \$11,260 in treatment per case
- An additional 8.1 days extra length of stay per case
- Five percent of patient deaths (9,000 deaths per year in California and 99,000 per year nationwide)
- Additional treatment costs estimated at \$20 billion per year

Annually, 99,000 Americans die from hospital-acquired infections, making it a leading cause of death in the United States.

### Why Do Hospital-Acquired Infections Occur?

Multiple factors contribute to hospital-acquired infections, putting patients at risk. These include medical personnel inadvertently exposing patients to pathogens through contact and invasive procedures such as intubation, extended ventilation, and urinary catheterization.

The physical layout of hospitals can also be a factor — for example, how close beds are to one another or the state of ventilating systems. The nurse-to-patient ratio also comes into play, as well as the condition of patients themselves (e.g., severity of illness, the strength of their immune system, and length of stay).

Many of these factors stem from reoccurring and entirely preventable processes in hospitals, such as poor sterilization and improperly cleaned equipment. These solutions are typically straightforward and inexpensive. The real challenge is identifying early on where and when these breakdowns occur.

### Taking Aim at Hospital-Acquired Infections

HAIs can be prevented through greater awareness, adherence to guidelines, better monitoring, and early intervention. This can range from establishing “best practice” protocols for hand-washing, the timely administration of antibiotics, and the more judicious use of catheters.

Many organizations, including the Centers for Disease Control and Prevention, have released guidelines designed to help hospitals prevent and better manage HAIs. Hospitals themselves have made quality improvement a priority. For example, the California-based National Health Foundation's Sepsis Collaborative and the national Institute for Healthcare Improvement's 5 Million Lives Campaign are fostering peer learning and best practices aimed at infection prevention.

Since 2005, Blue Shield of California Foundation has provided over \$4 million in grants to support these and other efforts focused on HAI prevention and hospital quality improvement.

Innovative technology has also been key. Several states — including California, Alabama, Texas, New Jersey, New York, and Pennsylvania — have launched voluntary hospital quality initiatives using state-of-the-art



HAI monitoring and surveillance technology that quickly detects emerging problem areas so quality improvement interventions are applied where and when they are most needed.

### Healthcare-Associated Infection Prevention Initiative

This integrated approach is at the heart of California's Healthcare-Associated Infection Prevention Initiative (CHAIFI). Launched in June 2005, and the first of its kind in the nation, the initiative sets out to reduce illness and death associated with HAIs in 11 California hospitals. CHAIFI is funded by Blue Shield of California Foundation and is a partnership among the Foundation, California hospitals, and Cardinal Health – MedMined.

Working with experts in the field of hospital infection control, CHAIFI pioneered a comprehensive technology services model that automatically identifies and tracks infection outbreaks early on. The Initiative also tracks antibiotic resistance at the local and state levels, mines data to identify opportunities for intervention, and holds quarterly meetings with health experts and practitioners to share best practices.

An evaluation of CHAIFI in its first 18 months showed more than 600 lives were protected.

### CHAIFI Participating Hospitals

California Hospital Medical Center, City of Hope National Medical Center, Enloe Medical Center, Kaiser Foundation Hospital in Fontana, Mission Hospital Regional Medical Center, Saint Agnes Medical Center, San Francisco General Hospital Medical Center, Santa Barbara Cottage Hospital, and University of California, San Francisco Medical Center.

### Promising Results

CHAIFI's comprehensive and proactive approach is demonstrating results:

- An evaluation of its first 18 months showed more than 600 lives were protected through effective prevention.
- Across all the participating hospitals, the overall rate of hospital acquired infections dropped 3.2 percent, including declines in blood, respiratory, and urinary infections.
- Some hospitals reported dramatic reductions of 10-15 percent.

The results in financial savings were equally striking:

- Among CHAIPI hospitals, reductions in HAIs resulted in 4,641 fewer hospital days and \$2,163,437 in bottom-line savings.
- In all, the initial investment in CHAIPI has generated a minimum five-fold return in costs avoided, for a total of more than \$9 million.

In just 18 months, CHAIPI has shown that automated reporting, prevention and surveillance technology can help decrease HAIs. The initiative has also set a promising precedent for future efforts to improve quality of care and contain healthcare costs.

### A Path to Policy Change

Medicare's recent announcement that it will no longer cover costs for treating preventable errors, injuries, and infections that occur in hospitals has created dramatic ripple effects across the healthcare industry. This policy change from our nation's largest payer sent a strong signal to hospitals about the importance of HAI prevention — and could save millions of Medicare dollars and thousands of lives each year. Many private insurers are now considering similar changes.

On the state level, 19 states have laws requiring some form of public reporting of HAI data, infection rates, or other medical errors, with the goal of measuring, preventing, and reducing HAIs. An early pioneer is Pennsylvania, which appointed a statewide council a few years ago to collect and report data on hospital-acquired infections from 168 hospitals. Pennsylvania is unique for mandating public reporting of hospital infection rates.

This type of standardized reporting has been strongly championed by consumer groups and others, although many of these efforts have been challenged by the lack of widely-endorsed, standardized HAI measures. The National Quality Forum — the standard bearer for hospital and physician quality measures — is studying HAI measures and is expected to issue a report on its findings in 2008.

Public reporting initiatives like Pennsylvania's are equally challenged by the lack of consistency among hospitals in identifying HAIs and the time needed to count them. One of CHAIPI's goals has been to electronically



streamline HAI tracking among different participating facilities, in addition to providing a comprehensive HAI count. Meanwhile, data from Pennsylvania's first-ever statewide public report of HAIs should be analyzed to examine the impact of public reporting on HAI rates and prevention over time.

### Looking Ahead

Preventing HAIs on a large scale for hospitals and patients alike will ultimately require a multi-pronged approach that harnesses the following:

- Technological innovation
- Focused quality improvement efforts among hospitals
- Payer policies that provide hospitals with incentives to minimize and avoid HAIs
- Public policy that measures and prevents HAIs
- Increased public and media awareness of the problem — and the solutions

Progress is being made, but much more work needs to be done. California's Healthcare-Associated Infection Prevention Initiative, for example, reduced HAIs by 3.2 percent, but in the same 18-month period, nearly 11,400 infection cases occurred at its participating hospitals. Increasing public awareness and continuing to shine the spotlight on the pervasive threat of HAIs — and what we can do to stop them — will hopefully galvanize hospitals to improve prevention practices.

Ultimately, policymakers, hospitals, healthcare professionals, payers, and patients must work together to reduce the burden and suffering of these unnecessary and preventable, life-threatening infections.

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