

A SUCCESS STORY IN AMERICAN HEALTH CARE:

Eliminating Infections & Saving Lives in Michigan

The Quality and Safety of Health Care in the United States

Improving the quality and safety of health care is a key part of health reform. Improving the quality of care will improve the health of all Americans and avoid unnecessary costs.

The American health care system, which spends more per patient than any other health system in the world, still has an unacceptably high number of medical errors. Estimates indicate that nearly 100,000 patients die each year from medical errors in the United States.¹ At the same time, patient safety measures have worsened by nearly 1% each year for the past decade.²

Part of this decline in patient safety stems from a rise in diagnosed health care associated infections (HAI) – infections that patients acquire during the course of their stay in a health care setting, such as a nursing home or a hospital.³

Health care associated infections are among the top ten leading causes of death in the United States. Such life-threatening infections significantly drive up the cost of health care by nearly \$28 to \$33 billion per year.⁴

A Success Story for Patient Safety
The Michigan Keystone ICU Project saved over 1,500 lives and \$200 million by reducing health care associated infections.

One recent success story is the Michigan Keystone Intensive Care Unit (ICU) Project, a partnership between the Michigan Health & Hospital Association and Johns Hopkins University.⁵

As the provision of health care has become more advanced, the ICU has become a crucial part of health care delivery in the United States. It is also one of the most complex and expensive environments for patient care. The Institute of Medicine has reported that nearly every patient admitted to an ICU experiences some type of complication during his or her stay.⁶ The goal of the Michigan Keystone ICU Project was to make patient care safer in over 100 ICUs in the state of Michigan.



Source ⁸

The project targeted a specific type of infection that ICU patients can get while in the hospital – catheter-related bloodstream infections.

These infections are expensive and potentially lethal. They add approximately \$18,000 to the cost of care when a patient contracts them, and cause 24,000 deaths per year.⁷

The Keystone Project sought to change clinicians' behaviors when inserting catheters into ICU patients. To do so, the team made a checklist, measured infection rates, and changed hospital culture. The checklist's components consisted of hand washing; using a cap, gown, and mask; cleaning the patient's skin with a disinfectant; avoiding placing catheters near the groin; and removing unnecessary catheters.

These five steps were associated with a 66-percent reduction in these infections throughout the state, saving over 1,500 lives and \$200 million in the first 18 months alone.⁸ This work was funded by a grant from the Agency for Healthcare Research and Quality, and for every dollar invested, approximately \$200 was saved.⁹

The Keystone Project is more than the story of a simple tool like the checklist making a dramatic impact. It is the story of complex organizational change across an entire state – changing the attitudes and practices of doctors and nurses, creating incentives for cooperation, partnering with the state hospital association, and creating a social network amongst participating hospitals in Michigan to share best practices.

The lessons learned as a result of this work offer many ideas and opportunities for future initiatives to improve quality and patient safety in the United States.

The Future

Building on the success of The Keystone Project, President Obama and Secretary Sebelius have made combating health care associated infections a priority.

Through the American Recovery and Reinvestment Act (ARRA), the U.S. Department of Health and Human Services has made \$50 million in grants available for states to help fight health care associated infections across the country.



Source ⁹

Secretary Sebelius has called on hospitals across America to commit to reduce Central Line Associated Blood Stream Infections in Intensive Care Units by 75 percent over the next three years by using the same checklist that has shown such success in Michigan.

The Department of Health and Human Services has launched “Hospital Compare” (www.hospitalcompare.hhs.gov), a consumer-oriented website that provides information on how well hospitals provide care to their patients with certain medical conditions, including care related to the prevention of infections.

Now, we must build on our progress. We need to enact health reform this year to improve the quality and safety of patient care in the United States. And we need to ensure that success stories like Michigan become commonplace in states and communities across America.

Sources

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- 1 Kohn KT, Corrigan JM, Donaldson MS. *To Err Is Human: Building a Safer Health System*. Washington, DC: National Academy Press; 1999.
- 2 Agency for Healthcare Research and Quality. *National Healthcare Quality Report 2008*.
- 3 Agency for Healthcare Research and Quality. *National Healthcare Quality Report 2008*.
- 4 Scott DR. *The Direct Medical Costs of Health care-Associated Infections in US Hospitals and the Benefits of Prevention*. Centers for Disease Control and Prevention, March 2009. Available at http://www.cdc.gov/ncidod/dhqp/pdf/Scott_CostPaper.pdf
- 5 Gawande A. The checklist: if something so simple can transform intensive care, what else can it do? *The New Yorker*. 2007 Dec 10:86-101.
- 6 Kohn KT, Corrigan JM, Donaldson MS. *To Err Is Human: Building a Safer Health System*. Washington, DC: National Academy Press; 1999.
- 7 Perencevich EN, Pittet D. Preventing Catheter-Related Bloodstream Infections: Thinking Outside the Checklist. *JAMA*. 2009;301(12):1285-1287.
- 8 Pronovost P, Needham D, Berenholtz S, Sinopoli D, Chu H, Cosgrove S, Sexton B, Hyzy R, Welsh R, Roth G, Bander J, Kepros J, Goeschel C. An intervention to decrease catheter-related bloodstream infections in the ICU. *The New England Journal of Medicine*. Dec 28 2006; 355(26): 2725-2732.
- 9 Pronovost P. Testimony Before the House Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies. Hearing on Health care-Associated Infections. April 1, 2009. Available at: http://appropriations.house.gov/Witness_testimony/LHHS/Peter_Pronovost_04_01_09.pdf