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An Overview of Infection Control and Patient Safety in the Era of "Never Events"

This four part HC Topics Series: Infection Control and Patient Safety in an Era of Never Events, examines the history and development of patient safety and infection control within the context of current regulations regarding mandatory public reporting and the impact of "*never events."* This first article reviews the history of infection control and provides an overview of the current patient safety environment. Future articles in the series will delve more deeply into various regulatory and reimbursement aspects of "*no pay events*"; mandatory reporting; and, the effects of current regulation on stakeholders in the healthcare delivery system.

The roots of infection control in healthcare date back to medieval times when diseases, such as the bubonic plague and smallpox, ran rampant; where surgery was performed without anesthesia; and, earthworms and snake flesh were used as treatments. Throughout the centuries, the healthcare industry discovered hand hygiene; asepsis; disinfection; and, vaccination, all associated in evidence-based literature with decreases in infection rates, morbidity and mortality.[1] The concept of a line listing of hospital infections first occurred in the post-World War II era, but it wasn't until the 1970s that the *National Nosocomial Infection Surveillance System* (*NNIS*) was created to facilitate the collection and analysis of infection control data to create national benchmarks.[2] It was in 1976 that the *Joint Commission* (fka *Joint Commission on Accreditation of Healthcare Organizations*) mandated that hospitals establish an infection control program. The first time a national reporting mechanism for hospital-acquired infections was developed was in the mid-1980's.[3] The Institute of Medicine's (IOM) landmark report "*To Err is Human*", published in 2000, cited several case studies and examples of preventable medical errors in hospitals across the country, and called for the industry "*…to break the cycle of inaction*" in order to improve the safety and quality of care delivered at hospitals. The IOM Report's recommendations included the development of both mandatory and encouragement of voluntary public reporting efforts. [4] Today, despite advances in treatment, practice, and technology across various fields of medicine, hospitals throughout the U.S. still struggle to reduce nosocomial infection rates and improve other quality-driven process and outcome measures.

In 1995, The Joint Commission established voluntary reporting of "*sentinel events*", defined as "*…unexpected occurrence[s] involving death or serious physical or psychological injury, or the risk thereof*."[5] From 2004 through 2012, almost 7,000 sentinel events were investigated by The Joint Commission, approximately 67% of which were self-reported.[6] It was not until after the publication of the IOM Report "To Err is Human" that the U.S. began to observe agencies implementing reporting forums and requiring tracking of various healthcare quality metrics. In response to the request for additional patient safety metrics, the *National Quality Forum* (*NQF*) developed a list of 27 *Serious Reportable Events (SRE)* in 2002, ranging from wrong site surgery to patient suicide and healthcare acquired stage 3 or 4 pressure ulcers.[7] This list was updated in 2006 and 2011, and currently consists of 29 SREs.[8] Following the creation of SREs, Congress passed the Deficit Reduction Act of 2005, which included a rule that certain designated hospital-acquired infections would be considered "*no pay*" events beginning on October 1, 2008.[9] The *Centers for Medicare and Medicaid Services (CMS)* titled these infections *Hospital Acquired Conditions (HAC)*, of which there are currently 14, including: falls resulting in trauma; blood incompatibility; catheter-associated urinary tract infections; and, various surgical site infections.[10] SREs and HACs together form a category entitled "*never events*", i.e. events that are considered to be "*largely preventable*" and unacceptable in an era of growing concern for patient safety and risk reduction.[11] Additional quality indicators have been developed by other professional organizations and national healthcare quality associations, some of which will be discussed in this series.

In 2005, the NNIS was revamped and renamed as the *National Healthcare Safety Network* (*NHSN*),[12] tasked with continuing the work of NNIS in addition to expanding the analytical and public reporting capabilities for participating healthcare entities. Today, NHSN is utilized by over 11,000 healthcare enterprises across the U.S., and consumers may view reported data on the Hospital Compare website.[13] In addition, many states currently require the reporting of one or more HAIs to NHSN. The types of interventions and successes in infection prevention for individual states can be viewed on the *Centers for Disease Control and*

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Prevention (*CDC*) website.[14] Consumers today can view multitudes of healthcare data, including physician "*ratings*" and several metrics related to hospital quality and safety. In May 2013, *Consumer Reports* released a report that "*graded*" hospitals across the U.S. on safety measures using publicly reported quality and safety data. Of note is that the highest score, on a 100-point scale, was only a 74.[15]

Despite the growing attention on improving patient safety and quality of care from healthcare policymakers, providers, and consumers alike, many healthcare facilities across the U.S. continue to struggle with the prevention of adverse events. As noted in a 2011 Health Affairs article, "*What has eluded us…is maintaining consistently high levels of safety and quality over time and across all health care services and settings…Along with some progress, we are experiencing an epidemic of serious and preventable adverse events*."[16] In November 2010, the Office of the Inspector General released a report regarding the incidence of "*never events*" among Medicare beneficiaries, which indicated that 13.5 percent of Medicare beneficiaries experienced an adverse event as a hospital inpatient, 44 percent of which were determined to be preventable.[17] Of note, less than one percent of adverse events were attributable to the NQF SRE or CMS HAC lists,[18] suggesting that despite the recent growth in reporting of quality measures, many potentially preventable adverse events still remain unnoticed within the context of the current regulatory and reimbursement environments. Subsequent articles in this series will further describe the complexity and challenges for infection control and patient safety within the context of the current healthcare marketplace, and its impact on various stakeholders in the industry.

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[3] *Ibid*, Philip Smith, Kristin Watkins, and Angela Hewlett, 2012, 40-41

[4] "To Err is Human: Building a Safer Health System: Executive Summary", Institute of Medicine, 2000, p. 3, 9-10

[5] "Sentinel Event Policy and Procedures", The Joint Commission, December 6, 2012, www.jointcommission.org/Sentinel_Event_Policy_and_Procedures/default.aspx?print=y (Accessed 5/19/2013)

[6] "Summary Data of Sentinel Events Reviewed by The Joint Commission", The Joint Commission, December 31, 2012

[7] "Serious Reportable Adverse Events in Health Care", by Kenneth Kizer and Melissa Stegun, Advances in Patient Safety, 2005, Vol. 4, p. 343-345

[8] "Serious Reportable Events in Healthcare—2011 Update: A Consensus Report", National Quality Forum, 2011, p. 5-12

[9] "Deficit Reduction Act of 2005" Public Law 109-171 (February 8, 2006), p.30.

[10] "Hospital-Acquired Conditions (HAC) in Acute Inpatient Prospective Payment System (IPPS) Hospitals", Centers for Medicare and Medicaid Services, October 2012, p. 1-4

[11] "Clarifying 'Never Events' and Introducing "Always Events'", by Alan Lembitz and Ted J. Clarke, Patient Safety in Surgery, 2009, Vol. 3, No. 26, p. 26

[12] "Infection Surveillance, Prevention and Control Program (ISPC): Brief History", by the Association for Professionals in Infection Control, EPI:101 Course, p. 3, 5

[13] "About NHSN", Centers for Disease Control and Prevention, www.cdc.gov/nhsn/about.html (Accessed 5/21/13)

[14] "State-Based HAI Prevention", the Centers for Disease Control and Prevention, http://www.cdc.gov/hai/state-based/index.html (Accessed 5/21/13)

[15] "Safety Still Lags in U.S. Hospitals", by Consumer Reports Magazine, May 2013, http://www.consumerreports.org/cro/magazine/2013/05/safety-still-lags-in-u-s-hospitals/index.htm# (Accessed 5/21/13)

[16] "The Ongoing Quality Improvement Journey: Next Stop, High Reliability", by Mark R. Chassin and Jerod M. Loeb, Health Affairs, Vol. 30, No. 4 (2011, p. 562-563

[17] "Adverse Events in Hospitals: National Incidence Among Medicare Beneficiaries", by the Office of the Inspector General, OEI-06-09-00090, November 2010, p. i-ii

[18] *Ibid*, Office of the Inspector General, November 2010, p. 17-18

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Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA, serves as Chief Executive Officer of **HEALTH CAPITAL CONSULTANTS** (HCC), a nationally recognized healthcare financial and economic consulting firm headquartered in St. Louis, MO, serving clients in 49 states since 1993. Mr. Cimasi has over thirty years of experience in serving clients, with a professional focus on the financial and economic aspects of healthcare service sector entities including: valuation consulting and capital formation services; healthcare industry transactions including joint ventures, mergers, acquisitions, and divestitures; litigation support & expert testimony; and, certificate-of-need and other regulatory and policy planning consulting.

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