

CEOs: Meet Your New Revenue Preservation Officer...Your PSO!

Charles R. Denham, MD

Value-based purchasing (VBP) is a good news-bad news proposition for hospital leaders and patient safety leaders. The good news for Chief Executive Officers (CEOs) is that they will appreciate the value of patient safety in the financial language they understand. The bad news, for those who have not adequately invested in patient safety, will be the impact of such investment shortfalls. The good and bad news for patient safety officers (PSOs) is that their work will come into the intense spotlight of financially concerned administrative leaders, whether the PSO is prepared ... or not. The new payment trends will make the PSO a prime mover in preserving existing revenue streams that are the very lifeblood of the hospitals.

The relatively calm seas of the no margin-no mission era are receding, and the first signs of the no outcome-no income era are arriving with a wave of unopposed and awesome power. Those who believe the impact is merely the reimbursement at play for the first few "no pay" conditions may be missing the changing tide that they represent.

Many hospital teams will be caught behind this curve, in that many are already overwhelmed with the challenges of the day. CEOs and governance boards familiar with the many national initiatives launched in the past few years have felt that they are keeping up; however, the speed, breadth, and depth of the impact of changes in payment tied to quality may shock even the best prepared. Not so much for what they are today, but what they represent as an accelerating disruptive model of the future.

The formal and informal relationships between patient safety leaders and CEOs in many organizations have typically been of an information-sharing nature centered on communication regarding programs and external reporting. These relationships will likely change. For the first time, patient safety leaders will be thrust into the harsh arena of operational finance. They will have to stand and deliver actionable information that can affect the near-term economic success of the organization, as well as its brand image.

Certain questions will have to be asked and answered, such as:

- How will the new payment trends really affect our hospital?
- What is the financial risk we bear in the next 12 months and beyond?
- What can we do to reduce our risk? The big three follow-on questions regarding impact programs are: Can we do it, what will it cost, and will it be worth it?
- Why were we not better prepared for this?
- What is our risk to our brand? How will our numbers be reported?
- What, when, and how will we be measured? Who must be made accountable?
- Does a passive approach to patient safety really create a compounding debt that will have to be paid—is this merely rhetoric or reality? How can this be monetized?
- How can patient safety leaders *really* have an impact on revenue preservation?

Patient safety leaders, potential future safety leaders, the whole C-Suite of officers, and governance leaders are going to want to know how the changes will affect them in the

From the Texas Medical Institute of Technology, Austin, Texas.

Funding support for this session was provided by Texas Medical Institute of Technology.

Correspondence: Charles R. Denham, MD, TMIT, 3011 North Inter-regional Highway-35, Austin, TX 78722 (e-mail: Charles_Denham@tmit1.org).

Copyright © 2008 by Lippincott Williams & Wilkins

future. Is this pay-for-performance tsunami warning just another flavor-of-the-month false alarm?

OUR PAST—RAMP UP REVENUE, CUT COSTS, AND DELEGATE SAFETY

The intense financial focus of hospital CEOs needs no emphasis. Surveys continue to underscore that financial concerns eclipse those of quality and safety.¹ As the revenue generated per unit-of-care keeps going down, and the cost to deliver that unit keeps going up, we would expect nothing less than fiscal concern. However, single-minded margin-driving behaviors of our less sophisticated hospital leaders, which consists of ramping up revenue and silo cost cutting, will be more and more risky. Historically, the easiest way to drive the margin number for a given calendar quarter is to cut variable short-term costs of workforce, travel, safety, and infection control because fixed costs and technologies cannot be so easily cut. In the past, we had “quality-blind purchasers” of our health care product. Uncharacteristic for a free market economy, it provided no consequences to trading quality for margin. This era has clearly ended.

One could argue that some administrative leaders have developed what instrument-trained pilots in aviation refer to as “fixation.” This happens when one focuses on a single performance indicator at the expense of all others. When pilots fixate, or “chase the needle,” they can create self-induced oscillations, become disoriented, and even lose complete control of their airplane. Unfortunately, all too often our hospital pilots fixate on the “margin meter.” At best, they create their own self-induced oscillation cycles from cost-cutting to investment. At worst, they can chase the needle into the ground, losing sustainability and sacrificing the very bond ratings they prize so highly.

History may not be kind to the old-guard administrators who personally prioritized cost-cutting and revenue generation while delegating quality and patient safety to others down their food chain as a head-nod to compliance requirements. Reliance on historical behaviors may not be healthy strategy. In the words of Warren Buffet.²

“If past history was all there was to the game, the richest people would be librarians.”

Sentinel events and occurrences of the National Quality Forum (NQF) Serious Reportable Events³ (often called “never events”) are like the death of the proverbial canary in the mine. They forecast safety as more than just a cost of doing business. Over time, we are going deeper and deeper into the health care mine as we treat sicker and sicker patients faster and faster with more and more complex treatments. As the fragmentation of care grows, the reliability of our systems erodes, and the resilience of our care processes weakens.

Much has changed over the last 20 years. Few of our traditional administrators appreciate that the typical hospital has become an extremely dangerous and high-risk environment. As in Las Vegas, the odds are now stacked against us, and with enough traffic over time, the house always wins. In our case, the odds of systems failures grow by the day, and if left unchecked, our reliability degrades.

Further, when we neglect to invest in our systems of leadership, workforce, safety, and care process, we are generating a compounding debt of risk that eventually must be paid. Whether we pay the price through celebrated events or loss of certification, or roll into a slow-motion doom loop, the outcome is not bright.

Albert Einstein was truly baffled by the existence of compound interest—he could not fathom the logarithmic growth of compound interest with the linear passage of time, thus his famous comment⁴

“The most powerful force in the universe is compound interest.”

The compounding debt of safety risk is a silent business killer of hospitals which can spell financial death. It has only been hastened by the evolution of pay-for-performance programs. The odds of a hospital flourishing with a history of compromised or ineffective investment in quality and safety are dropping. Some will not be able to catch up on such debt no matter how hard they try—like a homeowner lulled into false security of a subprime mortgage market suddenly caught with escalating interest payments.

Formal and informal interviews of scores of hospital safety leaders dealing with exponentially growing transparency requirements reveal that they believe that their organizations are trading dollars for lives everyday, and that it will not be long before things will hit the transparency fan. Texas Medical Institute of Technology (TMIT) is studying the barriers with an ongoing research test bed of 3,100 hospitals.⁵ Scores of patient safety officers (PSOs) are currently being interviewed by TMIT to ascertain what “keeps them up at night” regarding their patient safety goals. The deeper they look, the more they find greater and greater compounding risk that can be overwhelming to them. At the same time, their biggest need is senior administrative sponsorship from the helm; yet many feel that no one on the bridge of their hospital ship is interested. They are burdened with growing accountability, little authority, and even fewer resources, especially as the national economy worsens.

OUR PRESENT—NO OUTCOME-NO INCOME TSUNAMI

In several papers, we used the concept of a tsunami as a metaphor to predict the impact of pay-for-performance. In deference to the terrible disaster in Thailand, we have not

frequently made this reference in the spirit of political correctness. However, with the passage of time, we now believe that we can revisit this concept.⁶⁻⁸

Under the sea of complexity that is health care, the tectonic plate of quality has fractured, sending continuous and growing shock waves to the surface, thus building a tremendous surge. This threat that was quietly building offshore has risen and is now upon us. The impact will truly be profound—this is not just a tide that will raise all boats.

The Centers for Medicare & Medicaid (CMS) is the world's largest purchaser of services and has made a profoundly high-impact move that heralds the imminent arrival of the no outcome-no income tsunami and the true beginning of the pay-for-performance era. As of October 2008, it will no longer pay for what it has defined as a certain number of hospital-acquired conditions (HACs) that evidence supports should be preventable.

In 2004, we stated that hospital business will move from a “no margin-no mission” era to a “no outcome-no income” era; hence, the name no outcome-no income tsunami.⁷

From the No Margin-No Mission Era to the No Outcome-No Income Era

Many hospital administrators in the past would repeatedly declare the “no margin-no mission” mantra, to encourage staff to maintain cost discipline. Most of our industry skeptics, and now even our constructive critics, believe that the reality has been that “margin *is* the mission.” Many hospital staff, fairly or unfairly, believe the same.

The series of events that has led to the VBP program will elevate our patient safety leaders and PSOs to more important status within their organizations and will define new roles and relationships for them. These events date back at least to the Balanced Budget Act which passed in 1997, followed by the Balanced Budget Reform Act in 1999 and the Budget Improvement and Protection Act of 2000.⁹

In 2005, when CMS published the CMS Quality Improvement Roadmap, it articulated its vision for health care quality—“the right care for every person every time”—and committed to care that is “safe, effective, timely, patient-centered, efficient, and equitable.”¹⁰

Medicare's payment systems historically have rewarded quantity, rather than quality of care, and have provided neither incentive nor support to improve the quality of care. Value-based purchasing, which links payment more directly to the quality of care provided, is a strategy that is envisioned to help transform the current payment system by rewarding providers for delivering high-quality, efficient clinical care.

This writer, who had been in a robust private medical practice for many years, had been lured by reinforcing messages from hospital leaders into the belief that CMS was led by out-of-touch bureaucrats who did not understand our business.

Our work with CMS leaders in many national venues and on national standards, such as the National Quality Forum “Safe Practices for Better Healthcare,”¹¹ has shown that this is far from the case. Extremely competent leaders of very qualified staff, such as Dr. Tom Valuck, who leads the CMS VBP initiative, clearly understand our business and are

dedicated to making it better. Dr. Valuck states that CMS is “using value-based purchasing to transform the Medicare program from simply being a passive payer of claims to an active purchaser of higher quality efficient health care.”¹²

From passive claims payer to active quality purchaser

Furthermore, the process that CMS uses to vet such standards is extraordinarily democratic. According to Dr. David Hunt (formerly a medical officer in the office of Clinical Standards and Quality of CMS, currently a contributor to the NQF Safe Practices, and now the Chief Medical Officer of the Office of Health I.T. Adoption, Office of the National Coordinator of Health IT, HHS), “Few at the front line understand that the federal government listens to citizens, and every vote counts—perhaps even more than a personal audience with leaders. The formal input to such rulings is carefully reviewed, and responses are developed, because there are checks and balances in place to ensure that public responses are the evidence that agencies have of their behaviors for congressional oversight.” [Oral Communication, June 27, 2008]

The Centers for Medicare & Medicaid has launched VBP initiatives in hospitals, physician offices, nursing homes, home health services, and dialysis facilities through a number of public reporting programs, demonstration projects, pilot programs, and voluntary efforts.

The historical context to VBP includes Congress passing Public Law 109-171, the Deficit Reduction Act of 2005 in 2006, which under Section 5001(b) authorized CMS to develop a plan for VBP for Medicare hospital services commencing Fiscal Year (FY) 2009 (October 2008). In addition, the Deficit Reduction Act specified new requirements for Medicare's reporting hospital quality data for annual payment update program, which is a pay-for-reporting program using Medicare payment as an incentive for hospitals to report on the care they provide to all adults, regardless of payer. As originally mandated under the 2003 Medicare Modernization Act, the hospital quality data for annual payment update provision required that Prospective Payment Systems (PPS) hospitals report on a specified set of 10 clinical performance measures in order to avoid a 0.4 percentage point reduction in their annual payment update for inpatient hospital services. Hospitals have been submitting performance data under this provision since 2004.

The impact of the decision to no longer pay for the additional costs generated at hospitals for certain HACs, beginning in October of 2008, truly represents more than a subtle rising tide, and is only the beginning of the no outcome-no income tsunami that is bearing down on our U.S. hospitals.

Predictably, the private payers have leapt to join this storm surge by mirroring the CMS no-pay approach. No surprise, in that any non-payment funds will immediately drop

to the bottom line, because payers' premiums are based on historical costs that included paying for such conditions.¹³

As of October 2008, CMS will no longer assign a case to a higher DRG based on the occurrence of one of the selected conditions if that condition was acquired during hospitalization. The Centers for Medicare & Medicaid selected conditions that are (a) high-cost and/or high-volume; (b) assigned to a higher-paying DRG when present as a secondary diagnosis; and (c) reasonably preventable through the application of evidence-based guidelines. The conditions originally scheduled for October 2008 are: foreign objects retained after surgery, air embolism, blood incompatibility, stage III & IV pressure ulcers, falls and trauma, catheter-associated urinary tract infection, vascular catheter-associated infection, and surgical site infection (SSI)-mediastinitis after coronary artery bypass graft (CABG).¹⁴

Certain conditions are being considered for addition to this list—which many are calling the “CMS no-pay” conditions that could affect reimbursement again beginning October 2008—included ventilator-associated pneumonia (VAP), *Staphylococcus aureus* septicemia, methicillin-resistant *S. aureus* (MRSA), *Clostridium difficile*-associated disease (CDAD), SSI (following total knee replacement, laparoscopic gastric bypass and gastroenterostomy, ligation and stripping of varicose veins, legionnaires' disease, deep vein thrombosis (DVT)/pulmonary embolism (PE), glycemic control, iatrogenic pneumothorax (IP), and delirium. As of August 1, 2008, Glycemic Control, SSI and DVT were selected in the final rule.

The addition of additional HAC's to the CMS list has been hotly contested by many including safety leaders who challenge the wisdom and justice of not paying for the entire list when the evidence and utility of such an approach is not perfect. The issue of non-payment, evidence for preventability, and utility as an incentive will be an area of much debate and this should be; however what is very clear is that there is a tectonic shift under foot that will change how we do business. Safety leaders cannot sit back and wait until the dust clears – they must weigh into fray.

This is a dramatic reversal of financial incentives for hospitals, not immediately appreciated by those unfamiliar with hospital payment systems. Financial incentive is the biggest “elephant in the room” when it comes to discussions between finance and patient safety leaders. The deafening whisper in the back of some minds has been, “But why would we want to prevent something we get paid for?”

HACs: A Reversal of Fortune

The business fundamentals that drive margin are clear. Revenue minus cost equals margin when accounted for over the same time period. The reversal of fortune for hospitals is that they will no longer be paid for what purchasers deem to be preventable acquired conditions; yet it will take time to learn to prevent such conditions. Therefore, there is a 180-degree swing from revenue to cost—in “manufacturing speak.” Hospitals will have to pay for their own defects rather than passing them on to the purchaser.

Using an automotive repair example: an auto dealer repair department might charge the customer for the damage done

during repair, or it might charge the auto manufacturer as a warranty cost. Now, under these new rules, the dealer repair department must pay for its own repair-acquired damage, which results in a double impact on its own margin—dropping revenue while at the same time generating new and unavoidable cost.

The “double impact” of this phenomenon is unique to health care, in that we cannot just stop delivering services because we cannot control our repair-generated damage. These events happen to patients receiving our core business services.

Surprisingly, innovation adoption in health care is slow and weak. It takes as long as 17 years to adopt evidence-based practices, and even then our market penetration of such practices is less than 55%.^{6,15}

However, it is also surprising how quickly we are learning the new HAC vocabulary when quality defects hit our bottom line. Few hospital leaders are now unfamiliar with the concept of “HACs” or the concept of “present on admission” (POA). Basically, if the condition (HAC) is documented as present on admission, that will exempt the hospital from the VBP consequence of “no payment” for the up-code charge for care.

Although the true financial impact of non-payment of the HAC's is so small that it is what some might call “budget dust” compared to much larger financial issues, the change portends a future pattern.

FREQUENCY, SEVERITY, PREVENTABILITY, AND IMPACT OF BEST PRACTICE FOR HACs SCHEDULED FOR NONPAYMENT AFTER OCTOBER 1, 2008

Some events are high-volume and high-impact, some are low-volume and high-impact, and some are high-volume and relatively low-impact. The preventability and cost in suffering and dollars are key issues for hospitals.

All who are familiar with the data reported to CMS, state agencies, and surveyors such as The Joint Commission understand that under-reporting is extremely common. NSF Serious Reportable Events, often referred to as “never events” because they should never occur, are merely again “canaries in the coal mine” and an easy first step for purchasers to begin the no-pay process.

Keep in mind that the CMS frequency numbers only apply to patients covered by CMS. Another block of patients will be those covered by Health Maintenance Organizations (HMOs) and private insurers, which will bring the frequency number up.

Foreign Objects Retained After Surgery

In data reported by the Centers for Medicare & Medicaid Services for Fiscal Year 2007, there were 750 cases of foreign objects retained after surgery at a cost of \$63,631/hospital stay.¹⁶ In many cases in which a foreign object is unintentionally left behind, the offending item is removed and the patient recovers; however, unintentionally retained foreign bodies can lead to severe illness, and sometimes death, with mortality rates ranging from 11% to 35%.¹⁷ Retained foreign bodies can cause bowel perforations, organ damage, sepsis, and acute pain. Communication and teamwork systems are key leverage points which greatly impact preventability. Some practices to prevent these HACs include using X-ray-detectable

sponges, and—most basic of all—counting objects as they are removed from the surgical area.¹⁸

Air Embolism

In CMS FY 2007, there were 57 cases of air emboli at a cost of \$71,636/hospital stay. Preventability revolves around technique and risk mitigation through education activities. For instance, preventability, impacted by supine positioning of the patient during central venous catheter removal, is a critical intervention to prevent this HAC. Ensuring that the patient is adequately hydrated, and enlisting the participation of patients during CVC removal to increase intra-thoracic pressure and lessen the chance of air entering the subcutaneous tract of the CVC during removal are other important preventative measures for embolism. Finally, experts recommend that caregivers should note the importance of sealing off CVC wound sites to prevent air from entering the system.¹⁹

Blood Incompatibility

Out of approximately 4.9 million blood transfusions given per year,²⁰ there are approximately 539 cases of blood incompatibility, some life-threatening and some not. Life-threatening reactions occur in one of 80,000 transfusions or approximately 61 per year in the United States. Three factors that commonly lead to ABO incompatibility errors have been identified: mislabeling of the blood specimen for cross-matching, misinterpretation by the blood bank, and misidentification of the patient before blood transfusion. These are all considered to be preventable through proper labeling²¹ and other remedial measures.²² The average financial impact of each blood incompatibility has been estimated at \$6528 per case.²³ The Joint Commission has designated “hemolytic transfusions reactions involving administration of blood or blood products having major blood group incompatibilities” as a sentinel event.²⁴

Stages III and IV Pressure Ulcers

Pressure ulcers are both a high-volume and a high-impact event. In CMS FY 2007, there were 257,412 cases of stages III and IV pressure ulcers at a cost of \$43,180/hospital stay.²⁵ The U.S. pressure ulcer prevalence rate is approximately 15% in acute-care facilities.²⁶ Annual pressure ulcer treatment costs in the United States range from \$9.1 to 11.6 billion, with cost per pressure ulcers ranging from \$21,000 to 152,000.²⁷ A retrospective analysis of nosocomial pressure ulcer data has shown a 67% 180-day mortality rate for patients who develop full thickness pressure ulcers during acute hospitalizations.²⁸ Most pressure ulcers can be prevented, and deterioration at Stage I can be halted. The use of clinical practice guidelines can effectively identify patients and define early intervention for prevention.²⁹

Falls and Trauma

Another high-volume high-impact event, in CMS FY 2007, there were 193,566 cases of falls and trauma at a cost of \$33,894/hospital stay.²⁵ Up to 84% of all adverse inpatient incidents are fall-related,³⁰ and patient falls are the sixth most commonly reported sentinel event in the Joint Commission’s Sentinel Event database.³¹ It has been estimated that in the United States, falls cause approximately 250,000 hip frac-

tures.³² Fifteen percent of the elderly who fall and fracture a hip end up dying in the hospital, and 33% do not survive beyond 1 year after the fall.³³ More evidence is required to positively demonstrate the absolute impact of any given intervention on rate or seriousness of injury due to falls. However, it is apparent that risk assessment, combined with interventions that target reduction of multiple risk factors, is more effective than interventions that seek to eliminate a single risk factor.^{34,35}

Catheter-Associated Urinary Tract Infection

Again, extremely common, in CMS FY 2007, there were 12,185 cases of CAUTI at a cost of \$44,043/hospital stay.²⁵ Urinary tract infection is the most common hospital-acquired infection, and 80% of these have been attributed to indwelling urethral catheters.³⁶ The CDC reported 561,667 CAUTIs, attributing to 13,088 deaths. The cost to U.S. hospitals is \$1.8 billion annually.³⁷ The NQF National Voluntary Consensus Standards for the reporting of health care-associated infection data recommends the immediate need for quality improvement in CAUTI prevention. The incorporation of best practices for urinary catheter care is recommended, in addition to computer-based or written reminder systems for catheter assessment and removal, and obtaining a urine culture before initiating antimicrobial therapy for UTI in a patient with a urinary catheter.³

Vascular Catheter-Associated Infection

According to the CMS FY 2007 numbers, there were 29,536 cases of vascular catheter-associated infection at a cost of \$103,027/hospital stay. Approximately 5.3 central line infections (often termed catheter-associated bloodstream infections) occur per 1000 catheter days in ICUs. The associated mortality for such infections is approximately 18%; thus, approximately 14,000 deaths occur annually due to central line infections. Some estimates put this figure as high as 28,000 deaths per year.^{38,39} Bloodstream infections invoke a financial burden of approximately \$25,000 (USD) per episode,⁴⁰ and prolong hospitalization by a mean of 7 days.⁴¹ To improve patient outcomes and reduce health care costs, strategies should be implemented to reduce the incidence of central line-related bloodstream infections. Strategies such as appropriate use of hand hygiene; chlorhexidine skin preparation; full-barrier precautions during insertion; avoiding the femoral site for insertion; maintaining a sterile field; creating a central venous catheter insertion cart; asking providers daily whether catheters can be removed; and appropriate dressing and maintenance of the insertion site have shown proven effectiveness.⁴² Bundling of these evidenced-based practices may result in dramatically greater improvement than if the practices are implemented individually.^{42,39}

FREQUENCY, SEVERITY, PREVENTABILITY, AND IMPACT OF BEST PRACTICE FOR NEW POTENTIAL HACs INCLUDED IN THE FINAL RULING

SSI: Total Knee, Gastric Bypass, Ligation and Stripping of Varicose Veins

In FY 2007, there were 539 cases of total knee replacement at a cost of \$63,135/hospital stay; 208 cases

of gastric bypass or gastroenterostomy at a cost of \$180,142/hospital stay; and 3 cases of ligation or stripping of varicose veins at a cost of \$66,355/hospital stay. To prevent these HACs, many hospitals found that implementing and improving compliance with Surgical Care Improvement Project (SCIP) performance measures decreased rates of SSI.²⁵

Surgical site infections are common complications in acute care facilities. Surgical site infections occur in 2% to 5% of patients undergoing inpatient surgery in the United States. Approximately 500,000 SSIs occur each year.⁴³

Each SSI is associated with approximately 7 to 10 additional postoperative hospital days.⁴⁴ Patients with an SSI have 2 to 11 times higher risk of death compared to operative patients without SSI.^{45,46} Seventy-seven percent of deaths in patients with SSI are directly attributable to SSI.⁴⁷ Attributable costs of SSI vary depending on the type of operative procedure and the type of infecting pathogen; published estimates range from \$3,000 to \$29,000.⁴⁶

Surgical site infections are believed to account for up to \$10 billion annually in health care expenditures.⁴⁷ Many hospitals that implemented and improved compliance with SIP performance measures decreased their rates of SSI.⁴⁸

Deep Venous Thrombosis and Pulmonary Embolus

In CMS FY 2007, there were 149,010 cases of DVT/venous thromboembolism (VTE) at a cost of \$50,937/hospital stay. Hospitalized acutely ill medical patients are at high risk for VTE, and clinical trials clearly demonstrate that pharmacologic prophylaxis of VTE for up to 14 days significantly reduces incidence of VTE in this population.²⁵ More than 900,000 Americans experience DVT each year, and 500,000 of these people develop pulmonary embolism, which causes some 300,000 deaths. This condition remains the most common preventable cause of hospital death. Current estimates suggest that less than 50% of patients diagnosed and hospitalized with DVT have received prophylaxis.^{49,50} Hospitalized acutely ill medical patients are at high risk for VTE, and clinical trials clearly demonstrate that pharmacologic prophylaxis of VTE for up to 14 days significantly reduces the incidence of VTE.⁵¹

Glycemic Control

In FY 2007, there were 11,469 cases of diabetic ketoacidosis at a cost of \$42,974/hospital stay; 3248 cases of nonketotic hyperosmolar coma at a cost of \$35,215/hospital stay; 1131 cases of diabetic coma at a cost of \$45,989/hospital stay; and 212 cases of hypoglycemic coma at a cost of \$36,581/hospital stay.²⁵

Diabetes has reached epidemic proportions in the United States, affecting in excess of 20 million individuals (more than 1 of every 3 people). In addition, another 26% have impaired fasting glucose. Similarly, a disproportionate number of hospitalized patients have diabetes. Furthermore, for every 2 patients in the hospital with known diabetes, there may be an additional patient with newly observed hyperglycemia.

Compelling evidence continues to accumulate to suggest that poorly controlled blood glucose levels are associated with increased morbidity and mortality, as well as with higher health care costs.⁵³

In 2002, 4.9 million hospital discharges in the United States were associated with diabetes. The cost of inpatient diabetes care for 2002 was estimated at \$40 billion—the single largest component of direct medical costs for the disease.⁵²

In a study of critically ill and mixed medical and surgical ICU patients, the use of intensive insulin therapy to achieve arterial whole-blood glucose levels of 80 to 110 mg/dL reduced mortality by 34%, sepsis by 46%, renal failure necessitating dialysis by 41%, need for blood transfusion by 50%, and critical illness-related polyneuropathy by 44%. This intensive insulin management protocol resulted in improved medical outcomes, with a reduction of ICU stay resulting in an estimated yearly cost savings of \$40,000 per ICU bed.⁵³ Institution of a new safe practice on glycemic control is recommended to help reduce the impact of diabetes.

OUR FUTURE—SAFETY AS A REVENUE PRESERVATION STRATEGY

Critics of the no outcome-no income approach may want to believe that the “no-pay” for HACs will become stalled or have minimal financial impact; however, the smart money will have a hard time betting against it, as there will be few stakeholders with the clout to stop it, and many with a lot to gain, such as the private insurers.

Many patient safety leaders will relish the new importance they have to their organizations. Some may be more than a little apprehensive about the VBP initiatives, in that they will now be called to action.

Other than our nation's leading organizations that understand the intrinsic interdependence and tightly coupled nature of quality, cost, revenue, and margin factors, few hospitals provide safety leaders with the authority or resources to impact quality gaps.

Patient safety leaders are going to have to expand their knowledge and skills to serve in a new more important and demanding role. In the words of one of our quality leaders of one of our nation's great organizations, Dr. Sandy Tolchen of Ascension Health [Oral Communication, June 15, 2008], “If you can't ride more than one pony, there is no job for you at this circus.” Patient safety officers and leaders will have to be more than data reporters and will have to transition from providing an audit service to driving an action service. They will have to work through others to achieve the goals of the organization.

In a prior paper, we have stated that PSO will be a lifeline for patients and a life jacket for CEOs. Whether their job title is PSO or not, the new breed of patient safety leader must be an educator, diplomat, an analyst, student, negotiator, communicator, and a person who understands broad strategies and granular tactics. Now with VBP, they will have to sharpen their finance and modeling skills.

*Tell me how much money you want to lose...
and i will tell you how long to wait...*

Safety leaders will have to have a command of the knowledge of the frequency, severity, and preventability of HACs at their organizations. They must understand and quantify the relative impact of practices, products, services, and technologies that can be employed to address these conditions. Also, they must have the heart, backbone, and intestinal fortitude to face the withering attacks that soldiers of the status quo and old guard may launch on them.

*Tell me how long you want to wait, and
i will tell you how much money you are
going to lose.*

The patient safety leader must be able to communicate the insidious impact of compounding safety risk with the march of time—that it is a growing debt which must be paid.

They must be able to argue the cost of running of our hospital engine without the precious lubricant of safety investment when we try to wring out every drop of quarterly margin.

They will have to argue tough positions, such as the case for putting a surprise donation from a community benefactor to work in reducing safety risk rather than swelling endowment funds to improve debt-to-asset ratios for bond ratings.

Make no mistake, there will be battles ahead for our safety leaders. As we addressed in a prior paper using an ancient metaphor, they must be prepared with a full compliment of armor. They must don their helmet of knowledge, hoist their shield of faith in their mission, polish their sword of words, buckle the belt truth of evidence that holds the armor together, and shod their feet with readiness to move quickly as servant leaders as they waded into the fray.⁵⁴

Even great organizations such as the Mayo Clinic are dedicated to getting even better. In the words of Dr. Steve Swensen, who leads quality and safety for the 22-hospital system, “We intend to break the 4 minute mile.” [Oral Communication. July 7, 2008] Dedicated to driving extraordinary patient care as a primary mission, Mayo also wants to confirm the stewardship of its investment. A review by an internal independent finance team of the entire portfolio of all safety and quality projects, including those with the lowest performance, revealed an internal rate of return of 85% over 3 years. The highest performer in radiology, led by Dr. Dan Johnson of Mayo Scottsdale, yielded an impressive 5000%. [Oral communication, June 25, 2008]

Safety leaders will have to become real leaders who, by definition, are people others will naturally follow. They will not only have to provide information about the “what” that is going wrong, but have command of the concepts, tools, and resources of the “how” to fix problems and the resolve to get the “who” they need to act.

The evidence is definitely starting to mount, showing that safety and quality is good business from the financial perspective, but that we need reliable and actionable information.

*From Data Rich-Information poor
to Decision Quality Information*

As in aviation, we can be overwhelmed in a Data Rich-Information Poor (DRIP) environment that can put us in sensory overload and paralyze those at the controls.

In the words of Dr. Steve Kynch, a PSO of Celebration Health, a hospital in Kissimmee, Florida, “We need Decision Quality Information, not unlike what a pilot sees in a windscreen head’s-up display used in fighter aircraft to make critical, rapid, and life sustaining decisions.” He goes on to say that safety leaders must be able to generate and interpret such information for administrative and governance leaders to drive strategy. An orthopedic surgeon and former U.S. Air Force officer, Dr. Kynch was a member of a 10-person special task force of the Surgeon General charged with high impact rapid cycle projects. (Oral communication, June 26, 2008)

At a tactical level, his colleague, Sheryl Dodds, RN, MS (the Chief People Officer for Florida Hospital responsible for more than 18,000 hospital employees), believes that every nurse should be the “personal PSO” for every patient. (Oral Communication June 26, 2008)

Your Personal Patient Safety Officer

A highly successful former hospital CEO, Sheryl undertakes what she calls people-rounds, during which she fields direct input about human resource issues that pertain to quality. She then couples the input with immediate response by an administrative rapid response team to close loops quickly and generate high-impact performance. She believes that clinical performance will deliver financial performance and has proven it in the past. (Oral communication, June 27, 2008)⁶⁷

In summary, our patient safety leaders will have new roles that will become more and more clear in standards, such as the safe practices for better health care, which will be again updated for an early 2009 release, the latest Joint Commission Safety Goals, and the new CMS rules.

Safety leaders will need to seek the truth, tell the truth, and act on the truth. If they do, they will save lives, save money, and deliver value in the communities they serve. Thomas Paine’s expression from long ago is still appropriate for today’s health care management.⁵⁵

“Lead, follow, or get out of the way.”

The time is over for complaining that no one listens or that safety leaders are captives of the financial goals of the organization. If safety leaders are not ready to lead or step into the arena of financial debate to champion the financial argument for safety initiatives, then they had best step out of the way and let those who will take the lead.

PERFORMANCE IMPROVEMENT CHAMPIONS

A word for patient safety improvement champions: your time has come. For those of us who are recovering optimists, there is a light at the end of the tunnel and it is not a train. The relapsing pessimists may have to take a back seat to real leadership. At the risk of stealing expressions from some of our political leaders, it is time to be inspired and to inspire. Bobby Kennedy was inspired when he wrote⁵⁶

*“Some see things as they are and say ‘why.’
I dream things that never were
and say ‘why not’.”*

Those who have the audacity to hope⁵⁷ will seek out heroes who take the wheel of a “straight talk express”⁵⁸ and not just tell us what we want to hear, but what we need to hear for the good of our patients.

We need leaders who will seize safety issues and take the risk of exposing themselves to the armchair critics who, under the guise of critical scientific thinking, make the quality debate a partisan issue where there are few winners and our patients are the losers.

Heroes are not necessarily those who are in leadership positions; they are those who takes personal risk for others and the common good.

Ronald Reagan’s phrase in his inaugural speech, January 20, 1981, is as appropriate today as it was then.⁵⁹

*“Those who say that we’re in a time when there
are no heroes, they just don’t know
where to look.”*

Patient safety has been an orphan for a long time. Success has a thousand fathers, and in the future, the financial

success of our hospitals will pivot around our quality improvement efforts. After the tide turns to quality as a sustainability strategy, there will be many fathers who will claim they played that role. Yet we have frontline heroes today we can lift up now who are leading during a riskier time.

*Do not wait. Act now. Be bold. Be smart, and
be humble.*

Be bold enough to stand up for patients who are powerless to defend themselves; be smart about picking your battles, weighing in with full armor; and be humble enough to allow all who join you to get all the credit, making a place for them on the lead float of the parade.⁵⁴

GOVERNANCE LEADERS

Our message to governance leadership board members is that we must have personal accountability for the safety of patients in our hospitals. Governance leaders are the collective conscience of the organization. In not-for-profit hospitals, they are the only players in a leadership role without a conflict of interest. In for-profit hospitals, one could claim that they are more conflicted, yet they provide balance between short-term objectives and long-term sustainability.

Those of us who are on hospital governance boards must realize that it is time to get off our assets and put them to work. In the words of Jim Conway, a senior leader of IHI, we are not doing our job unless we make our CEO sweat; we must develop a personal relationship with those responsible for patient safety and quality in our organizations, and we must ask the tough questions.

We now know that it is the responsibility of the governance and administrative leaders to be aware that there are embedded risks in our systems of care. Such system faults define the boundaries of the safe performance envelope of the environments we provide for our caregivers. Our caregivers too have performance envelopes that are finite and flex with fatigue, stress, and external factors. It is the matching or unsafe mismatching of those envelopes that has to be “owned” by leadership.⁶⁰ Recent time motion studies of nurses reveal that we are clearly exceeding their envelopes everyday. When we are operating out of the safe envelopes of performance, hospitals will pay the price and governance leaders will write the check. The phenomenon of transparency will present the bill in terms of malpractice cost, no-pay behaviors of purchasers, and brand value damage.⁶¹

We should all know the details of sentinel events and not delegate them to a quality committee. We should ask, “What will it cost in dark green dollars to prevent the next such event?” If administrative teams do not know, we need to press them as some might say that their nonanswer IS an administrative sentinel event.

GOVERNANCE—OUR HOSPITAL'S CONSCIENCE

We cannot delegate our responsibility for the safety of our patients in our hospitals any more than we can delegate the safety of our children to others in another dangerous environment. It is time to “be in it to win it.” If being a board member is just another badge on the tunic of our resume, it may be time to step aside and let someone who will roll up their sleeves take our place.

We owe it to the families who may lose a loved one at our hospital on our watch. The transparency phenomenon will assure that governance leaders will increasingly be made accountable for their actions ... and inactions. There is plenty of room on the front page of the local newspaper every single day.

CEOs AND ADMINISTRATIVE LEADERS

Relative to other for-profit-dominated industries, our hospital CEOs have had very little personal accountability for the quality and safety of their hospitals. The caregivers involved in safety accidents and quality failures more frequently make the news than their administrators or governance leaders.⁶² There is no guarantee that this will be the case in the future.

CEOs, you are in trouble if:

- You do not know your raw mortality rate, the strategies you are taking to reduce it, the performance target metrics for major categories of preventable death, and current status of improvement programs.
- You do not have a ballpark idea of the frequency, severity, and costs of the HACs to your organization.
- You have not mapped your patient safety budget significantly over the last year or mapped it to current risks.
- You spend more time in board meetings on financial, operational, and growth issues than on patient safety and quality.
- You have delegated major patient safety and quality issues to your staff.

Some CEOs of our large organizations could not pick the patient safety leaders for each of their hospitals out of a police type line-up. This is unacceptable to our patients, and it will not endure the transparency phenomenon.

Hospitals Dance in the Spotlight

In the words of Thomas Hamilton, the Director of the Survey and Certification Group at CMS, “We know that hospitals dance in the spotlight, yet we know other things are going on in the dark.” [Oral communication, June 30, 2008] As the house lights of transparency come up and beam beyond the measures that are now being reported, everyone will be on stage and safety issues will be more clear. CEOs, as the leader of the cast, must be prepared to take the bows ... and face the boos.

In reality, the PSO and safety leaders are a lifeline for patients and a life jacket for CEOs.⁶³ To be prepared for the coming tsunami, CEOs and senior management teams must see their safety leaders in a new light. No longer just the briefers on dashboard data and external reporting, they must

be invited into the cockpit of the hospital as more fully-vested contributors to the financial success of the organization. They have a window on the internal world of the hospital's systems that will only grow and become clearer with the evolution of new performance standards.

As risk identification and mitigation are required by the NQF Safe Practices, and the silos of risk management and performance improvement merge, the frequency, severity, preventability, and cost impact of patient safety and HACs will become part of the language of sustainability of hospitals.

The safety and quality leaders will become more than merely translators of this language. They will be performance partners with the C-suite, and become real navigators for leadership teams, as they face the stormy seas of transparency and demands of more risk-informed health care purchasers. If they do their job, they will provide a new “risk dial” to the instrument panel of those who man the helm. It can balance the ever-demanding seduction of the “margin meter.”

As organizations move forward and are coached by their CEOs and governance boards, they must design new systems of operation. They must employ the concept of “risk informed design,” championed by the Agency for Healthcare Research and Quality (AHRQ). In effect, as Dr. Jim Battles states “Our new systems of doing business must be based on risk mapping and strategies that will prevent the system faults that are the major source of patient safety events and HACs.” [Oral Communication, June 19, 2008] Our safety leaders will become revenue preservation agents as a by-product of helping lead this work.

CEOs must look at their leadership teams and determine if their members have the values genetics, knowledge, and skills to be sustainable.⁶⁴ Are such teams so overly focused on finance and predisposed to bend to short-term margin drivers that they allow the devils of economics to shout down their better angels for the common good? Sustainability and succession planning will need to include the quality and safety dimensions.

Finally, it is critical that CEOs take the lead in ensuring that patient and family input is built in to the dynamic instrumentation of their leadership. Without the CEO demanding it, such efforts become tokenism and rarely help keep organizations on track. They must learn from organizations such as the Dana Farber Cancer Institute, which underwent a transformation after a celebrated safety event and pioneered bringing patients and families into every aspect of their operation. The PSO is the ideal partner and implementer of this effort.

THE RIGHT THING TO DO

For years, many in the quality movement have made the pitch that patient safety is “the right thing to do.” As we approach the 10-year anniversary of the IOM report, *To Err is Human*, we realize that we have had but a modicum of success.⁶⁵

With the advent of pay-for-performance that began with pay-for-reporting in 2004, we began arguing that patient safety was “the right thing to do to get paid,” which became a gentle tide that raised all boats.

*From the right thing to do ... to the right thing
to do to survive*

If the tectonic shift to nonpayment for HACs grows to include more and more HACs, deepens to address the major systemic risk issues, and the nonfederal purchasers seize and expand the opportunity as most believe they will; the one-liner will evolve to the concept that patient safety initiatives are the right thing to do to survive.

No one can predict the future, and the naysayers may be right about a more modest impact of VBP; however, we will stay with our conclusion in 2004,⁶⁶ 2005,⁶ and later in 2007.⁶⁴ There will be three types of hospitals as the no outcome-no income tsunami hits.

*Surfers will make things happen ... swimmers will
watch what happens ... and sinkers will wonder
what happened.*

There will be the surfers who will leverage the power of the pay for performance wave and make things happen, swimmers who will be thrown in the drink and watch what happens, and the sinkers who will be lost with the sea of change and wonder what happened.

CEOs—Meet your Chief Revenue Preservation Officer ... your PSO. Surf's Up!

REFERENCES

1. ACHE Website 2007 Survey. Top Issues Confronting Hospitals: 2007. American College Healthcare Executives. Available at: <http://www.ache.org/pubs/research/ceoissues.cfm>. Accessed July 8, 2008.
2. BrainyQuote Website. Warren Buffet quote. Available at: <http://www.brainyquote.com/quotes/quotes/w/warrenbuff149676.html>. Accessed July 8, 2008.
3. National Quality Forum. National Voluntary Standards for the Reporting of Healthcare-Associated Infection Data. Available at: <http://www.qualityforum.org/projects/ongoing/hai/index.asp>. Accessed July 7, 2008.
4. Think-Exist Website. Einstein Quote. Available at: http://en.thinkexist.com/quotation/the_most_powerful_force_in_the_universe_is/158830.html. Accessed July 8, 2008.
5. SafetyLeaders. Solution Research Test bed Overview. Available at: http://www.safetyleaders.org/content_page2.jsp?ID=1618. Accessed July 7, 2008.
6. Denham CR. Patient safety practices: leaders can turn barriers into accelerators. *J Patient Saf*. 2005;1(1):41–55.
7. Denham CR. The no outcome-no income tsunami—surviving pay-for-performance. Focus on Patient Safety. *Natl Patient Saf Found*. 2004;7(1):1–3.
8. Denham CR, Bagian J, Daley J, et al. No excuses: the reality that demands action. *J Patient Saf*. 2005;1(3):154–169.
9. CMS. U.S. Department of Health and Human Services Medicare Hospital Value-Based Purchasing Plan Development Issues Paper. January 17, 2007. Available at: <http://CMS.HHS.gov>. Accessed June 17, 2008.
10. CMS Quality Improvement Roadmap. N.D. Available at: <http://www.cms.hhs.gov/CouncilonTechInnov/downloads/qualityroadmap.pdf>. Accessed July 3, 2008.
11. National Quality Forum. *Safe Practices for Better Healthcare - 2006 Update: A Consensus Report*. Washington, DC: The National Quality Forum; 2007.
12. CMS. Hospital-Acquired Conditions and Present on Admission Indicator Reporting Listening Session. Dr. Thomas Valuck presentation, December 17, 2008. Available at: www.cms.hhs.gov/HospitalAcqCond/Downloads/HAC-POA-Listening12-17-2007.pdf. Accessed July 3, 2008.
13. Kaiser. Health Insurers To Refuse Payment, Billing for Care-Related to Hospital Errors. Kaiser Daily Health Policy Report. January 15, 2008. Available at: http://www.kaisernetwork.org/daily_reports/rep_hpolicy_recent_rep.cfm?dr_cat=3&show=yes&dr_DateTime=15-Jan-08#49829. Accessed July 7, 2008.
14. CENTERS FOR MEDICARE & MEDICAID SERVICES Hospital-Acquired Conditions and Present on Admission Indicators. Reporting Listening Session Leader: Tom Valuck. December 17, 2007 10:00 am ET. You can access the transcripts from the listening session we held on December 17, 2007, at: http://www.cms.hhs.gov/HospitalAcqCond/07_EducationalResources.asp#TopOfPage. Accessed July 3, 2008.
15. McGynn EA, Asch SM, Adams K, et al. The quality of health care delivered to adults in the United States. *N Engl J Med*. 2003;348:2635–2645.
16. Centers for Medicare & Medicaid Services. Fact Sheets. Details for: CMS PROPOSES ADDITIONS TO LIST OF HOSPITAL-ACQUIRED CONDITIONS FOR FISCAL YEAR 2009. Available at: <http://www.cms.hhs.gov/apps/media/press/factsheet.asp?Counter=3042>. Accessed July 7, 2008.
17. Porteous J. Surgical counts can be risky business! *Can Oper Room Nurs J*. 2004;22(4):6–8, 10, 12.
18. National Quality Forum. Serious Reportable Events in Healthcare 2006. Available at: http://www.qualityforum.org/publications/reports/sre_2006.asp. Accessed July 7, 2008.
19. SafetyAlerts. Preventing the "Never Events." September 26, 2007. Available at: www.gha.org/pha/publications/SafetyAlerts/2007/NeverEvents092607.pdf. Accessed July 7, 2008.
20. American Red Cross Statistics. Available at: <http://www.givelife2.org/aboutblood/faq.asp>. Accessed July 4, 2008.
21. Quillen K, Murphy K. Quality improvement to decrease specimen mislabeling in transfusion medicine. *Arch Pathol Lab Med*. 2006;130(8):1196–1198.
22. Hendler, CB. Course CE481. A Perfect March: Preventing Blood Incompatibility. Available at: <http://www.nurse.com/ce/CE481/CoursePage/>. Accessed July 4, 2008.
23. Healthcare Financial Management Association. Present on admission: impact on hospitals for Medicare and other payers from Healthcare Financial Management in Health. 2008. Available at: http://findarticles.com/p/articles/mi_m3257/is_1_62/ai_n24379486. Accessed July 4, 2008.
24. The Joint Commission. Sentinel Event Policy. July, 2007. Available at: http://www.jointcommission.org/NR/rdonlyres/F84F9DC6-A5DA-490F-A91F-A9FCE26347C4/0/SE_chapter_july07.pdf. Accessed July 7, 2008.
25. Fed Regist. April 30, 2008; 73(84):24–31. Available at <http://edocket.access.gpo.gov/2008/pdf/08-1135.pdf>. Accessed July 7, 2008.
26. National pressure ulcer advisory panel. Cuddigan J, Ayello EA, Sussman C, eds. *Pressure Ulcers in America: Prevalence, Incidence, and Implication for the Future*. Reston, VA: NPUAP; 2001.
27. Zulkowski K, Langemo D, Posthauer ME. National Pressure Ulcer Advisory Panel. Coming to consensus on deep tissue injury. *Adv Skin Wound Care*. 2005;18(1):28–29.
28. Brown G. Long-term outcomes of full-thickness pressure ulcers: healing and mortality. *Ostomy Wound Manag*. 2003;49(10):42–50.
29. Institute for Clinical Systems Improvement. Health Care Protocol: Skin Safety Protocol: Risk Assessment and Prevention of Pressure Ulcers, March 2007. Available at <http://www.icsi.org>. Accessed July 7, 2008.
30. Wilson EB. Preventing patient falls. *AACN Clin Issues*. 1998; 9(1):100–108.
31. The Joint Commission. Sentinel Event Statistics—March 31, 2007 (online). Available at: <http://www.jointcommission.org/SentinelEvents/Statistics/>. Accessed July 7, 2008.

32. Greenspan SL, Myers ER, Maitland LA. Fall severity and bone mineral density as risk factors for hip fracture in ambulatory elderly. *JAMA*. 1994;271:128–133.
33. McClure R, Turner C, Peel N, Spinks A, Eakin E, Hughes K. Population-based interventions for the prevention of fall-related injuries in older people. *Cochrane Database of Systematic Reviews* 2005, Issue 1. Art. No.: CD004441.DOI:10.1002.14651858.CD004441.pub2.
34. *National Collaborating Centre for Nursing and Supportive Care. Clinical practice guideline for the assessment and prevention of falls in older people*. London (UK): National Institute for Clinical Excellence (NICE); 2004; p.185.
35. Oliver D, Connelly JB, Victor CR, et al. Strategies to prevent falls and fractures in hospitals and care homes and effect of cognitive impairment: systematic review and meta-analyses. *BMJ*. 2007;334(7584):82. Epub 2006 Dec 8.
36. Saint S, Chenoweth CE. Biofilms and catheter-associated urinary tract infections. *Infect Dis Clin North Am*. 2003;17:411–432.
37. Kleven RM, Edwards JR, Richards CL Jr, et al. Estimating health care-associated infections and deaths in U.S. hospitals, 2002. *Public Health Rep*. 2007;122(2):160–166.
38. Agency for Healthcare Research and Quality, (AHRQ). Evidence Report/Technology Assessment No. 43, Making Healthcare Safer: A Critical Analysis of Patient Safety Practices; 2001. AHRQ Publication No. 01-E058. Ch 16.
39. Berenholtz SM, Pronovost PF, Lipsett PA, et al. Eliminating catheter-related bloodstream infections in the intensive care unit. *Crit Care Med*. 2004;32(10):2014–2020.
40. Centers for Disease Control and Prevention. Guidelines for the prevention of intravascular catheter-related infections; CDC MMWR. 2002/51(RR10); 1–26.
41. Pittet D, Tarara D, Wenzel RP. Nosocomial bloodstream infection in critically ill patients. Excess length of stay, extra costs, and attributable mortality. *JAMA*. 1994;271:1598–1601.
42. Pronovost P, Needham D, Berenholtz S, et al. An intervention to decrease catheter-related bloodstream infections in the ICU. *N Engl J Med*. 2006;355(26):2725–2732.
43. Cruse P. Wound infection surveillance. *Rev Infect Dis*. 1981;3(4): 734–737.
44. Cruse PJ, Foord R. The epidemiology of wound infection. A 10-year prospective study of 62,939 wounds. *Surg Clin North Am*. 1980;60(1):27–40.
45. Engemann JJ, Carmeli Y, Cosgrove SE, et al. Adverse clinical and economic outcomes attributable to methicillin resistance among patients with *Staphylococcus aureus* surgical site infection. *Clin Infect Dis*. 2003;36(5):592–598.
46. Kirkland KB, Briggs JP, Trivette SL, et al. The impact of surgical-site infections in the 1990s: attributable mortality, excess length of hospitalization, and extra costs. *Infect Control Hosp Epidemiol*. 1999;20(11):725–730.
47. Mangram AJ, Horan TC, Pearson ML, et al. Guideline for prevention of surgical site infection, 1999. Hospital Infection Control Practices Advisory Committee. *Infect Control Hosp Epidemiol*. 1999;20(4): 250–278; quiz 279–80.
48. Wong ES. Surgical site infections. Mayhall CG, ed. *Hospital Epidemiology and Infection Control*. 3rd ed. Baltimore: Lippincott, Williams, and Wilkins; 2004.
49. Bosker G, Poponick J, Emerman C, et al. The current challenges of venous thromboembolism (VTE) in the hospitalized patient. Part II. Treatment and prevention of DVT and PE-volving risk-stratification and prophylaxis strategies for hospital-based medicine. *American Health Consultants* [serial online]. 2002;2–16.
50. Goldhaber SZ, Tapson VF, for the DVT-FREE Steering Committee. A prospective registry of 5451 patients with ultrasound confirmed deep vein thrombosis. *Am J Cardiol*. 2004;93(2):259–262.
51. Jaffer AK, Amin AN, Brotman DJ, et al. Prevention of venous thromboembolism in the hospitalized medical patient. *Cleve Clin J Med*. 2008;75(suppl 3):S7–S16.
52. ACE/ADA task force on inpatient diabetes American College of Endocrinology and American Diabetes Association consensus statement on inpatient diabetes and glycemic control: a call to action. *Diabetes Care*. 29:1955–1962.
53. Van den Berghe G, Wouters P, Weekers F, et al. Intensive insulin therapy in the critically ill patients. *N Engl J Med*. 2001;345: 1359–1367.
54. Denham CR. The Patient Safety Battles: Put on Your Armor. *J Patient Saf*. 2006;2(2):97–101.
55. Quote DB. Quotes by Thomas Paine. Available at: <http://www.quoteb.com/quotes/1738>. Accessed July 7, 2008.
56. CommonDreams.org Website. Bobby Kennedy: In Memory Yet Green. Available at: <http://www.commondreams.org/archive/2007/06/08/1745/>. Accessed July 7, 2008.
57. Obama B. *The Audacity of Hope: Thoughts on Reclaiming the American Dream*. New York: Crown/Three Rivers Press; 2007.
58. CBS News website. McCain "Straight Talk Express" Rolls Again. CBS News. March 15, 2007. Available at: <http://www.cbsnews.com/stories/2007/03/15/politics/main2573859.shtml>. Accessed July 7, 2008.
59. Reagan Foundation. Ronald Regan Inaugural Address, West Front of the U.S. Capitol. January 20, 1981. Available at <http://www.reaganfoundation.org/reagan/speeches/first.asp>. Accessed July 7, 2008.
60. Denham CR. May I have the Envelope Please? *J Patient Saf*. 2008;4(2):119–123.
61. Hendrich A, Chow MP. A 36-Hospital Time and Motion Study: How Do Medical-Surgical Nurses Spend Their Time? *The Permanente Journal*. Summer 2008;12(3): Available at: <http://xnet.kp.org/permanentejournal/sum08/time-study.html>. Accessed July 7, 2008.
62. Denham CR. TRUST: the five rights of the second victim. *J Patient Saf*. 2007;3(2):107–119.
63. Denham CR. The new patient safety officer: a lifeline for patients, a life jacket for CEOs. *J Patient Saf*. 2007;3(1):43–54.
64. Denham CR. Values genetics: who are the real smartest guys in the room? *J Patient Saf*. 2007;3(4):214–226.
65. Institute of medicine report. Linda TK, Janet MC, Molla SD, eds. *To Err is Human: Building a Safer Health System*. Washington, D.C.: Institute of Medicine; 2000.
66. Denham CR. The no outcome-no income tsunami - surviving pay-for-performance. Focus on Patient Safety. *Natl Patient Saf Found*. 2004;7(1):1–3.
67. Denham CR. Digital hospitals succeed: old fashioned values - new fashioned roles. *J Patient Saf*. 2005;1(4):220–225.



TMIT

3011 North IH-35
Austin, TX 78722
(512) 473-2370

September 8, 2008

Dear Healthcare Leader:

We are delighted to announce that the Journal of Patient Safety has graciously given us permission to distribute copies of recently published articles to you in the interest of helping you adopt the National Quality Forum Safe Practices for Better Healthcare – 2006 Update.

The Journal of Patient Safety is dedicated to presenting research advances and field applications in every area of patient safety and we give our highest recommendation for them as a valuable resource toward patient safety from hospital bedside to boardroom. It is in the fulfillment of this mission that they make the gift of these articles to you in your pursuit of your quality journey.

The home page of the Journal of Patient Safety can be accessed at the following link: <http://www.journalpatientsafety.com> and subscription information can be directly accessed online at: <http://www.lww.com/product/?1549-8417> .

We want to acknowledge you and your institution for your current efforts in patient safety. We hope you enjoy this article and find it useful in your future work.

Sincerely,

Charles R. Denham, M.D.
Chairman