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ESSAYS ON TRENDS, INNOVATIVE IDEAS AND CUTTING-EDGE RESEARCH IN HEALTH CARE

Reducing the Harm from Medical Care

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When I was a pediatric trainee just over 30 years ago, almost every child I admitted to the hospital with acute lymphoblastic leukemia (ALL) died. Today, almost all kids with ALL live. It's a miracle. And ALL heads a long and growing list of diseases whose courses have been changed dramatically by advances in technical health care, from heart attacks and kidney failure to cold sores and bad knees.

But, for these gains we pay a toll, not just in money but in risks. The audacity of modern medicine has brought with it the double edge of audacity, itself – new harms we cause in the exploitation of our new capacities. When children with ALL die nowadays, it is more often from their treatment than from their disease.

Impetus for Change

In its landmark 1999 report, *To Err Is Human*, the Institute of Medicine (IOM) asserted that between 44,000 and 98,000 people die each year in American hospitals from avoidable defects in their care.¹ At that rate, health care is between the 8th and the 4th most common reason for death in our nation. Health care, if you believe that, is a major threat to public health.

The problem of harm from care, of course, is only the beginning of what needs fixing. In its successor report, *Crossing the Quality Chasm*, the IOM broadened the agenda to cover six "Aims for Improvement:" safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity.² Step by step, the IOM Chasm report showed how far health care is today from what it technically can be – and ethically should be – in each of these six dimensions, and it suggested that only a thoroughly redesigned health care system stands a chance of closing that "chasm."

Though patients and communities badly need improvements in all six IOM aims, the one that the public and the professions have

Figure 1: The Six Interventions from the 100,000 Lives Campaign

- Deploy rapid response teams at the first sign of patient decline
- Deliver reliable, evidence-based care for acute myocardial infarction
- Prevent adverse drug events
- Prevent central line infections
- Prevent surgical site infections
- Prevent ventilator-associated pneumonia

embraced most energetically is the first: achieving medical care that is safe. The dictum that all medical students learn on Day One of their training – "first, do no harm" – seems the obvious place to start in pursuit of quality.

Progress to Date

Today, just a few years after the IOM reports, scores of hospitals are making encouraging advances in reducing the burdens of complications and patient injuries that previously seemed inevitable. Ascension Health, for example, a 70-hospital system in the Midwest, has established a corporate goal of "Health Care That Is Safe" and is aiming for "no needless deaths" in their entire system by the year 2008. Astonishingly to many, they are on track.

But progress in patient safety overall still remains frustratingly slow.³ Only a small fraction of hospitals seem to have placed systematic, measurable reductions of injuries to patients anywhere near the center of their strategic screens. Traditionally, many hospital boards have delegated oversight of clinical care quality to medical staffs, and they examine safety and outcome data only infrequently and rather passively. They may review "patient

safety" as a topic by exception, such as when a visible problem arises or when the Joint Commission is due for a visit, but not as an object for their continual oversight with aggressive goals for continual improvement. Partly as a consequence, executive leaders do not traditionally set aims and support investments in patient safety, nor do they link reduction of medical harm to the core business plan.

Happily, that level of inattention may now be changing. Some pressures are coming from within the industry, as more and more outstanding successes, like those of Ascension Health, Mayo Clinic, Virginia Mason Medical Center, and others, become visible, offering hope and ideas. Other pressures are external, including the recent move by the Centers for Medicare and Medicaid Services (CMS) to stop paying hospitals for care of a range of avoidable complications, and increasing demands for transparency from consumer and employer groups, like Consumers Union and the Leapfrog Group.

In the work of the non-profit organization that I lead, the Institute for Healthcare Improvement (IHI), some of the best news for patient safety has come from the response of literally thousands of hospitals to two massive,

nationwide campaigns that help and encourage hospitals to adopt a few, powerful, focused, science-based changes that can lead to far better clinical outcomes.

The “100,000 Lives Campaign”

In mid-2004 IHI undertook a major review of successful changes in hospital-based care that had been shown in research or documented experience, such as Ascension Health's, to reduce needless deaths. Our faculty and outside scholars identified six such changes for starters, and in December 2004 issued a challenge to American hospitals to adopt all six over the subsequent 18 months (Figure 1). Our ballpark calculations suggested that as many as 100,000 unnecessary deaths could be averted by widespread adoption of those changes in care, and so we called our effort the “100,000 Lives Campaign.” Many partners, including prestigious specialty societies, federal health care agencies, the Joint Commission, and associations joined IHI in this endeavor.

By June 2006 over 3,000 U.S. hospitals, accounting for nearly 80 percent of all discharges, had enrolled formally in the Campaign, and over 40 percent of enrolling hospitals claimed to have adopted all six changes. At the close of the “100,000 Lives Campaign,” our mortality model showed some 120,000 fewer deaths in the participating hospitals in the 18-month period, compared with the deaths that would have been expected based on 2004 data, with adjustments for patient severity. Many other important efforts to improve care were simultaneously underway in the U.S., and there has been a favorable trend for many years in hospital death rates; therefore, it is simply not possible to attribute this overall mortality change solely to the Campaign. Nonetheless, reports from the field in literally thousands of hospitals showed a level of buoyancy, openness, ambition, and site-by-site achievement that we simply had not seen before.

The “5 Million Lives Campaign”

Encouraged by this wave of hard work and excitement, and by the clear requests from the field, IHI and its partners launched a new Campaign in December 2006 – the “5 Million Lives Campaign.” The focus in this Campaign moves beyond averting deaths to protecting patients from harm, such as from pressure ulcers, surgical infections, delayed treatment for heart failure, and other complications of

Figure 2: The Six New Interventions from the 5 Million Lives Campaign

- Prevent harm from high-alert medications
- Reduce surgical complications
- Prevent pressure ulcers
- Reduce Methicillin-Resistant Staphylococcus Aureus (MRSA) infection
- Deliver reliable, evidence-based care for congestive heart failure
- Get Boards “on board”

Additional detail on these interventions and start-up kits to assist with implementation can be found at <http://www.ihl.org/IHI/Programs/Campaign/Campaign.htm?TabId=2>.

care. IHI estimates that, on average, between 40 and 50 injuries occur from care for every 100 admitted patients – a prodigious toll, amounting to 15 million injuries per year in U.S. hospitals. (That figure is surprisingly high to most, and a good deal higher than the majority of published studies of health care harm, in part because IHI's definition of “medical harm” is very broad. Following the lead of safety experts in other industries, we also do not distinguish between harms that are “preventable” with current knowledge and those that are not.)

The “5 Million Lives Campaign” seeks to enroll 4,000 hospitals and encourages them to prevent five million of the 30 million medical harms that will otherwise occur between December 2006 and December 2008. Participating hospitals are urged to adopt the six planks of the “100,000 Lives Campaign” plus five additional evidence-based improvements in care. A twelfth change, which we call “Boards on Board,” urges hospitals' governing boards to adopt dramatic patient safety goals as their own (Figure 2).

As in the “100,000 Lives Campaign,” we know at the start that we will never be able to attribute observed reductions in harmful events to the “5 Million Lives Campaign” alone or to any other single safety improvement endeavor. Fortunately, there are simply too many initiatives now aimed at safer care to allow anyone to attribute specific gains to any one effort. If safety improves, as we hope it will, there will be plenty of credit to share.

We are not naive about how difficult this improvement will be to realize. It will demand much greater focus on patient safety among boards and executives, careful monitoring and feedback, and resource investments beyond what most hospitals have so far thought necessary. It will also require a totally new level of transparency about errors and injuries in care

and much deeper understanding among both leaders and clinical staffs about what a “culture of safety” really looks like and how to achieve it. Traditional hospital cultures and business-as-usual plans will not get the job done.

Moving Forward

Underlying the design of the two IHI Campaigns is our vision of helping to create a reliable and durable infrastructure for continual improvement in our fragmented and often pessimistic health care system. These Campaigns invite all American hospitals and the hundreds of thousands of clinicians, staff, executives, and boards who work with these facilities to join in badly needed, evidence-based improvements.

But campaigns come and go; the pursuit of quality should not. In a more mature stage of health care management, neither patient safety, nor any of the other IOM aims for improvement, will be “campaigns” at all. They will instead be embedded, never-ending strategic foci for all health care organizations. Boards, executives and clinical leaders will make quality and safety improvement as visible, tightly managed and rewarded as the proper management of finance, capital and reputation are today. As the health care marketplace matures, those who adopt that strategy will flourish, and those who do not will surely wish they had. ■

1 Kohn KT, Corrigan JM, Donaldson MS. *To Err Is Human: Building a Safer Health System*. Washington, DC: National Academies Press; 1999.

2 *Crossing the Quality Chasm: A New Health System for the 21st Century*. Committee on Quality of Health Care in America, Institute of Medicine. Washington, DC: National Academies Press; 2001.

3 Leape LL, Berwick DM. Five years after “To Err Is Human: What have we learned?” *JAMA* 2005; 19:2384-2390.