The Chasing Zero Department: Making Idealized Design a Reality

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Objectives: Leaders representing healthcare quality, purchasing, and certifying sectors convened at a national leadership meeting to address the issue of Healthcare-Associated Infections (HAIs). A session entitled "The Quality Choir: A Call to Action For Hospital Executives" featured harmonization partner organizations for the *National Quality Forum Safe Practices (SPs) for Better Healthcare-2009 Update.* (NQF SPs) The objective of the meeting was to determine if zero HAIs should be the improvement target for hospitals and what a Chasing Zero Department (CZD) should be like.

Methods: Discussion and consensus building among these experts determined what a CZD would look like and what it would take to implement it.

Results: Given that zero HAIs must be the goal, Hospital Infection Control Departments need to be restructured.

Conclusion: Key design issues to the CZD addresses leadership, resources, and systems.

- Leadership: CEOs and boards must communicate to the organization that the typical Infection Control Group might be restructured into a CZD. The leader must provide "will, ideas and execution," recognize the power of collaboration, provide funding, and establish a roadmap through use of NQF SPs.
- Resources: Funding for these efforts must be provided. Chief Financial Officers (CFOs) need to understand that zero HAIs will preserve revenue.
- Systems: Change can be made through leaders' championship, use of SPs, performing improvement, information flow and Automated Infection Identification and Mitigation System (AIIMS).

These are the key to systems change toward zero HAIs.

Key Words: healthcare–associated infections, National Quality Forum Safe Practices, infection control, infection prevention, hospital–acquired infections

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Leaders from the quality, purchasing, and certifying sectors of healthcare convened at a national leadership meeting to address the issue of Healthcare-Associated Infections (HAIs).[1] They represented the organizations that were harmonization partners in the development of the National Quality Forum *Safe Practices for Better Healthcare-2009 Update.*[2] They agreed, in the session entitled "***The Quality Choir: A Call to Action For Hospital Executives***," that the rhetoric of "chasing zero HAIs" must become reality – that anything less than aspiring to eradicate the risk of giving infections to patients for whom we deliver care is unacceptable. They unanimously proposed that the typical hospital infection control department must be completely restructured with new authority, accountability, and that it must leverage new skills and talent to be able to chase zero HAIs. Infection prevention, early warning, and performance improvement are new requirements that can be met with a dramatically new design of structure and function. This article is the second part of a two part series that addresses the critical ingredients for success: leadership, resources, and systems.

A CALL TO ACTION

In the first paper of this series, leaders from quality, purchasing, and certification organizations were in unanimous agreement that both the aspiration and timeliness of chasing zero HAIs[1] should be a reality for all hospitals, validating the name of the conference that assembled the panel—the Chasing Zero Summit.[1]

These leaders established a call to action for each and every governance leader and hospital CEO to reevaluate the strategy, structure, and function of their infection control and prevention services. As harmonization partners, they reinforced the importance of the National Quality Forum *Safe Practices for Better Healthcare-2009 Update*[2] that embodies the most harmonized and synchronized set of practices ever developed. They addressed the 6 most common HAIs: surgical site infections, catheter-related bloodstream infections, catheter-associated urinary tract infections, ventilator-associated pneumonia, and multidrug-resistant infections from methicillin-resistant *Staphylococcus aureus* and *Clostridium difficile*. See the accompanying paper in this issue, "Chasing Zero: Can the Reality Meet the Rhetoric?" for details. The safe practices provide some of the key elements for a "road map blueprint."

IDEALIZED DESIGN: FROM INFECTION CONTROL TO PREVENTION

This second paper provides input to hospital leaders as they reconfigure their infection control departments to meet the new critical needs of patient safety.

Many of the breakthrough innovations in patient safety have come from various organizations, including a small group innovation team at the IHI undertaking "idealized design."[3] Briefly, the concept embodies development of a system, working back from ideal performance requirements, rather than rebuilding on the same old traditional platforms. The panel, present at this meeting, developed key issues that may be considered as

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performance requirements for the ideal design of the "infection prevention" department of the future.

LEADERSHIP, RESOURCES, AND SYSTEMS

Dr. David Hunt, chief medical officer, Office of Health Information Technology Adoption, Office of the National Coordinator for Health IT, U.S. Department of Health and Human Services, provided a video briefing regarding key elements for successful innovation adoption:

"*We could really learn a lot from history. Back in the 1860's, Lister, who actually devised and created our current system of aseptic technique, struggled with why he was unable to actually affect this system in the United Kingdom, yet hundreds of miles away in the clinics of Germany and Vienna, they were able to institute his practices and his system with resounding success. He actually wrote Kocher and Bilroth, two legendary surgeons of their time, asking how were they able to successfully implement his own system in their clinics. What were their secrets to success? Well, their formula was simple; they had the resources and senior leader engagement. See, when they said that, they were really speaking of themselves. At the time, they were not only the surgeons-in-chief of their own clinics, but they were also the chief administrators, which meant that the leadership was engaged. They were actively involved. They recognized that these interventions were needed for successful implementation. They understood why leadership, resources, and a system are imperatives to success. You cannot do anything without the strong leadership and the resources flow from that leadership.*

Then you need a system. The system is vital because every patient needs this type of quality and this type of care, and that requires a formal system or process. History showed us this lesson. I always like to think surgeons lead in so many ways. We also continue to see so many examples when you have the nexus of strong leaders and strong administrative leaders, executive leaders, and clinical leaders coming together in a system that has resources with a common goal and a common aim. When you have that you will actually be able to do stupendous things. As I mentioned before, back when Theodore Bilroth was at the Allgemeine Krankenhaus (Vienna General Hospital), it was a lot easier to make the changes needed because he had both hats. He was the administrator and the chief clinician and he was able to see what was needed and actually execute on it. Now, you still have that possibility. It is just that most often, you have two people, one of which is the chief executive officer, the CEO, who cannot delegate this away. He has to find a clinical champion to work with, to actually begin to chase those results, just as Bilroth and Lister did."[4]

Dr. Denham: Dr. Berwick, as our leaders look at HAIs, what should be our practical structural strategy? How can they really tackle HAIs? Where do the leaders in the audience start?

Dr. Berwick: All improvement is change. That is true also in this field, for leaders of change if they are going to tackle infections, and at IHI, we have this same mantra that is actually written on our wall. It says "leaders provide will, ideas, and execution." That is not a bad formula. The leaders must make the case. The gains need to be booked. Ideas mean we do not have to invent it all over again. It has been done somewhere else, and if we are smart enough to find those organizations, we can make these ideas our own. Execution is the hardest part. It is the day-to-day monitoring, accountability, review, support, problem solving, moving obstacles, linkage to finance, and all the things you do whenever you are executing something in your organization. It is the same job. It applies to this task.

Dr. Denham: How should our frontline hospitals look at their resources? Are they putting enough cash—dark green dollars against HAIs today? Are they retasking adequate light green dollars of workforce and capacity to this issue?

Dr. Berwick: Not yet. No. We need more investment. It is a principle of change in social systems. You do not get innovation without allowing some slack—compensated work time. The workforce is exhausted. Their productivity demands are high, and the stresses are there. The leader is going to have to arrange some form of slack for the purpose of learning and experimentation and local trial, so people can learn their way into doing this. You do not get it for nothing; it has to be a front-end investment.

Dr. Denham: You have taught us the concept of slack. Is not that a real scientific principle?

Dr. Berwick: Yes it is, and there is data from the Minnesota Innovation Research Program.[5] They show that organizations that can create that little space to actually innovate will think, try, fail, and try again. They are the ones that innovate, not the ones that keep productivity at the fever pitch and hope that people will somehow find the time to invent.

Dr. Denham: Dr. Hunt, as a surgeon who is an expert in the evidence regarding surgical infections, what practical advice do you have for nonclinical CEOs on how to deal with the surgeon that is resisting performance improvement activities?

Dr. Hunt: The first thing is do not blink because some surgeons bite. Recognize that the National Quality Forum (NQF) Safe Practices have a strong evidence-based foundation.[2] There will be a lot of railing against them, a lot of flailing of arms and yelling. That is what surgeons sometimes do. However, the fact of the matter is that, in every one of their textbooks and every one of their journals, the evidence is there that supports these practices that we have right now. Another concern is that HAI prevention is an unfunded mandate. When I was at Centers for Medicare and Medicaid, I heard that concern virtually every time I gave a presentation, and I used to push back and tell them that this is really not an unfunded mandate. What we are doing is changing the accounting practices. There is always a reckoning for this work. Right now, thousands of people are paying for surgical site infections. Thousands are paying for our mediocrity again and again with central venous catheter infections. With the change in policies that we see in Department of Health and Human Services and with the whole movement, what you hear is that the chorus of unfunded mandate is really being drowned out by the sounds of patients and their families who are saying that they have been footing this bill far too long. They are not going to pay for this anymore. It is time for us in the clinical community to pay for this. So, we are just changing the accounting practice.

Dr. Denham: Dr. Clancy, may we ask for your advice from an evidence standpoint? Is there evidence for this leadership, resources, and a systems approach?

Dr. Clancy: I would go back to the "Keystone Project" as well as some of the work that we are funding now to reduce HAIs.[6] I need to thank all of you because we work for the taxpayers, and that is actually what supports our work. We are part of the Department of Health and Human Services, and we take our responsibility very, very seriously to fund projects that will actually produce actionable, practical information that you can use at home. Every hospital, every setting is going to own it. It is going to be something that is uniquely them, but there are some very common pathways. So that is where we think of the evidence. Sometimes, the evidence we derive is not just about improvement. It is also about the business case. So, very recently, two of my colleagues have found that for surgical patients in the hospital who have an infection or a respiratory problem, the costs go up 100%, and that is not just the in-hospital costs. That amount includes posthospital costs as well. You had better

believe that Leapfrog is going to be paying attention. So this is both about what is best for patients and the bottom line.

Dr. Denham: Dr. Corrigan, we have determined the "where" we need to go—this is zero HAIs. Practices such as the NQF Safe Practices provide the "what" we need to do. The question that remains is the "how" to get the transformation work done?

Dr. Corrigan: The way I think about this is to look in other areas. When the president stood up in 1961 and challenged the country to put a man on the moon by the end of the decade, he did not have a flip chart behind him with 10 easy steps. The "how" just cannot be reduced to 10 easy steps. At the same time, we had a lot of knowledge that made it very reasonable to reach the conclusion that we could put a man on the moon by the end of the decade. We knew how to launch a space vehicle into space. We knew what the atmosphere on the moon was like, and we knew how to sustain people during the space journey. So it was reasonable to conclude that we could get there. I think, in many ways, it is the same with HAIs. National Quality Forum has endorsed many safe practices that have been implemented in different settings and have produced impressive results. We also have tools; some of them high tech, and some of them low tech. The bottom line is that we have a demonstrated track record of achieving solid results in many settings, and we have the tools that we can hand to institutions to help them on this journey. When I think about what it takes to really get there and what are the ingredients of a successful strategy, clearly, you need leadership that maintains a constant drumbeat and keeps all levels of the institution focused on the goal of eliminating HAI. I think you also have to have a can-do attitude. It is going to take a period, and there are going to be ups and downs, so you have to stick with it. Last but not least, I think you have to have dogged diligence in applying the knowledge and the practices of safety again and again at every level in the institution. As innovative practices and examples of excellence emerge, I hope we can find ways to share the success stories and rapidly generalize them across all the healthcare settings in the United States and even around the world.

Dr. Denham: When assuming the chair position of the NQF Safe Practices committee, we set out to update the practices for 2006 with the aspiration to harmonize them right down to the line item specification level with the organizations on this panel. Many said it was a "Mission impossible—It will never happen." Without the leadership of those on this panel, this would have been impossible. With the momentum of that success; the Safe Practices for 2009 has become a reality this year. Dr. Corrigan, you have taken on an even bigger challenge—you have convened 28 national priority partners. Can you tell us what CEOs, chief quality officers, chief nursing officers, and leaders of infection control can learn from what you are doing with the National Priorities Partnership?[7] Is there a lesson there?

Dr. Corrigan: In some ways, Dr. Denham, your quality choir concept was so successful that we expanded the choir. Now, instead of just 6, we have moved up to 28 in total, in terms of various stakeholders that are now engaged in this effort to identify a limited set of national priorities and goals. I think there are 3 things that we are learning in the process. One of them is the power of collaboration. If you really have everybody at the table, whether it is purchasers, consumers, healthcare professionals, providers of all types, or suppliers and others, you get a degree of buy-in. You also get to leverage not only their talents and knowledge but also the payment systems, the public reporting systems, and other environmental drivers. If we get everybody focused on a common set of goals, we will have a much better shot at getting to the finish line more rapidly. I think that is an important lesson for our healthcare institutions. You really have to have the collaboration of your boards, your administrative leadership, and your clinical leadership. I would also say you should collaborate across your community. Infections occur anywhere, not just within the hospital walls. Also, a degree of collaboration at the community level is an important factor. I think the second lesson we are learning is that you have to put your money where your mouth is. We are now working with the National Partners to encourage them to identify what actions they can take in the coming year to be able to help our country achieve a limited set of national priorities and goals. We hope to have a good list when we roll those out in November. When it comes to HAIs, each institution must commit the financial resources necessary to get the job done within their institution. Third, we must all be willing to be held accountable for achieving the goals we have set. That means committing upfront to measurement and transparency, so transparency is absolutely critical.

Dr. Denham: Dr. Angood, you did a superb job leading your Joint Commission team on this current set of practices that are harmonized right down to the line items in the HAI practices. Now, let us turn to leadership. Can you give us the priority of The Joint Commission on leadership and the new issues there because they are synchronized in the safe practices?

Dr. Angood: We, at The Joint Commission, view leadership clearly as pivotal and probably among the most, if not the most important factor in terms of creating change in organizations. The standards and the patient safety goals are recognized as important in creating change. Is that a good thing? Well, you could argue that it probably is not the best thing if it is just standards that are creating and pushing change in healthcare. However, it is the one component that works well for healthcare in America. In using that leverage, the new leadership chapter and the medical staff chapter in The Joint Commission standards are designed to create this overlap and to create better functioning of leadership within healthcare organizations so that many of these leadership issues can be pushed forward in a more organized, coordinated fashion—including the capabilities of resolving the conflicts that inevitably come up during these types of change processes.

Dr. Denham: Dr. Angood, most of the hospitals are putting significant resources into HAIs. Are they putting enough? From The Joint Commission's perspective, as you review hospital surveys, do you see enough resources put to the problem?

Dr. Angood: I think, up until the last couple of years, the answer would be "no," and that is mostly due to a lack of appreciation and a lack of understanding about the complexity of HAIs. There is now a lot of attention from the federal scene, the state scene, and with a variety of organizations, such as those involved in this harmonization effort, so that now the public audience is there, and the healthcare audience is there, knowing HAIs are an important issue. The untapped resources are the chief financial officers (CFOs) and the financial teams. I would encourage everyone to get those CFOs educated and up to speed. Show them examples, and help them become part of the prioritizing process to mobilize the resources that effectively address the HAI problem.

Dr. Denham: Ms. Binder, from the employer's perspective, what do they expect from hospitals and hospital leaders?

Ms. Binder: First, they expect the hospital leaders to do what they do, which is study the bottom line everyday. We have taken a very close look at potential savings that hospitals could expect to see if they were able to reduce their rate of HAIs. For hospitals that are not entirely dependent on fee for service, those savings were shocking to us, and we are accustomed to being

shocked by costs in healthcare, which are very substantial. Hospitals actually do have a bottom line interest, as do employers, in seeing a reduction in HAIs. We would like them to take a close look at that and apply that potential savings toward an improvement in lowering HAIs. I do not think employers presume to tell hospitals how to do their business and how to best manage their systems so that they can change. I can say that what we have noticed in Leapfrog is that hospitals that perform the best tend to have the most collaborative environments. HAIs would certainly be an example where every single person from the admitting clerk to the surgeon is needed as part of the team to prevent them. So we would think that applying savings toward education, toward enforcement of protocols, and toward really thinking through how systems work in a hospital is something that is much more difficult than it sounds. How important it would be to do that and to recognize that there is real money to do that, and it exists in the system. It is just a matter of leadership and applying those funds where they exist.

Dr. Denham: Now, as we return to the issue of leadership, Dr. Berwick, tell us about the attitude of the leader. Can you tell us more about what attitude a leader needs to have and how important that leader's attitude is to success? You have told us that the power of the aim is amazing and that going for the moon is important. Also, in the "100,000 Lives Campaign," you shared with us that "Some is not a number and soon is not a time." However, tell us how that can be communicated through the signals and attitude of the leader.

Dr. Berwick: I think that every leader in the room knows the first lesson, which is that it does not matter what you say; people are going to watch what you do. So this is about what Dr. Denham called "constancy of purpose." If we want to achieve the aims we have been talking about, this approach is "everyday, every way, for a long time." So first, the actions of relentlessness, focus, and constancy are going to be the test, not if you give a good speech about it. A second lesson is whether you buy the system's view. Leaders who are going to approach this by yelling at their staff or beating up on people to try harder do not understand. This is about design, and about science, the use of science. So effective leaders are going to be relentless to make sure that the system was designed to support the workforce, but they are going to be very respectful of the idea that, in the end, the buck stops on their desk. Start to blame the workforce, and you are going to lose. I guess the third piece is about values. There is a lot of talk about pay-for-performance and incentives. We need to align that right, but there is also a value structure under there, which is what you were talking about. This is your mother or your child we are talking about. If we cannot connect with the workforce around purposes and values and meaning in life, then this is not going to be durable. So maybe those are hints.

Dr. Denham: We are getting the perspective that leaders cannot delegate the urgency. This is the CEO issue. This is a board issue. Take the issue around healthcare information technology (IT). Dr. Berwick, as chief medical officer, can you give us a quick perspective on the health IT issues?

Dr. Berwick: The first thing that I will say is that these times are different from where they were, even 3 to 4 years ago, particularly through the leadership of Secretary Leavitt. We have had a tremendous amount of progress, and a lot of people were tepid as far as jumping in because they did not want to make a bad decision. Health IT is generally expensive, as is everything in the healthcare sector, and everyone was sort of waiting. What I would start to say now is, "Do not let perfect be the enemy of the good." There are some very good systems coming out, particularly due to the fact that we now have certification for health information systems. It means that we are mitigating a lot of the risk that you had before in terms of acquiring that. Look into getting those systems. Get them on board. Leverage the information systems that you currently have as Dr. Angood mentioned. Begin to put together the pieces that you need to get the information to the people who need it. The board definitely needs to get it; the executive team needs to get it and also the frontline staff. They need that feedback. A lot of times, information systems are some of the best ways if you can automate them, to give them the feedback that they need as to where they are, so you can have small cycles of change to try, try, and try again. So health IT is increasingly going to be a more important lever to help with hospital-acquired infections, as well as with a lot of other problems. The standards are getting in place. If you do not have a health IT system, then look into acquiring one, and when you do, begin to leverage it more and more. There is a well spring of information that you can begin to tap into.

Dr. Denham: Are our current designs of infection control, the way the structure, the function and the design are, are they integrated enough into performance improvement? Are they integrated enough upstairs into the C-suite, or do we need to blow them up?

Dr. Angood: If you look across the board at all types of facilities, then the answer is no. The infrastructures, the systems, and the processes are not effectively in place. Is that anyone's particular fault? Not necessarily. It is because we have not had the information or the pressures to put those systems and design changes into place until relatively recently. The Joint Commission has been pushing, along with its standards, its infection control sections, and now, its National Patient Safety Goals. We are a relatively slow-moving organization, and we do not flex, for good reasons, on a dime all of the time. Over and above, whatever we do or whatever NQF does, I think the time is now that organizations should and need to be looking at their systems and processes because, otherwise, these issues are going to continue to get away from us.

Dr. Denham: We have a 3100 hospital research test bed at TMIT, and we believe, with 100% assurance, that the C-suite—the CEO, the chief operating officer, the CFO, and the senior players, whose job it is to reallocate resources—are not looking at new products, new services, or new technology. They are busy and delegating so far down into supply chain and other areas that the structure would not allow new breakthroughs. Even if we had huge HAI breakthroughs, we would typically not be exposed to them. We see, in infection control, more audit than action. Embarrassingly, there is also protection of the status quo.

Dr. Clancy: The word you used a few minutes ago that made me sit up was *surveillance*. That term makes me very anxious. I think the huge opportunity here is for the gold mine that exists in some infection control departments. I would agree that it is not universally distributed to work with the safety and quality folks. I think the size of the opportunity is reflected in what I hear from leaders in other countries who say "No, we are still sort of in silo mode." Infection control folks, for the most part, are very, very focused on precise details about microorganisms and so forth. We need them; we want them. You do not want that to stop, but at the same time, it is not tracked back so that everyone who is part of the team can actually see how their job relates to our goal. That feedback loop is often not a big part of infection control or for people who spend their lives worrying about surveillance. Right now, I see hospitals whose situations are just sinking lower and lower with more and more demands, so much so that attitudes deteriorate. You hear comments like "It is all the quality department's problem. It is not mine because I do not get to see the data, and if I did, it is not

up on Hospital Compare for 9 months anyway, and you know, maybe I might have a baby in those 9 months. It does not matter. It is just very, very distant from my day job. So the easiest way to get through that is to 'ignore it'." So if we do not bring that data and information piece back to what people are doing today, how we are doing this week and so forth, we are going to lose the war.

Dr. Denham: Dr. Berwick, give us the last word.

Dr. Berwick: What Dr. Clancy just said is fundamental. There has been a major change. The historic work of the infection control area has been to look for outbreaks, to wait for exception, and to audit for exception. If we say zero is the target, everything changes. It means the board does not sit there and say "It is only 1.3% this time, no outbreak, next topic." It means, "If it is 1.3%, what will make it 1.1%?" That is a new job. Zero means that the 99th percentile is not OK. It means every time you are looking at an important variable, you do not ask the question "Has something gone wrong?" It is "Something is wrong, always," and your job is to make things better. That is a new job for everybody.

THE INFECTION PREVENTION DEPARTMENT: AN IDEALIZED DESIGN

Our traditional infection control departments have been structured to function with the goal of detecting outbreaks. Many in such departments feel threatened by that demand for improvement support and fear for their jobs. Many view the new surveillance technologies as bringing a level of transparency that will embarrass them as opposed to providing a tool to help them perform better. Few have performance improvement capabilities, and fewer still have integrated information-decision feedback loops with the leaders. Where you stand depends on where you sit…a new idealized design will not be easy.

One vital area not addressed in this article series is the "make or break" issue of the engagement and empowerment of nursing leadership. They are the "final mile" of our hospital care highway.

The key design issues and actions include the following:

Leadership

- CEOs and their teams, with the support of the governance boards, must communicate to all in the organization that the typical Infection Control Department might be completely inadequate, and if so, we must blow it up and start fresh. That this is OK and not anyone's fault! They must create a sense of urgency driven by our new knowledge.
- Leaders must "practice forgiveness," forgiveness of past work plans, budgets, and structures. They must put the past behind themselves—governance and administrative leaders can do that with one sweep of the hand in a meeting and one sweep of a pen to the budget.
- Leaders must provide "will, ideas, and execution." Execution is the hardest and will demand a cadence of accountability and a new rhythm of entrepreneurship.
- They must recognize the power of collaboration, the vital need of financial investment to ensure success, and the importance of creating willingness to accept accountability.
- Leaders must understand and then communicate that reduction of HAIs cannot be an unfunded mandate—this is a costly fix for every stakeholder. The excess cost of care has been absorbed by all the healthcare trading partners. There is money already on the table for hospitals if they prevent infections.
- The NQF *Safe Practices for Better Healthcare-2009 Update*[2] provides a road map blueprint for governance and administrative leaders to act. Safe Practice 1, *Leadership Structures and Systems,* defines specific activities for them to create awareness, accountability, ability, and action. Safe Practice 4, *Identification and Mitigation of Risks and Hazards*, mentioned below, can be used to reconfigure information flow within and between infection department staff and others in a care facility.[2]

Resources

- There is unanimous consensus that inadequate dark green dollars—cash allocations—are being applied to infection prevention. Furthermore, the light green dollars of funded work or time of existing staff is, in reality, rare. Adding new responsibilities to people who are overworked only discourages them and increases a learned helplessness. Adequate cash and the creation of "slack," meaning real and protected time to really innovate and work on infections, must be provided.
- Healthcare reform will focus on HAIs and their complications. CFOs must understand that there will be opportunities for revenue preservation. If aggressive action to reduce these infections is taken, there is money to pay for it. Hospitals must move from "playing defense to playing offense." This will require support by the entire administrative leadership team in light of the demands a global recession is putting on hospitals. The CFO needs to be on-board to gain traction.
- The majority of the "what" new departments must do is defined in the National Quality Forum *Safe Practices for Better Healthcare–2009 Update*[2] and the *SHEA-IDSA Compendium of Strategies to Prevent HAI*[8] that are the most harmonized set of practical practices ever created. Funding must be provided to some far beyond the walls of the new infection control department. We must provide financial fuel for physicians, staff, nurses, and even outside experts to help improve infection prevention systems.
- The final mediator of much of the prevention work is through nurses. Without adequate nursing staff time, training in performance improvement methods, and skill building, enterprise-wide infection prevention is virtually impossible.

Systems

- The success of Kocher and Bilroth in driving adoption of sterile technique in the 1860's was not due to health IT. It was due to leadership and resources applied through "social systems," a systematic approach of applying a new way of doing things. They overcame the "not invented here" inertia by systematically building in the process of a new way of doing the work. Clearly, the leadership and resources made this happen.
- Although high-sizzle information technologies are attractive to discuss, the reality of any new transformative change is through the championship of the leaders. So the first system to address is that of leadership systems—how governance and administrative leaders translate genuine passion and drive down through the silos of mid-level managers to the frontline servant leaders who really will be the ones to bring HAIs to zero.
- Each of the 6 most common HAIs are addressed specifically in the *Safe Practices for Better Healthcare–2009 Update*[2] and the *SHEA-IDSA Compendium of Strategies to Prevent HAI*,[8] which present major collections of evidence-based research for mitigating HAIs. They must be systematically resourced, tracked, and measured. Measurement must be undertaken for outcomes, process, structure, and patient-centered measures. Performance improvement cannot be tracked any other way.

Performance improvement systems all have the same elements: education, skill building, measurement, process improvement, and reporting.

- Information systems, whether they be automated or on paper, are critical. The NQF Safe Practice 4, *Identification and Mitigation of Risks and Hazards*, provides a template for information flow and the integration of performance improvement, risk identification, and feedback loops to leaders. Although not specifically defining a blueprint for the new infection control department, the principles are there.[2]
- Finally, once the systems of leadership, performance improvement, and information flow are addressed, one must consider technology systems. Those addressing infections can be classified in various ways, including functional capabilities. One such framework is Automated Infection Identification and Mitigation Systems that segregates functions into processes of surveillance, identification, decision support, mitigation, and performance improvement monitoring.[9] These functionalities hold great promise for new infection prevention departments. The technologies will evolve; however, the goal of having the right information at the right time for the right patients to care for them and to keep other hospital patients safe is absolutely critical.

Organizations that are so heavily reliant on human interactive processes, such as hospitals, are truly social enterprises, although they may be diagrammed in command and control pyramid charts. The work is done by people who can be organized into highly reliable groups, focused on an extraordinary aim by great leaders.

The mission to conquer infections will take a harmonized and concerted effort from everyone in healthcare. It may be a moon shot, but it can be done. President Kennedy's words inspired a nation when he said:

''I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the Earth. We choose to go to the moon! We choose to go to the moon and do the other things, not because they are easy, but because they are hard, and therefore, as we set sail, we ask God's blessing.'' [10]

During the 90-minute panel discussion that contributed to the 2-part article series, 17 people died from infections they contracted from our care in U.S. hospitals. Hospital leaders hold, in their grasp, the opportunity to save those lives.

Leaders must reexamine their roles and see what they can "do by Tuesday." They must learn to leverage their leadership, resources, and transform their systems.

It is time to change the headlines. It is time to set sail on our journey to zero HAIs and put the care back into healthcare and the trust back into the public trust.

Your caregivers, your community, and even your own families expect nothing less.

REFERENCES

1. The Chasing Zero Summit. September 8–9, 208. Washington, DC. Sponsored by Cardinal Health. Available at: http://www.cardinalhealth.com/chasingzero/HAI/5IPS1360-02_Chasing%20Zero%20Summit%20-%20Program_v17.pdf. Accessed May 11, 2009.
2. National Quality Forum. *Safe Practices for Better Healthcare 2009 Update: A Consensus Report*. Washington, DC: The National Quality Forum; 2009.
3. IHI. Idealized Design. N.D. Available at: http://www.ihi.org/IHI/Topics/Improvement/ImprovementMethods/Literature/AGuidetoIdealizedDesign.htm. Accessed May 12, 2009.
4. Texas Medical Institute of Technology. Dr. David Hunt Video Presentation on Hospital Acquired Infections. Austin, Tx. Texas Medical Institute of Technology. Available at http://www.safetyleaders.org/video/hunt/11_HospitalAcquiredInfection.wvx. Accessed July 8, 2009.
5. Van de Ven AH, Polley DE. *The Innovation Journey.* New York, NY: Oxford University Press; 1999.
6. Pronovost P, Needham D, Berenholtz S. An intervention to decrease catheter-related bloodstream infections in the ICU. *N Engl J Med*. 2006;355(26):2725–2732. Available at: http://nejm.highwire.org/cgi/content/full/355/26/2725. Accessed May 11, 2009.
7. National Quality Forum. National Priorities Partnership. N.D. Available at: http://www.qualityforum.org/about/NPP/. Accessed May 12, 2009.
8. SHEA-IDSA Compendium of Strategies to Prevent HAI. Brennan P, ed. *Infection Control and Hospital Epidemiology.* 2008;29(S1)].
9. TMIT. Automated Infection Identification and Mitigation Systems (AIIMS). Available at www.tmit.org. Accessed August 10, 2009.
10. Special Message to the Congress on Urgent National Needs Page 4. President John F. Kennedy Delivered in person before a joint session of Congress May 25, 1961. Available at: http://www.jfklibrary.org/Historical+Resources/Archives/Reference+Desk/Speeches/JFK/Urgent+National+Needs+Page+4.htm. Accessed May 12, 2009.

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Sincerely,

Charles R. Denham, M.D.
Chairman