The Richard and Hinda Rosenthal Lecture 2011: New Frontiers in Patient Safety

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The Richard & Hinda Rosenthal Lecture 2011

New Frontiers in Patient Safety

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The serpent has been a symbol of long life, healing, and knowledge among almost all cultures and religions since the beginning of recorded history. The serpent adopted as a logotype by the Institute of Medicine is a relief carving from ancient Greece, now held by the Staatliche Museen in Berlin.

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"Knowing is not enough; we must apply.
Willing is not enough; we must do."
—Goethe

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Foreword

The Institute of Medicine launched an innovative outreach program in 1988. Through the generosity of the Richard and Hinda Rosenthal Foundation, a lecture series was created to bring greater attention to some of the significant health policy issues facing our nation today. Each year a major health topic is addressed through a lecture presented by an expert in the field. The IOM later publishes this lecture for the benefit of a wider audience.

The Rosenthal Lectures have attracted an enthusiastic following among health policy researchers and decision makers in Washington, DC, and across the country. The lectures produce a dynamic and fruitful dialogue. In this volume, we are proud to present the remarks of the Secretary of the Department of Health and Human Services, The Honorable Kathleen Sebelius. Following the Secretary's remarks, we had an engaging discussion on "New Frontiers in Patient Safety," with Dr. Donald Berwick, Dr. Carolyn Clancy, Dr. Brent James, and Mr. Paul O'Neill.

I would like to thank Katharine Bothner, Bradley Eckert, Jody Evans, Roger Herdman, Jillian Laffrey, Emily Lenneville, Abbey Meltzer, Michael Park, Patsy Powell, Sheri Sable, Judy Salerno, Lauren Tobias, Danielle Turnipseed, and Jordan Wyndelts for skillfully handling the many details associated with the lecture program and the publication.

In their lifetimes, Richard and Hinda Rosenthal accomplished a great deal. The Rosenthal Lectures at the Institute of Medicine are among their enduring legacies, and we are privileged to be the steward of this important ongoing series.

Harvey V. Fineberg, M.D., Ph.D.
President
Institute of Medicine

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Welcome

HARVEY V. FINEBERG

Good afternoon, everyone. It is a great pleasure for me to have this opportunity to welcome you to the 2011 Richard and Hinda Rosenthal Lecture here at the Institute of Medicine.

This lecture series was established in 1988 through the generosity of the Richard and Hinda Rosenthal Foundation. Each year we have selected a topic, a speaker, and sometimes a group to discuss a timely issue in health and health care.

Tonight, we have a great privilege to hear from the Secretary of Health and Human Services and from a very eminent panel around the issue of "New Frontiers in Patient Safety." I want to mention that this program is available on Twitter, with a specific hashtag called "RosenthalLecture." That's all one word, capital "R," capital "L," in case any of you would like to comment in real time. But please, do not be distracted from the program, as we expect and hope for your attention during the conversation.

The topic of "Patient Safety" is one, of course, that we have been deeply engaged in as an organization for many years. Just last month, the Obama administration launched a new effort called "Partnership for Patients: Better Care, Lower Costs." And this initiative is designed as a public-private partnership to improve the quality, safety, and affordability of health care. It focuses specifically to reduce health-acquired infections and health care institution–acquired infections and to reduce re-admissions to hospitals within 30 days.

I am so pleased that we are able tonight to hear from the Secretary of the Department of Health and Human Services on this issue. Secretary Sebelius is no newcomer to either the topic of health safety or health care, more broadly. She served as the Insurance Commissioner for Kansas for a period of 8 years, before serving as the Governor of Kansas,

in which role she was already a key advocate for health reform at the state level. I think this falls under the category of "be careful what you ask for," because today, the Secretary is clearly in the center of the implementation of the reform in the Affordable Care Act of the Obama administration.

Recently, the *New York Times* did an assessment of the rollout, reaction, and results in the early phase of work on implementing health care reform. The only unit to receive from the *Times* a grade of "A" was that of the federal activity to implement health reform. I can assure you that the Secretary is an indefatigable leader. I can tell you that from personal experience of just last week, watching the Secretary in Moscow lead the American delegation in a very important set of discussions with leaders from around the world on the broad problem of preventing and reducing non-communicable diseases.

I also understand that the Secretary departed immediately from Moscow and then went to New Orleans for the New Orleans Jazz Festival. If that is not correct, I will stand to be corrected. I, however, did not get to go to New Orleans as I was stuck still in Moscow for yet another day. And still I have to say, as one who was in the audience, so admiring of the clarity, the forcefulness, and the sensitivity with which the Secretary delivered very important messages to that world community.

I know that we will tonight experience similarly enlightening and stimulating comments from our Secretary of Health and Human Services. Please join me in welcoming The Honorable Kathleen Sebelius.

Keynote Presentation

THE HONORABLE KATHLEEN G. SEBELIUS
Secretary, U.S. Department of Health and Human Services

Well, thank you very much, Harvey, for that nice introduction, and also for your incredible leadership here at the IOM. I am delighted to say that the Institute of Medicine continues to be a great partner and colleague with the Department of Health and Human Services (HHS) and continues to inform us, inspire us, and help us do a great job.

I also want to start by recognizing that we have a number of health leaders, some of whom you will hear from, a couple of whom you won't hear from, but leaders at HHS who are here with me tonight. My great partner, Deputy Secretary Bill Corr, is here. Sherry Glied, our Assistant Secretary for Planning and Evaluation, is here. Dr. Don Berwick, who is the Administrator for the Centers for Medicare and Medicaid Services, who you will hear from. And Dr. Carolyn Clancy, who is the Head of our Agency for Healthcare Research and Quality.

You know, I want to start by recognizing that we're really here to continue a conversation that the IOM started 12 years ago, with its report *To Err Is Human*. I think it was an alarm bell that really began to wake up America, maybe didn't wake them up all the way, but certainly got people's attention, by describing a system which, at that point, was this snapshot that more Americans were dying every year from the care they received in hospitals, than from all the diseases put together that sent them to the hospital. That's a fairly frightening fact.

Just as important, the initial report, and the 2001 report that followed, made it clear that the problem wasn't indifferent or poorly trained health care providers. It is still the case that America has the best trained health care providers in the world. We have the finest hospitals in the world. We have the finest technology in the world.

But there's no question at all that there are lots of systems where good people get trapped in bad systems, or in systems that malfunction. To improve patient safety, we have to look at the systems and improve those systems.

Over the past 12 years, there are lots of hospitals that have done just that. I have been able to travel across the country and visit a number of those institutions that are really doing quite stunning work in finding ways to re-engineer the patient care system in a way that has backup safety systems in place.

So in February, I was at the Virginia Mason Hospital in Seattle, and they're using the Toyota engineering system to really make safety a priority. It is something that the leadership understands and that every health leader in that hospital understands, and they do just what is done on the Toyota factory floor to continue to monitor and watch what's happening. By applying those lessons, they've reduced patient falls by 25 percent and bedsores by 75 percent, and those are just some of the outcomes that have been very successful.

In March, I was in Ohio, where a group of The Consortium of Children's Hospitals and about a dozen adult hospitals have come together, from urban areas and very rural areas, with the business community and with patient advocates to form a partnership to improve patient care. They
are now measuring their successes, and they've prevented about 3,600 infections and medical complications for Ohio's children, and they've already saved $3 million, and this effort is just under way. They are determined to measure and be very transparent about what is happening.

I know David Pryor is here today from Ascension Health. Over the last seven years, they've reduced preventable deaths by more than 1,500 a year. I'll be at the Seton Medical Center [part of Ascension Health] in Austin this Friday to again help shine a light on the work that they're doing.

So every day, those hospitals and many others around the country are proving that safer, better, and more affordable care is indeed possible, because that's what they're driving toward.

In the past, there have been real questions about whether the results of some of these great hospitals could be brought to scale. They wondered whether providing high-quality care was like playing in the NBA, limited to only a select few, those exceptional athletes with remarkable ability. So while all kids can play basketball, only a few will ever be drafted by the NBA.

But I think what we're talking about is creating systems where it's more like shooting a free throw. Anyone can do it with the right commitment, the right practice, and the right support. You don't have to be an NBA draftee to actually score two points from the foul line. Now, the reason we know this is because we're beginning to see some of these pockets of excellence spread.

A great example is central line infections in intensive care units. First, the researchers, as you all know, developed a check list that significantly reduced the occurrence of those infections. Then, they piloted the checklist in Michigan, where they spread it to a series of hospitals, saving 1,500 lives, and reducing health costs by more than $200 million in just the first 18 months. Today, with the support of our Department, those best practices are indeed being spread around the country.

Between 2001 and 2009, ICU central line infections fell 63 percent nationwide, so it is indeed able to be taken to scale. Now, that's an incredible accomplishment, and because of that effort, thousands of Americans are still living happy lives, going to work, and playing with their grandchildren. Everyone who played a part in that effort should be incredibly proud.

But I want you to consider exactly how limited that achievement is. This wasn't all health care-associated infections; it was only infections associated with one procedure in the hospital. It was not even all central line infections; it was just in ICUs that those statistics were measured. And it was not a 100 percent reduction, or even an 80 percent reduction, it was just over a 60 percent reduction.

So the truth is, despite the successes around the country, injuries from care are still way too prevalent. In fact, a recent study found that as many as one in three hospital patients are being harmed by their care right now in hospitals around the country. So as we look back over the last 12 years, we can say two things: we have made some progress, but it's not nearly enough.

Let me put it in even stronger terms. If we only improve care as much in the next decade as we have in the last, we are failing the American public. The good news is that bigger and faster improvements are well within our reach. Not only do hospitals that want to improve care today have more examples to follow, they also have access to better research on quality and better metrics for measuring that quality.

Even more important, there's a growing urgency behind improving care. Medicare alone is expected to rise, in terms of cost of Medicare, 91 percent over the next decade. Let me say that again. The costs of Medi-

care are on a trend to rise 91 percent over the next decade, unless we do something about that cost trajectory. Families and businesses are expected to see similar increases.

Now, people are realizing that we'll be forced to slow health care spending somehow and we really only have two choices. We can spend less overall on health care and just cut benefits, or we can provide better care and lower the cost that way. If we want to improve the care, we're already behind the curve, so we have got to start now.

Now, I saw this urgency last month when the administration helped launch a new patient safety coalition we call, as Harvey told you, "The Partnership for Patients." We recruited doctors, nurses, pharmacists, hospital leaders, health plans, employers, patient advocates, and patients themselves to work with us on achieving two ambitious goals for the next three years.

We want to reduce preventable injuries in hospitals by 40 percent. We want to reduce hospital readmissions by 20 percent by targeting those that should have never happened in the first place. Today, I am proud to say that within a short period of time after launching this exciting new initiative, we have 2,500 partners who have already signed on, including more than 1,200 hospitals around the country.

What really sets this partnership apart from previous efforts is how eager they were to join. There was no negotiating or arm twisting. When we reached out, the typical response was, "Where can we sign up? How can we be part of this effort?"

If we're going to bring excellence to scale in our health system, we need all of those partners to play a part. But we know that government has a particularly important role to play. When it came to eliminating the central line ICU infections, for example, many hospitals only got serious when Medicare added them to the no-pay list.

But for far too long, that kind of leadership from Medicare was an exception. I've talked to lots of employers, and frankly lots of hospital administrators over the years, who felt that when it came to improving care, Medicare was actually dragging behind what private employers and others were trying to do. We knew that needed to change.

So the first thing we did was to encourage the President, who was eager to find the best possible talent, to nominate Don Berwick, who helped write the IOM report and who I met in the mid-1990s when we served together on the Clinton Commission on Patient Quality and Patient Care, to come to head the Centers for Medicare and Medicaid Services and work with Carolyn Clancy and our other leaders to figure out

how we can use the world's biggest insurance company to help leverage the kind of changes we need to see in the system.

Next, we started putting the unprecedented tools and resources we got in the Affordable Care Act to work. For example, we have a billion dollars to back up this new initiative on these two ambitious goals; to support local efforts, to do technical outreach, to do training, and help leading hospitals spread their efforts and take them to the next level.

We also recently launched an initiative that ties payments to quality for 3,500 hospitals across the country beginning in 2012. Over time, even more money will be paid out on the basis of quality, creating powerful incentives for improvement. Medicare will no longer be pay-for-volume, it will be a pay-for-value program, and that's a huge change in the financing system.

Referring to some of these changes, one Georgia hospital CEO said recently, "It's not just a good thing to do quality. It's going to be a necessary thing to do quality." We hope his attitude is understood across the country.

We have also provided some guidance to help doctors and hospitals form accountable care organizations, where they will be able to share the savings if they keep their patients healthy in the first place. We've established a new Innovation Center in Medicare and Medicaid that will test new approaches for improving care. The best hospitals have already adopted philosophies of continuous improvement.

With the Innovation Center, we're setting the same goals in Medicare and Medicaid, again unprecedented. By preventing injuries and the unnecessary care that goes with them, the reform frees up critical resources. We estimate that with the Partnership for Patients alone, we can reduce costs by a minimum of $50 billion in Medicare over the next decade. And those reforms will have a bigger impact when they're adopted and implemented by other payers, creating powerful incentives for improving health care across the entire system.

So my pledge to you today is that we want to continue to be active partners in improving care, but ultimately, the transformation happens one hospital and one health system and one community at a time. We can provide support, we can establish incentives, but you are the ones who have to do the hard work of putting better systems into practice.

Now, many of you in this room are already national leaders in the effort, but today I want to ask you to go even further. Shortly after I was sworn in, I got a letter from a woman in Maine. Her father had gone to the hospital with a fractured ankle and a mild urinary tract infection, and

while he was there, he was infected with MRSA (methicillin-resistant *Staphylococcus aureus*) and pneumonia. A day-and-a-half after he came home, he collapsed and never walked again. He lost 50 pounds and eventually got so weak he couldn't sip water through a straw. A few months later, he was dead.

And if you asked his daughter what an acceptable rate of preventable injuries was, she would say zero, and she would be right. If you asked any of us what rate of injury we would accept for our own parents or our children or our spouses, we'd give the same answer. And that needs to be our goal. We must do no harm and harm no patient. It should not be reducing by 20 percent or 30 percent or 50 percent or 70 percent. It should be the goal of taking harm rates to zero.

We have to strive to reduce all types of harm, including harm to those who provide care. Today, a nurse in Maine is more likely to miss a day of work because of an injury than a logger is in Maine. So that's an area that also needs more of our attention. In its 1999 report, the IOM sought to, and I quote, "break the cycle of inaction." Today, we've broken that cycle.

We are moving forward, but we're not going nearly fast enough. Every day, new treatments and therapies are introduced, bringing benefits for patients but also adding more to the complexity that breeds medical errors. If we want a safer health care system, we need to speed up the rate of improvement, and we need the leaders in this room to actually continue to lead the way.

I want to thank you for the hard work that you all have done so far, and for your courageous leadership over the past 12 years. We wouldn't have gotten where we are today without the work that's been done across the country. But we need to cross that next frontier, to commit ourselves to the goal of elimination of harm and complication. That, once again, lies in your hands.

We are poised to take a great leap toward the day when every American who walks into the doctor's office or hospital receives the right care at the right time. I look forward to working with you as a great partner to make that happen. Thank you so much.

DR. FINEBERG: Secretary Sebelius, I just want you to know how much we value and appreciate your words, your inspirational goals, and your encouragement, and I want to assure you that we will do our best, every one of us, to work with you and to achieve those goals for America and for the American people. Thank you very much. Thank you very much, Secretary.

Discussion

DR. FINEBERG: And now, I'd like to invite the members of our panel to join me on stage. If I could invite Don Berwick, Carolyn Clancy, Brent James, and Paul O'Neill to please come with me and we will sit together in the seats appointed.

This is the conversational, informal part of our program, and we look forward very much to the opportunity to interact with you in the course of this part of our conversation together. I'm surrounded on both sides by some of the most imminent leaders in health today in the United States, and those who have really set the pace for change and improvement around safety and quality of care.

Our plan for this part of the program is to invite each of the panelists to offer some brief opening remarks, and after all have concluded with their opening comments, we'll then have an opportunity to engage in conversation, questions and responses from members of the audience, as well.

So if we can, I'd like to begin by introducing the panel and then turn to our speakers. On the far right is Dr. Donald Berwick. Don has been introduced to you already as the Administrator for the Centers for Medicare and Medicaid Services. Those of us who have known and admired Don for decades know of his intense dedication and extraordinary level of achievement in advancing the goals of quality and safety in our country, and we are very appreciative and very grateful, Don, for you to be here.

Between Don and me is Dr. Carolyn Clancy. There's a much bigger distance between me and Carolyn than between Carolyn and Don because Carolyn has also, in her role as the Director of the Agency for Healthcare Research and Quality, been a singularly important figure in

helping guide our nation's effort toward advancing quality and improving on performance in health care.

To my immediate left, Dr. Brent James, who is the Chief Quality Officer for Intermountain Health Care and also serves as the Executive Director for the Institute for Health Care Delivery Research, has been an incredibly successful leader in reshaping and guiding improvements in the processes of care that have benefited patients and has been a model for many institutions and professionals throughout the country and, indeed, around the world.

And on my far left, Mr. Paul O'Neill, who served as the 72nd Secretary of the Treasury for the United States and, before that, as the Chairman and CEO for Alcoa, is a legendary leader in advancing not only good business, but good business practices, especially when it comes to the safety of the workforce and introducing processes that simultaneously advance quality, as well as safety.

So we have an extraordinary group to hear from, and I'd like if I may, first to turn back to you, Don, for your opening comments.

DR. BERWICK: Thanks, Harvey, and thank you all for being here. It's an honor to join my distinguished colleagues here up on the panel. The Secretary sort of said it all, but I thought I'd do a little reflecting and maybe a little bit of advising.

It's nostalgic to be here because, as the Secretary said, I was party, as Brent and others were, to the 1999 work that led to the report *To Err Is Human* from the IOM Committee on Quality of Care in America, brilliantly led by Janet Corrigan.

If you were there, it would feel eerie. When we were in the room, I remember the meeting at which we were preparing what was ultimately the report *Crossing the Quality Chasm* and someone suggested, I don't know who it was, that maybe we should fast track one of the items to cut our teeth, to try to figure out what we should work on quickly, and safety emerged as an idea.

We were debating whether it was worth doing that, was there really a problem, and how would people react to it, would there be any interest at all. We did act and the result was *To Err Is Human*, which appeared in December 1999. Those times now seem very long ago.

The Harvard Medical Practice Study, which was the threshold study, was just a few years old. The Colorado-Utah studies that were the replication of that research were even newer. Safety was not on the top of anyone's mind, except a very few; importantly, the Veterans Health

Administration had already gotten a start on the topic, thanks to Ken Kaiser's leadership, with the help of colleagues there. That was December 1999.

We've come a really long way. Even while we have enormous challenges now that we'll speak about at this meeting, it's worth just celebrating a little. Awareness is very high now. We have tons of empirical evidence that the problem is abundant. We had the most recent studies this year, Dave Classen's report in *Health Affairs* that the Secretary mentioned, the Office of the Inspector General with the report on Medicare beneficiaries showing a 13.5 percent injury rate. And Chris Landrigan's study in North Carolina, which confusingly shows not much progress against all-cause injury in that state. We have data, though, and that's a great place to start.

We also have the best minds now. The best engineers and safety scientists in the world are now engaged in health care. Some of them are hooked on health care: Jim Reason, Carl Weick, David Woods, a long list, got to add Paul O'Neill, a pioneer who didn't begin in health care, but now is helping lead our whole country into thinking differently about reliability in health care systems.

And we have the major systems that the Secretary is referring to and others that have just cast a light. They have shown what's possible—Ascension Health, she mentioned Virginia Mason, Mayo Clinic has done tremendous work, Centura, and Henry Ford Health System. I see Bill Corley in the audience, who almost single-handedly is beginning to turn Indiana into an example for us all.

And in some sense, we have results beyond anything I could possibly have thought even remotely achievable back in those 1999 days. I thought that we could drive central line infections to zero in hospitals for years, year upon year, or that ventilated pneumonias could essentially be abolished, or pressure ulcers cut 95 percent as dissension is done.

Seton Northwest in Austin, where the Secretary will visit, has now, last year, 10,000 consecutive deliveries with only one birth injury. These are rates of achievement that I would not have thought possible. And we have one great example of excellence to scale now in this country with the progress against central line infection now, thanks to Carolyn's leadership and others. We know we can do it as a nation, not just as an institution.

That is to celebrate, but it also sets us up for what we have yet to do, which is more important, and that is, as the Secretary said, to go to scale, full scale. I don't see any reason why any American in any hospital

should count on anything less than the best-known care available, and that begins with safety.

How? How can we, as a nation, take really seriously the question that I've begun to ask everywhere I go, which is, if there, why not everywhere? The Partnership for Patients that the Secretary described is an effort to try to do that with a vast partnership all over this country—to take excellence to scale.

In this room, I want to just add one little challenge to that, if I can. We have resources now, in the federal government and in the Affordable Care Act, giving us the Innovation Center and the ability to invest in support and learning at a scale never before possible. We have the pioneering work that Carolyn leads at AHRQ and that also involves investment, and we have lots of private sector activity.

But I actually think that in the next phase, the phase we're entering now, there will be a stratification that we ought to keep our eye on. There will be the many and then there will be the few. The many are crucial. With central line infections, it is time to end them and we can do it everywhere. The same goes for ventilator pneumonias and pressure ulcers. There's a list, and one part of the Partnership for Patients is about that list. And it's time to get it done and it's all in, everybody needs to do that now.

And every lever we have, every tool, every form of commitment—spiritual, economic, leadership, learning—needs to focus on these achievements. They're in the hands of all of us, we all can do it. But there's room for pioneers, too, and that's for the few.

I'm starting to think that in terms of lists, pressure ulcers, ventilator pneumonia, central line infection, it's the adolescence of safety. Safety, as Jim Reason teaches, is a continually emerging property of a dynamic system. It's not a list of things. It's a property of a system of work. And therefore, for the few who will then lead the many, I think it's time to engage all-cause harm, as the Secretary put the challenge before us, and to stop thinking just in terms of ticking boxes on things to be done. But to regard the journey we're now going to enter as one of cultural change in total, so hospitals can be the kind of high-performing, safe places that we know they can be.

And therefore I was thinking, as I was preparing for this, about beliefs. What beliefs will help us move to that next level? I've got five, but I'll bet there are more. One belief is that zero is the right number. That's an uphill battle, because it's so much easier to think of 10 percent change or hitting the benchmark. Zero's a different number. It's not a number, I

guess, it's a different goal. And I think that conversion, to the elimination of injury to patients in our hands, is the path to the future.

The second is simply a reinforcement of what I regard as one of the central tenets of the *To Err Is Human* report, and that is that the workforce is on the same side of the net as all of us. They don't want to hurt anybody, anytime. And to begin to regard this as a team sport, with the enemy being injury, not any other player in the system. It is a very important mentality to realize we're in this together and that the problem is the injury, not the workforce.

The third is really hard, and that's to regard speed as of the essence. The suffering meter, like a taxi meter, is running every single day. I would suggest that we no longer give ourselves the leisure of slow pace. It's time to act at full speed.

The fourth is a contentious point, but I will make it anyway, which is that preventability is a misleading idea. In a mature safety world, where zero is the norm, zero is the target and we're in it together. But the job is not to find out what's preventable, it's to make it all preventable. And that scientific endeavor, to me, is the stage that we now can enter, given the ground work that's been laid in the past decade.

And the last is what I said about all-cause harm. It's time to understand that safety is a characteristic of a system, not satisfying the list. These are some of the mentality changes that I think will really help us leap into the future. I've been in this field of quality now for 30 years, 12 years in the safety world, and I've never seen a time more flowing with possibility. And I'm grateful to the IOM for its leadership and believe we're going to look back on this moment, this time, as a real turning point.

DR. FINEBERG: Well, thank you very much, Don. If we are indeed at a special threshold, it's very clear that you have played a very key role in getting us there, so we're all appreciative and admiring of that. I want to invite Carolyn now to offer her remarks. I should mention that obviously we're not using slides in this presentation. But there is a set of slides that Carolyn had available and they will be available on the website, and I think there may be a hard copy, if people would like them, on the way out. But first, let's hear the key messages. Dr. Carolyn Clancy.

DR. CLANCY: Great, well, thank you very much. Let me just say that, on behalf of my colleagues, many of whom are down there in the third

row, I think it's fair to say we're happy, proud, and excited to be a part of this, and sometimes a little tired.

So when you hear people asking about the numbers, where does 40 percent come from, how we can get there, how much money will we save, and so forth, I want you to know that out in Rockville, there's a superb team that actually worries about every single detail. So much so, that when they handed their work over to the actuary at CMS, the actuary said, "Thank you, we couldn't have done better," which I thought was just an amazing tribute. Numbers can, of course, be confusing, but they are also important.

Don and others have pointed out many times that no health care professional goes to work to harm patients. But if you think about how health care professionals are trained, we are still training people to see one patient at a time, do the very best they can, and move on. And when bad things happen, what we do is all scurry and have a lot of meetings, and sometimes some training, and we aspire not to do it again. But that doesn't seem to be working, so our awareness is up, but the question is, "What's it going to take to scale at a big, big level?"

From the private-sector leaders, I have learned that this can often be distilled as the "three I's": information, incentives, and infrastructure. Now, we have lots and lots of information, and really the best information starts here at the Institute of Medicine. But information that is too high level and national is not enough. It is good in terms of awareness, but when we put out our reports on quality, I know that sometimes the reaction is, "Wow, I thought we were doing better than that. Thank God it's not us," because it's not. You know, it's too high level to be tractionable.

What you really have to get to is local information, so that people have some sense of issues such as, is there a gap between their aspirations and what's actually happening every day as they aspire to provide the best care? And we are actively working on tools to do just that.

The Patient Safety Bill, which enabled the creation of patient safety organizations—huge excitement there—actually gave the Secretary the authority to disseminate common ways of defining events, extensively vetted through the National Quality Forum, which has really been fantastic. Right now, electronic health record vendors are trying to build them into their products.

Now, they're not going as fast as we'd like, so it's not going to be happening next week. But we can see just over the horizon, where hospitals and other facilities will have the tools to be able to know in real time how they're doing. When you have got that data, then you can ac-

tually begin to see how you're doing, because I'm convinced that one of the key ingredients of the Keystone Project—the project to reduce central line infections in Michigan—they collected a little bit of data and people got quarterly feedback, which, right now, we're a little bit weaker on that feedback part.

That is the information part. We make a lot of tools available, and frankly, a lot of findings from our research. When Secretary Sebelius first came to AHRQ, we were so excited. One of the first things we showed her comes from a project about reengineering the discharge process and recognizing that many hospitals are struggling to keep up nurse staffing levels, and it makes the discharge process very chaotic.

This team at Boston Medical Center is actually testing a computer avatar. Now, to be honest, when I first heard about this, I contemplated my then-elderly dad and thought, "Great, he'll be sat in front of a video and go right to sleep." Well, no, it's actually much better than that. This comes across as a human, and you have to keep touching the screen to show that you're paying attention. And indeed, this avatar, Louise, is said in many institutions to be more popular than the real-life nurses, because she never gets called or interrupted and so forth.

Now, incentives, you've heard a lot about what's going to be coming from the Innovation Center. It's really a thrill that Nancy Nielsen is going to be working with us at HHS and so many, Mary Tenati, so many fantastic people, to say nothing of the completely imperturbably, relentlessly optimistic Joe McCannon.

But that's only part of the incentives now. Because more and more employers—spurred on by Helen Darling and others—or private-sector insurers are saying, "Oh, no, it's not just CMS, it's us, too." In fact, I visited a terrific health care system yesterday, where they're not sure what they think about that ACO regulation. They're thinking about it, but you know what? They said, "We probably might play because the private sector people actually want to be part of this movement going forward," which I thought was quite interesting. So there will be more and more incentives.

I think the most powerful incentive is actually to learn. If you ever meet anyone from Michigan who was part of the Keystone Project initially, they're ready now to take on world hunger, or very, very big problems, because it was incredibly empowering. They wanted to know what they could work on next. And I think if we lose sight of that, we will have missed a huge opportunity.

And then, finally, infrastructure, the infrastructure that Dave Pryor has mounted at Ascension Health is one approach. It's not the same as what is done at Virginia Mason and it's not the same as at other systems, and it's probably not even all that similar to what a much smaller facility would use.

I think we need to be very attentive to not just giving people fish in the form of information, but actually working with them through technical assistance, learning collaboratives and so forth, so that they know how to fish and how to solve these problems on their own. Lots and lots of good examples and tools, and I won't belabor the point, except to say how excited we are about it.

The final point I would make is about the importance of patients and families. This is not to say that we can't figure this out, so now it's up to patients and the people who love them to take care of this. But this past fall, when my dad was very ill and ultimately passed away, I watched my family interacting with health care. I'm the only one in medicine. Now, if you're the oldest of seven, you know that no one in the family is shy, because speaking up is kind of a core competency. And my siblings did indeed speak up and asked lots and lots of questions, but it was impossible not to notice how hard it is to navigate. And this was sort of an intensive exposure to this. But more positively and importantly, there is no meeting or activity we have ever launched at AHRQ where having patients in the room isn't a complete game changer, because it changes the conversation from "Oh, this is really important and you're really, really right, Dr. Berwick. But you know, it's too important not to get it right," to "Yes, we can."

And I've seen it flip in about 10 minutes because people said, as Secretary Sebelius said, the right number is zero. What's the right injury rate? It has to be zero. So I am really thrilled to be here and thank you again for your leadership here, Harvey.

DR. FINEBERG: Oh, thank you, Carolyn. Brent, Don mentioned pioneers, and it's hard to think of someone who has done more in the way of initiative to transform the way a health system operates than what you have accomplished at Intermountain. What's been the key?

DR. JAMES: You know, I am feeling a little bit uncomfortable, Dr. Fineberg, in the sense that coming after Secretary Sebelius, Don Berwick, and Carolyn Clancy, I feel that everything I'm going to say is just redundant.

DR. FINEBERG: It's not. Everything may have been said, but not everyone's had a chance to say it.

DR. JAMES: I just wanted to make a series of points and then come back to your point. Secretary Sebelius said it well. It is pretty easy from the evidence to make the case that Americans today receive better health care and achieve better health outcomes than any previous generation of people living on this planet.

However, the same evidence base shows how far health care could improve. We could be significantly better than we are. It really should be thought of as a list of opportunities, not a bill of indictment as it's been cast so often in the past. Seriously, it's a list of opportunities, of where we can be far, far better.

Number two, health care is inherently dangerous. Since the healing professions adopted the scientific method back in about 1910, we have massively improved our understanding of the human organism in health and disease, and we've devised literally thousands of ways that we can intervene to change a patient's future.

The problem is that anything that's powerful enough to heal can also harm. And as a clinician, you're often walking a very narrow line between health and harm. Sometimes it's almost impossible to avoid stepping over that line. You have to remember that despite issues around patient safety, on average, the American health care system nets about 3.5 to 7 years additional life expectancy for every person in our society.

I was one of the signatories on the evaluation of the IHI global trigger tool. We found, though, that about 26 percent, to be exactly accurate, of patients hospitalized have at least one, sometimes more than one, care-associated event associated with their index hospitalization. To get that up to 33 percent, well, quite a number of people were hospitalized because of care associated with outpatient care. For 9 percent of all hospitalizations in our study, the purpose of the hospitalization was explicitly to treat a care-associated complication or event in an outpatient setting. An appalling statistic when you think about it: almost 10 percent of all health care costs, to treat the consequences of health care.

You need to know, too, though, that such studies as we have from other countries show that this is endemic across modern medicine. It's not unique to the United States at all. Nobody's worked it out; that's why it's an opportunity as opposed to some struggle or failing.

Now, the next thing you need to know, most care-associated events are invisible to the clinical teams delivering the care. The single biggest

category we have of patient injuries in a hospital is adverse drug events. Jonathon Nebercus worked on this at Seminole. He showed that almost 80 percent of the time, the care teams did not associate their patients' symptoms with the drug that was causing it.

Now, it varies based upon specific class, but this is a very common pattern that you see. That explains why voluntary reporting systems, the mainstay of current reporting for patient injuries, or incident reporting, fail to detect the vast majority of injuries. At best, they detect about 1 in 10 events confirmed with more sensitive methods. More commonly, they'll find about 1 in 100 of those that you can find.

Oh, we used to believe that the reason people didn't report was the fear of punishment associated with reporting. We now understand that the real cause, the primary cause, is failure to associate. Fear is number two, followed by number three, bureaucratic overhead, the idea that process is a punishment, if you trigger one of these things.

The next most important thing, really, is that almost all care-associated injuries track back to systems failures, not to human error. The classic work on this was done by Scott Evans in the late 1980s. He was looking at adverse drug events, over 200,000 consecutive inpatients across 8 years. He was tracking human error, CDC definition being parallel with confirmed events, 3,996 confirmed ADEs, 138 of them track back to human error as their primary cause, 3.5 percent. Some 96.5 percent were due to classic system failures. This is reflected in another important way. Every major improvement in patient safety that I have seen in the time that I have been in this field resulted from system fixes. Not from somehow perfecting the humans involved, not from education, not from oversight, every one was from a systems fix that made it easier to do it right.

I wanted to issue a challenge to this group, a fairly serious challenge. Don says it won't work. I want to challenge you to stop using the word "error" relative to patient safety.

DR. FINEBERG: Say that again into your microphone.

DR. JAMES: I want to challenge you to stop using the word "error" when you are talking about patient safety. It focuses the mind on the wrong category. It puts you square in the middle of the 3.5 percent. It minimizes your potential impact. You are looking in the wrong place; you have turned over the wrong rock.

It's interesting, though, when we published that little report in *Health Affairs*, I read back through it again. We did not use the term "error" once in the whole report. This is a group of researchers who make this our field of study. I see Jim Battles from AHRQ, same exact conclusion, isn't it, Jim?

You see, when it was reported to the news media, guess what term they used almost exclusively? Errors. It leads us to nonproductive areas almost by definition. Technically, they're all errors, by the way, if I'm using James's reasons methodology, that your intuitive definition of error. That's not where our solutions lie.

Two last quick points. These things cost money, they cost big money. We have to treat the consequences of these, and they're a major contribution to preventable waste within the system. And then, finally, just the idea to echo Don and Carolyn, we know how to fix these things. This is something that we can do considerably better with. We know how to do it and it's time to act. So Don, my real applause for starting this initiative for the country, and thank you, from somebody out in the system.

DR. FINEBERG: Thanks very much, Brent, for really important insights. Paul, I would like to get your perspective on this conversation. You have probably spanned a wider array of fields focusing on this fundamental issue of processes and safety than any of us, and than almost anyone in the country, in fact. And I know that you've now focused so much on health. What lessons do you bring to the health area from this array of experience that you've had and that you believe are most salient for us today?

MR. O'NEILL: Oh, good, thank you for inviting me. I hadn't actually thought about it for a long time, but Ken Shine was here when the *To Err Is Human* report was released. And he and I'd been colleagues on the RAND Board. I was actually, at that time, Chairman of the RAND Corporation. I said to Don after the report was released, "I hate the title." And he said, "Why is that?" And I said, "Because I think it suggests that the problem is a human problem that can't be fixed." And so I very much associate, Brent, with what you said.

I think it was always a mistake, and I've said this to Janet, to say *To Err Is Human* because it's not true. It is simply not true, if we properly design systems and redesign systems continuously to recognize defects in how we've organized work or activity. We don't have to have error.

So as we talked about getting together, I suggested maybe it would be worthwhile to say a few words about what is the way forward. So I very much associate with what the other people have said, but you know, I put myself to the task this afternoon of writing a few words to try to sum up 50 years worth of thinking about these and the similar things about the system.

So at the top of my list, I wrote a statement that says, "Institutions are either habitually excellent or they are not." I hope you all caught something the Secretary said rather quickly. Maybe it did not register with you, that the potential for a nurse in Maine to be injured in her work or for any other caregiver to be injured in working in health and medical care is substantially greater than the risk of a logger in Maine being injured.

Let me make that more dramatic for you, because I think this is really an essential point. If you want to see real-time safety data information for a large worldwide organization, go on your iPad or your iPhone or whatever your connection device is to the Internet, type in "Alcoa" and when the homepage comes up, on the upper-left-hand side, there's a box that says "safety." It's the most prominent block. You can do this 24 hours a day, and you can see what the lost workday injury rate is to their tens of thousands of employees on a real-time basis around the world every day. And what you will discover is that the injury rate among those tens of thousands of employees is between 30 and 40 times lower than the injury rate across caregivers in health and medical care.

Now, let me go back to the top and say to you again, institutions are either habitually excellent or they're not. I believe the single most important and reliable leading indicator of habitual excellence is workplace safety. So I would propose that caregiving institutions around the country, at eight o'clock every morning local time, post in cyberspace the lost workday injuries that occurred to caregivers in every caregiving institution in the country. They would collectively be horrified to see the below-the-horizon, unnoticed injury rate to caregivers.

Then, I would submit this to you, so long as injury rates of those magnitudes exist in health and medical care, there is no hope of making real progress on the agenda we talked about today, because the practices and activities that are necessary to produce near-perfect or perfect safety to the workforce, namely the idea of continuous learning and continuous improvements, are exactly the same set of processes and ideas that can permit the country to achieve the goals that the Secretary laid out today.

The reason I have been advocating for longer than I care to remember that people take on the issue of workplace safety is because I believe we actually can create institutions across health and medical care that are habitually excellent. Not occasionally, not about central line infections only, or about VAPs or any of the other traditional measures, but about everything.

And then, there are a couple of other things I want to say. I believe the size of the opportunity here, and I'm happy to say not bounded by the idea of errors. The size of the opportunity related to American caregiving institutions, getting to be habitually excellent, is a trillion dollars a year. And I know $50 billion sounds like a lot of money. You know, maybe I'm a genetic revolutionary. I believe there's a trillion dollars a year worth of opportunity value in doing simple things by ending the 20 percent of a nurse's time across the country that's currently spent hunting and fetching.

Right, this is not just about "We injured somebody." This is about organizing processes in a way that we don't have waste. And think about freeing up the 20 percent of an average nurse's time spent hunting and fetching. They could work on another problem we lament, which is patient falls, right? We would have more time on point if we weren't wasting so much time because our systems are so inadequately designed and not generally subject to continuous learning and continuous improvement. So I hope I provoked everyone.

DR. FINEBERG: Indeed, thank you. I wonder if I could just begin the conversation, going back to a point, Brent, that you made that I thought was rather provocative in juxtaposition to the notion that we're trying to eliminate harm. You pointed out at the beginning that health care is inherently dangerous, because of the narrow difference between what you do to promote health and what entails some risk to the patient. How is that consistent with the goal of eliminating harm?

DR. JAMES: We have to say that it's the right goal, or that's the only goal that's possible. When you're doing improvement, you often think of that goal as a star to steer by, a point on the horizon, and then you see how close you can come, just the aim.

We learned that fairly early on in the same study. I couldn't agree with Don more, we don't use the term "preventability" anymore. And the reason is that we kept finding things that everybody agreed were not preventable, and then someone got clever, because we had the data. And

suddenly, it became preventable, and it's happened again and again and again. That goal is the only appropriate goal. The question becomes, how close can you approximate it? How close can you come?

So I couldn't agree with the goal more fully. I mean, it's just exactly right. And our task is just to push that boundary back as much as we physically can. Do I honestly believe that we'll ever completely eliminate it? Let me say, I hope not, and here's why. So many things today, we regard this as part of the routine. You see, if I'm standing higher, I can see further, and I can define new goals, can't I, aiming at that same star. Isn't that the goal? There is a famous old Yiddish proverb that I really like, "Better has no limit." See?

DR. FINEBERG: And I thought I knew all the old Yiddish proverbs. But that's a good one. I will take it very much to heart. Thank you. Let me, if I could, Paul, take off on a point that you made about the centrality of focusing on the safety of the workforce as not merely an indicator of good performance, but actually as fundamental to what you described as the habitually excellent institution. And I'd like to ask Don or Carolyn: in the health care domain, are you aware of health care institutions that have taken this message really to heart and put front and center at the forefront of their aspiration safety for everyone who works in this institution? Anyone in the audience hear that? Paul knows maybe an example.

MR. O'NEILL: I know of a place that's called Cincinnati Children's Hospital. Those of you who know Uma Kotagal, I finally convinced her that this was a right idea, and they've put worker's safety on their dashboard. You know, it's lamentable that we can't name lots of places that have bought this and acted on it, because it seems to me so self-evident.

And you know, there's this phenomena, I was saying to my wife the other day, it's really frustrating when you can see a mountain and everyone thinks you're in the prairie.

DR. FINEBERG: Thank you, Paul. You know, we have such a wonderfully informed and engaged group here tonight. I'd like to make sure that we allow opportunity for your questions and comments, to come forward as well. So I believe we have some microphones available, and maybe even an initial questioner. If you could just identify yourself first, that would be helpful.

AUDIENCE QUESTION: Yes, I'm John Osgood with Medical Business Exchange. And a few years back, I had the opportunity to write a story for *Employee Benefit News* called "How Safe Is Your Hospital?" And after what I heard today, I'm thinking about doing it again.

In the process of doing that story, we found there were about 15 organizations that were devoted, either exclusively or partly, to patient safety and quality care, and some of those come to mind today. One is the Leapfrog Group; is anyone here from the Leapfrog Group?

Did you know they do a study every year, and what I was struck by, did some consulting work with them, is that clearly less than half the hospitals in the country even participated in this. It's kind of an indictment in itself. I know it's voluntary, but to me, that's sort of an indictment.

Another group that I contacted was the National Patient Safety Foundation. And when I asked, "Why, after all this time, hasn't more improvement shown?" It's been 10 years since *To Err Is Human* came out. And they said, "Well, hospitals are suffering from institutional fatigue." Institutional fatigue? I mean, 100,000 people are dying a year and the hospitals are getting tired? It strikes me as odd.

I know the National Quality Forum came out some years ago with the "never events list," and that list was used to decide what events Medicare would not pay for when they were clearly preventable. And I think a bunch of private insurance companies have done the same; they followed suit. I guess my question is, how much of an incentive or a disincentive has that been to improve the situation? Thank you.

DR. FINEBERG: Thank you for the comment and question. Do you want to respond, Don, in the start and then Carolyn, also?

DR. BERWICK: Sure. Carolyn probably has more of the facts than I do at my immediate disposal. There was no question, it wasn't that not all never events were no-pay; they're two different lists. But it was a wake-up call. Once could sense boards of trustees and hospital executives around the country that had not been focused on safety, I really think they became more focused. So it was a step forward, and we did see progress. And one of the things that we continually observe is that when there is focus on a particular area of safety, progress appears to be made, no matter how that focus occurs, through measurement, incentive, the kind of collaborative work that Carolyn and her colleagues have championed.

I'd say the only problem with the no-pay idea is that it is so focused on a short list of items. And it may mislead us, as we learn more about safety, into thinking that you just finish the job, you just don't have any of those and you're done. But as Paul said, Brent said, that's not what this is about. This is about a transformed industry, a transformed enterprise, in which excellence of the type Paul has been telling us about since the first day I met him is the primary characteristic. And that's not about a list of things, and I guess that's perhaps the counterweight to the work there.

AUDIENCE QUESTION: What leverage is there?

DR. BERWICK: What are the incentives to change now?

AUDIENCE QUESTION: Yes.

DR. BERWICK: I think they're more and more in alignment. We have much more transparency with it, so we're measuring more things and it is more public. We have a lot more data so that, in the heart of the professions now, fewer and fewer doctors and nurses and executives are, I think, giving the answer Carolyn quoted, which is it doesn't happen. I think people are aware of it and that appeals to super ego, as well as it's just an embarrassment.

Finances are more and more aligned; there are different ways in which, for example, in the Affordable Care Act and CMS, we are linking pay to hospital performance, as best we can measure it, in terms of improvement. I think there's something else going on that's much more powerful, and that's in the spirit of the care system. People are starting to get this, and if we can line up the stakeholders that the Secretary was talking about on the same wavelength, I think we're going to see a surge of progress. I'm very hopeful about that.

DR. CLANCY: I think I would be actually just a tiny bit more optimistic. I would agree with everything Don said, that you don't want to just think that this is the only list, this is the Everest of our ambitions. But at the same time, I think not paying extra for the waste associated with care-associated harms, that changed the conversation. Suddenly, people who were leading quality efforts in hospitals, who had to have conversations with CFOs and the Grenache guys about liberating resources for some of this work, found a newly receptive audience.

And to some extent, there's always two conversations going on about how big is the incentive really and how big is the perception. And I think the perception actually helped a lot of people find more willing partners in their own institutions, and a lot of boards started paying more attention, or at least knowing that they needed to get that this, too, was part of the bottom line.

And I think what the Affordable Care Act sets in motion is a path where there's going to be more and more incentives to align payment with quality and better results. And so people see that right over the near-term horizon and understand that ultimately the bottom line the boards are worrying about isn't just the finances, it's also got to be about the safety and quality.

DR. FINEBERG: Thank you very much. We will go with wherever the microphone is first.

AUDIENCE QUESTION: My name is Cole and I am a 4th-year osteopathic medical student. And first, I wanted to say, it's an honor to be in the room with so many movers and shakers, and I hope that my generation continues to raise the bar on this issue, because I really think it's needed.

But to speak about raising the bar, to talk about Dr. Berwick's comment, if here, why not everywhere, I would like this to be applied to medical education. Right now, there is currently no substantial evidence that supports the notion that the current assessment industry used in medical education correlates with good patient outcomes. And there have been more and more articles published on this subject of how do we address this issue to help grow this future generation of practitioners that are more aligned with a future of quality health care.

So my question is, how can the Institute of Medicine and others address this issue to help facilitate this progress, so that we grow practitioners with a mentality that's targeted toward these issues? Thank you.

DR. FINEBERG: Thank you very much. Don, you have been involved with medical education for decades and working on this. Do you want to start, and Brent, I would love to get your intake, as well as Carolyn's.

DR. BERWICK: Sure, Harvey. I think Cole's right. We have a ways to go here yet. It reminds me sometimes, I'm of the generation that was going through medical education at the time when there were a couple of

major shifts just under way. One of them had to do with embedding statistical thinking more into the clinical practice. And we had leaders, like Paul Beeson and Tom Chalmers and Fred Mostow and others who were really teaching us how to think in a completely different way. It was tectonic. I mean, this was not natural, but it became natural. And today, you don't have a major medical journal that doesn't have statisticians on the senior levels. That wasn't true 30 years ago.

I think this is the same kind of thing. This is the idea of systemic excellence and what it takes to be a player, a teammate, a citizen, as a professional in a system that has the excellence that Paul's talking about. That's one of the new major challenges, I think, in the preparation of young professionals. And it isn't just doctors, it's all the professionals together who need to understand that.

It's slow. The medical curriculum is a pie, all the pieces of which have been given out. So when you begin to talk about systems learning, somebody has to give up something and that's really tough. The good news is, I think it's changing. Several festivals last year around the 100th anniversary of the *Flexner Report* all had elements about systems, systems thinking and safety in the vision of the newly prepared professionals. So I think we're on our way, but Cole, I agree with you, we've got a ways to go yet.

DR. FINEBERG: Thanks very much. Do you want to comment, Paul, as well?

MR. O'NEILL: I just wanted Don to mention the LLI monograph.

DR. BERWICK: The Lucian Leape Institute, which is sponsored by the National Patient Safety Foundation, several years ago picked five themes that we—Paul and I and Carolyn are on that Institute—were on the Institute group. I had to leave when I took my current job, but I remain very interested in its work. There were five areas of barrier. We were asking the same question this gentleman asked, "Why is it so slow?" And one of them was the one Cole mentioned, and there is a monograph that came out of that work about a year-and-a-half ago, Paul?

MR. O'NEILL: About a year ago.

DR. BERWICK: Which is a kind of call to arms, a very, very well-done piece that Dennis O'Leary and Paul and others led. And I hope that people will find it and read it, because it's a very good charter document.

DR. FINEBERG: Thanks very much. Carolyn, do you want to add a word on this?

DR. CLANCY: Sure. I don't know if Atul Grover is still here. Oh, there he is. The AAMC has recently launched a big quality campaign, and I will say that I got up early last Saturday morning to spend some quality time with some of their folks. I mean, the interest in the room was palpable on two levels. One is, I actually think it's more motivating to many physicians to think about what they're training current students and residents for. Are they really going to train them for the future that they need to be trained for?

The second is that academic institutions take a very strong pride in being part of building the science for the future. And what I got out of my conversation last Saturday was that they actually want to be part of the innovations and solutions to get to safe, reliable care. Some know the language better than others, some aren't sure what this would look like. But they also recognize that it's going to be a huge missed opportunity for them if they're not part of the solution, and so I'm pretty optimistic.

And in practical terms, the one place we've seen take off in academic institutions is simulation. Part of this has to do with, how would I say, it tends to be easier to attract funding for gizmos, you know, so people can come in and point to the simulator and say, "This is what we bought," than to support time and curricula, which is a little more ephemeral. But I'm amazed by how many institutions have simulation now.

DR. FINEBERG: Want to add a word, Brent?

DR. JAMES: There's something that does need to be said that hasn't yet. It has, in some sense, defined my life, as somebody fighting this at the front line for many, many years. It's 100 years of success. We fundamentally redefined what it meant to be a human being. Life expectancy increased from 49 years to 77 years across those 100 years.

And associated with that is a culture. What's that old saying that "culture eats strategy for lunch." The trimmer bar that has emerged within the healing professions is the craft of medicine. And it's the idea that every physician, and to a lesser degree every nurse, is a stand-alone ex-

pert who can stand upon their little soap box and say "In my experience." That is why it didn't move as rapidly. That is why we put pressure on administrators and they're dead on arrival, it is their ability to deal with that core belief. It's deep in our souls.

Now, when you examine it closely, a couple of things emerge. The first is, if you get really down to the roots of what it means to be a physician, well, a committed healing professional in general, it was just one way of implementing it, this belief we have about medical professionalism. Frankly, quality improvement taught us better ways of implementing the same ideas that are just as congruent, just as energizing to our core professional commitments as the others that we learned when we were going through our training.

The second is measurement. Measurement is your ability to see. Some things are so large that you can see them with the naked eye, but most of what happens in health care you can't. And we have done our colleagues in the practice of medicine and care delivery a massive disservice. It's the true definition of transparency, by the way. It's far beyond anything that we've talked about out of the government, so far, far beyond it. But the ability to see what's really happening with one's patients in the long term changes those behaviors, it changes that culture.

And then, the really crazy one, if I were talking about quality three, I'd call it "lean." In order to vary in an effective way, you have to standardize. You have to standardize in order to vary in an effective way. When you do that, it also creates a learning system, the ability to learn from your own experience.

But the piece that's out there, that you fight with everyday, is just that 100 years of success and the culture that arose from that. We're trying to trim the aircraft carrier now. I think we've succeeded actually. My marker is when Chris Cassel and the American Board of Internal Medicine made testing on the system three part of the qualification exam to become an internist. Those boards really define what it means to be a physician. So relative to that, you'd better be able to test on it when you come up for your boards.

If you talk to Chris, she says her biggest challenge is finding faculty who can teach it. She'd like to drive it at a practical level down into residency into medical school. But you see, that's a transition problem. We're in the heavy lift phase. And it takes a while, sometimes, as we reunderstand what we are in a very real sense.

I think the Institute of Medicine has done stellar work in driving that kind of a change with the reports that we have produced and in just af-

fecting how we see ourselves as professionals. I believe it's one of those infrastructure pieces that are going to have more impact in the long haul than most of the other things that we do at some level.

DR. FINEBERG: Thanks, Brent. I wonder if you could bring the microphone down here, and as it's coming down, I'll just add one comment, to my mind that the perpetual challenge for medical education is that the teachers were the innovators of the last generation. And that's going to be continually true, and that represents the central dilemma. Only by taking a more forceful and prominent position in dealing with today's problems, can we close that gap and do what Dr. Cassel wants to do, which is to get the teachers caught up to the students.

AUDIENCE QUESTION: Brad Gray from the *Milbank Quarterly* and Urban Institute. I'm just curious about something. We've heard a lot of things that are very inspiring today about progress and good developments. We've also heard a lot about the importance of measurement. We've also heard a number of references back to 100,000 people dying in the hospital, the IOM report of 1999.

I'm just curious as to whether anybody has actually replicated the research on which the 100,000 lives number is based. And do we have to keep saying that number as though that is true of today, because we don't know whether it's true of today. I'm curious as to whether that kind of research is being done, just so we can mark whether we made progress or not.

DR. JAMES: So we did a fairly careful evidence review on the Committee on Quality of Health Care in America here at the Institute of Medicine when we published *To Err Is Human*. We found about 60 major articles. We thought that the Harvard Medical Practice Study methodology was one of the more recent, it was one of the more rigorous, but believe it or not, it was one of the more conservative that we found.

Utah-Colorado, in which I participated, was a pretty much pure replication. The 44,000 preventable deaths per year came from Utah-Colorado. The 98,000 came from the original Harvard Medical Practice Study. Now, when we were doing this most recent assessment of the IHI global trigger tool, which is so far the most sensitive instrument we found, you have to understand that at least for the 325 charts that came out of Intermountain, I personally reviewed all of those, and it took a

while. And there were 173 events, and they were just as real as they could be.

Well, we were not assessing error, we weren't assessing preventability. But I would guess that our results, if we had said preventable by today's standard, would've shown about what every other major study has shown, a whole series of them, about 50 percent, 55 percent. Well, if I take those numbers and MERPS category, that's 1.2 percent of those injuries resulted in death.

It turns out about 3 per 10,000 hospital admissions, is what it translates out to. *To Err Is Human* was a lower bound, significantly low from the real injury rate. I hesitate to say that too loudly, but the size of the opportunity is much larger than we'd ever anticipated. My problem is, I just saw another one, happily not my system, yesterday, that happened in Salt Lake City to someone that I knew, and they happen all the time. The opportunity for this is huge.

I travel the country and I talk to my colleagues in medicine. Some of them are very challenged by this; they're very defensive about it. They push back pretty hard. They're thinking about it wrong. They're thinking about it as some sort of indictment. They're thinking about it as a legal risk. They're thinking that they're going to get punished yet again, professionally or personally.

The fact of the matter is that health care could be much better than it is today. We achieve a world of good, just so that we could be so much better, and that's the right way to think about it. And when you do, you get the whole team together.

DR. CLANCY: Just to add on to what Brent said, which was brilliant, getting away from this preventability issue, I think, will allow us to have an easier way to track that. And one of the reasons Bill Munier and my colleagues are so excited about building a better system is that we can focus on the harms, and people can actually begin to see that, because this preventability introduces in a way, a reliability issue, where Don and I might not agree if we're looking at exactly the same information, what's preventable.

But if the goal is actually eliminating harm, it becomes much, much easier, I think, to be straightforward about what's the opportunity here and how far do we need to go in our efforts.

DR. FINEBERG: Thanks very much. Do you want to add any final thought, Don? I'm afraid our time is pretty nearly exhausted. Paul, anything you want to add from your perspective?

MR. O'NEILL: You know, if I may, I'd like to say two additional things. I created a base with you, and hopefully you all thought that every caregiving institution ought to hook up the Internet at eight o'clock in the morning and report every lost workday case that happens to their employees. See, that's really just a foundation, because what I'd really like to do, having created that capability, is ask every caregiving institution to post every morning those cases of new nosocomial infections identified in the previous 24 hours, patient falls, and medication errors.

So I said this to my good friend, Lucian, and Lucian said, "Oh, my God, Paul. Imagine how many reports there would be if we had every medication error reported; the number would arguably be 700,000 or 800,000 postings every day of medication errors in the country." So I said to him, "Lucian, you're old-fashioned. You're thinking about this in a command and control system. I'm thinking Facebook." Think what people would be able to do if they could go on the Internet themselves and look at the surrounding caregiving organizations and see the reported medication errors.

And you know what? I'd do it again. This is not to place or to punish people. We don't have time for this, but I'm not a great believer that financial incentives and this incentive can remake the world in a way we would like. This is about getting information out there, because I think if we had transparent information on those kinds of things gone wrong, the people who are sitting on top of pyramids in caregiving institutions would suddenly look at themselves in a different way. Because I don't think they really understand the magnitude of what's going on, because they see it one at a time.

And I have to tell you, I've been in an awful lot of medical care institutions where I was going around with the person who was the head of the institution. And it was amazing to me that people, when we went on wards, couldn't tell which one of us was a visitor. That tells you something really important about the absence of what I consider to be a principle of leadership—a leader is not an unknown or someone you've seen only in a photograph. One other thing, and then I'll quit.

DR. FINEBERG: You're on a roll.

MR. O'NEILL: You know, I love what the Secretary said, and thank God for Don being here and Carolyn and for the work that Brent is doing. You know, so 2,500 institutions have signed up. I think our objective should be to do something that I did when I was at Alcoa and working on zero injuries to the workforce. In every institution, paint a wall white, and then ask every person who works there to sign their name under a pledge that says, "We will be perfect in everything we do." Because until we have ownership by the people who do the work, we don't have the ownership we need.

DR. FINEBERG: Paul, thank you very much. I wish we had time to continue this conversation and to engage more with our group here in question-and-answer. I have really enjoyed and benefited from this conversation. I've learned how precise we have to be with language, that some of the words we have used, like error and preventability, we have to rethink, because we need to cast in the positive goals rather than in the negativity and the false question of avoidability. I have learned that we need to make institutional excellence, habitual excellence, an absolutely central institutional attribute, that we can only very effectively, if we standardize systemically, a very important lesson, that the right culprit to focus on is system failure, that the right focus is on all causes, that zero is the right number, that everywhere is the right place, and that now is the right time. Please join me in thanking our panel.

Now, please join us for refreshments. We look forward to informal conversation.

Biosketches

The Honorable Kathleen G. Sebelius, has been a leader in health care, family, and seniors issues for more than 20 years. Today, as the country's highest-ranking health official, Secretary Sebelius is guiding the implementation of the historic Affordable Care Act. She is also at the forefront of the Obama administration's efforts to build a 21st-century health care system, from putting a new focus on prevention, to promoting electronic health records, to expanding the primary care workforce. Under her leadership, the Department of Health and Human Services has also played a leading role in meeting some of the country's biggest challenges of the last 2 years, providing critical support to families during the economic downturn and coordinating the U.S. government response to the H1N1 flu virus.

Donald M. Berwick, M.D., is the Administrator of the Centers for Medicare and Medicaid Services (CMS). As Administrator, Berwick oversees the Medicare, Medicaid, and Children's Health Insurance Program (CHIP). Together, these programs provide care to nearly one in three Americans. Before assuming leadership of CMS, Berwick was President and CEO of the Institute for Healthcare Improvement, Clinical Professor of Pediatrics and Health Care Policy at the Harvard Medical School, and Professor of Health Policy and Management at the Harvard School of Public Health. He also served as a consultant in pediatrics at Massachusetts General Hospital and adjunct staff in the Department of Medicine at Boston's Children's Hospital.

Carolyn M. Clancy, M.D., is the Director of the Agency for Healthcare Research and Quality (AHRQ). Prior to her appointment, Clancy was Director of AHRQ's Center for Outcomes and Effectiveness Research. Clancy, a general internist and health services researcher, is a graduate of Boston College and the University of Massachusetts Medical School. Following clinical training in internal medicine, Clancy was a Henry J. Kaiser Family Foundation Fellow at the University of Pennsylvania. Clancy holds an academic appointment at the George Washington University School of Medicine and serves as Senior Associate Editor for the journal *Health Services Research*.

Brent C. James, M.D., M.Stat., is the Chief Quality Officer at Intermountain Healthcare. He is known internationally for his work in clinical quality improvement, patient safety, and the infrastructure that underlies successful improvement efforts. Through the Intermountain Advanced Training Program in Clinical Practice Improvement, he has trained more than 3,500 senior physician, nursing, and administrative executives in clinical management methods, with proven improvement results (and more than 30 "daughter" training programs in six countries). Before coming to Intermountain, he was an Assistant Professor in the Department of Biostatistics at the Harvard School of Public Health, providing statistical support for the Eastern Cooperative Oncology Group, and staffed the American College of Surgeons' Commission on Cancer.

Paul H. O'Neill, was the 72nd Secretary of the U.S. Treasury, serving from 2001 to 2002. O'Neill was Chairman and CEO of Alcoa from 1987 to 1999 and retired as Chairman at the end of 2000. Prior to joining Alcoa, O'Neill was President of the International Paper Company from 1985 to 1987, where he was Vice President from 1977 to 1985. He worked as a computer systems analyst with the U.S. Veterans Administration from 1961 to 1966 and served on the staff of the U.S. Office of Management and Budget (OMB) from 1967 to 1977. He was Deputy Director of OMB from 1974 to 1977.