Eric Denna: Let me just briefly introduce Brent. Dr. James, he's been a global leader in bringing quality improvement science and methods to clinical care for over three decades. Dr. James recently left his position as the chief quality officer of Intermountain Healthcare in Salt Lake city after playing a pivotal role in helping Intermountain to become internationally recognized for outcomes improvement, and for establishing a deep culture of quality. As leader of the Intermountain advanced training program, Dr. James has trained a globally diverse group of more than 5,000 senior physician, nursing, and administrative executives in clinical quality improvement science, and methodology with proven improvement results and over 50 sister training programs in several countries. He has been honored with numerous awards for quality and safety in the world of healthcare delivery, including the Deming Cup from the Columbia university school of business in 2011, the C. Jackson Grayson Metal, Distinguished Quality Pioneer American Quality and Productivity Center in 2010, and most recently the 2018 John M. Eisenberg Patient Safety and Quality Award from the Joint Commission and National Quality Forum.

He is a member of the National Academy of Medicine, formerly known as the Institute of Medicine, and participated in many of the organizations seminal works on quality and patient safety. He is also a fellow of the American college of physician executives. He has several academic appointments including as clinical professor at Stanford University School of Medicine, and visiting lecturer at Harvard School of Public Health. We are delighted to have you here Brent, and turn the time to you.

Brent James: Thanks very much Eric and Sarah. You know, I tried to get Eric to use a short version. Been in medical school just said, I know a farmer who made good, is something far more appropriate.

Our purpose today though is to talk about quality, specifically clinical quality of care, and how it fits with an organization. Any discussion of quality has to start with Dr. W Edwards Deming. He's really the father of modern quality theory. If he were here, he would have argued that he was building on the shoulders of giants. People like Fred Titta, Walter Shewhart, his contemporary, Joseph Sharan, and many others. You know, you can lay out Deming's core theory is three premises. Now I don't have to go through all three, but I wanted to focus on premise to Deming demonstrated that any process produces three parallel classes of outcomes. What he called a physical outcome in clinical medicine, that would be a medical outcome. The topic for today's discussion, a service outcome, patient experience of care.

The third one that he added though was fairly unique at the time. Deming treated cost, the finances as an outcome. He then started to explore the relationship between physical outcomes, and cost outcomes. It's basically a mathematical proof. What he showed was, is that in many instances, if you improve the attributes of your physical outcomes, AKA quality, that it caused your cost of operations to drop, that became a technical term. He defined it as

waste. So for our discussion, waste means under Deming's quality theory, any area where quality improves, and as your quality improves, it causes your operating costs to fall; a very interesting and unique way. Now we're talking clinical medicine today. Let's look at this term from that viewpoint for just a moment. I need to frame this in a particular way. It's relatively easy to demonstrate. I mean scientifically demonstrate that current care delivery is the best the world has ever seen.

If you look at actual care delivery, the care delivered in the United States is already believed the best in the world as well. That will be a topic for another day, but those are demonstrably scientific trues. Here's the trick though. When we enter the humane professions, it's the duty of every health professional. I don't just mean physicians and nurses, I mean administrators, I mean the support staff at every level. Part of our agreed duty is to pass along something better than we ourselves received. That we will improve these professionals in this industry for future generations. The first step in figuring out better is to find areas where you fall short of your theoretic potential. So, I wanted to examine areas where we fall short of our theoretic potential.

Now, I actually prepared this slide for the US Senate finance committee. It was the run up to the affordable care act, Obamacare back 10 years ago, testified four times to various committees that turns out Senate finances, the committee of record, the main source of power for US healthcare policy. It was chaired by Max Baucus from Montana or in hatch from Utah, was the ranking minority member at the time. I was trying to take a very extensive literature and reduce it to a consumable form. It had to do with variation. If you do a Medline search, looking for articles in the peer reviewed medical literature, documenting variation in all aspects of care, while at the time you'd roll out more than 40,000 articles. It was an amazingly deep, and broad literature and amazingly consistent in findings. I was trying to reduce it to a forum that intelligently people, senators and maybe their support staff could understand the news. I've broken it into five sub categories.

Now the top four are areas of clinical opportunities, areas where we fall short of our theoretic potential. Together they give us number five, so we're going to look for quality failures in the top four opportunities that produce number five waste. Let's just run through them quickly. The first is just variation in clinical practice. Of course, the guy who got that started was Jack Winberg at Dartmouth Atlas fame. He invented a method called The small area variation analysis, that's why I actually got my start in this field way back in the late 1980s. We took Deming's ideas of medical communities and drove it down inside a single hospital. What we showed was is the amount of clinical variation inside a single facility was larger than it was between medical communities. Oh, that's really interesting. The trouble was the variation was so large that it was pretty much physically impossible that all patients, even with full gold card access to care could possibly be getting good care.

The variation was just too large. Just in passing, when we started to address the variation, we watched costs fall by about 30% as our clinical outcomes climbed. That's interesting. Now the geographic variation literature gave rise to number two. If I had a poster child for this and it'd be Bob Brook, senior professor of internal medicine at UCLA at the time, chief medical officer at Rand, he and a number of very various Duke colleagues raise the issue of what they call the inappropriate care. Inappropriate care was completely a clinical definition. Care was judged inappropriate if the risk inherent in a treatment outweighed any potential clinical benefit to the patient. This in professions hold as our primary Maxim first do no harm. These would be areas where we put patients actively in harm's way. He said, maybe we can explain geographic variation in terms of inappropriate care. They designed a series of formal instruments for attacking this problem.

They applied them to major findings from this body of research. The first, their direct question, it turns out that inappropriate care does not explain geographic variation. Pick a particular treatment that's highly variant hospitalization for heart failure. Go to a community that has a very low hospitalization rate on a population adjusted basis. Find other communities that have very high rates. Then in those communities, measure inappropriate care. What they showed is on average the amount of care judged to be inappropriate was about the same. There was a secondary finding though, completely unexpected. Yeah, and that initial set of studies, the high watermark was carotid and are direct to me a common procedure. They judged that fully 32% of all carotid endarterectomy is performed are clinically inappropriate. The risk outweighed any potential benefit. It should never have been undertaken. Forgetting the money, this is just pure medical quality.

You see 32%, a third of the cases. Stunning, gets worse. Courage trial, very controversial among cardiologists. It was studying cardiac stenting in the coronary arteries of the heart to restore blood flow. It estimated that over half of all coronary stents were clinically inappropriate, should never have been done. Needless to say, very controversial. A colleague and friend Gary Kaplan, internist who runs Virginia Mason hospital in Seattle. He's a center of excellence for the Pacific business group on health. Their major customers, Walmart, they specialize in some surgical areas. I'm going to use the example of surgery for low back pain. So if you work for Walmart or your insured person in your family works for Walmart, you see your local physicians, you have low back pain, and they determined that surgery is the right treatment. It turns out that under Walmart, if Walmart is going to pay for it, you have to hop on an airplane with a support person. They'll fly to Seattle. They really treat quite nicely, but you have to get the surgery through Virginia Mason as a center of excellence.

The trick, Gary was telling me a couple of months ago currently of people sent to him for surgery from the Northwestern United States, 58% are turning back for medical management. He's saying that 58% of all back surgery is clinically inappropriate.

Eric Denna: That's stunning.

Brent James: If you think number one was bad, number two overshadows number one entirely. Deeply, deeply, professionally challenging. Nobody's done a careful synthesis. So this is a bit of an informed gas. Not just a wag wild ass guess. This is a scientific wild ass gas, a swag. I'm going to guess that conservatively, 20, 25% of all care delivered in hospitals, not just in the United States, but around the world is clinically inappropriate. It should never be done. It's not just the costs of the care that represents waste. It's the consequences of inappropriate care. Many of those cases, we're going to be delivering more care to try to recover the initial harm.

Number three on the list, it's been almost exactly 20 years. November 30th, 1999 Institute of medicine's committee on quality of healthcare in America releases a report called To Err Is Human. It triggered a whole movement in healthcare around the world. The idea of patient safety. Within that report, we estimated that somewhere between 44,000, 98,000 people die in US hospitals each year or their cause of death is not their underlying disease, but treatments that were used to address those diseases in a way that for each case to independent and separate physician reviewers, judge was avoidable. Now, to them advertising here I was on that report. More than that, we'd done a full evidence review. We found about 60 major articles documenting this unfortunate fact. Believe it or not, we were trying to be conservative.

Subsequent research has demonstrated that we were, the real toll is about 210,000 preventable deaths per year based on later research. Now let's be careful about this. Any clinician understands that you're walking a very thin line between health harm. Any treatment that's powerful enough to heal can also harm. All of us on the committee, we're clinicians. All of us live this, and we knew that. More than that, we knew that the net benefit massively outweighed the risk. On average, American healthcare delivery adds about three and a half to seven years of life expectancy to every US citizen. That's on average. The upside is dramatically larger than the downside. You'd be an idiot to avoid health, because of fear of these risks, because of the tradeoffs involved.

Here's the trick though. I swear nobody ever reads a second half of an IOM report. I get it. They're 800 pages long. They're sleep AIDS. I mean, it's dense academic writing pot. Our real point, we have proven methods by which we can dramatically reduce the toll. We have proven science by which you could drop those injury rates and not lose any of the benefit. That was the point. We can take down those injury rates by 60 70 sometimes 80%. You see? That was the point.

Number four is actually a twist on number three. We called number three Patient Safety Injuries of Commission, because the care actively harmed, raised a secondary issue. Well, how about injuries of omission? How about things that we know work for those things, how well do we execute? This would be called

reliability of execution, or highly reliable care. The best research in this area is Beth McGlynn at the time was at Rand, and she's now at Kaiser Permanente. Beth did a series of careful studies published in new England journal of medicine. The main one for adults, we managed to do it correctly. She said on average 54.9% of the time. For children, 46% of the time in a subsequent article.

So think about it this way. We fairly routinely achieve miracles, demonstrably soul. If we can achieve miracles, executing correctly, roughly half the time, what kind of miracles could we get if we did it correctly all the time or something close to all the time. It means we're leaving an awful lot of lives and pain and suffering on the table. You see the idea. Now, just to point in passing, most of the research happens here in the United States. We tend to invest much more heavily in research or in the US, but I have sufficient evidence from other modern first rule nations to confidently state, it's the same list across Europe, in Canada, in Australia, in Singapore, around the modern world, same list.

These problems arise not from health policy, but from the healing professions and how we think about ourselves and execute our work. That's what emerges from this literature when you study it carefully. This is within our control, our bailiwick. Now on one level, I love that. It means I don't have rely on Washington, and this is a really good time of the nation's history to not rely on Washington. The power for this is in our hands. This is something we could do. It has massive implications, not just for the care we deliver to our patients, but for access to care, for the cost of care. That's where number five comes in.

The best summary I could give you, well, another IOM committee, 2010 we were using Deming's definition of quality associated wastes and trying to estimate how often it happened. The soundbite, one liner that came out of that report, a minimum of 30% have probably over 50% of all money spent on care delivery is waste from a patient's perspective. Non-value adding. Another truth and advertising, I play in this sandbox too. When I model it, I get about 65%. Well, think of it this way. This year in the United States going to spend $3.6 trillion with a D on healthcare delivery. I'm suggesting that somewhere on the order of $2 trillion of that is recoverable ways. What does that mean for you? It means that waste in your current care delivery operations is by far the biggest financial opportunity that you will see in your lifetime.

It's at least two orders of magnitude. A factor of a hundred bigger than any other strategy your organization could pursue. I mean, forget the ethics. Forget the patients, just the money on a purely financial basis, this dwarfs any other opportunity. Now when you're going after waste, you have to make an investment as we'll see a little bit later. Nearly always secure delivery group who has to make that investment. And so, one of the things you're concerned about is return on investment. If I make this investment, what do I get back? We think about that all the time. When I'm doing traditional revenue based means we're trying to maintain a bottom line to survive financially. It's not just at the bucket of the money is a hundred times bigger. The return on investment is similarly 10

to a hundred times bigger than the return that you get with traditional strategies.

I wanted to show you the wise models that I like to use. I'm not going to go into detail, but at least be in the slide deck. This is structured around proven methods for taking waste out. Three categories that layer on top of each other, efficiency into within case utilization, case rate utilization. That's population health wrote relatively, the slide shows the percent of all waste. So that 65% waste, 45% of the 65% comes at a population health level. Inappropriate cases, preference sensitive cases, avoidable cases where you play move upstream or hot spotting strategies. Within case utilization is clinical variation. Also patient safety, avoidable patient injuries. It's about 40% of the total waste opportunity. Basic efficiencies where people have focus for a long, long time supply chain, administrative inefficiencies, about 15% of the total. This is a topic for another day, but it's great fun to pursue.

The thing that you need to know. One of the reasons I like to lay it out this way is in every category I have compelling examples of your working, of people stepping in changing care. Their primary target is to improve their quality of care, the services they deliver to their patients. But when you track, carefully track the money, it takes waste out of a system and saves millions and millions of dollars. Just one quick example, on this slide is three C avoidable cases. We published it three years ago in JAMA. It's the third generation patient center medical home. We call it team based care is really led by Dr. Brenda Reese Brennan. I'm showing you the financial piece. You can read the article, short version, Clinical outcomes Got Better. Well, third generation patient center medical home. Jen Wan was chronic disease management deployed into primary care. It required that we put care management nurses and bed them in the practices.

Type two diabetes mellitus, heart failure is actually one of the bigger ones, hypertension, those sorts of diseases. We ran a series of trials. It was mostly from reduced hospitalization rates, but the total costs of care dropped rather dramatically. If we move upstream, manage these conditions in a primary care setting, much more carefully. Costs of primary care went up a bit, but the total costs of care dropped rather dramatically. Oh, Brenda really led the next step. She pointed out that we should treat mental health problems, particularly depression as chronic diseases in an outpatient setting. Mental health integration was gen two. Another trial showed the same sorts of things. Then we had to embed psychologists in our primary care practices to help with that one gen three again, under Brenda's leadership care coordinators to coordinate all resources in a community. If you really want to get after readmit rates, this one really works.

This is one that can actually produce real results just in passing. While you can see what happened from a financial perspective, this was a trial of about 200,000 patients. Ed visits dropped by 11%, hospital myths, there's the big

money, 22% drop, not quite a quarter drop. Other avoidable visits and emissions, that's mostly specialists, and outpatient procedures. Not too surprisingly, primary care visits, PCP visits went up a tick. That's what you'd like to see. Urgent care, that's our walk in primary care would much rather people went to urgent cares into the Ed. Better care, much cheaper care. So that's just as it should be. Radiology tests fell by 11% for imaging. I didn't put lab on it. I think it dropped by 15, I can't remember. I should have put it on the slide. Well, pull it altogether. Turns out that you have to invest.

Now in measuring the investment, we were conservative. The number's a little too high, because we were being conservative $22 per person per year to make this system happen. I mean, it wasn't just the IT support systems, it wasn't just the care management nurses, the psychologists. Sometimes you have to physically remodel clinics to get this door. We front loaded the whole thing. The real number was probably between 15 and $19 per patient per year. Look what happened to our total medical expense though. For every dollar we spent, we got more than $5 back, $115 per member per year, mostly by reducing hospital admits and other avoidable specialty, and outpatient procedure care. You see the idea? This is just one example among more than a hundred, 125 that I could share, a particularly potent one. They fall in all of the classes that were listed on that way slide.

You know, just to summarize impact, this is just five big projects. We had set a goal within inner mountain at the time to keep our cost increases lower than consumer price index inflation plus 1%. We wanted our services to be readily available on a broad scale of people in our community. We thought it was a way of, well, improving access if people can't afford your care, because it's too expensive, access goes right in the toilet, you see? The blue line represented our expected costs on a conservative projection. We were growing as a system. By the way, that's what's going up. The black line is the line we had to hit. If we were going to hit CPI plus one, our target. It shows the first four years of data. I can track every dollar of that change back to a clinical improvement project that removed waste in the system.

By the way, the finance guys did the analysis, which meant that my administration trusted it. If I had done it, of course I was a physician researcher and I was inherently untrustworthy. I have been accused of being able to torch your data to make him say anything I'd like, my ARB training, which is partially true. I don't do it, because I'm an honest player, but it could be true. We dropped our total cost of operations by 13%. It was almost $700 million out of our cost of operations.

Why do I show you this? It's not to brag, mostly a little bit of a brag. Mostly it's to show you that it's real. It's just as real as it could possibly be. This is not speculative. This is not just theory. This is an achievable reality. Another way of saying the same thing, nearly always better care is cheaper care, but the path to financial success leads through clinical management. Now without when it's too

much detail, I've just given you the full financial underlayment for a major, not just national, but international trend called Pay For Value. Yeah, found a great quote, a cartoon in the new Yorker, "This is your wake up call, change or die."

The key factor for success in the future care delivery world is an ability to manage clinical care delivery up and down the entire continuum of care. I'm talking about a different kind of managed care. I don't think the managed care place in insurance companies can work effectively. Completely different story though. When you put care management, clinical management down in actual care delivery operations, that's what we're talking about here. It's all about leading clinical change.

Yeah. The rate of change in healthcare delivery continues to accelerate. Our core business is clinical care delivery. When you're thinking that way, by the way, when you're leading clinical change, it really helps if you speak the language of the natives, of the physicians, the nurses, the pharmacists, therapists, the technicians that make that care happen every day show up, put not just their minds, and their hands, but their hearts into making it happen and broadly. Now you need to know something about that. Are professionals already have a foundational culture has been defined across literally, I say hundreds of years. It's actually thousands of years. It's always been present. It's very strong and reliable. We select for it and people who come into healthcare, they select themselves as well. We massively teach it and then reinforce it. During your training on lacrosse, a professional life, it's the bedrock of effective clinical change. Any other culture you care to describe layers on top of it, another cartoon that gets the feel for it. How do you breed that cultural flame alive?

How do you take advantage of that existing massive, strong undercurrent to drive effective clinical change within your own healthcare operations? How do you tie the pieces together down at the core of what it means to be a physician, or a nurse or a pharmacist or therapist down at the core of what it means to be a care delivery system? You see? Now, I have to tell you, I've faced this question many times. If I were doing it all over again, if I was being dropped into a new system, and starting from scratch, the crazy thing is, is the very first thing I would do is start the training program. That's the very first thing I would do. I'd be teaching clinical quality improvement theory. I would be teaching in a particular way. I would carefully speak the language to the natives. I would be showing the people in the class how it links to our shared professional values.

Those values that have defined us, our soul across literally millennia. I'd be showing why any caring professional, any physician, any nurse, any therapist, any pharmacist, this should be at the core of their life. You see? I'd be trying to create a cadre of colleagues, fellow workers who get it, who understand that who can help drive the change, frankly, would be building a widespread organizational culture layered on top of that foundation of our shared professional values. At the same time, I would want my students in the course

to solve important strategic problems. I'd want them to actually drive real change for things that matter. Not just things that matter necessarily by their own selection. That works. It's even better when it's something that we have a group has chosen as a survival factor for the future.

And lastly, yeah, a course like this costs a bit of money. The funny thing is by far the biggest part of one of these course's expense is the people sitting in the seats. I mean the students, you look across that group and oh, you're looking at 20,000 to $50,000 an hour, you're pulling these people away from productive work. That's a real expense of one of these courses. Well, when we did that, we kind of thought that of course ought to earn its own way. My way of doing it as is that we tracked and every project, not just the clinical outcomes of the projects, usually explicitly address, but there are financial consequences using those wastes models. We taught the way smalls, we showed people how to evaluate them, and we measured the impact.

Now, now I can tell you a couple of things. Having done it for years, about 70% of projects in the course will have sufficient time. It's an artificially short timeline to at least test one change, one reliable test of change with data to show whether or typically about half of them would show statistically significant movement in the direction desired. Now, among that half that showed real results, I'd guess one in four, one in five. I didn't measure it really carefully. Occasionally they just hit financially. I mean, they just really impact financially. The funny thing is I could never predict, which ones after all these years of doing it, and I still can't. I have this signup on my offices from Albert Einstein who said, "If we knew what we were doing, we wouldn't call it research."

If I already had the answers, I wouldn't have to investigate. You see, and I don't have the answers when I start, and we're figuring it out. It's a bit of the golden bullet theory, but if you get enough bullets in the year, I can tell you about one in five will hit, and that's where we saw the ROI, the minimum level of ROI I've ever measured is about six to one. For every dollar spent on the course, mostly people's time away from productive work, $6 of return from the golden bullets. The ones that happen to hit, you need a lot of bullets in the air, because you can't tell in advance, but you'll learn over time what really works, and at the same time you'll be building capacity for positive change. You'll be building your future. Well wait a minute, not just your future as a professional, not just your future as a successful organization.

You'll be building the future for your patients. The things that bring us all to work every day. Now, yeah, we really focus on that tie in to shared professional values, but we teach the full set of tools, full systems design, process management improvement that sometimes called database problem solving. That's where most courses actually focus solely formal techniques for effective measurement in the clinical environment. How we think about and analyze variation, root cause analysis. There is a heavy focus on service quality along the

way. Again, if I were just to drop back, if I were to drop into a new system, the very first thing I would do is start the course.

I'd use it to build a set of colleagues that can help drive the change that can help drive the debate, the arguments about how we move, and where we move. That would speed us up. It would be changing the conversations that we have on a daily basis within our organization just by having those people seated through the organization, not as another way of describing culture. And, I would be measuring its impact in terms of the lives of my patients, and in terms of our financial performance, moving ahead. You know, I started by talking about Ed Deming. Deming initially demonstrated this in manufacturing. The old joke at the time was, do Deming or die. And that was literally true. Any company who could not adopt Deming's waste based quality techniques could not hope to compete, could not hope to survive. And he watched it change the world.

Frankly, it made life better for all of us. Higher quality products at more affordable prices. I believe, and I can't prove this of course, but I believe that we were one of the very first groups that showed that the same principles worked in healthcare. It's our moment. We see the world moving into pay for volume, and similar strategies. The costs of healthcare are just becoming so burdensome that we have no alternatives, really. A settled thing that Winston Churchill said about Americans. He said, you can count on Americans to always do the right thing after they've exhausted every other possibility. There're days I feel like that's where we are in healthcare. What we see though as a major, not just national but international movement into pay for value provider at financial risk. And that's where all of this aligns. This is your future. Like it or not. Well, a byte to invite you to help lead that future, not to be one of the follow ons. Not to be playing catch up. Struggling to get off the table where you're somebody else's lunch. Come help lead that future. It's a glorious future, and it's going to be lots of fun. So thanks for your time and attention, back to you Eric.

Eric Denna: Well Sarah, did you?

Sarah Stokes: Yeah. Thank you for that Dr. James. We do have one quick poll question that I want to launch before we dive into the Q&A when Eric's going to take the reins. So let me go ahead, and launch this question. Looks like it's going a little slow. I'm getting a spinning wheel of death. Are you seeing that? Okay, there we go. Of course that will happen right at the end. Well, today's webinar was focused on the importance of clinical excellence, and being a part of that change. Some of you may want to learn more about the work that health catalyst is doing in this space, or maybe you'd like to learn about our other products and professional services. If you would like to learn more, please answer this poll question. We're going to go ahead and just leave that up for the time being while Eric dives into the Q&A, and now is your time. If you haven't submitted a question yet for Dr. James and there's something top of mind, now's your time. Start submitting those questions, because we've got about 20 minutes.

Brent James: Time to hold me accountable and make sure that I haven't said anything too terribly wrong.

Eric Denna: So a couple of questions real quick, Brent. You mentioned other strategies in contrast to a quality focus. Can you mention some examples?

Brent James: You know it's interesting I'll be participating in yet another Harvard course where I work and teach. It'll be for NHS England. It's tomorrow morning. I'm going to be getting up at 5:30 to do it by video, and into London. Dr. Ajay Singh leads a course and we'll be contrasting two strategies. This is how Ajay likes to lead it. One strategy will be what I just described, or you manage clinical operations, eliminate ways, develop a higher quality, lower cost product, but it's all focused on operations. What he will present as the other strategy, and they're great examples of that, particularly in some places in Europe where it's purely financially based. It's a financial group who is looking purely at revenues. So it's based around revenue enhancement exclusively. How can we provide more services at a greater margin?

Eric Denna: Or M and A kinds of activities.

Brent James: Yeah, yeah. Now given that it's Dr Singh, and it's me, I always win the debate, and especially in the nature of the fight can't win this debate then, you know, I'm really up short. Most of the other strategies are those revenue enhancement strategies, okay? Yeah, acquisitions. You know, I was talking to Dr. Olvey Croix is a writer for Forbes. He runs a not-for-profit. There's this fun thing called the Herfindahl Hirschman Index. It's a measure of market concentration. Turns out that about 80% of the people in the United States live in communities where healthcare is consolidated, that you're basically getting healthcare through a monopoly or a smaller oligopoly. Two, three, four major players.

And what we've shown this is pretty well accepted at a policy level. What we've shown is that consolidation is associated with monopoly behaviors. Massive price increases for the same service. The way that people maintain their operating margins do well, right? It's just to hike prices. About 80% of the people in the United States live in communities where that's true. You need to know the federal government's getting ready to do something about that. They almost have to along the way, but that's what I mean when I see alternative strategies.

Eric Denna: Another question. You mentioned the total cost of care reduction seems the example you gave seems to presuppose that you have the entire continuum of care under your umbrella. You've got a PCP InstaCare so on and so forth. What if you don't?

Brent James: Well, you know, it's the rest of the model. As I said, I had about 125 examples, and they come from other parts of the model. I am thinking of which one to share, frankly. I went in at the level of population health, because it's a hot new

topic, and that's a pop health strategy. If you don't have a line in financials, you're going to take a bad financial bath on that one. Think of it this way. You know, I'm moody Chisholm running the Intermountain medical center on my old system, and Brent shows up and says, "Hey, Moody, really cool. We figured out a way to drop your volumes by 22%, aren't you excited?" And it turns out Moody is excited.

Eric Denna: Yeah. For the wrong reasons.

Brent James: For all the Rockwell and what, he's a good player. We were making him whole so he was just fine. But you get the picture.

Eric Denna: Yeah.

Brent James: When I first started, the first topic we actually studied was a very common surgical procedure. It was trashed with a prostatectomy followed by colon cystectomy, total hip joint replacement, bypass graft. We were just looking inside the hospital at variation within a single clinical process. You see, our average drop in price was about 30%. Now that's category two in my model. And frankly, the way hospitals are paid today, almost all of that money will currently drop to your bottom line. So was examples I chose Eric. I kind of chosen from category two or even category one, offer some wonderful opportunities. You have to understand all of them.

Eric Denna: Yeah.

Brent James: You need a comprehensive understanding, not just of how the waste works, but how you get it, how you take it out. You see, if I were running a course, that's what I would want my colleagues to understand. I'd want them to be effective players at that level so that they could really lead that kind of change. And you can predict what's going to happen, and then you can start to line it up across your system, whatever size your system has. It turns out, I've got some great examples of guys doing this in a standalone specialty practice, and making it work quite effectively. So it works on every scale. Now, is it going to drive your long-term financial strategies? Sure. You're going to change how you want to be paid, because you won't want to leave some of that money on the table. You want to be able to get at it. So, that's what you'll need.

Sarah Stokes: You're having trouble seeing the questions?

Eric Denna: Yeah.

Sarah Stokes: I think I might push you up to an organizer. So let me do that. Let's just grab one of these. So this first one here, Dr. James is from Bruce, who asks, "Can you give an example of reducing waste that results in less provider burnout?" And Eric, I'm going to bump you up to an organizer. You'll probably have to click okay, and then you-

Brent James: Examples of reducing waste that ties into provider burnout. I have two ways of thinking about that. I didn't emphasize it. Well, think of this. Our initial real experiment when we came to modern methods is of strong form of lean. It was with ICUs top end level one trauma units. Truthfully, it was a condition called acute respiratory distress syndrome, ventilator management of ARDS. This is a big randomized controlled trial led by Alan Morris back in the early 90s, which really taught us an awful lot, just in passing as we eliminated variation in ventilator management. Survival for the most seriously ill patients, people we were tracking in the trial improved from about 9.5% to 44%.

So four and a half fold improvement in survival for this very deadly condition. That's first time since the adios was defined as a syndrome back in the 60s that anybody had shown an improvement in clinical outcomes, and that was dramatic. Costs fell by about 25% from about $160,000 per case to about $120,000. So costs came out. But here's the fun thing. Given the setting we were tracking physician RVUs. Physician time fell by about 50%. It was associated with dramatic improvements in physician productivity by making the work easier as it turns out. By managing complexity in the clinical environment. I have to tell you, among my clinical colleagues in, you know, I'm part of that club, still maintain my medical license. You do this a few times. You start to wonder why you'd ever do it any other way, primarily because it makes your clinical life better and makes you a better physician, a better nurse, okay. In ways that are very attractive.

Now you need to know that these ideas are not new to medicine. If I had done the full course, I would argue to you that I actually learned the method in my surgical residency back in the 70s. I learned the method. It's called Mass Customization. We've used it within the helium professions for at least 70 years where I can find good examples. John Eisenberg at HRQ used to argue for at least 200 years. This is not a new idea, it's just called in forward and putting a name on it. Now the lean guys like to call it mass customization. They claim they invented it. Womack in his famous book, the machine that changed the world in 1990 claims he invented it. That's a lie. They did not. They just put a fancy name on it so they could sell it as a consulting service. All right. This is old, old time medicine and it works. It works. And the reason we use it is it made us better clinicians and it made our clinical lives easier. So, that's idea one.

Empirically, this directly addresses the burnout question or can. The thing you're suggesting by asking the question, which is really insightful, a really good approach. You have to think of it that way. You have to approach that way from the get go. You see, and if you're thinking about it, you can leverage it hard even as you do the methods. Now, second idea, the lead researcher on this to my mind is going named Steve Swenson. Steve was chief quality officer at May, always a radiologist. He then moved on to do their leadership development for a period of years. Truth on this one, Steve retired recently as an Harvard skier. He's living up in Heber Utah, not too far away, which I really like.

He and Tait Shanafelt is chief partner in crime in this published most of our careful research on physician burnout. Steve likes to ask a question that ties into what we said earlier about that culture piece, the culture that defines our professions. Steve would point out that there's a single factor that determines number one, a key determinant of clinical quality of care. A key determinant of patient experience, and care far beyond almost any other factor that determines, that word of mouth advertising or your perceptions in the community and market share. Turns out to be fairly dominant. It's also associated with productivity. Worker productivity, and Steve would show this and say, "What is it?" It turns out it's workforce engagement. It's engagement. Steve would pitch this as the opposite of burnout, or the answer to burnout. The way Deming said it was joy in work and what Steve Swenson and T Shanna Field have given us is a nice left brain.

Here's the process. Here's the system for building joy and tour. You want to see a truly beautiful example of what Jill green did when she was chief operating officer at mission health in North Carolina. What a great example. Jill, by the way, just moved to be CEO now in the Queen Cell System in Honolulu, and I think we're going to see a great example. There are two of, I know Jill. You ought to investigate that. That's worth examining and that is just plain fun. A secondary, I guess this is part three. The primary source of physician burnout is the electronic medical record. It's clear that we need a new electronic medical record, a fundamental numerous redesign. I can tell you that I've seen the future on this one. I've seen some systems that are going to define that future. We'll see. I think Epic and Cerner, Allscripts, Meditech, I think they'll be able to make the transition. If they can't, they deserve to die in all fairness. All right.

Eric Denna: I think they will. But yeah, I think that this burnout is a real problem. Realize it's not just physician burnout. It's a problem that runs up and down the entire continuum. Here's how to measure it in your own organization, by the way. It's a simple question. This came from a guy named Rushman originally, a secretary of the treasury. Steve says it's a lot of different validated instruments for measuring burnout. But he says it's a pronoun question. Just ask your colleagues, "Is it we or is it they?" Is it us, or is it them when they talk about your senior management?

Brent James: Get them to give you honest answers in background. But that question will tell you where you are right there.

Eric Denna: So a quick follow up on the theme of people, question that there's several questions around. With limited resources how would you suggest selecting the right people to attend any kind of training?

Brent James: Yeah, this has a little bit of a backstory too Eric. Good question. I first encountered it, now I'm one of the last guys living, I think that actually learned quality three from Ed Deming. It's been a while, so when I'm not that young myself anymore, but... I was working on this and asked Deming about it, and he

had an interesting answer. He said, "Brent, I need the square to event." He said, if you have about N people in your organization, right at that time I was looking at physicians particularly, and I had about 1600 physicians that I was targeting. Square to 1,600 is 40. He said, if you get about the square to van, he said, you'll see a culture shift that's going to happen. He said, that'll be enough.

Eric Denna: Critical mass.

Brent James: Yeah, a critical mass is about the square root. At least with what happened to me, he got it right. It's not approved, but anecdotally, and it makes sense that if he had lived long enough, I'm pretty sure that if he had read Everett Rogers diffusion of innovations, that classic text, originally a dissertation at university of New Mexico describing how any new ideas sweeps across a group or across society. He gave us some key terms, innovators and early adopters, early majority, late majority laggards, and strategies about how this onion patch strategy sweeps across in a group. Boy did that ever turn out to work out. If Deming had been alive, he was really saying innovators and early adopters. His squared event, he meant innovators and early adopters, I'm pretty sure at least that's where it really works. These are the guys who'll engage what really defines them as they'll engage around a question.

At the same time, there'll be some people who are philosophically opposed to a killer. There's any costs as a matter of philosophy. Some of them very well spoken, good guys, they will not have it. You need to figure out how you can marginalize your laggers for something that needs to move. At the same time you support your innovators and early adopters. And the key thing is engagement. That's what you're after. They will tend to be the people around a particular topic that their colleagues look to for leadership. You want those leaders, those are the people you would send. Physicians, nurses, I'll tell you in the ATP, about 60% of the people who came were physicians moving into senior leadership roles and modern healthcare delivery of a much more common path. 25% were senior nursing leaders. Absolutely critical key part of the team in many ways, even more critical. About 8% C-suite. The rest were pharmacists, therapists, other key healthcare professionals. But they were all people who were interested in it, and had the ability to lead change. Well, Rogers would have called them innovators and early adopters. I recognize them, because they're interested and will engage. So this is one idea that's who to say.

Eric Denna: That's great. So a common challenge certainly in Swedish healthcare is how to balance the short term demands of cost cutting, and the more powerful but slower approach that Dr. James has outlined.

Brent James: Yeah.

Eric Denna: Thoughts on that?

Brent James: I've lived that for the last 30 years. And by the way, hi to Sweden, I have lots of good friends there and we spent a fair bit of time in the country. A little shout out for Sweden and my opinion, well not just mine, many people are really familiar with the world. Sweden is probably the best example of socialized medicine in the world and dang, it's a fine system. Now on the other hand, they have the same list of problems we have. So that's why we collaborate together so well. Beautiful system guys. I recommend it highly. It's worthy of your investigation if you're interested in this stuff. Yeah, it is a long-term strategy. It requires you to get out in front of it. If you're under the gun for short term budgets, the only thing that you can change rapidly is to cut workforce. That's the only major cost component that's under immediate control. And you see it happening all the time and it's usually as clear a demonstration of failure, leadership failures you could possibly imagine, at least in my book.

If you can start early, you pretty much always get a bigger impact in terms of better clinical outcomes and lower costs. You'll get more than cutting workforce, but it requires that you get out in front of it. Now, the truth is, is when you're running a course, it's all around the projects you do as part of the course. That's the hands on learning a Fitzgerald level four where you're actually applying the principles to make real change happen. If you understand the principles, you can pick them wisely where they will show immediate ROI.

So, that's a short term view. You can run immediate ROI with them, and it will pay its own away short haul. You do have to pick up cost outcomes in the projects. You have to... When Bobby Brown was CFO at Cetera Health, we were running the course at Sutter. Bobby is CFO. Most of the clinical teams didn't have the resources to really evaluate costs. But Bobby did. And she'd send in some of our finance people and they were from finance. Now that's a key statement. The financial impact on Sutter from the projects in the course. She also found about a six to one ROI. So if you do it right, you get a short term. Now you're right. The real impact is long-term. You see. So, you do the short term, but then you got your eye firmly on the long term where you're really going to get some leverage out of these things. You can do both. You can link them together.

Eric Denna: So this may be the last question. We'll talk about how to maybe follow up if people want to reach out to you, Brent. Last question. How does an organization train as you suggested? What's the best approach? This is from John.

Brent James: Well an opinion, but having done it for years, so it's an informed opinion. I think you have to start your own organization. I don't think you can send enough people to a central program to Salt Lake or to Boston. It won't give you a sufficient volume of people to lead this kind of change across your organization. You need to start your own course. That's a long haul strategy. You mentioned when we started Eric, I've got about 50 sister training programs that I've started.

Every one of those organizations, we're kind of making a commitment to this as a strategy, and while it's worked out well for a bunch of them, you see.

You need to start your own course. We'll be starting the course here, but I see it as train the trainers. I want to load people up and go back and lead that kind of change, and start their own courses. So for example, next week I'll be at Queens in Honolulu, part of the advanced Queens training program. I want to say this is group five or six across town at Hawaii Pacific health, the THI teaching health improvement, I think we're currently in year 17.

Eric Denna: Something like that.

Brent James: And that's a key part of their strategy. See the idea? Mail runs a similar course internally, Anderson and while university of Texas in general for many years, Sutter continues with their course, about 50 of them. There's one in Sweden just in passing. Pretty strong one on Australia, a couple up in Canada as a pretty strong one in Switzerland. Well you get the idea, you need it internally.

The part where I think I could help out a little bit I hope is train the trainers, but my expectation is that not everybody wants to be a teacher, but some of the people who come through that they'll be sharing these concepts in a formal way with their colleagues back home. I think it will take that kind of scale. Now I know Eric, you've told me that you think we can reduce this to a forum materials that you could use to really improve support for those kinds of programs, which I find to be very intriguing as an old college professor. I think that idea of a flipped classroom where you can reach out so much more broadly, what a strong idea. I'd really like to see future develop too. But eventually anybody who's interested in this strategy needs to be making this part of their core strategy at home.

Eric Denna: So, just picking up on that theme, do we have time, Sarah for one more?

Brent James: Excuse me.

Sarah Stokes: We sure do.

Eric Denna: So, you said something intriguing that you would start with education as part of your train strategy versus changing data, changing tools, changing processes. Are you talking about literally first or concurrent with?

Brent James: Well, it turns out that, so a good training program is always built around doing projects, hands-on, real work. And guess what that does? It changes your data systems, right? It's all part of the course. It changes your finance systems. So, all the things you listed, it drives them. But the reason is as you're doing projects, it drives them in a particular way. It's reality-based, because you're doing real projects at the frontline, and you have a really good microscope on them. The theory gives you a way of seeing what's happening in new ways, and very

effective ways. You see? It kind of drives itself, because what the last obvious. Why weren't we doing that, is kind of what happens to you. When you see that, it just becomes clear what you really ought to be doing along the way.

You know, I'll do another thing in the course to at least the way I like to do it. I've been at this a while, you'll have two really tough groups. One tough group will be those old curmudgeon physicians, were trained up in what they see as a different medical profession. And, I'll be kicking a little bit of sand back in your face. They'll be expecting you to show up. Improve. The other hard group is senior administration. One of the things I tell my students when we're discussing these things, guys been down this road, I want to give you the right arguments. Most of those questions are not new. Most of them have happened now hundreds of times.

I can tell you how I got the scars on my back. I think I've stepped in every hole that exists. But I can tell you if you approach it from this angle, with this argument backed up by these good hard data, this is how you win that argument. I want to create change leaders that have the answers, you see? And I think we're to a point in this industry where we can. I want to help people succeed dramatically in leading the Helion professions into a new era.

Eric Denna: That's terrific. Sarah I think we're going to wrap up with that.

Sarah Stokes: Okay, great.

Eric Denna: Thank you Brent.