

Innovations in Care Delivery

IN DEPTH

Spreading at Scale: A Practical Leadership Model for Change

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A simple change model, reliably implemented, has led to substantive change in the management of complex, intractable health care problems at one of the largest U.S. health systems.

Health care has come a long way since the Flexner report was published in 1910.¹ During the intervening years, the average lifespan has increased by a third (from 49 to 76 years). In 1910, 114 of every 1,000 children died in their first year, compared with fewer than 6 per 1,000 today.² Deaths from AIDS, cancer, heart disease, and even accidents have dramatically decreased, with the steepest declines occurring in the past 30 years.³ These numbers reveal a dramatic story of persistent, incremental improvement that has been hard-earned by physicians, scientists, policy makers, and public health advocates.

My mother, who grew up during the Great Depression in a southern Missouri cotton town, recalled that one less child would return to class each fall because of yet another polio outbreak. Today, life-threatening infections such as polio, measles, whooping cough, and tetanus are so rare that intelligent, well-educated parents are more concerned about the perceived risks of the vaccines than about the risks of the diseases themselves.



These numbers reveal a dramatic story of persistent, incremental improvement that has been hard-earned by physicians, scientists, policy makers, and public health advocates.

We have clear evidence that medical science, when adopted broadly across a population, works to improve health outcomes. Twenty years ago, however, the <u>Dartmouth Atlas</u> showed that progress was highly uneven, with variation in care being the rule, not the exception. Today, outcomes

(e.g., life expectancy and disease burden) and the utilization of health care services (e.g., procedures, surgeries, consultations, and costs) all vary significantly depending on one's geography, leading the Robert Wood Johnson Foundation to conclude that when it comes to health and health care, "zip code is more important than genetic code."

Large health care delivery systems exhibit the same sort of geographic variation that is evident elsewhere in medicine (Figure 1). Clinicians spend years honing their craft and work hard every day to provide the best care possible for their patients. Variation in care is rarely a problem of recalcitrant doctors and nurses being unwilling to learn or resistant to change, but rather is the result of a system that has evolved to perpetuate variation. Some contributing factors include:

- A culture in which physicians, nurses, and pharmacists learn their skills not only from books, but also from peers and mentors, perpetuating geographic trends in care patterns.
- A lack of outcomes measurement by health condition, which represents a barrier to the development of a learning culture.⁵
- A 20th-century fee-for-service reimbursement model in which clinicians are paid for inputs to health care (office visits, diagnoses, treatment plans, procedures), ensuring that they focus on what they *do* rather than what they *achieve*.
- An explosion of medical knowledge, with more than 2.5 million articles published each year (equivalent to roughly 285 articles each hour). 6 Keeping up with the broad array of cutting-edge knowledge is simply not possible with the traditional learning model.

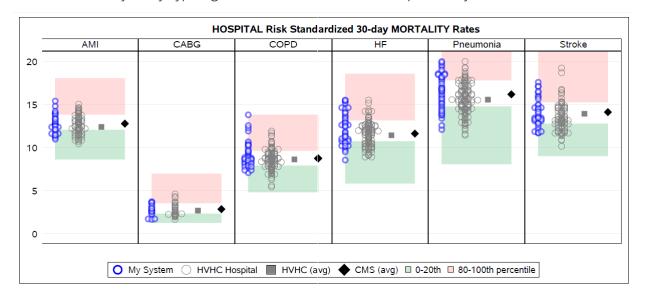
Together, these factors perpetuate variation, which by definition means that some patients are receiving suboptimal care.



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3-Year Average Mortality Rates

Illustration comparing the 3-year average mortality rates for each hospital within the Providence St. Joseph Health system (blue circles) to individual hospitals across the High Value Healthcare Collaborative (HVHC) (gray dots), the average of all HVHC hospitals combined (gray squares), and the national average compiled by the Centers for Medicare & Medicaid Services (black diamonds). The national 0–20th percentiles (green regions) and 80–100th percentiles (pink regions) are highlighted; lower values are better. This plot displays hospital variation, with tall and skinny clusters indicating higher variation and short and squat clusters indicating lower variation; it is not intended to provide quantitative details. For details, including comparator hospitals and hospital referral regions, see https://vantage.highvaluehealthcare.org. AMI = acute myocardial infarction, CABG = coronary artery bypass graft, COPD = chronic obstructive pulmonary disease, HF = heart failure.



Source: HVHC analysis, using CMS data

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The medical profession has used a variety of tools (e.g., publications, conferences, continuing medical education, outcomes measurement, pay for performance, transparency, etc.) to help every clinician practice cutting-edge care and accelerate the adoption of best practices. Unfortunately, these tools alone are not the answer. A 2011 meta-analysis investigating the rate of adoption of new, effective care practices demonstrated that it takes an average of 17 years for a medical breakthrough to go from publication to broad application.⁷

It's a rare clinical meeting that doesn't address the topic of "spreading best practices." However, assuming that the variation is due to a knowledge gap (i.e., that a clinician simply doesn't know the latest information) underestimates the complexity of the issue. We might know that walking has a lower carbon footprint than driving, but no one would assume that simply spreading the best practice of walking is the universal answer to global warming. Changing health care is a

complex adaptive problem, with variation introduced at the patient, physician, geographic, supply, and reimbursement levels, resulting in wide discrepancies in health care practices, costs, and outcomes. Solving complex adaptive problems requires different approaches than solving simple technical challenges; while steps such as adopting decision support and pay-for-performance may be helpful, these technical solutions are insufficient without an understanding of how to change the system.

Learning from What Worked

I spent the first 22 years of my professional career as a physician at Kaiser Permanente (KP). KP was founded as an integrated delivery system — it was an accountable care organization before the term was created. It is still predominantly funded as a prepaid, capitated model, with care being provided by a single Permanente medical group in each geographical region. Each medical group has a budget to care for a set population of patients (i.e., members), and each must ensure excellent health outcomes as well as compassionate service so that patients will elect to continue to participate in the plan. Despite these advantages, variation existed even at KP. When an opportunity for improvement was identified in a high-priority area, we actively sought ways to find a best practice and then deploy it across the entire enterprise from Maryland to Maui. Often (but not invariably), our efforts were successful. Since 2000, clinical quality has improved each year such that KP groups are now ranked among the best in class on many of the standard measures in both ambulatory and inpatient care and are able to provide care at a lower price point than many other health systems (internal Kaiser Permanente data).

However, as is the case at every organization, some effective practices spread more readily than others. In 2014, in an effort to understand what worked, I hosted an <u>IDEO</u> workshop involving a group of Permanente Medical Group leaders who had been very successful at spreading practices across the entire health system. The group included leaders such as Michael Kanter, MD, (who created an effective proactive care system to identify and close care gaps as well as a second system designed to ensure that abnormal laboratory results never fell through the cracks when they landed in the over-full inboxes of busy clinicians) and Alan Whippey, MD, (who, in 2010, created a highly effective early-warning and treatment system for sepsis while other hospital systems were still waking up to the fact that this complication was the number-one killer of inpatients).



By looking back on successful change, the workshop participants learned from positive deviance and gained insight into some of the key elements that are useful for driving clinical change at scale across a large organization.

The goal of bringing these clinical executives together was to understand how they successfully led efforts to reduce variation in care — that is, to learn how to change health care from leaders who had already effectively done so. We hoped that if we could understand common traits in how these individuals had led broad-scale improvements, we would be able replicate the leadership

attributes that had made them successful. And it worked. By looking back on successful change, the workshop participants learned from positive deviance and gained insight into some of the key elements that are useful for driving clinical change at scale across a large organization.

Not long after the workshop, I joined Providence St. Joseph Health (PSJH), a health care delivery system that is more typical of care in the U.S., with an open medical staff comprising both employed and aligned physicians, a mix of fee-for-service and value-based payment models, and coverage by all insurance payers (as well as for patients who are uninsured). Our facilities are in a variety of settings across 7 states, from urban centers such as Seattle and Los Angeles to rural locales in Alaska, Montana, and Texas. We care for patients from across the socioeconomic spectrum, including those who are poor and vulnerable, with services ranging from primary through cutting-edge tertiary and quaternary care.

Since 2015, we have used the attributes associated with successful improvement identified at KP to create and test a change model in several large initiatives improving care across the 51 hospitals, 9,000 providers, and 118,000 employees (caregivers) of PSJH. Along with this model for leading complex change at scale, PSJH leaders have applied a management framework that standardizes a few critical elements across the system while allowing for appropriate customization in different settings. Applying these two structures together has allowed our organization to make real progress on strategically important, intractable issues.

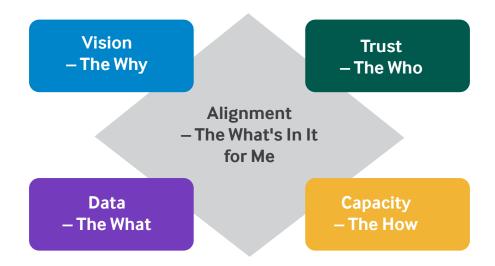
A Simple Model for Profound Change

A powerful lesson that we kept in mind during this process is that a few simple rules can be used to describe complex outcomes and behaviors — from the operation of successful tech companies⁹ to the movements of flocks of birds.¹⁰ The simple concepts that we used to achieve meaningful change in health care can be summarized into 5 essential foci: Vision, Trust, Data, Capacity, and Alignment (Figure 2). For individuals, these foci resolve into Why, Who, What, How, and What's In It For Me.



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The Model for Leading Complex Change at Scale



Source: Providence St. Joseph Health
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- 1. **Vision (the "Why"):** The first step is to identify and clearly articulate the essential fundamental human problem that you are trying to solve, not the tactics with which to solve it.
- 2. **Trust (the "Who"):** The second step is to identify the subject matter experts, thought leaders, and influencers whose input will be critical for the change. Network theory confirms the value of having a trusted, broad array of "weak ties" (i.e., acquaintances, not just close colleagues) who are able to influence each other's thinking. Members of this intentionally supported network form the nodes that then seed further change back at their own home locations. 11,12
- 3. **Data (the "What"):** The third step is to collect data that drive change. The continuous evolution of health care, like all scientific endeavors, is based on the scientific method. We observe, experiment, measure results, analyze, learn, and repeat. Data are the fundamental tool that provides the evidence that allows us to know whether what we're doing now is an improvement over what we did before. In order to drive change, data need to be relevant, intuitive, and actionable by the intended audience.
- 4. **Capacity (the "How"):** The fourth step is to apply the data that have been collected. The capacity to do so is dependent on both *skills* and *tools*. Imagine remodeling your kitchen cabinets: you'd need both a carpenter (with skills to shape and cut the wood) and tools (saws and hammers and nails to put the pieces together). Neither alone enables change. In the field of health care, improvement skills (e.g., knowing how to run a <u>Plan, Do, Study, Act cycle</u> or create a process map and streamline the steps) are different from medical or nursing skills,

yet we put less focus on honing how to improve than on what to improve. Improvement skills allow each person to have two essential functions: (1) to *do* their job and (2) to *improve* at their job. Moreover, we know that once a new process is worked out, old behavior is likely to return unless the new process is hardwired into our workflow; therefore, tools are needed to ensure that a new process becomes the new normal.

5. **Alignment (the "What's In It for Me?"):** The final step is to achieve alignment between incentives and behaviors. Being rational actors, people do what they are paid to do. If we pay doctors to do more procedures, they do more procedures. If we pay them to produce value (better outcomes at lower cost), they produce more value. In medicine, payment models are certainly not the only incentive that changes behavior, but when individuals are rewarded for doing the opposite of what they are being asked to do, money gets in the way. Finding ways to align incentives for clinicians to embrace change and deliver value smooths the path, lowering resistance.



This simple change model of Vision, Trust, Data, Capacity, and Alignment has worked at PSJH to create a replicable pathway for executing an array of strategically important, complex systematic improvements.

This simple change model of Vision, Trust, Data, Capacity, and Alignment has worked at PSJH to create a replicable pathway for executing an array of strategically important, complex systematic improvements. Here are important examples.

Reducing Hospital-Acquired Infections

Like all hospital systems, PSJH has struggled with the risk of iatrogenic infections, including CLABSI (central line-associated blood stream infection), CAUTI (catheter-associated urinary tract infection), Clostridium difficile (C. diff) infection, and surgical site infections. In 2014, PSJH started on a path toward becoming a high reliability organization (HRO), a path many organizations have gone down. ¹³ Based on research into our own culture and its needs, we developed a system-wide focus on tones (i.e., the way in which we speak to each other in an inherently hierarchical system), tools, and behaviors to create a reliable culture of safety. In 2016, as a way of building on that work, we made a bold aim of eliminating hospital-acquired infections, applying the change model as follows:

- **Vision:** We established a clear, compelling, measurable vision: the elimination of our 5 most common hospital-acquired conditions.
- **Trust:** We worked with our nursing and quality leadership teams to establish condition-specific clinical collaboratives with participants from across our 7 states and to identify bundles of key actions to implement across our 50 acute-care facilities. Once the bundles and metrics were established, the collaboratives shifted focus to share learnings on what worked across geographical regions.

- **Data:** Knowing that process reliability was essential to the execution of our goal, we built an intuitive tool the Inpatient Quality Dashboard to show outcome metrics and trending process metrics for each bundle step for each hospital-acquired condition. The data are cascaded from the system level to the regional level to the local hospital level to the local unit level so that leaders can see how their areas are performing and what steps they can focus on to improve. In order to emphasize the humanity behind the metrics, the denominator of each measure was expressed as the number of people. We then translated the predicted observed/expected infection rate into how many people we did (or did not) harm (Figures 3A and 3B).
- Capacity: Our HRO training built *skills* across our workforce that were aligned with the goal of process reliability to reduce hospital-acquired infections. Facilities adopted learning boards, leader rounding, and whole-hospital safety huddles to ensure that we delivered on reliable execution. Simple *tools* showing our Caring Reliably Commitments (Figure 4) on one page (e.g., posters, handouts, online resources) kept the focus on the key goals, and order sets and templates in our electronic medical record (EMR) helped to ensure that we had checklists and decision support embedded in the workflow, making the right care simpler to both do and document.
- **Alignment:** We made hitting our safety goals the quality measure in our annual incentive plan, aligning the bonus pay for our caregivers (our term for all employees) and executives with our goal of keeping our patients safe.



Our results have been striking. Between 2015 and 2018, our rates of infection decreased significantly.

Reduction in Hospital-Acquired Infections

Screenshot from the Inpatient Quality Dashboard, illustrating the reduction in hospital-acquired infections (HAIs) from December 2016 to December 2018. The blue line in the graph in the bottom left corner shows the rolling 12-month trend, and the gray area within the graph shows the monthly number of infections. The blue bar above the graph shows the year-to-date (YTD) number of infections for 2018, and the vertical black line shows the end-of-year target. C. diff. = Clostridium difficile, CAUTI = catheter-associated urinary tract infection, CLABSI = central line-associated blood stream infection, MMA = monthly moving average, SSI Colon = surgical site infection (colon), SSI Hyst = surgical site infection (hysterectomy).

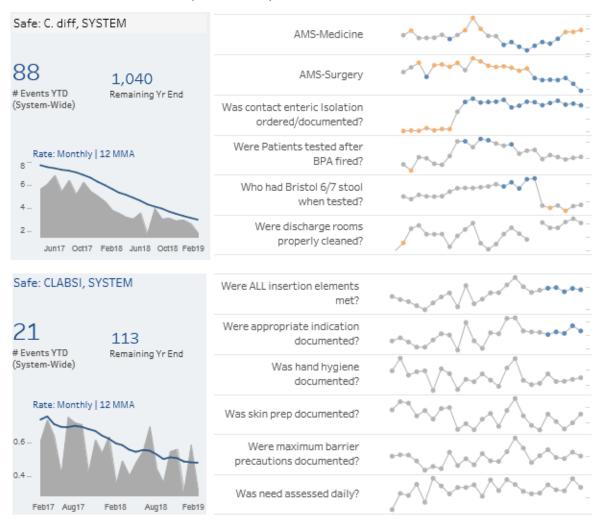


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Individual Outcomes and Process Metrics

Screenshot from the Inpatient Quality Dashboard showing individual outcome and process metrics. The trend lines on the right show the results of statistical testing, with gray circles representing the mean without differences from baseline, blue being better than baseline, and orange being worse. While these data are shown at a system level, the unit of analysis can go from system to region to facility to unit for locally actionable data.

AMS = antimicrobial stewardship, BPA = best practice alert



Source: Providence St. Joseph Health

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Caring Reliably Commitments Tool

Our Caring Reliably commitments tool, which we used to help all caregivers understand the critical foci for both process and outcomes.



Source: Providence St. Joseph Health

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Our results have been striking. Between 2015 and 2018, our rates of infection decreased significantly. For example, in 2015, we recorded 7.9 cases of hospital-acquired C. diff infections per 10,000 patient days; by 2018, we were down to 3.30 (PSJH data as reported to the National Healthcare Safety Network). In 2018, we had over 600,000 admissions, and, based on the expected rate of hospital-acquired infections, we set our improvement targets so that "only" 2,094 people would be harmed by a hospital-acquired condition on our watch; in actuality, 1,261 did, meaning that 833 fewer people had their lives threatened by these germs than otherwise would have been the case. And because of our choice of measures (the number of people harmed), the meaning of these numbers is clear: although hospital-acquired conditions are rare events, we unintentionally fail our patients over 1,000 times annually by not being perfect. Our journey will continue.

A key lesson learned in applying the model to reducing hospital-acquired infections was to use measures that resonate with caregivers on the front lines. Celebrating improvements in an observed/expected infection rate did not resonate with the same impact as counting people whose lives we made better. The former metric is wonky, whereas the latter instills pride in the work that we do and was significantly more impactful in driving change.

Delivering Whole-Person Care

Essential core values at PSJH include honoring the dignity of every human being and caring compassionately for every patient. In the clinical space, this means that we believe that all of the care that we provide should be consistent with each person's goals, values, and beliefs. Physicians spend decades in school learning their craft, completing a long and arduous journey on their way becoming experts in the healing arts. Changing the paradigm from one in which we tell patients their treatment plan to one in which we ask each individual about their priorities, needs, and desires before we apply our skills represents a challenging cultural shift. To help translate this vision into practice, PSJH created an Institute for Human Caring (IHC). We are midstream in using the change model to accelerate the achievement of the goal of delivering whole-person care, a process that is neither simple nor quick:

- **Vision:** We will make whole-person care the new normal. In practice, this means asking patients what matters to them and having difficult discussions around preferences when curative care is no longer an option.
- **Trust:** The IHC supports a series of networks across the system. These networks include a subject–matter expert group of palliative care providers, our ambulatory care physicians, a network of chief medical officers and chief nursing officers with operational responsibilities, and a hospital care clinical performance group. The groups focus on routinely embedding conversations about advance directives and documenting goals of care proactively in outpatients, and reactively in hospitalized patients.



An essential lesson that we learned in applying the model to whole-person care was the importance of building trust not only with patients, physicians, and caregivers, but also with our finance colleagues.

- **Data:** We created a dashboard focusing on documented goals of care, advanced directives, and patient/family satisfaction with goal alignment. In 2017 we made an organizational goal on increasing advance directives on patients' charts, and in 2019, we added a goal to increase the frequency of documented goals-of-care discussions with patients who have been in the ICU for over 5 days (Figure 5).
- Capacity: Using education and simulation, the IHC has been building the *skills* of physicians and caregivers to have goals-of-care conversations with patients and families, which can be very sensitive and often uncomfortable discussions. *Tools* such as videos and discussion guides make these difficult conversations easier to have with patients and families, and new note types and templates in the EMR make those discussions easier for clinicians to document and find later when they are needed.

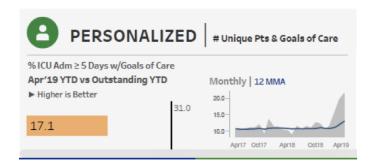
• **Alignment:** In an effort to motivate our caregivers to think about their own goals of care (and, in the process, become more comfortable with the issues involved), we provided them with an opportunity to earn incentive dollars for their Health Savings Accounts by watching a set of videos on the topic and making a commitment to think about their future priorities.

An essential lesson that we learned in applying the model to whole-person care was the importance of building trust not only with patients, physicians, and caregivers, but also with our finance colleagues. Having sufficient palliative-care staffing in an inpatient setting is essential to enable robust conversations around goals of care. Concurrent with building a data architecture to give providers feedback on how reliably we were asking patients their preferences, our Institute for Human Caring had to perform a robust financial analysis to demonstrate that while adding palliative care staff was an investment, the return would be significant in terms of saving unnecessary and unwanted patient days in the ICU.

FIGURE 5

Frequency of Goals-of-Care Discussions

Screenshot of the dashboard showing the progress in increasing the frequency of goals-of-care discussions with patients who had been in the ICU for more than 5 days. The yellow bar represents current performance (17.1%), and vertical line represents year-end target (31%).



Source: Providence St. Joseph Health
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Improving Health Care Value

At PSJH, the care for roughly two-thirds of our patients is paid for by the government, either through Medicaid or Medicare. In the communities that we serve, the reimbursement rates for these patients are below our costs. Losing money on one's highest-volume payer is not a sustainable business model in an industry that is essential to a thriving community: no town wants its health care system to go bankrupt. It's imperative to more effectively manage our costs so that those in need can afford the care that we provide. At PSJH, we are addressing the issue with use of our complex change model as follows:

- Vision: We will provide world-class care at Medicare rates by 2022.
- **Trust:** We tapped into our network of providers making up our clinical institutes. These service line–focused groups gathered typically 10 to 50 experts in clinically related conditions from across our geographic footprint to identify opportunities where we could both improve clinical outcomes and lower costs by learning faster together. The groups from fields as diverse as orthopaedics, women's and children's care, cancer, digestive health, and neurosciences told us what they saw as opportunities, determining the areas of focus.
- **Data:** Based on what the clinical leaders identified in each service line, we collected discrete data to (1) confirm the leaders' hypotheses of where variation and opportunity existed (they were always right), (2) determine the potential financial savings of each opportunity that would result from reducing variation, and (3) help drive the changes essential for success in providing better care at lower cost. We created a Value-Oriented Architecture to make opportunities to reduce variation in both cost and quality clear, transparent, and actionable (Figure 6).¹⁴
- Capacity: To allow our managers and executives to build the *skills* needed to lead in a value-driven environment, we created a training program in Clinical Value Improvement. We initially targeted triads of chief doctor, chief nurse, and chief finance officer from each facility to enhance their ability to work together to drive execution. In addition, to make the right thing easier to do for clinicians in practice, we built *tools* into our EMR, including smart sets, order sets, and checklists to make high-value care the default.
- **Alignment:** On the basis of our results, we have aggressively moved into value-based and bundle-based reimbursement programs to help our high-value clinicians grow their practices. ¹⁵ We believe that competing on value is the path to be the provider of choice in all of our communities in the future, and the doctors who are able to provide better care at more affordable costs will be the ones whom payers seek out.

In 2018, despite the inflationary headwinds of wages, pharmaceuticals, and devices, our clinicians reduced the cost of care by \$19 million on our initial 10 targeted diagnoses, an initial down payment on our journey to providing great care at Medicare rates. We expect this to be a long, winding, and challenging road to enable outcomes patients want at prices the country can afford, but we also believe failure is not an option.



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Our path to providing world-class care at Medicare rates is still very much a work in progress. One lesson that we have learned so far is that it takes time to build the necessary skills across a large organization, and simply throwing data over the wall and hoping that doctors would use it was not the right answer. While PSJH continues to invest in building local clinical leaders' skills in improvement science, we are continuously enhancing our ability to support local teams with

centralized resources and improvement experts who are dedicated to helping implement change. To that end, we now have analysts, who deeply understand the data, partnering with skilled project management professionals (e.g., Black Belts in Lean) to support frontline physicians and teams in applying these data to their practice.

FIGURE 6

Variation in Physician Spending

Screenshot of data from the PSJH Value-Oriented Architecture focusing on reducing variation in and total spending across orthopaedic physicians performing primary elective knee replacement at PSJH hospitals. Each circle represents one physician, with the circle size representing the case volume for that physician.



Source: Providence St. Joseph Health
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Leading Change by Loosening Up

During one particularly contentious board meeting several years ago, members from outside health care were frankly appalled at the geographic variation in outcomes across the enterprise. The question under debate was "If we know a best practice, why can't we just tell people what to do?" Yet changing health care practice — or addressing any complex adaptive problem — doesn't work that way, or breakthrough improvements wouldn't take 17 years to be widely deployed in practice. Clinicians in health care work very hard, doing their best day in and day out to care for the patient in front of them. However, as noted above, the wide variations in clinical training, insurance rules, and care networks make every local delivery system its own microcosm. Telling a skilled clinician how to do their job is a recipe for failure. Instead, PSJH applies our change model together with a "tight, loose, tight" management style that serves to standardize a few critical elements across the system while allowing each local group to customize their implementation based on local context, environment, and innovation. ¹⁶

To actually put the Vision, Trust, Data, Capacity, Alignment model into practice, in the examples above and others, senior system leaders have had to cede direct control of how to get things done and learn to trust the idea that, by focusing on solving the same problems, we will get further faster (Figure 7):

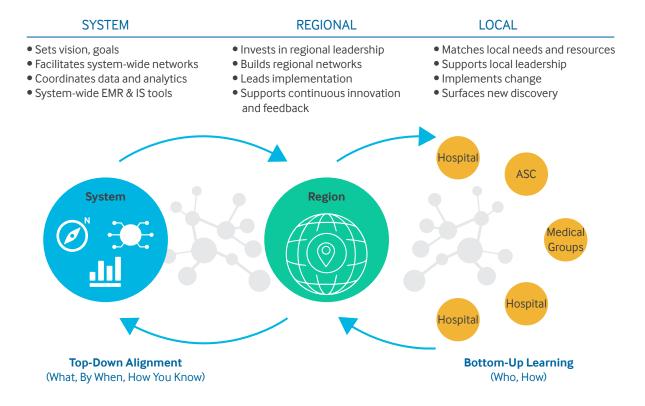
- **Tight:** After soliciting input from the front lines across different regions, executive leadership prioritizes the Vision, setting the big goals, being crystal clear on the "Why," "What," and "When."
- **Loose:** Subject-matter experts sort out the "Who" and "How," accelerating learning across geographical regions and facilities by building and supporting trusted networks. This means that despite the cost-cutting that is essential in health care today, we still provide funding to allow people to travel to meetings we know that some minimum number of in-person gatherings is actually essential to our ability to go faster.
- **Tight:** Measurement of strategic goals is done at the system level to provide consistency and comparability across the entire enterprise to ensure that we have data for learning, with critical measures for accountability held in common.



Clinicians in health care work very hard, doing their best day in and day out to care for the patient in front of them. Telling a skilled clinician how to do their job is a recipe for failure.

Tight-Loose-Tight Model

Diagram illustrating the "Tight, Loose, Tight" model of leading change at scale. EMR = electronic medical record, IS = Information Systems (IT), ASC = Ambulatory Surgery Center.



Source: Providence St. Joseph Health

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As we work to keep advancing the medical miracles and population health improvements seen over the past century while simultaneously changing the trajectory on costs and the equity of care distribution, our mission is to learn from what works. Great care and great health are out there somewhere, and, with a path to ensure efficient spread of effective practices at scale, leaders of all health care organizations can ensure that great care somewhere turns into great care everywhere.

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