



ISSUE BRIEF

Understanding Performance Improvement in Safety-Net Hospitals

U.S. safety-net hospitals — by mandate, mission or virtue of location in underserved areas — play vital roles in their communities by caring for a large share of uninsured, Medicaid and other vulnerable patient populations. Structurally diverse, safety-net hospitals also provide critical health services unavailable elsewhere in communities, including trauma, burn care, neonatal intensive care and inpatient behavioral health services.¹

Given the vulnerable populations they serve and the costly, stand-ready

services they provide to the larger community, safety-net hospitals face financial and organizational pressures that threaten their ability to provide high-quality, affordable, patient-centered care. Despite these pressures and often because of them, safety-net hospitals have adopted transformational performance improvement (PI) approaches and techniques designed to improve patient outcomes and financial performance, including Lean; Six Sigma; robust process improvement

using tools such as Plan-Do-Study-Act (PDSA); and A3 problem solving.^{2,3} (See descriptions of performance improvement methodologies and techniques on page 3 and 4.)

The goal of PI at all hospitals, regardless of safety-net status, is to improve operational efficiency and quality, patient safety and patient experience. Interestingly, despite the challenges that safety-net hospitals face — including limited financial margins to invest in PI and also the disproportionate impact of social determinants of health on publicly reported outcome measures and unique challenges of applying PI to processes related to mental health and substance misuse — they report conducting similar types and levels of PI activities as their non-safety-net counterparts.⁴ However, relatively little research and policy attention have focused on safety-net hospitals' PI efforts.

To address this gap, The Commonwealth Fund supported a study by the American Hospital Association (AHA) and researchers from NORC at the University of

Key Messages:

- **Transforming Despite Pressures and Challenges.** Many safety-net hospitals have adopted transformational performance improvement (PI) approaches that are improving patient outcomes, despite having scarce resources and facing regulatory and market pressures.
- **Focusing on Patients throughout the Journey.** Focusing on their patients and communities—typically uninsured or on Medicaid—and providing excellent care drive many safety-net hospitals to invest in PI.
- **Creating and Sustaining a Culture of PI.** Performance improvement is not a one-off program or one-time investment. PI goals need to be integrated into the hospital's strategic planning process and annual goals.
- **Ensuring Flexibility and Variety of PI Approaches.** Most safety-net hospitals focused on PI use a combination of techniques and approaches, such as Lean, Six Sigma, Gemba walks, A3 problem solving and PDSA cycles.
- **Sharing Data, Goals and Progress.** Timely access to relevant data is crucial to PI implementation. Tracking and sharing real-time PI data helps to educate and engage clinical teams as they work toward common goals.
- **Strong Leadership + PI Champions + Engaged Staff = Success.** Building a strong culture of performance improvement calls for top leaders — including board members — who prioritize PI and overall patient quality, champions who communicate the importance of the work, and engaged staff who are key to sustaining and spreading PI efforts.



Chicago to conduct 57 comprehensive interviews with representatives of 14 safety-net hospitals across the United States (see Figure 1 on this page) to learn about their PI efforts (see Methods box on page 7). Reflecting the diversity of safety-net hospitals, the study included hospitals that varied by size, system affiliation, teaching status and geographic location, including urban and rural sites (see Table 1 on this page). Additionally, researchers employed a positive deviance approach that focused interviews on safety-net hospitals reporting a relatively high level of PI activity and maturity on a well-validated survey.⁵ The positive deviance approach used to select hospital participants for this study is described in the Appendix on page 13. Case examples at the end of this issue brief provide concrete illustrations of PI work underway by safety-net hospitals, the impact and lessons learned.

Quest for Better Care, Better Health and Lower Costs Drives Effort

Across the 14 safety-net hospitals, the main motivations to invest in performance improvement included improving quality of care and patient experience, lowering costs and increasing staff engagement and satisfaction — all in the face of significant policy and market pressures. Many hospitals reported

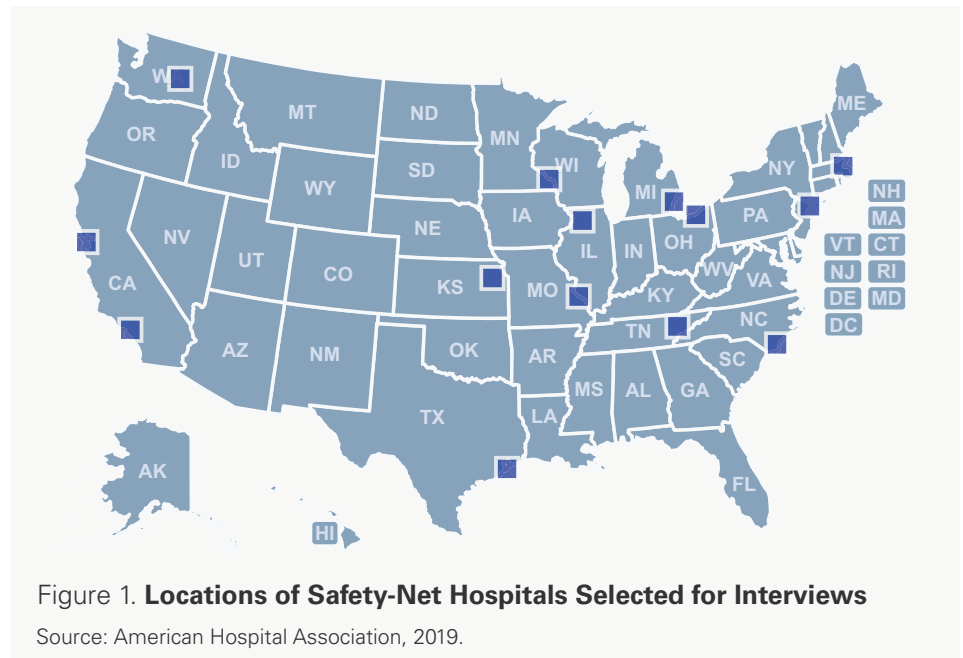


Figure 1. **Locations of Safety-Net Hospitals Selected for Interviews**

Source: American Hospital Association, 2019.

investing in PI simply because they believed it was the right thing to do while meeting their mission to serve vulnerable patients and communities and, in the case of teaching hospitals, to train the next generation of providers. As the CEO of a West Coast urban hospital said, “The whole focus of this work is on our patients and the community.... Sometimes it’s easy to get lost in these tools and structures, but ultimately what we really want to make sure is that our patients are getting excellent care and having an excellent experience.”

External regulatory and market pressures, including the Affordable Care Act and increased competition among hospitals for patients, also served as catalysts for hospitals to begin or increase PI work, according

to interview respondents. The CEO of a small, rural Missouri hospital exemplified this point: “We really have positioned ourselves to be much more than just a small community hospital, and one of our goals has always been to be not only the provider of choice but also the employer of choice. We want to be known as one of the safest hospitals in the area. When you’re in a small community and close enough to a big city, patients are always looking [to see if] they [are] getting the same level or quality of care that they do in the big cities.”

For a medical-surgery service line leader at a large Midwestern hospital, the shift toward value-based reimbursement was a factor, albeit a secondary one, to quality: “I certainly think value-based purchasing, of course, is a motivator but also quality ... as the competition gets tighter.... It’s part of our strategic plan here.” Increasing operational efficiency and generating return on investment also drive PI efforts. As one PI leader at an urban Midwest hospital observed, “Most of the safety-net hospitals are making the best decision they can on scarce resources....And it’s very hard

Table 1. **Characteristics of Safety-Net Hospitals Selected for Study**

Region	Size	Rural vs. Urban	Teaching
Northeast	2 Small (0-100 beds)	4	Teaching 10
Midwest	6 Medium (101-200 beds)	0	
South	3 Large (201-400 beds)	3	Non-Teaching 4
West	3 Extra Large (401+ beds)	7	
		Rural 4	
		Urban 10	



Performance Improvement Methodologies

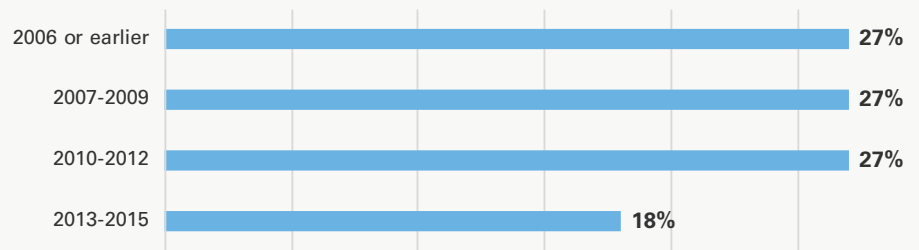
Institute for Healthcare Improvement (IHI) *Model for Improvement* aims to help organizations accelerate improvement within their existing change models by forming teams, setting goals, testing change using Plan-Do-Study-Act (PDSA) cycle and measuring impact.

Lean is “an overall management/operating system that uses a continuous improvement culture that empowers front-line workers (nurses, physicians, other caregivers and support staff) to solve problems and eliminate waste by standardizing work to improve the value of care delivered to patients.”⁵

Robust Process Improvement, created and promoted by The Joint Commission, uses a wide range of approaches to increase efficiency of operational processes; improve quality of products, treatment and services; and address complex work environments. This is done by partnering with appropriate staff and leaders, simplifying processes to eliminate defects, facilitating the use of data and analysis, and more.

Six Sigma, developed by Motorola, focuses on increasing performance while decreasing variation in business processes.

Figure 2. **When Selected Safety-Net Hospitals Began Implementation of Lean***



*Data shown are for the 11 hospitals that responded to the National Survey of Lean.

Source: Center for Lean Engagement and Research in Healthcare.

to figure out downstream return. So, [if] I prevent this many readmissions — [then] I save this much money.”

Some hospitals began PI efforts in pursuit of external performance-based programs, such as the Baldrige Performance Excellence Program⁶ or American Nurses Credentialing Center (ANCC) Magnet Recognition Program.⁷ Such participation gave hospitals opportunities to receive feedback on improving clinical and operational procedures and helped jump-start a formal PI program or initiative. As noted by the CEO of a small, rural Midwestern hospital, “We actually started doing some really deeper work in terms of quality improvement or performance improvement in 2003 or 2004 when we began our pursuit with the Malcolm Baldrige criteria.”

Investing in a Culture of Performance Improvement

Across the hospitals studied, respondents stressed that performance improvement is not a one-time investment with quick payoffs. Instead, they work to create and sustain a culture of continuous performance improvement and learning with the underlying goals of improving communication, enhancing staff engagement, demonstrating value, and driving out unwarranted

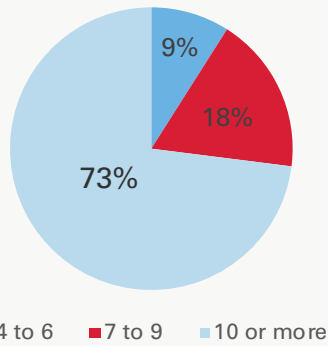
variation across departments. As one hospital leader said, “As an organization, I think Lean, and therefore performance improvement, has to be cultural to be successful. It can't be a program; it can't be an initiative. It literally has to be who we are and the way we do business.”

Echoing that sentiment, this leader added, “It doesn't matter if we're urban or rural. To me, none of that matters. Improvement is improvement. It doesn't have to cost a lot of money. This is cultural. Cultural requires a time investment, and if you as a leader are willing to make that investment, it doesn't matter what situation you find yourself in. It will pay dividends. It will make your organization better. It will benefit your patients. And I truly believe at the end of the day, it will have a positive financial impact.”

Selecting Performance Improvement Techniques and Targets

The hospitals selected for interviews had been involved in performance improvement for a number of years (Figure 2), reported undertaking a relatively high number of PI projects (Figure 3), and rated themselves as having relatively mature PI programs (Figure 4). While many early adopters

Figure 3. **Number of Lean Projects Being Implemented at Selected Safety-Net Hospitals***



*Data shown are for the 11 hospitals that responded to the National Survey of Lean.

Source: Center for Lean Engagement and Research in Healthcare.

of systematic PI approaches were large, academic medical centers in urban areas, some relatively small and rural hospitals began implementation more than a decade ago.

PI techniques. Most hospitals interviewed reported using a combination of PI techniques and stressed the need to be flexible. Several respondents characterized their organizations as “agnostic” to a single PI approach, noting that the choice of PI approach should be guided by specific project needs, high-reliability goals and any national benchmark performance metrics. The most frequently cited combination of methodologies used was Lean and PDSA. (See callout box on page 3.)

Lean processes, for example, were effective in gaining physician buy-in because of their strong reference to scientific and evidence-based methods. C-suite and other executives gravitated toward Gemba walks, a key element of the Lean philosophy that encourages leaders to observe and learn about work processes that

Performance Improvement Techniques

A3 problem solving, a template tool developed by Toyota to study an issue, identify the root cause of a problem or inefficiencies, and develop and apply changes, is intended to foster collaboration when identifying the purpose, goal and strategy of a project.

Gemba walk encourages leaders of the performance improvement initiative to walk through the workplace to detect challenges in the process, identify areas of improvement and actively communicate those challenges as well as possible opportunities for improvement.

Huddles are short, stand-up meetings with team members at the start of a workday. These huddles can take place across different units to quickly review the progress of the previous day and plan the day ahead.

Kaizen events involve team members convening in small groups to determine the right process for change that is within the capabilities and scope of the team members.

Plan-Do-Study-Act (PDSA) cycle is part of the Institute for Healthcare Improvement (IHI) Model for Improvement based on the work of Deming and Shewhart. It is implemented by monitoring small tests of change — planning, trying, studying the outcome and, finally, acting on the outcome. This is the scientific method, used for action-oriented learning.

Value-stream mapping visually lays out workflows and identifies variation and inefficiencies that serve as a guide for eliminating unnecessary steps with the goal of understanding where value is created in complex processes from the perspective of the customer or end user.

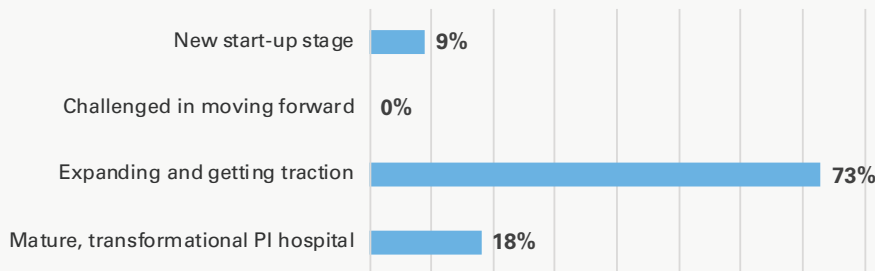
Visual boards, such as huddle boards and scorecards, are simple displays that help facilitate conversations during daily meetings with visual representation of data and tasks to better measure and track progress, accomplishments and challenges throughout the change journey.

support continuous improvement. Other approaches included Six Sigma, which focuses on decreasing process variation and reducing errors; A3 problem solving, a structured continuous improvement approach to studying an issue, determining its root cause, proposing countermeasures, and implementing change; DMAIC, a five-step problem-solving roadmap — Define, Measure, Analyze, Improve and Control; and huddle boards, which display status, progress and issues related to a PI initiative. (See callout box above.)

PI project identification, targets and measurement. The 14 studied hospitals identified PI projects through a variety of different tactics, but approaches could be simplified as top-down (e.g., hospitalwide strategic plan) and bottom-up (e.g., front-line staff identification) strategies. Notably, every hospital interviewed mentioned at least one committee, comprising staff of mixed levels, focused in some capacity on identifying and approving specific PI projects, tracking project progress and measures, and maintaining project engagement.



Figure 4. **Safety-Net Hospitals and Their Self-Assessed Stage Reported in the National Survey of Lean***



*Data shown are for the 11 hospitals that responded to the National Survey of Lean.

Source: Center for Lean Engagement and Research in Healthcare.

The different committees allow information to flow reciprocally, connecting high-level strategic priorities and plans to very specific PI projects within or across departments and allowing key people from all levels of the organization to participate and remain adequately apprised of progress.

The hospitals all targeted a wide array of PI initiatives and used a variety of measures to monitor progress. Some focused on reducing rates of hospital-acquired conditions, such as catheter-associated urinary tract infections or central line-

associated bloodstream infections. Others focused on length of stay, primary care outpatient utilization, medication reconciliation, opioid stewardship, patient safety generally, administrative services, and emergency department (ED) visits and wait time.

Meeting the needs of vulnerable patients served by safety-net hospitals also played a key role in targeting PI initiatives. For example, a psychiatrist at an urban New England hospital described the organization’s decision to focus on behavioral health in its most recent strategic plan as a

response to unmet community needs: “We started with psychiatry because we identified within overall strategic planning that psychiatry is one of the most important parts of what we do. It is very integral to the care we provide.... There is no other system similar to us....our mission continues to be to help those who are in need.”

Most hospitals participated in multiple performance reporting programs — some required by regulators and payers and others optional. Common reporting entities included Medicare, Medicaid, The Joint Commission, the National Database of Nursing Quality Indicators, and Vizient and Premier quality measures. Many hospitals use electronic health records (EHRs) to gather data and create standard monitoring and tracking systems. To collect data and report measures, hospitals worked with internal data teams (i.e., IT specialists and data analysts), in addition to using external data management vendors.

Engaging and Training Staff

Hospitals uniformly reported that investing in staff expertise in performance improvement was critical and identified two main models: a decentralized approach deploying basic training in PI techniques broadly across front-line staff or a centralized approach using a small cadre of PI experts as internal consultants to front-line staff. Multiple respondents described the decentralized approach as developing “an army of problem solvers” tackling multiple ongoing projects.

Most respondents, however, reported moving away from a decentralized model, in part because of the high costs of training hundreds of staff. Instead, these hospitals carefully select or develop leaders

with extensive PI expertise who can coordinate efforts and assist front-line staff on PI initiatives. A senior executive at an urban New England hospital described this approach: “Initially, we tried the train-the-trainer model, working with operational leaders and managers to do a little bit of Lean education. We found that wasn't as effective, so we decided to hire a core group of performance improvement experts who would work shoulder to shoulder with operational leaders and bring the expertise to the table.... Partly it's a resource issue that we couldn't really afford to train up 500 people on Lean strategy, so we hired initially just one person, and then now it's up to four, who were already Lean competent when they came in...and we do continuous training with those individuals and do just-in-time training specific to the problem that the operational team is trying to solve.”

Common Barriers

While respondents stressed the importance of building a strong organizational culture centered on performance improvement, they also noted that changing organizational culture can be uncomfortable and disconcerting for some staff. Overcoming fear of culture change or hesitation to adopt new practices or processes requires strong commitment — and resources — from hospital leaders. (Refer to case examples at the end of this brief). This is especially true when facing resistance from clinicians, mid-level managers, and front-line staff because of competing demands and perceptions of PI as primarily intended as a cost- or staff-cutting measure. Other common barriers to performance improvement identified by respondents include:

- Lack of high-level leadership and champions to maintain momentum.
- Lack of standardization among groups collecting performance indicators.
- Concerns from mid-level managers about ceding authority for identifying problems and possible solutions to front-line clinicians.
- Lack of infrastructure, such as databases of PI projects and resources, to support the field.
- Limited access to robust data to support PI initiatives, including collecting, communicating and reporting data.
- Ineffective communication across departments, especially in making PI goals and results transparent.
- Challenges recruiting and retaining PI staff, especially in rural areas.

Overcoming Barriers to Performance Improvement

Respondents identified an array of strategies to overcome barriers and

spread and sustain performance improvement efforts throughout their hospitals, including ensuring strong leadership and developing PI champions, giving persistent attention to organizational culture; prioritizing projects; improving access to data; communicating goals and progress; and engaging hospital staff through education and financial incentives.

Ensuring strong executive leadership support and developing PI champions.

Many respondents emphasized the importance of early support and engagement from hospital leaders, as well as identifying PI champions, especially among clinicians. When the C-suite commits resources — time, money, training and hiring new staff — it sends a powerful message that performance improvement is a hospital- and system-wide priority. Another important factor is hospital leaders directly engaging in PI efforts — for example, by participating in relevant committees where PI projects are identified and proposed solutions are suggested. A respondent at an urban New England hospital, which has launched both successful and



unsuccessful PI projects, noted that “failed projects are where we haven’t had that level of support from the senior leadership.”

Moreover, almost every hospital commented on the importance of having “relentless champions,” as one respondent said, to sustain performance improvement efforts over time. The PI champion helps maintain focus throughout projects and serves as a role model for other providers or as a spokesperson for the program. Some champions emerged while working on a project they were passionate about and then bringing it to executive leadership attention, while other hospitals identified leaders — across different levels — and assigned them projects to work on.

Shifting organizational culture to embrace PI while shifting PI approaches to the organization’s culture. As a Michigan hospital respondent said, “To truly accomplish what you want to accomplish, it needs to become part of your culture to be on a continual journey of process improvement.” At the same time, respondents noted that culture can be a barrier to standardization of processes because staff sometimes resist changing habits, even if they agree with the need to improve performance at an organizational level. In response, hospitals work with staff to understand the importance of PI for their practice. A North Carolina hospital leader noted that “being an effective leader in an organization that is truly committed to performance improvement really means listening more than talking. It means asking questions versus giving answers, it means giving up control and trusting the process.” This hospital uses mid-level managers as initiative leaders, or champions, who own the PI

initiatives, in an effort to integrate the organizational culture into PI initiatives across the hospital.

Prioritizing projects to deploy resources effectively. Many hospital representatives noted that nurses and other staff often do not have extra time because of limited staffing or union contract provisions. One hospital used PI as a way to add more nurses by completely updating their revenue cycle efforts and thus saving enough to support the hiring of new staff. Clearly identifying priorities is critical when asking staff to change or add to their current work. Additionally, both clinicians and PI project leaders noted that for each project, it is critical to clearly define goals so that providers and other staff are aware and understand the targets set for them. Some hospital executives use strategic planning to identify areas where PI projects should be implemented, while other hospitals use a bottom-up approach and have front-line staff identify PI areas. In many cases, committees that identify PI projects are an important vehicle for connecting executive leadership with front-line staff perspectives.

Improving access to real-time and actionable data. Many respondents noted their hospitals were still implementing EHRs, disease registries and data warehouses or had systems that were not equipped to perform analysis to assist with PI projects. They also reported that having a strong data analyst who understands the hospital’s EHR and data systems is crucial to PI implementation. Although hospitals used a variety of metrics to measure their performance for reporting purposes, many respondents noted that there are no standard measures that all hospitals



Methods

The hospitals were selected from a group of safety-net hospitals with relatively high scores on a PI activity scale that was developed using data from the National Survey of Lean and the AHA Annual Survey and with input from experts on the study’s national advisory committee (see Appendix). By providing information from diverse safety-net hospitals that are currently reporting significant PI efforts, this report aims to inform how different PI approaches and tools might work over time and differently — or not at all — based on the confluence of characteristics that make each safety-net hospital unique in its own right. The interviews covered a number of topics including: organization background, current PI efforts, major barriers and facilitators to successful PI initiatives, how hospitals overcome challenges, how EHR/data systems are involved in PI and how varying patient populations affect PI.

use, which leads to measuring and interpreting data in different ways. Furthermore, data that are suitable for performance reporting may not meet the needs of PI, and small sample, process-oriented data required for PI may be difficult or impossible to obtain.

Nonetheless, performance data can help engage physicians and nurses by showing how they are performing in comparison to their peers. Safety-net hospital clinicians noted that “just putting [strategic initiatives and data] in front of everyone really helps bring about success.” Being transparent about project targets and sharing understandable data are critical in engaging staff and ensuring everyone is working toward common goals. For example, at one Texas hospital, surgeons received detailed information about their supply costs per case to raise awareness about variation across surgeons. The surgeons responded by adjusting their supply choices without negatively affecting quality, largely because they were unaware of the cost differences of similar supplies. Respondents also encouraged action to increase consensus on national benchmarks to reduce measurement and reporting burdens, which also would assist in developing transparent, ongoing measurement results to front-line staff to foster engagement and ownership of performance improvement. Additionally, IT support and timely access to data can enhance performance improvement work by providing necessary information to proactively address problems and progress and enhance care.⁸

Communicating goals and progress. Additional communication strategies, including huddles, department rounds, data review, and audits, also help improve engagement. Almost all hospitals used huddles of varying frequency to communicate about PI initiatives. Huddles typically include dashboards, or a standardized visual tool that helps teams collaborate and picture tasks that need to be completed, and scorecards that show progress toward performance targets and



results. These communication methods keep team members informed at every level of the hospital while ensuring accountability and monitoring whether progress aligns with strategic goals. In addition, these forms of communication provide a standardized structure that engages team members across the organization and encourages communication to flow from top-down to bottom-up, so C-suite, senior leaders, front-line staff and managers all are involved in the process. Newsletters, emails, meetings and huddles are other examples that respondents cited as effective ways to engage staff in PI projects throughout the hospital.

Engaging hospital staff through education and financial incentives.

Leaders at the hospitals interviewed described using consultants to educate staff but also sent staff to conferences, retreats and site visits to learn more about PI implementation. Some hospitals had a PI training requirement for all staff as part of the onboarding process, noting that training that incorporates real-life stories of successful PI efforts increases engagement. To foster motivation for PI initiatives and

increase staff retention rates, three hospitals had incorporated financial incentives, such as employee bonuses based on individual performance, system-wide performance on achieving PI goals, or predetermined quality benchmarks. One hospital noted that value-based payment approaches help providers stay on track with PI activities by requiring collection of performance data that ultimately determines payment. A recent study recommends partnering with

the human resources department to increase engagement of front-line staff and leaders by providing them with skills and resources on problem-solving, and aligning current roles and responsibilities and future recruitment of employees with Lean methodology and culture.^{8,9}

Conclusion

Performance improvement is a continuous and long-term commitment for hospitals, especially safety-net hospitals that must overcome razor-thin margins to initiate, sustain and spread PI efforts. Despite the financial pressures and challenges of serving vulnerable patients, safety-net hospitals are

embracing and sustaining systematic performance improvement efforts to gain operational efficiencies and improve patient safety, outcomes and experience. An almost universal theme that emerged from this study is that building a strong culture of performance improvement with the support of top leaders — including resources and staff development — is key to sustaining and spreading PI efforts, which take time to generate returns on investment. Similarly, having clear communication and sharing transparent data and goals were viewed by many respondents as essential to engaging hospital staff.

At the same time, approaches to PI can and do vary across hospitals, depending on the specific issue being targeted. Lastly, sustaining and spreading performance improvement efforts requires hospitals to monitor for potential slippage and employ countermeasures as needed.⁹ While hospital, clinical and PI leaders interviewed for this study clearly conveyed the challenges of conducting and sustaining performance improvement in safety-net hospitals, they also clearly articulated that these barriers make efficient operations supported by robust PI approaches a necessity. The

lessons they have learned, discussed throughout this brief, can provide useful guidance for other safety-net hospitals — indeed, for the health care field as a whole — about conducting and sustaining performance improvement efforts.

Case Examples

NYC Health + Hospitals/ Jacobi Bronx, New York

Program Focus: Decreasing length of stay, improving medical documenting and coding.

Why: To reduce length of stay (LOS) and decrease cost of care per patient; to get revenue cycle bills out the door faster.

How: Worked with residents to ingrain performance improvement in the culture. Collaborated with cardiology and ICU teams to identify patients who could be rapidly assessed by physicians and then discharged. Worked with ED staff to improve triage and patient exit from the emergency department. The LOS group has been meeting daily for the last two years to discuss patient

“ Keeping it sustained ... to me a lot of it is the human component and teaching people the reminders. Some of it is the data to remind you are on track or not on track. Sustainability takes energy, leadership and constant reminders. ”
— Chief Medical Informatics Officer

care plans. Physicians and social workers lead the meetings. As a result of this initiative, LOS decreased by a full day. The team also used PI techniques to improve medical documenting and coding. In addition, the hospital decreased the use of Foley catheters by 50%, particularly in non-ICU areas. Knowing that these efforts require engagement and leadership from clinical staff, especially nurses, the hospital is hiring more than 180 nurses in 2019.

Challenges: Lack of infrastructure or database for all projects. Lack of resources and lack of managing and reporting data have

been major challenges for the organization.

Sustainability: NYC Jacobi worked with residents to ingrain PI in the culture, which gained strength and momentum with new residents learning about PI early on.

Next Steps: The hospital is developing programs to increase performance improvement capacity, including an 18-month program for residents to learn leadership and application of PI tools. Work to decrease LOS continues through implementing new tests of change, including streamlining discharge materials.

Winona Health Winona, Minnesota

Program Focus: Organization-wide improvement work focused on systems improvement to fulfill Winona Health’s vision to be a recognized leader in the revolutionary transformation of community health care. Current examples of work include population health and value-based approaches.

Why: Being a sustainable and viable organization is essential to serving the population health needs of the community.

How: Design systems aligned with population health and value-based approaches. Winona Health utilized its strategy deployment process to align the transformation of workflow processes in its

“ We develop people, who develop systems, which develops our organization. ”
— Director of Continuous Systems Improvement

clinics, hospital and community settings. This process connects the strategic initiatives with the work being done at the front line. A recent example of the population health work is partnering with the Toyota Production System Support Center, Inc. (TSSC) on primary care workflow, and the position of a primary care flow manager was created as a result. Analyzing data and making appropriate changes led to workflow and performance improvement and better patient outcomes. Additionally, Winona Health’s CEO championed this work by focusing on culture change to support process improvement initiatives across the organization, including a train-the-trainer program. As a result, Leadership Academy classes are

developed and deployed internally.

Challenges: Internal challenges in this primary care workflow example include gaining staff and physician engagement and making these changes while still being open for business. External challenges include the dynamics of payer mix and changing patient demographics.

Sustainability: Winona Health cites the importance of data, engaged leadership and humble inquiry.

Next Steps: This hospital continues striving to outperform the competition. The goal is to carry out Winona Health’s mission to improve the health and well-being of family, friends, and neighbors.

Ste. Genevieve County Memorial Hospital Ste. Genevieve, Missouri

Program Focus: Opioid stewardship program.

Why: To address the rising rate of opioid use in the community.

How: Used rapid improvement cycles, daily huddles and scorecards to manage and report each patient’s plan of care, and performed ongoing audits. The goal was to decrease opioid prescribing by reducing >90 morphine milligram equivalent (MME) opioid prescriptions in the

“ Having provider and clinical staff buy-in is really important – having somebody that works closely with the patient that they can trust and talk to, to show them the process and follow up with them. ”
— Clinician

physician clinics, excluding pain management providers, by 80% within one year. Additionally, goals were set to reduce emergency department prescribing to a three-day supply and surgery prescriptions to a five-day supply. The hospital is working with the community, including law enforcement, school districts, county health department, social services and churches, to provide holistic care to patients.

Challenges: Competing priorities; fear of change.

Sustainability: Performing ongoing audits; ensuring transparency of data; getting physician leadership and foundational support.

Next Steps: The hospital is working to integrate an opioid risk questionnaire in its clinic and hospital EHR system for opioid-naive patients; the questionnaire will be piloted in the emergency department.

Zuckerberg San Francisco General Hospital and Trauma Center

San Francisco, California

Program Focus: The hospital developed a social medicine program that helps clinicians understand and meet patients' social needs. The goal of this initiative was to reduce short-stay admissions by half (one to two patients per day) for patients with low overall medical acuity but high social complexity.

Why: Zuckerberg San Francisco General Hospital (ZSFG) invested in this initiative because its patient population experiences critical social challenges, such as substance use disorder, mental illness and homelessness, that affect health. This initiative served as a standardized workflow improvement process to ensure that when patients visit the emergency department for treatment, their medical and social needs are addressed in equal intensity, with appropriate interdisciplinary support.

How: ZSFG uses Lean improvement techniques such as A3 thinking and Gemba walks, as well as Plan-Do-Study-Act (PDSA)

“ You can't put a price tag on performance improvement. People really want to improve the care and the experience for the patients that we treat. ”

— Chief Quality Officer

safe alternative to hospitalization as appropriate.

Challenges: Historically, health care and social care efforts have not been integrated or coordinated. There remains a mismatch between patients' needs and available community resources (e.g., housing for patients experiencing homelessness).

Sustainability: ZSFG recommends having a clear strategy that aligns with organizational strategic goals to define performance improvement efforts. In addition, the hospital uses “True North” scorecards to report measures on a regular basis to the entire organization.

Next Steps: The social medicine team recently received additional support for expanding the program to other acute care areas serving socially complex patients, including ZSFG psychiatric emergency services, inpatient psychiatry and inpatient medical-surgical units.

cycles. More than 500 staff members have been trained in A3 problem-solving techniques, and over 300 in the Daily Management System, a suite of Lean leadership skills, tools and behaviors that work in concert to drive both engagement and continuous improvement. The social medicine team similarly used Lean methodology and leveraged multidisciplinary team-based care to meet the needs of emergency department patients with complex medical and social needs. The team employed improvement science to achieve program goals, specifically the application of A3 thinking, process mapping, visual management and PDSA problem solving. Ten separate PDSAs were implemented, including a new social medicine consult service, the discharge of ED patients with medications in hand, case conferences for frequent ED users, and direct linkage for ED patients to transitional housing. The team's approach was to understand and meet patients' self-identified social needs, and to provide the patient and ED team a

Endnotes

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Appendix.

Selection Methodology

Our selection criteria for hospitals to be interviewed was primarily informed by 1) a measure of performance improvement activity based on survey data collected by the AHA and the Center for Lean Engagement and Research in Healthcare (CLEAR) at UC-Berkeley and 2) expert opinions provided by the national advisory council. The variables included in the PI measure were number of months engaged in Lean, number of activities in PI, number of areas in which Lean is used, number of Lean projects, extent of utilization of Lean tools/methods, achievements attributed to Lean, and leadership commitment. To determine fit, confirmatory factor analysis was performed on the variables included, and internal coherence was assessed using Cronbach's α and found to be acceptable ($\alpha=72$).

For the survey data-derived selections, hospitals were stratified using self-reported PI activity within the following categories: size, rural/urban, teaching vs. nonteaching hospital, ACO status, network status, primary care infrastructure, Institute for Diversity and Health Equity #123 for Equity pledge status, and geographic location.

As there is currently no standard quantitative method to define and determine safety-net hospitals, for purposes of this study the researchers chose to adopt a definition developed by Dobson, et al. and based on the federal statutory definition of a deemed Medicaid disproportionate share hospital (DSH).¹⁰ Under this definition, hospitals must receive Medicaid DSH payments because they serve a high share of low-income

patients, and must have a Medicaid inpatient utilization rate of at least one standard deviation above the mean for all hospitals in their state receiving Medicaid payments or a low-income inpatient utilization rate that exceeds 25%. The researchers arrived at this definition after consultation with the national advisory council, which included hospital payment policy experts.

Also, based on the national advisory council's recommendation, the researchers implemented a threshold of $\geq 70\%$ public insurance or uncompensated for hospitals to be interviewed. The council recommended that rural vs. urban location, hospital size and ACO status be primary selection criteria, with other characteristics used as secondary identifiers.

Acknowledgment of Funder

This initiative has been supported by The Commonwealth Fund, a national, private foundation based in New York City that supports independent research on health care issues and makes grants to improve health care practice and policy. The views presented here are those of the author and not necessarily those of The Commonwealth Fund, its directors, officers or staff.

General Acknowledgments

The American Hospital Association would like to thank The Commonwealth Fund, which funded and supported the *Understanding Performance Improvement in Safety-Net Hospitals* study. Kelly Devers, Ph.D., and Lindsey Schapiro from NORC at the University of Chicago were valued contributors throughout the study and served as co-authors of this brief. Soumitra Bhuyan, Ph.D., from the University of Memphis provided expert guidance on development of the analyses. Alwyn Cassil from Policy Translation provided expertise in writing and editing the issue briefs. The Center for Lean Engagement and Research in Healthcare at the University of California, Berkeley, particularly Stephen Shortell, Ph.D., shared data and expertise. The AHA would like to especially thank the hospitals and health systems around the country that participated in the study and were so generous with their time and insights. Finally, the AHA would like to express gratitude to members of the National Advisory Council for their guidance, expertise and time: Rana Awdish, M.D.; Maren Batalden, M.D.; Alice Chen, M.D.; Nichola Davis, M.D.; Shirley Evers-Manly, Ph.D.; David Munch, M.D.; Elna Nagasako, M.D.; MaryEllen Pratt; and Stephen Shortell, Ph.D.