A Guide to Achieving High Performance in Multi-Hospital Health Systems

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Executive Summary

Multi-hospital health system leaders have a significant impact on the quality of health care in the United States. The 200 largest hospital systems (a hospital system being defined as having 2 or more general acute care hospitals) account for over half of all hospital admissions in the United States.

Through generous support from The Commonwealth Fund, the Health Research & Educational Trust (HRET) embarked on a project to identify and disseminate best practices associated with high performing health systems. Through the use of publicly available quality data, interviews with leaders of 45 multi-hospital health systems, and analysis, identified below are three major themes, four major best practice categories and seventeen specific best practices that are associated with high performance.

Major Themes

1. No one system type was most associated with high performance

We examined the relationships of many system characteristics to an overall composite measure of quality as well as to more specific measures, such as the HQA core measures, overall patient satisfaction, and a combined, risk-adjusted readmission rate and mortality rate. From the analysis, it was evident that high quality scores were achieved by a variety of different system types—large or small systems, geographically regional or multi-regional systems, systems from all regions of the country, and systems with differing levels of teaching components.

2. No one factor was clearly associated with high performance

Over 50 system factors that might distinguish between top performing systems and those with lower quality scores were analyzed, and no one factor clearly separated the top systems from the others. In every single case, factors that were observable in high performing systems also existed in at least some of the lower performing systems. Moreover, there was no unanimity among top performing systems with respect to factors associated with high performance. As discussed in this guide, success depends on a range of actions.

3. Creating a culture of performance excellence, accountability for results, and leadership execution are the keys to success

From the study, a culture of performance excellence and accountability for results was strongly exhibited during the interviews with the high performing health systems. This was best defined through cultural markers such as: focusing on continuous improvement, driving towards dramatic improvement or perfection versus incremental change, emphasizing patient-centeredness, adopting a philosophy that embraces internal and external transparency with regard to performance, and a having a clear set of defined values and expectations that form the basis for accountability of results. The other finding connected with the culture of performance excellence was a disciplined and persistent focus by leadership on execution and implementation to achieve the lofty goals. The culture of performance and excellence was strongly connected to leadership's execution doctrine.

Best Practices Associated with High Performing, Multi-Hospital Health Systems

1. Establish a System-wide Strategic Plan with Measurable Goals
A. Set both measurable short and long-term goals.
B. Set goals for quality and safety based on the pursuit of perfection rather than improvement.
C. Link the system's quality goals with its operational and financial goals.

A system-wide strategic plan for quality and safety with measurable goals across multiple dimensions is a best practice for improving system performance. Many systems also establish threshold, stretch, and (in some cases) high stretch goals. They then track the progress of achieving these through frequently using system performance dashboards.

2.	Create Alignment Across the Health System with Goals and Incentives
A.	Establish system-level quality steering/oversight committees to provide direction to system leaders in setting system-wide goals and aligning them with all hospitals.
B.	Embed health system goals into individual hospital leaders' goals.
C.	Link annual bonuses for system and hospital leaders to performance targets in the system's key strategic areas.
D.	Align incentive pay and/or accountability for achieving system-level quality and patient safety targets into contracts with physicians.
E.	Align emphasis on culture with efforts to understand and improve it.

Aligning the system's quality and safety goals with the goals of the individual hospitals as well as the hospital leaders' is a practice used by top performing systems to improve system performance. Having highly aligned goals facilitates performance tracking and reporting across multiple hospitals and promotes standardization in performance measurement. Additionally, aligning performance incentives (financial or other) for system and hospital executives with the system's strategic goals (e.g., quality, patient satisfaction, financial) is a strategy top performing systems use to improve overall performance.

3.	Leverage Data and Measurement Across the Organization
A.	Use an "all or none" or "perfect care" approach to set targets for all performance measures.
B.	Consider setting targets based upon event counts (numerator) as well as rates.
C.	Share dashboards with hospital leaders and staff frequently to identify areas in need of improvement and then take immediate actions to get back on track.
D.	Post dashboard information on the system's intranet.
E.	Engage in national benchmarking initiatives to achieve greater transparency as well as foster healthy competition between hospitals.
F.	Utilize corporate support through data mining of existing information systems, frequent analyses, and reporting of measures for hospital-level performance improvement.

High performing systems use dashboards (e.g., a balanced scorecard) to measure and manage system performance. Setting system-level targets within each strategic priority area is also a strategy used by top performing systems to improve performance across hospitals. Additionally, sharing system dashboards regularly with hospital leaders, clinicians, and other staff helps promote quality improvement and accountability.

4.	Standardize and Spread Best Practices Across the Health System
A.	Establish a process to identify and select practices for standardization.
B.	Use ongoing education and skills development to spread best practices.
C.	Effectively disseminate best practices across the system.

In order to successfully adopt best practices, the standardization of care processes and the use of education and skills development programs are vital in the spread of best practices as well as the acceleration of their use among the entire health system.

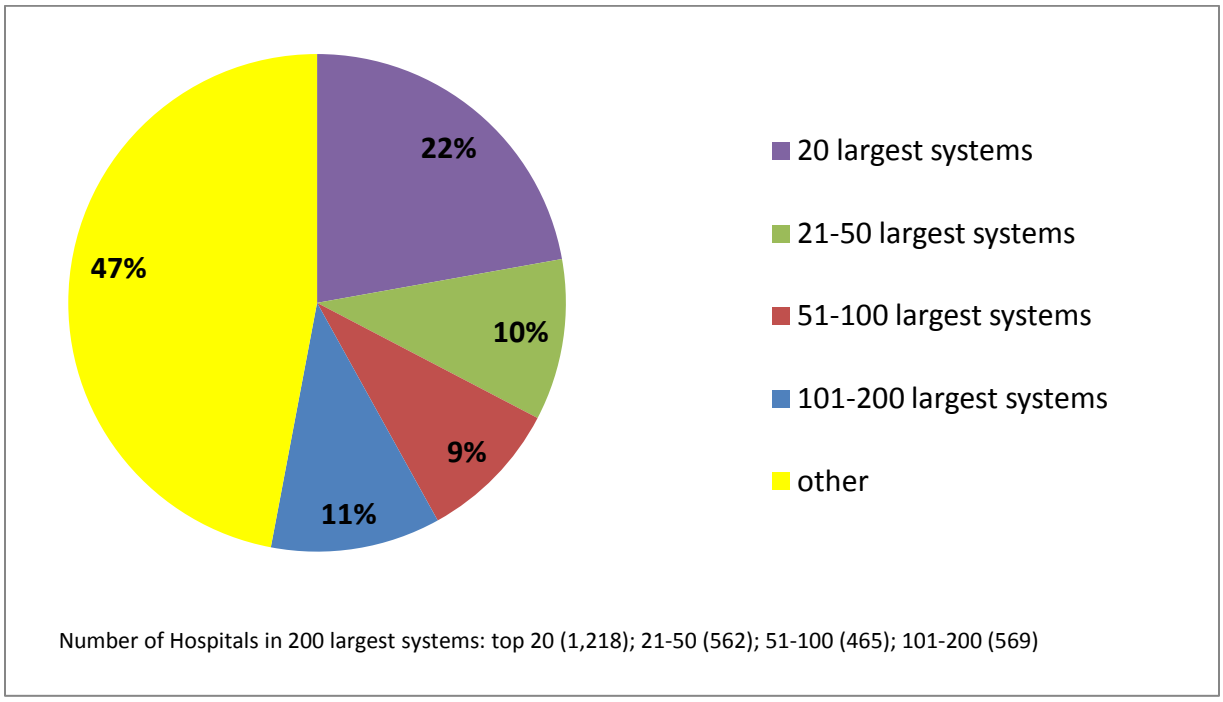
Multi-hospital health system leaders can employ a variety of practices to improve care across their multi-facility organizations that focus upon overall system improvement. However, the keys to success are not the specific practices themselves, but the execution of those practices and the creation of a culture that supports performance improvement.

Introduction

Leaders of hospitals and health systems play a vital role in driving quality and patient safety care.[1-3] Organizational leaders, along with their boards, establish the strategic plan, set goals, and drive the execution of reliable processes to improve, spread, and sustain performance improvement.

Leaders of multi-hospital health systems play a critical role in patient care in the United States. Multi-hospital health systems are the most common organizational structure in the hospital industry. Two hundred hospital systems (a hospital system being defined as having 2 or more general acute care hospitals) account for half of all hospitals and hospital admissions in the United States. Figure 1 depicts the large volume of care provided by the largest health systems in the country.

Figure 1: Percent of Inpatient Stays in System-Affiliated Hospitals

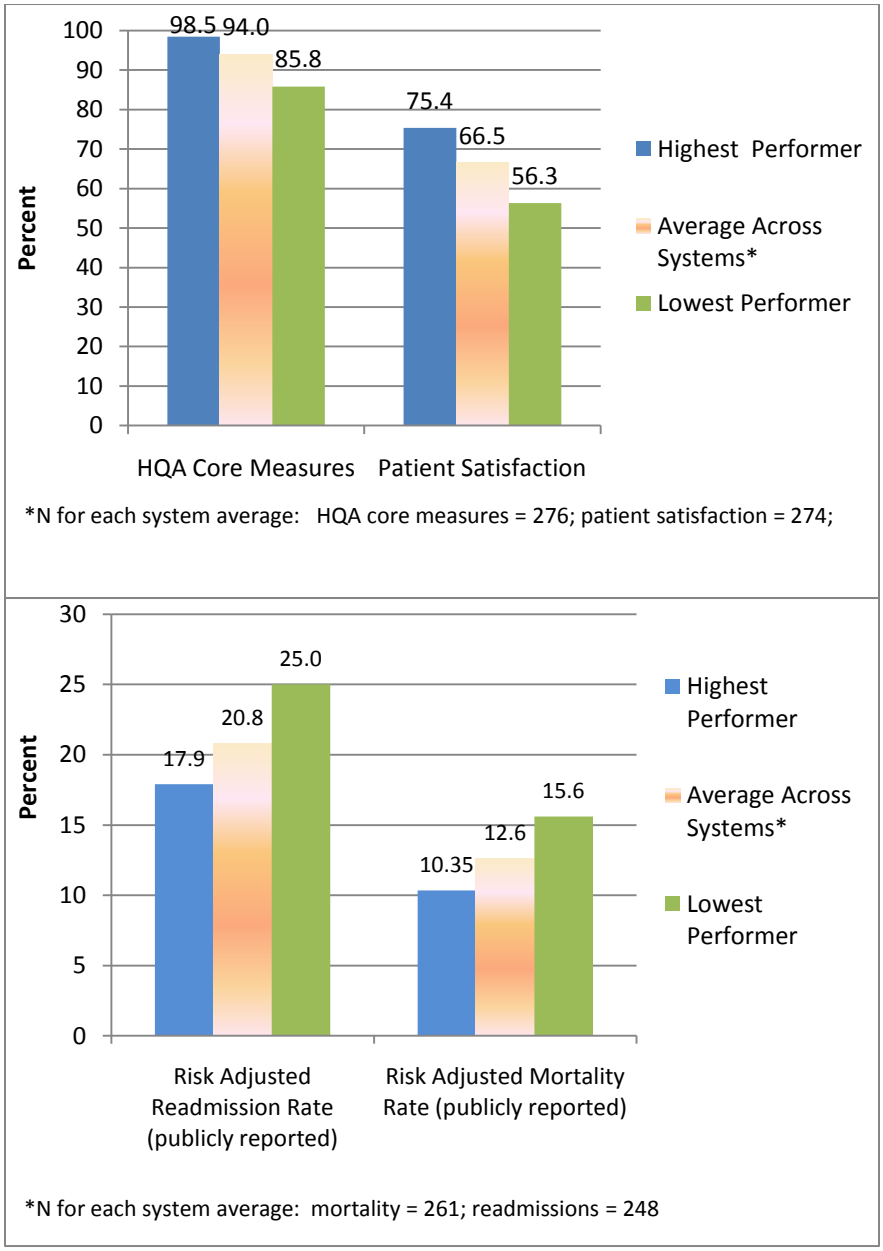


However, even though many hospitals are parts of larger health care systems, the role of health system leaders in strengthening quality and safety is less well understood. While system leadership makes key decisions related to purchasing, negotiations with insurers, and capital investments, whether, and how, they can influence the quality of care that their hospitals' patients receive has been unclear. This guide asserts that system leaders can dramatically impact care quality across their systems and explains how system leaders can achieve this goal.

Current data demonstrate a national opportunity for improvement. Figure 2 below illustrates the difference in performance on publicly reported core measures, risk adjusted readmission rates and risk adjusted mortality rates for three common conditions, and patient satisfaction. While all

of this information is currently publicly reported at the hospital level, only recently has this data been aggregated to the health system level.

Figure 2: Differences in System Performance



A concerted effort by the leaders of the 200 health systems to assure that their patients obtain the highest quality, safest care has the potential to dramatically impact overall care quality throughout the United States.

Purpose and Approach

The purpose of this guide is to inform system leaders about what they can do to insure that patients across all of their hospitals receive the highest quality care available. It is based on three sources of information:

- Publicly available quality information: For each system we created aggregate measures of quality using the HQA core measures, risk-adjusted readmissions, risk-adjusted mortality (based on rates for acute myocardial infarction, congestive heart failure, and stroke), and patient experience. While all of these measures are reported for hospitals at the CMS *Hospital Compare* website[4], for this project we aggregated them to reflect the experience of all patients within the system.
- System level information contained in the American Hospital Association database: We examined the relationships of many system characteristics to our overall quality measure. These included location, size, ownership type, extent of centralization, and other factors that may be related to the quality of care a system provides.
- System quality activities elicited in a survey: We interviewed leaders from over 45 health care systems that represented a broad range of quality scores. We asked them to rank their system on key dimensions, describe their quality monitoring and improvement efforts at the system level, and reflect on what they believed was working and why. Their insights provided much of the information shared in this guide. The survey (see Appendix A) focused on multiple dimensions of health system management, including those found in Table 1 below.

Table 1: Major Survey Topics

Corporate health system structure	Accountability and use of incentives for quality goals	Use of health information technology
Alignment of goals between corporate and individual hospitals	Standardization and spread of best practices	Communication systems
Use of performance measurement across the health system	Centralization of services and decision-making	Implementation of a culture of quality and patient safety

We recognize that there are many limitations to this study. The publicly available data is mostly based on Medicare data and limited dimensions of overall health system performance. We did not interview every health system, but a sample of health systems. Additionally, only one leader per system was interviewed. Finally, not all relevant information can be captured in an hour-long interview. This guide is not intended to be a comprehensive resource of all factors related to health system performance as there may be best practices not discussed herein. The goal of this guide is to communicate examples of practices that are most associated with high performance in order to share what we learned as well as opportunities for improvement.

Analysis

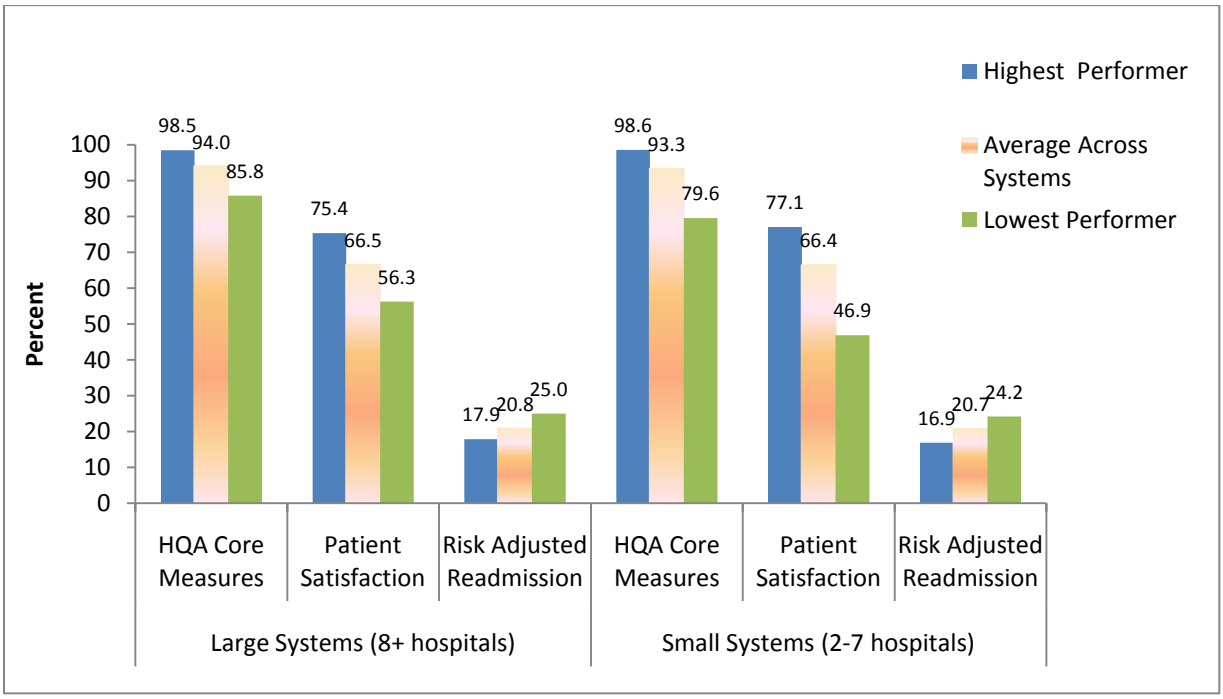
Our analysis leads to a number of specific recommendations for consideration by system leaders seeking to drive quality and safety improvements across their organizations. But there are three general observations about our findings that lay an important foundation for the recommendations that follow. These observations are:

1. High quality care is found in every type of health system.
2. No single factor produces high quality care in a health system.
3. Creating a culture of performance excellence, accountability for results, and leadership execution are the keys to success.

Observation 1: High Quality Care Is Found in Every Type of Health System

We examined the relationships of many system characteristics to an overall composite measure of quality as well as to more specific measures, such as the HQA core measures, overall patient satisfaction, and a combined, risk-adjusted readmission rate and mortality rate. Regardless of the quality measure, the most important conclusion we reached from our analyses is that high quality is delivered across different types of systems. High quality scores are achieved by: systems with a large or small number of hospitals, systems from all regions of the country, systems that are regionally based or multi-regional, and systems that have different levels of teaching components. As an example, Figure 3 illustrates the differences in quality measures between large and small systems.

Figure 3: Differences for Large (8+ hospitals) and Small (2-7 hospital) Systems



We observed the same variability within geographic regions, with systems in all four regions differing by at least 10% on the core measures, by 15% in patient satisfaction, and by 5% in risk-adjusted readmissions.

Even though some system characteristics were statistically related to the quality measures, none of these relationships was so strong a predictor of quality that success or failure was inevitable. So whatever the type of system—regardless of its size, geographic location, or financial situation—it can achieve high quality care.

Observation 2: No Single Factor Produces High Quality Care in a Health System

Although we examined over 50 system factors that might distinguish between top performing systems and those with lower quality scores, no one factor clearly separated top systems from others. In every single case, factors that were observable in high performing systems also existed in at least some of the lower performing systems. Moreover, there was no unanimity among top performing systems with respect to factors associated with high performance.

Although simplistic solutions are appealing, these solutions are often wrong. The goal of providing consistently high quality care is achievable, but not through any one single change. Instead, success depends on a range of actions that are discussed later in this guide.

Observation 3: Creating a Culture of Performance Excellence, Accountability for Results, and Leadership Execution are the Keys to Success

We found that many of the lower performing systems had many of the same processes, policies, and structures as those with very high quality scores. But in our conversations with system leaders, distinctions became apparent. In some cases, lower performing systems had made changes recently that were likely to enhance quality, but hadn't yet. In other cases, a myriad of positives were offset by a single significant weakness. And in some cases, while the processes and policies appeared to be in place on paper, the passion and commitment to them seemed lacking.

Every single leader of a high performing system who we interviewed was passionate about making their system one where each patient received safe, high quality care in each encounter. Many had been pursuing this goal for years, and were part of a system where this goal was shared by all. All acknowledged quality and safety failures, but could clearly see the progress their organization was making towards achieving their quality and safety goals. So while the specific recommendations in the remainder of this guide are very useful, they cannot substitute for a culture where safe, high quality care is paramount and where the pursuit of this goal is a continuous high priority rather than a short term emphasis. High performing hospital systems exhibited a culture of performance excellence, continuous improvement, and accountability for results. Systems with a strong culture of quality and safety demonstrated the following elements:

- A shared, system-wide commitment/focus on achieving the system's quality and patient safety goals (e.g., "system management is as important in achieving quality goals as is

physician compliance with evidence-based guidelines. So complying with evidence-based guidelines becomes not just a physician responsibility but a system responsibility as well").

- A system board that is very engaged in quality and safety, e.g., board is directly involved in setting the system's strategic goals for quality and safety and in frequent monitoring (at least monthly) of hospitals' progress toward achieving these goals.
- Extensive opportunities and vehicles for hospitals to collaborate and share best practices for improving quality and safety.
- Transparency around reporting performance both internally and externally.
- An emphasis on the importance of teamwork to improve quality and safety and shared accountability for good outcomes.
- Having a mindset of perfect care and dramatic increases or stretch goals as compared to incremental improvement.

As a corollary, lacking a uniform culture across hospitals, within-hospital resistance to culture change, and the absence of leadership commitment to culture were cited as barriers to performance improvement.

Best Practices of High Performing, Multi-Hospital Health Systems

Although there are a number of examples of best practices associated with high performing health systems, the following are examples of some of those found from our study along with specific examples from various health systems. The table, in its entirely, is in Appendix B.

Category 1: Strategic Planning

1.	**Establish a System-wide Strategic Plan with Measurable Goals**
A.	Set both measurable short and long-term goals.
B.	Set goals for quality and safety based on the pursuit of perfection rather than improvement.
C.	Link the system's quality goals with its operational and financial goals.

Health systems continue to evolve, as evidenced by the myriad of different infrastructures that exist within well-established and newly-formed systems. Strategic planning for system-wide quality and safety improvement has also become increasingly prevalent over time. Having a system-wide strategic plan for quality and safety with measurable goals across multiple dimensions is a best practice for improving system performance. Many systems establish threshold, stretch, (and for some) high stretch goals and then track the progress frequently using system performance dashboards.

A. Set both measurable short- and long term goals

Many organizations set annual goals (short-term), as well as three to five year goals (long-term) in key quality and patient safety areas.

B. Set goals for quality and safety based on the pursuit of perfection rather than incremental improvement.

Organizations use a variety of approaches to goal setting, including considering statistically significant improvement from the previous year, top decile nationally, or an "all or none" method, such as striving for zero harm events or 100% of perfect care. The common theme is that the goals are stretch goals and represent for the organization a dramatic improvement versus incremental improvement.

At Covenant Health System, Inc., when all facilities are meeting a system goal (e.g., the top decile for a national benchmark) they set a more aggressive stretch goal based upon their internal performance.

IASIS sets system goals using the highest benchmark available (e.g., a state benchmark instead of national).

This is similar at Memorial Hermann Health System where threshold targets are set at the 85th percentile and stretch targets are set at the 90th percentile of national benchmarks. When national benchmarks are not available or they have exceeded the top decile of performance, they look at internal data and set a new (higher) target percentage improvement. Setting very high stretch goals and achieving these goals was cited as having had the greatest impact on their system's performance within the past two years.

C. Link the system's quality goals with operational and financial goals

For many organizations, the link between quality and finance are critical to their strategic plan.

Aurora Health System established a new area called Care Management Growth to examine the impact of quality improvement on revenue and expenses. They analyzed the number of lives touched and number of dollars saved due to quality improvement initiatives. Each year they plan to focus on four key evidence-based initiatives that are expected to enhance operational performance.

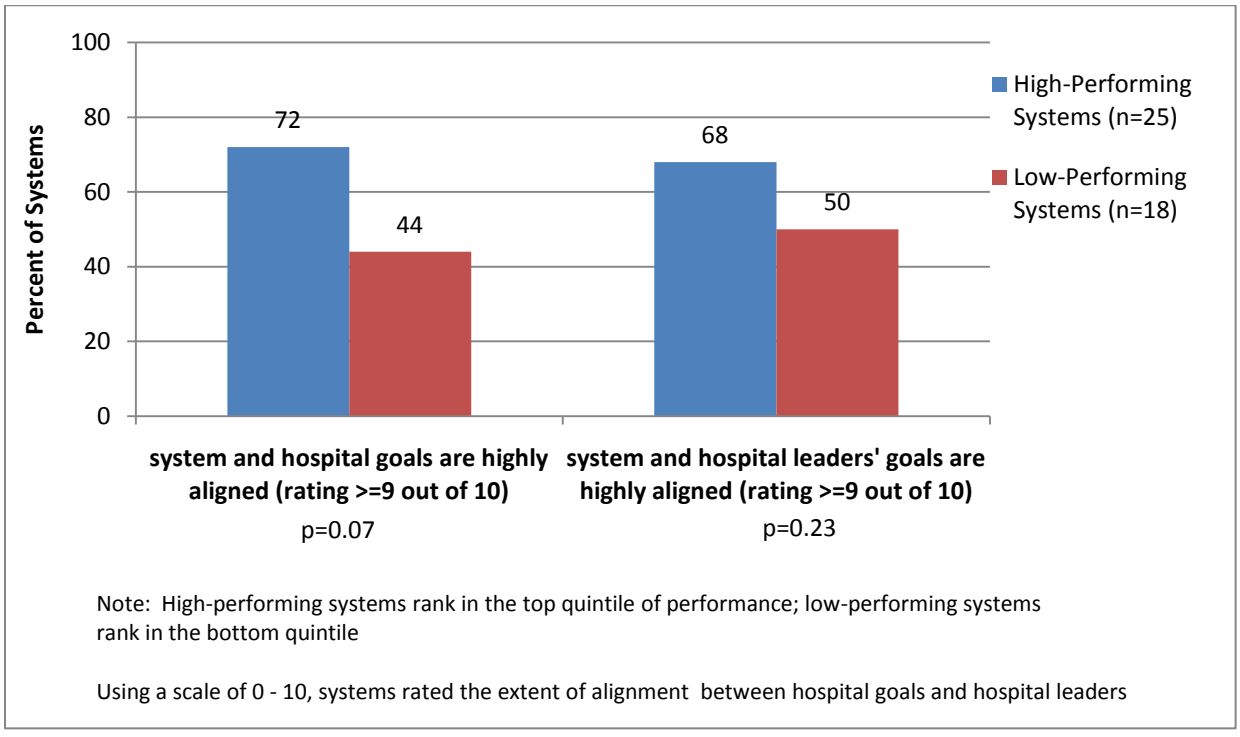
As another example, Bon Secours ties finance, quality, and operations together to meet the system's strategic objectives. Goal setting is done collaboratively using a "clinical transformation collaborative" which includes the following staff from each local facility: (1) vice president of medical affairs; (2) chief nursing officer; and (3) chief financial officer. Choosing the "right" quality of care issues will result in financial savings for the system and increase capacity to care for more patients without needing to add more staff.

Category 2: Alignment

2. Create Alignment Across the Health System with Goals and Incentives
A. Establish system-level quality steering/oversight committees to provide direction to system leaders in setting system-wide goals and aligning them with all hospitals.
B. Embed health system goals into individual hospital leaders' goals.
C. Link annual bonuses for system and hospital leaders to performance targets in the system's key strategic areas.
D. Align incentive pay and/or accountability for achieving system-level quality and patient safety targets into contracts with physicians.
F. Align emphasis on culture with efforts to understand and improve it.

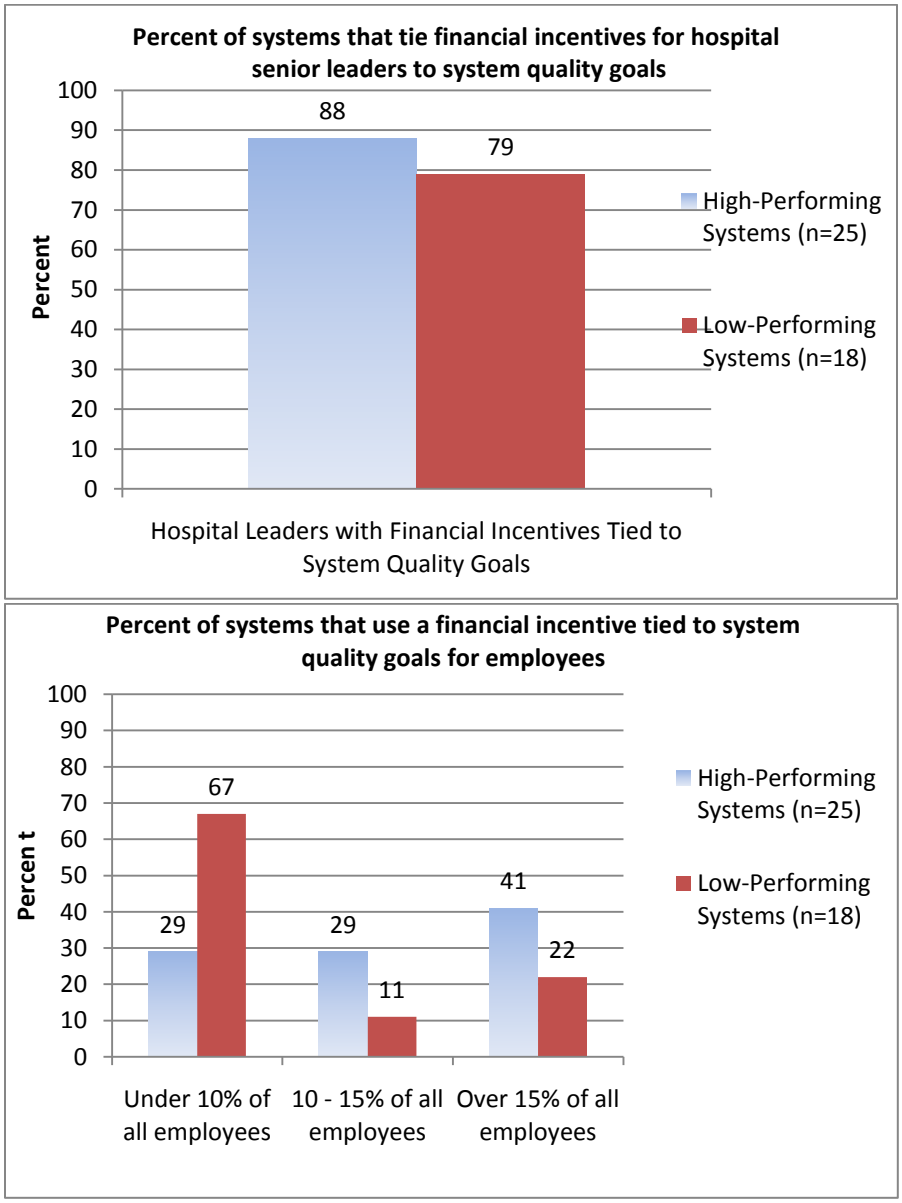
Aligning the system's quality and safety goals with the goals of the individual hospitals and hospital leaders' is a practice used by top performing systems to improve system performance. Having highly aligned goals facilitates performance tracking and reporting across multiple hospitals and promotes standardization in performance measurement. Aligning performance incentives (financial or other) for system and hospital executives with the system's strategic goals (e.g., quality, patient satisfaction, financial) is a strategy top performing systems use to improve overall performance. We found that compared to other systems, high performing systems believed there was higher alignment between the system's quality goals and those of the system hospitals and hospital leaders (Figure 4).

Figure 4: Goal Alignment between the System, Hospitals and Hospital Leaders



High performing systems linked financial incentives to quality goals for a higher percentage of their staff and had more hospital leaders with financial goals aligned with system performance (Figure 5).

Figure 5: Linkages between System Goals and Financial Incentives



Note: High performing systems rank in the top quintile of performance; low performing systems rank in the bottom quintile.

From our discussions with multiple health systems it is clear that alignment is operationalized in different ways. For example, a highly centralized approach is to set goals, measures, and programs at the system level and then standardize these across hospitals. A more coordinated,

decentralized approach is one in which the system sets the goals but allows individual hospitals to decide how they will achieve them.

Furthermore, since individual hospitals within a system may be at different starting points with respect to performance, systems may choose to set hospital-specific targets instead of a standard system-wide target. This practice reinforces the point that each system's approach to alignment will differ based upon their hospitals' performance levels, targets, and opportunities for improvement.

Additionally, although striving for "perfection" as a goal may be the strategic target; financial incentives are often based on other targets that are representative of progress toward perfection. This practice is common among high performers and demonstrates their flexibility in executing system strategies effectively.

To align goals and incentives, systems can:

A. Establish system-level quality steering/oversight committees to provide direction to system leaders in setting system-wide goals and aligning them with hospitals.
Most organizations have system-level committees that include multiple clinical and operational leaders across the organization for the collaborative purposes of:

- Setting goals
- Identifying major initiatives for participation
- Overseeing major project implementation
- Reviewing performance measurement standardization
- Overall support of the execution of the quality strategic plan

As was specifically noted in many of the interviews, nursing professionals play an integral role in the system-level oversight and support and linkage to the front-line care and improvement.

B. Embed health system goals into individual hospital leaders' goals.
For some organizations there are system-wide goals for which all hospital leaders are held accountable.

At Mayo Clinic, there are seven system-wide goals that leaders must focus on.

C. Link annual bonuses for system and hospital leaders to performance targets in the system's key strategic areas.
Organizations connect financial incentives to system goals through a variety of mechanisms.

At Baylor Healthcare System, 50% of performance-based compensation (compensation at risk related to performance ranges from 15% of base salary for hospital unit directors to approximately 50% of base salary for senior system leaders) is based on achieving system goals which are derived from one of four pillars: (1) people (nursing retention), (2) service (patient satisfaction), (3) quality (includes hospital standardized mortality

reduction and the CMS/Joint Commission 16-item core measure composite), and (4) finance.[5]

At Bon Secours Health System, 25% of incentive pay for system and hospital leaders is tied to goals within each strategic pillar: (1) liberating the potential of people (patient and employee satisfaction); (2) extraordinary care (quality); (3) partisan to the community (community service); and (4) financial operations. By holding everyone in senior management accountable for reducing mortality from sepsis, they have reduced the mortality rate for patients presenting to the ED with sepsis by more than 50% in just 2.5 years.

At Providence Health and Services, 60% of leaders' incentive pay is linked to overall system performance and 40% linked to regional, local or personal goals. System targets are based upon (1) mission; (2) people; (3) service; (4) quality (clinical reliability index which is a composite of all core measures); (5) financial; (6) expanding service.

D. Align incentive pay and/or accountability for achieving system-level quality and patient safety targets into contracts with physicians.

John Muir Health began incentivizing their physicians two years ago. They are held accountable for specialty-specific quality metrics that can be impacted by their performance. For example, surgeons are held accountable for surgical quality and safety indicators. Transparency rather than pay is the incentive, as physicians' performance is reported across the system each year by medical leadership.

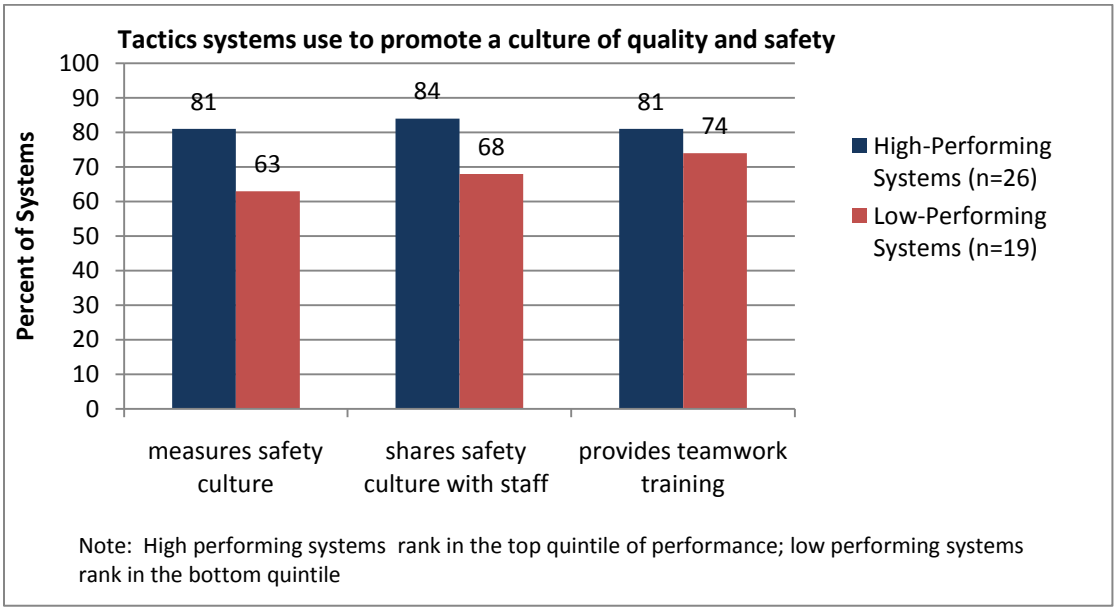
At Nebraska Methodist Health System, over 10% of hospitalists' pay is linked to system quality goals.

At Memorial Hermann Health System, quality performance targets are included in contracts with physicians. Including patient safety indicators in all employees' incentives plans, including physicians, has been a very effective approach to reducing the rate of safety events across the system.

E. Align emphasis on culture with efforts to understand and improve it

While virtually all system leaders attest to the importance of a culture of safety, high performing systems tend to go further in measuring their culture, communicating its importance to staff, and providing training designed to improve it. Figure 6 (on page 14) illustrates these differences.

Figure 6: Differences in Emphasis Placed on Understanding and Improving Culture



Systems that fail to align their metrics with their core values are less likely to achieve outstanding results.

Category 3: Leverage Data

3.	**Leverage Data and Measurement Across the Organization**
A.	Use an “all or none" or “perfect care” approach to set targets for all performance measures.
B.	Consider setting targets based upon event counts (numerator) as well as rates.
C.	Share dashboards with hospital leaders and staff frequently to identify areas in need of improvement and then take immediate actions to get back on track.
D.	Post dashboard information on the system’s intranet.
E.	Engage in national benchmarking initiatives to achieve greater transparency as well as foster healthy competition between hospitals.
F.	Utilize corporate support through data mining of existing information systems, frequent analyses, and reporting of measures for hospital-level performance improvement.

High performing systems use dashboards (e.g., a balanced scorecard) to measure and manage system performance. Dashboards enable systems to translate priorities for quality and safety improvement, fiscal performance, and customer satisfaction into measurable targets. Setting system-level targets within each strategic priority area is a strategy used by top performing systems to improve performance across hospitals. Sharing system dashboards regularly with hospital leaders, clinicians, and other staff helps promote quality improvement and accountability.

Below are several approaches that systems can use to set performance targets:

A. Use an "all or none" or "perfect care" approach to set targets for all performance measures.

High performing health systems are more likely to use composite measures or bundled measures for driving performance improvement. This may include an "all or none" approach where you only receive credit for meeting all the measurement or care standards for a specific condition set. Alternatively, organizations can or bundle different measures into a composite metric.

At John Muir Health the goal for CMS core measures is that 95% of all patients will receive all of measures. For harm measures the goal is set at zero.

At Novant, the top decile of performance is the goal for every indicator on their scorecard. As a system they score themselves based upon the percentage of indicators that are >/=90th percentile. The system's target is to have at least 75% of all indicators on scorecard at or above top decile.

At Alegent Health, when they reached 98% compliance on core measures, they took system performance to the next level and created an "evidence-based care composite score." This score combines all clinical processes of core measures and clinical outcomes targets.

Covenant Health (Tennessee) created a new "safety bundle" performance target which encompasses medication errors, falls, and hospital-acquired infections.

Aurora Health System uses a "care management impact score" to assess system-wide performance, a composite score that combines performance on 33 quality and safety indicators.

B. Consider setting targets based upon event counts (numerator) as well as rates.

In addition to tracking rates, which are often useful for benchmarking and performing risk adjustment, systems may use actual event counts (e.g., the number of patient deaths) to assess performance. Using event counts to report performance may reveal additional areas for improvement and help systems drive toward achieving perfect care scores.

At Mayo Clinic, once they surpassed the top decile of performance they changed the way they set targets. For example the target for reducing hospital-acquired infections is now set based upon the patient count rather than the rate.

Similarly Covenant Health (Tennessee) uses the number of patient events (numerator) rather than the rate for their harm reduction target.

C. Sharing dashboards with hospital leaders and staff frequently.

At Covenant Health (Tennessee), quality scores for each facility are reported monthly. If they see that one is going off course, they have a chance to devise an action plan and get back on course much more quickly than would otherwise be possible.

At Partners Health Care, internal reporting of performance has proven to be an effective incentive for improvement – such transparency promotes healthy competition among its hospitals to strive to do better as compared to their colleagues.

At North Mississippi Health Services and IASIS, sharing results with staff on core measure performance is a major contributor to the system's performance improvement within the past two years.

D. Post dashboard information on the system's intranet.

This is a commonly used approach for systems to provide all employees access to up-to-date information on system and hospital-specific performance.

E. Engage in national benchmarking initiatives to achieve transparency and foster competition.

Compared to other systems, high performing systems participated in national improvement initiatives 7% more frequently. The transparency and public commitment required by these activities has played a significant role in performance improvement for all healthcare organizations. By publicly reporting their information and participating in national or regional benchmarking or quality collaborative activities has shined the light on opportunities for improvement and spurred pressure to improve. Examples include participation with VHA, Premier, IHI, and state hospital association activities, among other collaboratives.

For example, at Baystate Health in Massachusetts, participation in a variety of collaboratives, such as Premier QUEST and CMS Hospital Quality Improvement Demonstration Project, has improved transparency and served as a strong incentive for improvement.

Through its engagement in Thomson-Reuters programs and databases, Health Quest has promoted greater standardization of performance measurement across the system and transparency—"wanting to look better, not worse than the next person" has been a major motivator to improve.

F. Utilize corporate support through data mining of existing information systems, frequent analyses, and reporting of measures for hospital level performance improvement.

Health system corporate quality and patient safety departments may provide the enterprise significant support through data mining, analysis, and reporting to support individual hospital level improvement.

For example, Catholic Health Initiatives uses its corporate business intelligence teams to support the quality functions.

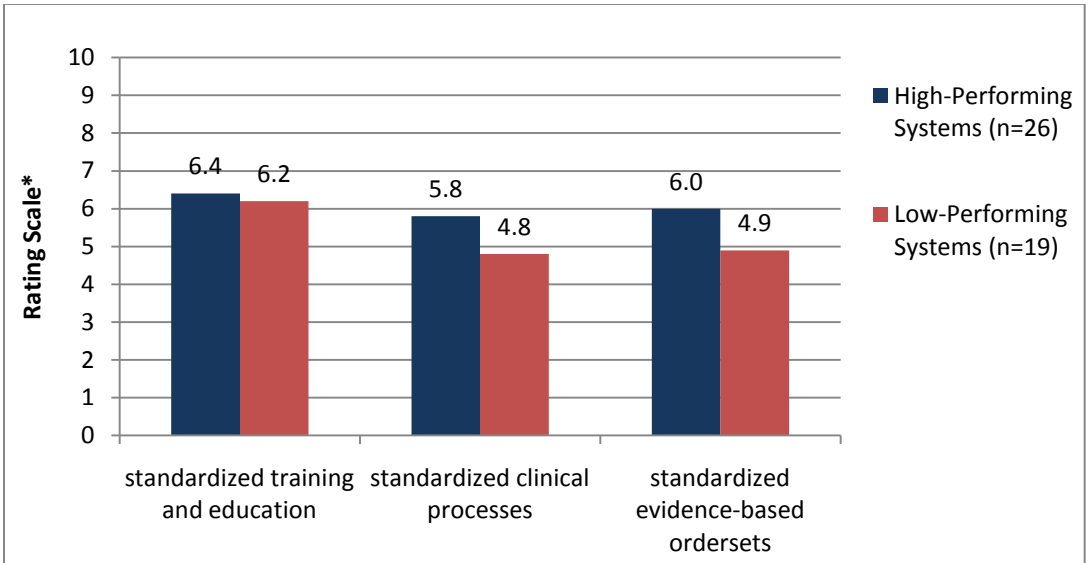
At Catholic Healthcare Partners, the corporate department provides support for standardization and reporting of quality measures across the system, as well as ad hoc information as needed.

Category 4: Standardize and Spread Best Practices Across the System

4. Standardize and Spread Best Practices Across the Health System
A. Establish a process to identify and select practices for standardization.
B. Use ongoing education and skills development to spread best practices.
C. Effectively disseminate best practices across the system.

One of the fundamental opportunities for a health system is to standardize care processes and to accelerate learning among the health system organization for adoption of best practices.

Figure 7: Levels of Standardization for High and Low Performing Systems



Note: High-performing systems rank in the top quintile of performance; low-performing systems rank in the bottom quintile

*Using a scale of 0 - 10, systems rated the level of standardization across hospitals for the items shown above. A rating of 0 indicates no standardization and a 10 indcates complete standardization.

Higher performing systems tended to report more standardization for both their training and care processes. These differences may not directly produce differences in care quality, since it's quite possible to standardize on paper processes that are very different in practice. However, systems that have made the effort to work through these issues and build consensus relate to standardization may achieve better results.

A. Establish a process for identifying and standardizing best practices.

High performing health systems employed multiple and various ways for identifying and standardizing best practices across the health system. Although local autonomy is important, for the high performing systems, there is an expectation that evidenced based practices are consistently implemented throughout the health system in every facility.

At Avera Health, there is a best practice committee comprised of quality directors and clinical leaders from each region. Best practices are identified using outcomes data. Strategies from hospitals with the best outcomes are selected for system-wide implementation.

Alegent Health standardizes best practices by creating system-wide evidence-based order sets.

At Providence Health and Services, when evidence-based best practices are identified, system leaders decide which ones to standardize and determine the process for how standardization will occur. For example, in the past 10 months they have adopted 2 standardized processes: the WHO surgical safety checklist and protocol for screening and prevention of excessive bilirubin in newborns. Individuals responsible for implementing these in a common fashion are then identified.

At Catholic Health Initiatives, the selection process occurs collaboratively between the staff from the national office and the local hospital markets. On an annual basis, the collaborative identifies evidence-based practices being used either in one of the local markets or from the medical literature. They then roll out policies and procedures linked to these best practices. This year they are rolling out 15 bundled best practices.

Ardent Health Services uses their clinical quality council to identify and spread evidence-based best practices across the system.

At IASIS, system-level best practices are determined in partnership with its hospitals. For example, system-wide adoption of multi-disciplinary ICU rounding came out of hospital participation in IHI.

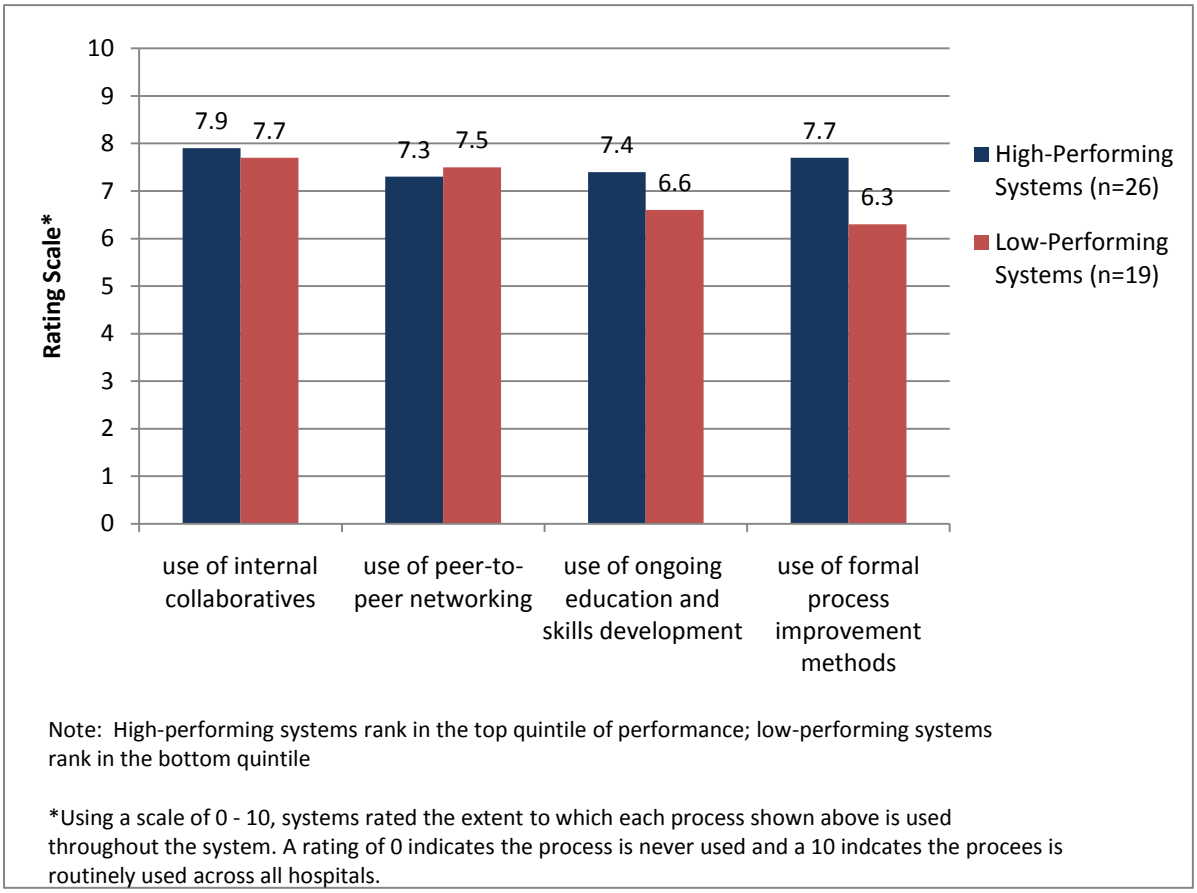
Virtua Health uses a six-sigma mechanism for deployment. Each time a facility-specific quality improvement (QI) project is completed, black belts are required to describe (and document) to others throughout the system on how they will spread and implement the practice throughout the system.

B. Use of ongoing education and skills development to spread best practices throughout the system.

From the interviews with the health systems, high performance health systems noted they were more likely to use ongoing education and skills development to spread best practices. For example, expanding the role of nurses to include participation in system-

wide quality improvement initiatives was cited as a key driver of performance improvement by high performing health systems. Specifically, nurses being accountable for entering heart failure discharge instructions and for following up with physicians regarding ACE inhibitor use led to measurable improvement. Figure 8 contrasts top and other systems on the extent to which the system employs a variety of strategies to educate their personnel and improve their processes. With one exception, higher performing systems make greater use of these strategies.

Figure 8: Use of Strategies to Strengthen People and Processes



Note: High-performing systems rank in the top quintile of performance; low-performing systems rank in the bottom quintile

*Using a scale of 0 - 10, systems rated the extent to which each process shown above is used throughout the system. A rating of 0 indicates the process is never used and a 10 indcates the procees is routinely used across all hospitals.

As an example, at Catholic Healthcare Partners, the system CEO personally participates in Leadership WalkRounds at the individual facilities for improving patient safety. The CEO's experience has been profound, and the feedback from all the participating facilities and their staff has had a positive effect as a mechanism for improving safety system-wide.

C. Effectively disseminate best practices across the health system

Although best practices may be identified, the effective and efficient dissemination and adoption of better practices by other parts of the health system requires strong processes.

Baystate Health, for example, hardwires the practices by incorporating best practices and clinical guidelines into their electronic medical record system.

Aurora Health System has created a searchable "lessons learned database" to capture best practices for staff.

Iowa Health System stores best practices electronically, and they are made accessible via the intranet.

Conclusion

The findings of this study, as evident in the major themes and the best practices, demonstrate the significant potential and opportunity for delivering high quality care in the United States by health systems. Effective system-wide strategic planning, alignment across the enterprise, leveraging data and measurement for performance management, and implementing standardization and spread of best practices throughout the system are important elements to high performance. However, these practices rest upon a foundation that includes a culture that enables performance improvement and effective and efficient execution as the keys to success.

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Appendix A: High Performing Health System Survey

The following represent the major interview questions asked of health system leaders.

A. People

1. Please indicate whether the following positions exist at the system level and how long they have existed: a. CQO (chief quality officer); b. CPSO (chief patient safety officer); c. CMO (chief medical officer); d. CNO (chief nursing officer)
2. Is there a health system or corporate quality department?
3. Is there a health system-wide quality steering committee?
4. Does your health system have a corporate or system board quality committee?

B. Goal Alignment

5. Does the health system have quality and safety improvement goals?
6. To what extent are the quality and safety improvement goals of each hospital aligned with those of the whole system?
7. To what extent do hospital leaders' (e.g., hospital CEO's) goals align with the system goals?

C. Quality Measurement/Reporting

8. Do you have a health system dashboard for reporting system-level quality performance?
9. To what extent is performance measurement standardized across the system?
10. How are performance targets for the system set?
11. Does each hospital in the health system use the same targets or does it vary?

D. Incentives/Accountability

12. Do the corporate health system leaders have financial incentives linked to the overall performance of the health system? On what measures and what percentage?
13. Do the individual hospitals' senior leaders have financial incentives linked to the overall performance of the health system? If yes, who (e.g., CEO, COO, CMO, CNO)? On what measures and at what percentage?
14. Do you incorporate performance measures and accountability for targets into contracts with medical staff? Affiliated physicians?
15. What percentage of your employees have an annual financial incentive specifically tied to quality goals?
16. Other than financial, what, if any, other types of incentives are used?

E. Standardization and Spread of Best Practices

17. What is your policy and process for standardizing best practices across the system?
18. To what extent are the following standardized across all hospitals in the system: a. quality and safety policies and procedures; b. training and education programs; c. clinical processes; d. evidence-based order sets (for both medicine and nursing).
19. Overall, how well does your health system efficiently and effectively deploy best practices across the health system?

F. Centralization

20. How centralized is overall decision-making in the health system?
21. How centralized is quality and patient safety (measurement, resource allocation, best practice standardization, etc.) in the health system?
22. How integrated is the health system across clinical services and service line management?

G. Health Information Technology (HIT)

23. How far along is your health system with respect to having a fully deployed CPOE
24. Do you have an electronic health record in your health system?
25. Do you have a strategic goal that specifies when (which year) you will achieve full deployment and use?

H. Communication

26. How frequently are strategic priorities and initiatives to improve quality and safety communicated and by what means?
27. Do you have a common information system for reporting errors, complications, and health-care associated infection rates across the health system?
28. How are adverse events or patient safety/quality triggers alerted throughout the health system and addressed? For example, if an adverse event occurs in one site, how are all hospitals alerted and how are practices put in place to prevent those events?
29. How well do you think this process of alerting other hospitals and implementing changes quickly and effectively across all hospitals occurs?
30. Does your system use de-identified reporting of serious adverse events as a strategy to generate impetus for change internally?
31. Is there a system-wide policy for disclosing errors to patients and families?

I. QI Initiatives

32. To engage staff across multiple hospitals to participate in QI initiatives, do you: a. offer incentives (financial or other) to physicians; b. offer incentives (financial or other) to clinicians other than physicians; c. include participation in QI work as part of performance evaluation criteria; d. link opportunity for promotion to participation in QI work

J. QI Training/Development

33. Is formal quality improvement training provided by corporate/health system?
34. How long does this training last (e.g., < 1day, several days, a week)?
35. How frequently is the training offered (one-time training, annually, etc)?

K. Culture

36. As a health system leader, how do you promote a culture that perceives quality as a core value? Do you: a. conduct annual culture surveys; b. share survey results with staff; c. provide teamwork training on improving quality and safety; d. have HR policies that promote a culture of safety and quality; e. produce a health system annual report on quality and patient safety
37. How would you rate your system's emphasis on establishing a culture of quality and patient safety?

Appendix B: Major Themes and Best Practices Associated with High Performing, Multi-Hospital Health Systems

Major Themes

1.	No one system type was most associated with high performance
2.	No one factor was clearly associated with high performance
3.	Creating a culture of performance excellence, accountability for results, and leadership execution are the keys to success

Best Practices Associated with High Performing, Multi-Hospital Health Systems

1.	**Establish a System-wide Strategic Plan with Measurable Goals**
A.	Set both measurable short and long-term goals.
B.	Set goals for quality and safety based on the pursuit of perfection rather than improvement.
C.	Link the system's quality goals with its operational and financial goals.
2.	**Create Alignment Across the Health System with Goals and Incentives**
A.	Establish system-level quality steering/oversight committees to provide direction to system leaders in setting system-wide goals and aligning them with all hospitals.
B.	Embed health system goals into individual hospital leaders' goals.
C.	Link annual bonuses for system and hospital leaders to performance targets in the system's key strategic areas.
D.	Align incentive pay and/or accountability for achieving system-level quality and patient safety targets into contracts with physicians.
G.	Align emphasis on culture with efforts to understand and improve it.
3.	**Leverage Data and Measurement Across the Organization**
A.	Use an "all or none" or "perfect care" approach to set targets for all performance measures.
B.	Consider setting targets based upon event counts (numerator) as well as rates.
C.	Share dashboards with hospital leaders and staff frequently to identify areas in need of improvement and then take immediate actions to get back on track.
D.	Post dashboard information on the system's intranet.
E.	Engage in national benchmarking initiatives to achieve greater transparency as well as foster healthy competition between hospitals.
F.	Utilize corporate support through data mining of existing information systems, frequent analyses, and reporting of measures for hospital-level performance improvement.
4.	**Standardize and Spread Best Practices Across the Health System**
A.	Establish a process to identify and select practices for standardization.
B.	Use ongoing education and skills development to spread best practices.
C.	Effectively disseminate best practices across the system.

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