

Strategic Improvement in Healthcare: Lessons from Eight U.S. Medical Centers

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Summary

Medical centers profoundly affect the lives of their customers and make significant contributions to society. Various approaches have been used in healthcare to improve organizational performance from a strategic perspective and the introduction of these approaches has resulted in many success stories. Learning from industry is challenging because the processes for providing care to patients are inherently different than those for producing a manufactured product. This paper discusses seven lessons learned based on the experiences of eight Midwestern U.S. medical centers and then describes an emergent framework medical center leaders can use to guide strategic improvement activities.

Keywords

Healthcare, Strategic Improvement Systems, Strategic Planning, Organizational Performance Measurement, Continuous Improvement Culture

1. Introduction

Medical center leaders have experimented with various approaches to improving organizational performance such as the Malcolm Baldrige National Quality Award,¹ Balanced Scorecard,² Six Sigma,³ Design for Six Sigma,⁴ and the Toyota Production System⁵ (also known in the U.S. as "lean"). A *medical center* is defined here as a "distinct healthcare organization consisting of at least one hospital and one clinic in its service area." A *strategic improvement system* is defined here as a "set of interrelated components whose collective aim is to improve organizational performance from a strategic perspective." Component examples include mission, vision, values, strategy, strategic objectives, structures, key processes, information, performance measures, project portfolios, methods, tools and reviews.

This paper discusses seven lessons learned from eight Midwestern U.S. medical centers as they attempted to improve organizational performance. The paper then discusses an emergent strategic improvement framework some medical center leaders found useful in managing strategic improvement initiatives. The paper ends with conclusions and future directions.

2. Seven Lessons Learned

I have served as an external consultant for eight Midwestern U.S. medical centers on strategic improvement initiatives over the past ten years. I reflected on my experiences with the medical centers; silently brainstormed lessons learned onto note cards; and then created an affinity diagram. Seven themes appeared on the affinity diagram leading to the formal identification of seven lessons learned which will now be discussed.

2.1 Lesson One: It is Useful to Integrate the Strategic Improvement System with the Strategic Planning Process

The Senior Leadership Team (SLT) of each medical center launched and executed formal projects to improve organizational performance and managed the projects using a parallel-meso structure.⁶ Those projects occurred in a "top-down" strategic improvement system versus a "bottom-up" improvement system. Project aims included decreasing patient falls; decreasing hospital associated infections; increasing patient satisfaction; decreasing patient wait times; increasing compliance with research-based care bundles; decreasing employee injuries; decreasing medication administration errors; and decreasing costs. A *project* is defined here as a "temporary and rational sequence of activities undertaken to accomplish specified objectives." Numerous types of projects were launched such as discovery, rapid action, lean, design and improvement. Each project was undertaken to address a strategic issue and the particular type of project that was initiated depended upon the nature of the issue. Some projects were launched and executed independent of the strategic planning process most commonly due to timing issues.

The eight medical centers all had some form of strategic planning, but there was extensive variation in the formality of the strategic planning processes and the strategic planning process steps. The mission, vision, values and strategy were typically evaluated during the early steps of the strategic planning process and environmental and organizational assessments were conducted to identify strategic issues and develop of strategic objectives.

The primary benefits of integrating the strategic improvement system with the strategic planning process were that (1) projects existed in the context of the strategic planning cycle, (2) projects were aligned with organizational strategy, (3) projects were focused on strategic issues, and (4) leaders had a vested interest in the success of projects.

2.2 Lesson Two: Performance Measurement Facilitates Learning and Improvement

Medical center leaders were interested in (1) how well their organization was performing and (2) if organizational performance was improving. Having an organizational performance measurement system helps leaders acquire that knowledge. It is difficult to learn and improve without data. Examples of organizational performance categories included profit, production, quality, safety, service, compliance, morale, and learning. Medical center performance is judged by diverse stakeholder groups such as the board of directors, patients, employees, regulators, government agencies, insurers, and citizens. This means that a diverse set of organizational performance measures is necessary. Organizational performance might be satisfactory from the perspective of patients, but not from regulator or employee perspectives.

There has been an increase in the healthcare industry the past ten years in mandated organizational performance reporting requirements and much of the resulting performance data is available to the public (transparency). Several of the medical centers worked on maturing their organizational performance measurement system and some leaders believed that a good system could create a competitive advantage. A key task for medical center leaders was to create an organizational performance dashboard primarily consisting of time series charts and/or statistical control charts.

Project teams typically developed a project objective such as, "decrease patient falls from 5.2 patient falls per 1,000 patient days to 2.0 patient falls per 1,000 patient days by December 31, 2009." This project objective indicates the issue (patient falls) and contains a progress measure (falls per 1,000 patient days), baseline (5.2), direction (decrease), target (2.0) and deadline (December 31, 2009). Project teams then worked to identify the causal factors leading to the formation of a theory of improvement⁷ including solutions. Project teams also

determined the state of statistical control at the beginning of projects and after solutions had been implemented. Project teams also benchmarked organizations inside and outside the healthcare industry. Organizational and project performance measurement thus greatly facilitated learning and improvement in the medical centers.

2.3 Lesson Three: Improvement Projects can be Managed Using Stock Portfolio Concepts

Medical Center leaders found it useful to manage their projects as a *portfolio* of projects and an important task for them was to build (or in some cases formalize) a project portfolio. The word *portfolio* is defined here as a "formal set of projects managed as a system" and this term is appropriate because we can apply many stock (investment) portfolio concepts when managing a project portfolio. Launching a project is analogous to "buying a stock" and ending a project is analogous to "selling a stock" from a stock portfolio perspective. The following are some stock portfolio principles medical center leaders found useful as they managed their project portfolios:

- Set clear goals for your stock (project) portfolio
- Diversify your stock (project) portfolio
- Invest in stocks (projects) for the short-term and long-term
- Know the value of your stock (project) portfolio
- Know the risks associated with your stock (project) portfolio
- Formally review and adjust your stock (project) portfolio
- Scan the environment for events that might affect your stock (project) portfolio

Some organizations in industry use an arbitrary financial target for projects. An example might be, "Each project must have at least a \$150,000 net income impact." This financial targeting approach may prevent due diligence from being conducted prior to the launching of a project and it might prevent noble projects from being launched. Launching and executing individual projects is important for impacting organizational performance, but it is often the portfolio of projects that determines the degree of success in improving organizational performance. Medical center leaders sometimes undertook projects knowing there would be a financial loss. One project involved minimizing latex (e.g., latex gloves) from the workplace because many people in society are allergic to latex. That project resulted in an intentional financial loss. Another project involved eliminating blood pressure measurement instruments that contained mercury due to safety concerns. That project also resulted in an intentional financial loss. However, in both of those cases there were other projects in the portfolio that had significant positive impacts on net income. Leaders have to balance stakeholder needs in building and managing a project portfolio. All projects do not need to have a positive impact on net income. What is important is the value of the portfolio. Using stock portfolio concepts can therefore enhance decisions medical center leaders make regarding projects.

2.4 Lesson Four: It is Important to Clarify the Purpose of Progress Reviews

Each project team typically had a champion, team leader, coach, and team members. The champion was a senior executive accountable for the success of the project and responsible for conducting project progress reviews. Progress reviews played a critical role during the projects because they represented the "Study" step of the Plan-Do-Study-Act (PDSA) cycle.⁸ Formal progress reviews were conducted by the champions either monthly or at the completion of each step of the method being used by the project team such as the Define-Measure-Analyze-Improve-Control (DMAIC) method.⁹

Leaders need to be very clear about the purpose of progress reviews because what

happens during the review should be consistent with the purpose. The purpose of a progress review should be to "learn as much as you can and reach consensus on a positive way forward." This purpose respects people and views them as knowledge workers who can create, capture, and transfer knowledge.¹⁰ The purpose of a progress review should not be to "judge people as good or bad." Judgment at times led to fear and resentment. One implication is that a champion must create a positive meeting atmosphere where sharing and learning can occur.

The progress review process at a high level consisted of (1) people preparing for the review, (2) the champion conducting the review, and (3) the champion and team leader driving follow-up actions after the review and transferring acquired knowledge. Each project team was supposed to have a target (expected results) and a plan for achieving the target. Kano and Sainamthip¹¹ described the Four Student Model which champions can use to structure the progress review conversation. Champions had the ability during progress reviews to determine (1) the degree of adherence to the plan and (2) whether the target was achieved. There are four possible scenarios: the team adhered to the plan and achieved the target; the team adhered to the plan and did not achieve the target; the team did not adhere to the plan and achieved the target; and the team did not adhere to the plan and did not achieve the target. The champion can tailor his/her review questions for the corresponding scenario in order to maximize learning. Clarifying the purpose of progress reviews can thus increase the likelihood learning occurs and that consensus is reached on a positive way forward as opposed to judging people as good or bad.

2.5 Lesson Five: It is Necessary to Create Dedicated Time for Strategic Improvement Activities

Medical center employees perform a variety of work tasks ranging from simple routine tasks to complex tasks under time pressure in dangerous conditions. Work tasks include scheduling appointments, registering patients, examining patients, drawing blood, performing surgical procedures, administering medications, obtaining and interpreting X-Ray images, conducting lab tests, conducting therapy sessions, etc. Many work tasks (processes) involve staff from multiple departments and so extensive coordination and cooperation are necessary during daily work and strategic improvement activities.

It was common to hear medical center employees make statements like "we are very busy" and "we are having a difficult time getting together to meet as a team." Improvements made during the "middle of work" were typically local and small-scale in nature. Improving the organization from a strategic perspective typically requires dedicated time for people to meet to discuss the strategic issue and create and implement effective solutions. There is a difference between administering medications (performing the work) and improving how medications are administered (improving the work). Leaders thus need to create dedicated time for people to participate in strategic improvement project work.

2.6 Lesson Six: The Ability to Standardize can Create a Competitive Advantage

One of the most difficult tasks related to daily work and project work was creating standards. According to Hosotani,¹² a *standard* is defined as an "agreement" and *standardization* is defined as "the systematic activities of establishing and utilizing standards." There were numerous examples of standards in the medical centers. Medical center personnel reached agreement on procedures, practices, policies, protocols, order sets, care bundles, dosages, formats, templates, clinic times, etc. Compliance with research-based standards can help insure *best practice* care is provided to patients in order to create consistent and reliable treatment outcomes. It is difficult to improve a procedure, practice, or protocol when

everyone is performing work their own unique way. Medical centers skilled at standardization can gain a competitive advantage because standardization is a very difficult activity.

The Standardize-Do-Check-Act (SDCA) cycle described by Imai¹³ was a useful model to use during standardization activities. Two items were studied during the "Check" step: the degree of compliance to the standard and the outcomes. A variation of the Four Student Model¹⁴ can be used when conducting a review of a standard. A valuable insight I gained is that standardization is often both a *social* activity and a *technical* activity because it involves a large group of people reaching agreement (social) on a procedure, protocol, etc. (technical). The most useful tools during standardization were those that helped large groups of people reach agreement such as the impact wheel and the affinity diagram.

There were two commonly held myths associated with standards in the medical centers. One myth was that "everything was going to be standardized" even though it was repeatedly stated that standards would be created only when and where it made sense. Freedom and flexibility in medical centers should be preserved when standardization is not appropriate. For example, medical center employees should be given the freedom to "deliver difficult news" to patients in a manner they feel is appropriate under the circumstances. The second myth was that "a standard would not be changed" once created. The SDCA cycle helped counteract this myth because it encouraged an iterative cycle. The advice of Ishikawa¹⁵ is useful to heed because he stated, "A standard that has not been revised, is a standard that is not being used." Deming¹⁶ suggested that having a *best known method* implies that there may be a better way that we don't know about and so we should continue to learn. Much of the resistance to standards seemed to originate from the perception that the organization was infringing upon a care provider's professional autonomy and judgment. Resistance was lower when people were involved in creating and testing the standard. The ability to do standardization well can thus help medical center leaders continuously improve and create a competitive advantage.

2.7 Lesson Seven: It is Important to Create a Continuous Improvement Culture

Much has been said in the literature about the need to "change the culture" of the organization in conjunction with strategic improvement approaches such as the Malcolm Baldrige National Quality Award, the Toyota Production System¹⁷ and Six Sigma. However, many medical center leaders found "culture" to be an abstract concept and they were not sure how to create a continuous improvement culture. Components of culture can include behaviors, symbols, rituals, language, values, beliefs, practices, etc. Schein¹⁸ defined the culture of a group as, "*a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.*" One implication of this definition is that culture largely exists in the minds of people and we know that it is sometimes difficult to change the minds of people. A medical center *structure* can be created or changed immediately by decree, but a medical center *culture* may take a long time to change.

Medical center leaders tried various approaches to creating a continuous improvement culture. Some examples were that they (1) started asking different questions (Who are your customers? What are their Needs? What are your critical processes? How well are your processes performing?), (2) integrated continuous improvement activities and objectives into employee performance reviews, (3) extensively communicated strategic objectives and progress, (4) publicly displayed organizational performance data using bulletin boards, (5) implemented suggestions systems, and (6) had those in leadership positions spend more time in work areas interacting with those reporting to them. Medical center leaders should take action to create a continuous improvement culture even though it may be an abstract concept.

3. Emergent Strategic Improvement Framework

An emergent strategic improvement framework will now be introduced and discussed followed by some implications.

3.1 Emergent Strategic Improvement Framework

I developed an emergent strategic improvement framework based on my work experiences with the eight medical centers. It is called *emergent* because it has evolved over the past several years and it will continue to evolve as leaders provide me with feedback. The framework has been tested with several organizations and many leaders commented that it was useful especially for structuring conversations. The framework is depicted in Figure 1.

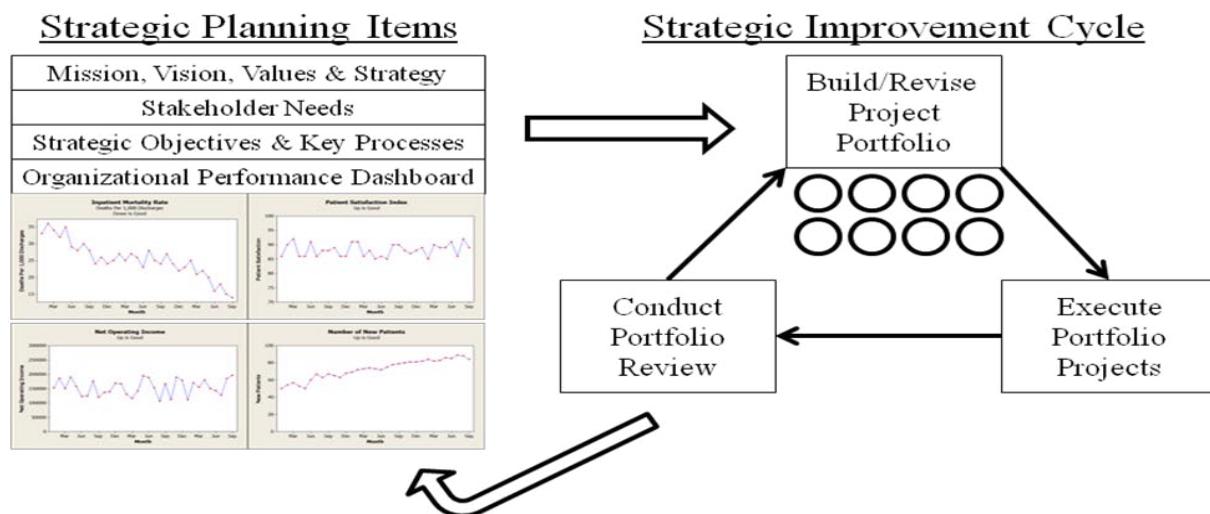


Figure 1 - Emergent Strategic Improvement Framework

The framework is composed of two components: a set of strategic planning items on the left and a strategic improvement cycle on the right. The two enlarged arrows between the two components suggest dynamic movement. The top enlarged arrow indicates that medical center SLT members should discuss and reach consensus on the set of strategic planning items first before moving to the strategic improvement cycle because then the strategic planning items provide a context for strategic improvement projects. The strategic planning items and projects can be created in the context of policy management¹⁹ and the organizational strategy can be both deliberate and emergent.²⁰ The bottom enlarged arrow indicates that the set of strategic planning items should be re-evaluated at least annually although the organizational performance dashboard should be reviewed at least monthly.

It is useful to reach consensus on the mission, vision, values and strategy first because they then can be used to focus strategic improvement activities. The identification of stakeholders and their needs helps medical center leaders create an organizational performance dashboard. Strategic objectives help medical center leaders communicate what they hope to accomplish. Key processes help identify major medical center work activities such as access, assessment, treatment, patient education, and follow-up. The organizational performance dashboard typically contains five to twenty measures in the form of time series charts and/or statistical control charts. It helps medical center leaders determine how well the

organization is performing and whether organizational performance is improving.

A project portfolio already existed in some of the medical centers which resulted in a revision of a portfolio instead of the building of a portfolio. One medical center SLT started by identifying all the formal projects that were occurring in the organization. Its leaders were surprised to learn that there were over two hundred active projects. They found it helpful to review the list of projects and decide which ones the SLT would oversee. Organizational performance dashboard measures were evaluated and other strategic issues were discussed and prioritized leading to candidates for the project portfolio. Project teams were formed and then the projects were executed and reviewed periodically. The relationship between the left and right sides of the framework should be dynamic. The framework helped medical center leaders integrate the strategic planning process with strategic improvement projects and it also assured that projects were linked to organizational strategy.

3.2 Framework Implications

The framework encourages leaders to reach consensus on the strategic direction of the organization and develop theories of improvement in the form of, "If we take these actions (projects), it will lead to these results (impact on organizational performance measures), and this is why."²¹ Projects exist in a strategic context and become the *means* to accomplish the *ends* of the organization. Organizational performance reviews and project progress reviews play critical roles because that is where extensive learning can occur. A final implication is that the framework identifies the items that medical center leaders are responsible for if they want to improve their organization from a strategic perspective.

4. Conclusions and Future Directions

I will now present some conclusions and future directions based on the seven lessons learned and the emergent strategic improvement framework.

4.1 Conclusions

Much remains to be learned about strategic improvement in medical centers. Medical centers can continue to profoundly affect the lives of their customers (patients) and contribute to society through careful strategic experimentation at the organization and project levels using the PDSA cycle to test theories of improvement. The success of medical centers will continue to depend upon the competencies of its leaders and how involved they are in strategic improvement activities. It will be important to create and capture strategic improvement knowledge and spread what works and why. Medical center leaders should continue to learn from world class organizations and implement the concepts, methods, tools, and techniques that they think will help them improve organizational performance.

4.2 Future Directions

I continue to work and learn with medical center leaders. Many medical centers are very skilled at sharing strategic improvement *best practices* and they continue to be outstanding learning organizations. There now have been several healthcare organizations that have won the Malcolm Baldrige National Quality Award and it is helpful to study the case studies from those organizations. More research is necessary to determine which strategic improvement systems and approaches work under what conditions and why. Continued practice and research will help medical centers become even more effective at contributing to society.

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