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LEADING THE WAY: PERIOPERATIVE SERVICE REDESIGN AS A MODEL FOR ORGANIZATIONAL CHANGE



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Leading the Way: Perioperative Service Redesign as a Model for Organizational Change

by **Mike D’Olio, Stephanie Hines, and Peter P. Semczuk, DDS, MPH**

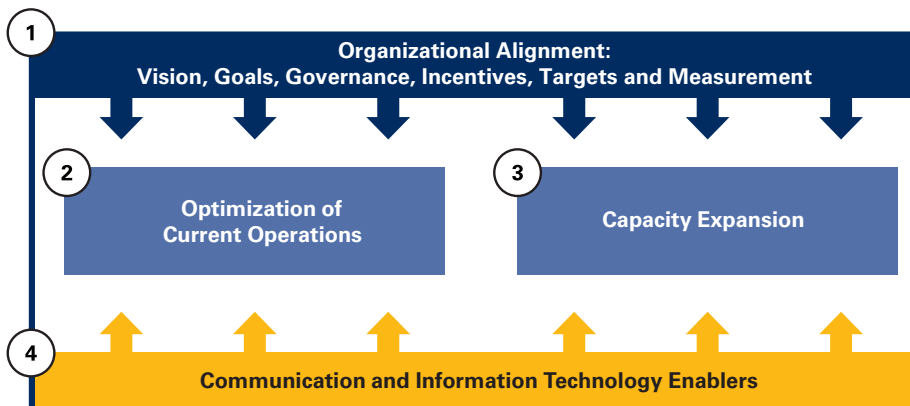
A key challenge for today’s healthcare leaders is to simultaneously optimize current operations, while also executing strategies for the future accountable care environment. Most providers continue to operate in a volume-based, fee-for-service environment, while preparing for risk-based payment models. Providers must optimize current revenue, while also improving quality, outcomes and service performance – all while maintaining, or even decreasing, costs and redirecting capital investments to new areas. Health systems that are successful navigating this transitional environment typically have a strong foundation and culture of operational transformation and organizational change. This paper discusses the essential elements to achieving sustainable, transformational operating improvement and highlights a case study of one large health system that has achieved remarkable results, despite its complex organizational structure and challenging market dynamics, in part by using enterprise-wide perioperative services redesign as a catalyst.

There are four foundational elements essential to creating a culture of ongoing operational performance improvement.

Achieving Higher Levels of Operational Performance

There are four foundational elements essential to creating a culture of ongoing operational performance improvement, as illustrated in the graphic below. We briefly describe these four elements and then illustrate their application in a case study based on work done collaboratively with Montefiore Medical Center.

FIG. 1 **Chartis Framework for Operational Transformation**



1 | Organizational Alignment: Sustainable performance improvement depends upon gaining broad organizational alignment around a shared vision of the future, and agreement regarding the system-wide performance expectations for clinical programs, patient care, economics, and the operating principles and practices affecting patients, physicians, and employees. This alignment must begin with executive and physician leadership but also requires active participation of stakeholders throughout the organization. This approach represents a true cultural shift in the way many organizations work together.

2 | Optimization of Current Operations: Once there is agreement around goals and performance targets, organizations can assess and identify opportunities to improve basic operational processes and move toward best practice performance. Improving physician, patient and employee satisfaction, as well as managing costs and resource utilization, requires sustained focus on current operations and the day-to-day process of care delivery. This objective can only be achieved with a holistic view of the patient, physician and employee experiences as they interact with the health system.

3 | Capacity Expansion: Many health systems are reluctant or unable to invest significant capital in their core hospital business due to competing demands for capital and uncertainty about the future reimbursement and operating environment. At the same time, hospitals often operate with a relatively high utilization of beds, emergency departments, operating rooms, and other key assets. Fortunately, restructured operations typically expand capacity thereby enabling increased volume and revenue. Any fixed cost business must optimize its return on assets; in a world of limited capital, capacity expansion requires gaining capacity by using existing space, scheduling efficiently, and managing staff at their highest skill level. Increasing case capacity by optimizing facilities utilization requires significant physician and staff involvement and may include shifting the locations where care is delivered, staffing adjustments, changes in physician schedules, and new scheduling practices. Active involvement of physician, nursing and administrative leadership and staff is essential to sustaining improvement.

4 | Communication and Technology Enablers: Operational transformation must be supported by ongoing and effective communication regarding performance. The development and implementation of reliable performance measurement and monitoring systems which employ accurate, transparent data is essential to sustained performance improvement and preparing the organization for the future. In addition, information systems and other technologies that support new or improved operational processes provide key transformation opportunities.

In a world of limited capital, capacity expansion requires gaining capacity by using existing space, scheduling efficiently, and managing staff at their highest skill level.

Perioperative Service Redesign as a Model for Organizational Change

Strengthening operating room (OR) and perioperative services performance is important for future health system success. Many health systems depend upon perioperative services for significant contributions to overall system revenue and operating margins, providing a much needed offset to other less profitable activities. Loss of surgical volume due to inefficiency or physician dissatisfaction can have

dramatic financial implications. OR and related service costs are typically fixed and capital investments for renovation or expansion can be extremely expensive and often take years to implement. Today's leaders must effectively use existing facilities and optimize capacity use to the greatest extent possible.

Perioperative services also have a significant impact on patient and physician satisfaction. The care and service experienced prior to, during and after surgical procedures, drives overall patient and family opinions of the health system and their likeliness to return for subsequent visits, procedures or other care. For physicians, health systems must be able to guarantee sufficient operating time for the cases those surgeons plan to bring to the health system. An inability to do so can result in missed opportunities for physician-hospital relations and recruitment as well as consequential loss of typically high margin patient volume and revenues.

This complex area brings together many system-wide functions along with a variety of (often established and powerful) staff and physicians in a team-based environment. The setting provides an ideal opportunity to develop a level of physician-hospital alignment and shared vision that is vital to organizational success. Sustained organizational change in this important hub of the health system demonstrates the benefits of physician-hospital partnership, data transparency, performance measurement and monitoring, and organizational alignment around a common future vision while also serving as an example for transforming other areas of the system.

The perioperative services setting provides an ideal opportunity to develop a level of physician-hospital alignment and shared vision that is vital to organizational success, while also serving as an example for transforming other areas of the system.

Montefiore Health System: A Case Study in Successful Operational Transformation

History and Background

Montefiore Medical Center (MMC) in the Bronx, New York is the primary teaching affiliate of the Albert Einstein School of Medicine. The Medical Center's 2,500 physicians and 17,000 employees provide services to over 400,000 patients each year. Montefiore's four hospitals (1,500 total beds) and 100+ ambulatory sites generate over \$3 billion annually in net patient revenue. With more than 89,000 discharges each year and 2.5 million outpatient visits, MMC serves as the hub of specialty care medicine for the Bronx, much of Westchester and other surrounding New York counties. Of the approximate 1.5 million Bronx residents, 28% live under the poverty line and maintain marginal health insurance coverage. In July 2010, MMC leadership identified perioperative services as a priority area for performance improvement, with a substantial opportunity to enhance operational performance and to better align operational and physician leaders.

Montefiore leadership engaged the Vice President of Clinical Services, Surgeon-in-Chief, and newly appointed Anesthesiologist-in-Chief, to embark upon a collaborative process to drive appreciable operational and financial improvement in the operating suites across MMC's three hospital campuses. Through these efforts, leadership aimed to raise performance to unprecedented levels within the organization. The goals of the team included addressing long-standing operational management issues within the department, optimizing current operations through redesign of foundational processes,

and expanding surgical capacity within existing resource constraints. At the center of the initiative was a fundamental desire and need to achieve these goals by bringing together all disciplines within the department to work side by side in a more collaborative way.

Montefiore’s perioperative services performance improvement effort began with a comprehensive operational assessment to gauge current patient access and throughput performance effectiveness across all operating room locations. MMC’s Perioperative Services Department has responsibilities for 45 ORs and more than 30,000 surgery cases across three distinct campuses, Moses, Weiler, and North.

TABLE 1 **Perioperative Services Department Profile**

	Moses	Weiler	North
2011 case volume (annualized)	14,839	9,531	6,127
% Inpatient volume	58%	46%	26%
Number of OR’s in use	23	15	7

The assessment’s goal was to develop detailed performance improvement recommendations and establish implementation priorities. Like other health systems, MMC already had some best practices in places, such as centralized scheduling, walk-in pre-admission testing sites and leading perioperative IT support systems. Additionally, Montefiore leadership had recently implemented several changes that were beginning to have a positive impact on capacity and utilization. These changes included modifications in the use and allocation of block schedules, dedicating operating suites for add-on case volume and the expansion of “prime-time” hours of operation. The organization had also recently begun to aggregate lower acuity cases at its North division while also completing the successful recruitment of a new Anesthesiologist-in-Chief.

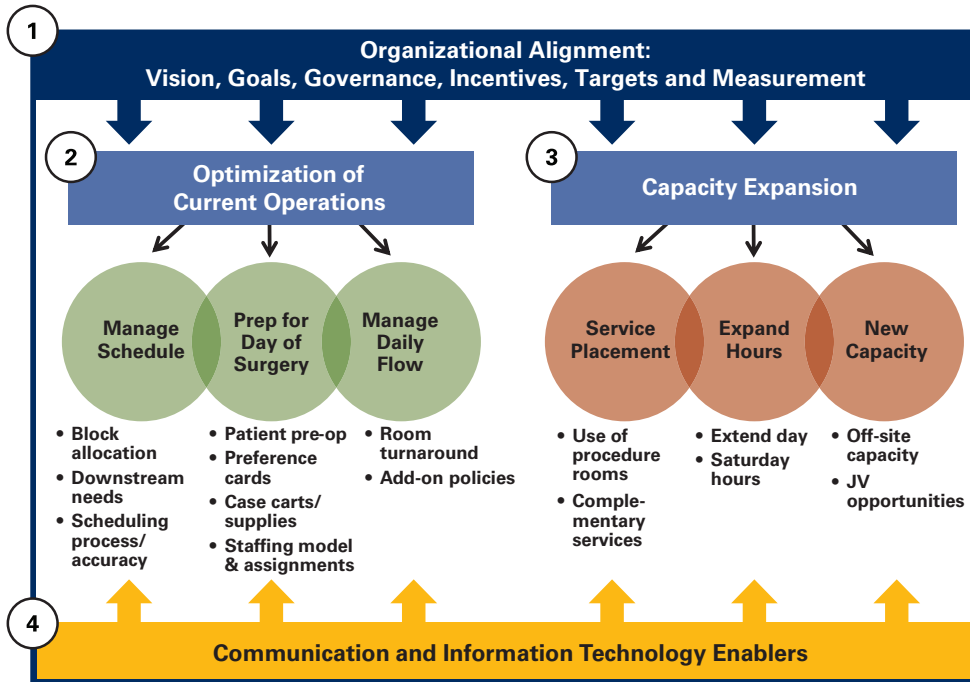
While progress had been made, there was clear recognition that fundamental organizational challenges would need to be addressed:

- The OR suites at Moses, Weiler, and North, though all part of the Montefiore system, functioned as three different entities, each with vastly different organizational cultures and operating characteristics (e.g., size, complexity, case acuity, and management structure). In order to raise performance across the organization, all locations would benefit from moving toward standard “Montefiore” operating practices, and implementation of real-time inventorying and distribution of best practices across the divisions.
- Redesign and improvement of core daily operations was required, including implementation of structured rounding and communication, development of a proactive approach for preparing for the day, and aggressive management of daily schedules to create a more predictable day. Opportunities existed to significantly improve operational performance on key indicators, such as first case starts and achievement of industry standards in room turnaround times. Lastly, a full redesign of instrument and supply management along with preference card and pick-list processes was needed.

The Perioperative Services Transformation Process

Improvement efforts were organized according to the four foundational elements of operational transformation which were customized to address perioperative services priorities, as illustrated below:

FIG. 2 Applying the Operational Transformation Framework to Perioperative Services



1 | Organizational Alignment: For Montefiore, the first order of business was addressing long-standing operational management issues that were impeding progress, particularly at the senior and middle management levels. The selection of key leaders to direct the performance improvement efforts was critical. Establishing goals and targets as a team, not merely having them handed down from management, and creating accountability for achieving the goals was vital to the approach. Leadership recognized that a strengthened governance structure was required to enhance growth objectives, expedite decision-making and ensure appropriate standardization across sites. An OR Executive Team was established that met weekly, and included the Surgeon-in-Chief, Anesthesiologist-in-Chief, VP of Clinical Services (Perioperative Services), OR Nursing Director and OR Management staff. In addition, an OR Advisory Group, comprised of the organization’s surgical service Chairs, was created to improve communication and transparency of performance metrics as well as to provide input. At the division (campus) level, weekly OR Manager site meetings were established to identify and address site specific priorities; these meetings were led by the OR Nursing Director and included the Associate Director of Business Operations, Nursing, Instrument, and Supply room Managers. As part of the overall redesign efforts, RN Management roles and reporting relationships at each campus were redesigned.

Developing clearly defined performance targets and expectations with all OR Staff, Anesthesiologists, Referring Physicians and OR leadership was fundamental to achieving alignment. A number of service specific performance metrics with an initial focus on first case start times and room turnover times were established. A corresponding process for creating, disseminating, and reviewing weekly OR performance data reports and monthly service chair reports was also designed and implemented to guide implementation at each campus. Lastly, Town Hall meetings including all surgical divisions were instituted to communicate current performance, share process improvements, and solicit feedback.

2. | Optimization of Current Operations: It was clear that there were opportunities to improve the efficiency and effectiveness of basic operations from the outset. Some highlights are listed below:

a. Manage Schedule: Leadership recognized that achieving significant improvements in performance would require active engagement of all OR care team members (Nurses, Surgeons, Anesthesiologists, and Support Staff). The first step was to identify and gain agreement around initial performance indicators which included consistent “On-Time Starts.” The multi-disciplinary team developed and articulated the expectation of “On-Time Arrival” to all constituents. Process improvements included the elimination of “buffer time” in the surgical schedule and aggressive management of daily schedules to create a more predictable day and bolster overall performance. In addition, leadership implemented standardization of operating times at all divisions.

b. Prep for Day of Surgery: Leadership recognized that significant improvements in efficiency, as well as patient and physician experience, could be achieved through proactive preparation in advance of the day of surgery. Changes included improved coordination and preparation of site teams; increased submission of patient documentation; and the implementation of afternoon huddles to review the next day’s schedule for resource planning and confirmation of patient readiness. Additionally, the leadership team implemented a process to review schedules seven days in advance of the day of surgery to identify conflicts and optimize the organization of the surgical schedule.

c. Manage Daily Flow: Enhancements in daily flow were driven by several key improvements led by the implementation of purposeful and structured OR management rounding and communication. Specific supporting processes which were redesigned included instrument and supply management; improved accuracy of preference cards and pick-lists, optimized attendant staffing models and the development of a true case cart process at all sites. Service specific “Room Turnaround Times” represented a critical performance indicator that was monitored and measured, with results disseminated to all constituents on a weekly basis.

Developing clearly defined performance targets and expectations with all OR Staff – Anesthesiologists, Referring Physicians and OR leadership – was fundamental to achieving alignment.

3 | Capacity Expansion: MMC leadership's desire to expand capacity to enable increased volume and revenue, would need to result from greater operational efficiencies and improved resource utilization given the high cost and long lead time for creating new surgical facilities.

a. Service Placement: Leadership identified the potential for increasing complex case capacity and inpatient admissions by aggregating and shifting routine ambulatory volume to a single campus to better use facilities. Cases were shifted to MMC's North campus through a coordinated effort led by staff and physicians. Staffing adjustments, changes in physician schedules, and new rules regarding scheduling practices were executed to support these changes. Ultimately, MMC successfully created new capacity to accommodate growth of complex case volume and increased efficiency by coordinating systems in support of the aggregated low acuity cases.

b. Expand hours: Leadership sought to grow capacity within the weekday operating schedule. As operating performance moved toward industry best practice benchmarks in first case starts and turnaround times, corresponding surgical schedules were adjusted to free up additional surgical slots. With these operational efficiencies in place, time allotted per case was also reduced to create new capacity. Through an effective working partnership among the Surgeon-in-Chief, Anesthesiologist-in-Chief and Surgical Chairs from several high-volume services such as Orthopedics and Gynecology, additional OR scheduling changes were implemented to provide expanded capacity to growing practices. Still underway are efforts to better balance load schedules across days of the week, define new rules regarding release time, develop "open" ambulatory scheduling, and consider opportunities to expand direct access scheduling by select practices. Fostering ongoing physician involvement through a coordinated process for making decisions regarding allocation of block time will allow Montefiore's ORs to continue growing volume in existing facilities.

c. New Capacity: Like many organizations in the current economic climate, Montefiore was not considering immediate expansion of facilities or significant new equipment investments. As a result of all of the process redesign efforts, MMC has achieved considerable expansion of OR capacity with little additional capital investment.

4 | Communication and Information Technology Enablers: A clear priority was to create transparent OR performance data. Weekly performance reports were utilized by perioperative leadership and staff to monitor progress and guide intervention. Monthly OR performance reports and practice specific metrics were also made available to the Surgical Chairs and practice leadership. The high degree of transparency was a key enabler of physician alignment on expected performance outcomes and represents a much greater level of collaboration than previously achieved at Montefiore.

A review of the functionality of existing perioperative IT systems and their capacity to enable and support the new processes was also completed. A number of specific recommendations were developed and successfully implemented. The existing

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OR information system (PICIS) had been organized with a series of “stop” icons that numerous preoperative staff would have to clear before a patient could flow through the process. This design unintentionally resulted in significant delays and failed to support effective communication. A complete redesign of the PICIS icons was completed to support efficient patient flow through the OR and support the new expectation that the “trains will run on time.” In addition, the World Health Organization Surgical Safety Process/Checklist was fully implemented.

Lastly, MMC expanded the utilization of their electronic medical record (EMR) to achieve multiple Perioperative Services goals, including:

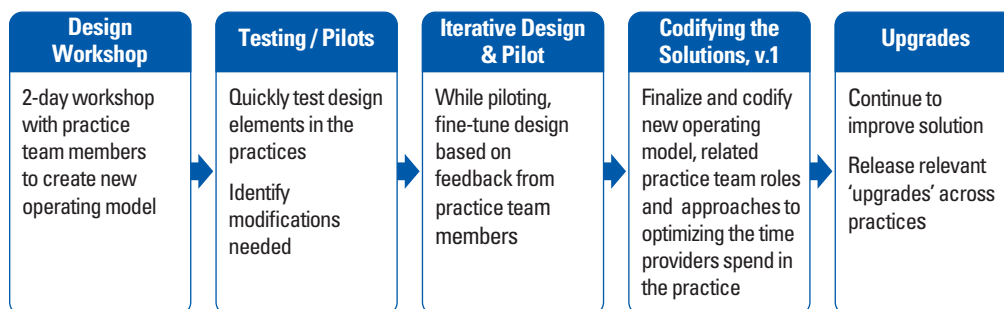
- Support the transition away from paper-based submission of pre-op documentation;
- Finalize transition to online physician orders; and
- Embed new anesthesiology guidelines and order sheet for pre-surgical testing into the EMR.

Getting to Results Quickly using “Rapid Intervention”

Montefiore employed a unique “Rapid Intervention” approach to its redesign efforts, allowing OR site teams to quickly demonstrate improvements and gain momentum and improved performance. This approach quickly built organizational support and buy-in for continued process improvements. At each OR location, a multi-disciplinary Rapid Intervention Team (RIT) was formed to design, pilot, and implement solutions to high priority opportunity areas identified during the assessment. RIT members, including key leaders from Nursing, Anesthesia, Surgery, & Operations, were freed from daily responsibilities to participate in focused workshops conducted over several full days. The teams identified solutions that would be immediately implemented at the work site.

With a motto of “implementation through experimentation,” the RITs employed an iterative design process which emphasized real-time implementation and an iterative testing process (see graphic below) to validate prior to full roll out. By engaging the RIT team participants directly, the design was informed from the outset by those who do the work every day, therefore ensuring feasibility and buy-in. Weekly update meetings were initiated to monitor and improve the tactics defined during the workshop, and have continued throughout implementation roll out.

FIG. 3 Rapid Implementation Using Iterative Design



Montefiore employed a “Rapid Intervention” approach to its redesign efforts, which quickly built organizational support and buy-in for continued process improvements.

This Rapid Intervention approach had three main benefits to the organization:

1. Condensing the timeline for design work allowed solutions to be developed and implemented more rapidly than traditional approaches;
2. Pulling critical leaders and staff away from their regular work for a full three day workshop heightened awareness and emphasized the importance of the efforts; and
3. Focusing on near term changes, in addition to long-term solutions, allowed staff and leaders to see the impact of the efforts immediately following the workshops.

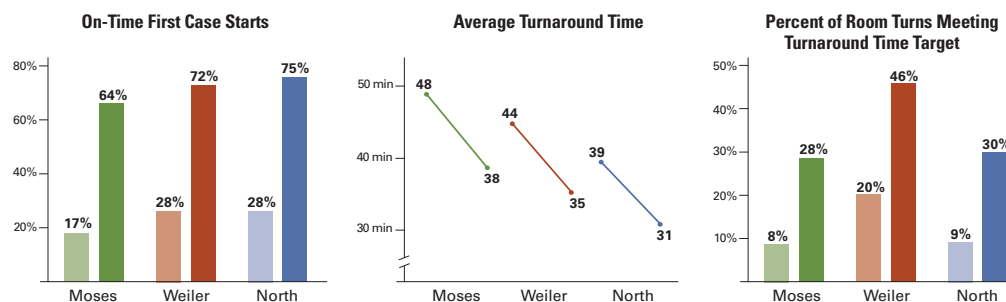
The Rapid Intervention approach allowed the organization to see initial improvement more quickly. However, its continued success rests upon the organizational changes that have been put into place, including alignment around vision and goals, effective performance measurement, ongoing monitoring and leadership attention. It is not unusual, after initial performance spikes, to see some leveling off in the weeks or months that follow. It is typical for organizational challenges to create barriers to continued performance improvement. However those organizations which remain vigilant and consistent in the execution of the redesigned process and monitoring system (and do not get discouraged), quickly get back on track and regain momentum, leading to continued and sustained performance improvement.

These new operational efficiencies have created additional open capacity at all divisions, resulting in 4-6 additional cases per day and significant increases in revenue.

Results

Montefiore’s work has resulted in significant operational and financial improvements across all divisions. As part of this initiative, the department began to regularly track and report performance across a range of key indicators, including the percentage of first cases starting on time and within five minutes, the percentage of turns meeting the service specific room turnaround targets, and the average room turnaround time. Within several months of full implementation, operational performance levels clearly improved. Improvement in the rate of on-time first case starts was the most dramatic, with an increase from 17% to 64% at Moses, 28% to 72% at Weiler, and 28% to 75% at North. Average turnaround time results were also impressive, with each division’s best quarterly results demonstrating a decrease from 48 to 38 minutes at Moses, 44 to 35 minutes at Weiler, and 39 to 31 minutes at North. These results were achieved through an increase of turns meeting the service specific room turnaround targets from 8% to 28% at Moses, 20% to 46% at Weiler, and 9% to 30% at North. These new operational efficiencies have created additional open capacity at all divisions, resulting in 4-6 additional cases per day and significant increases in revenue.

FIG. 4 Improvement in Key Perioperative Indicators



After several months of peak performance across all divisions, the organization faced some organizational challenges, emphasizing the need for continued vigilance and oversight. The new operating models require a high level of coordination between disciplines and maintaining the required working relationships requires ongoing reinforcement. With renewed focus, all divisions have gotten back on track and are continuing to advance toward their specific performance goals. The need for regular monitoring and leadership attention is ongoing and requires that robust performance monitoring systems and processes remain in place.

Lessons Learned: Fundamental Design Principles

Montefiore has achieved impressive results with new operating models based on the four foundational elements of operational transformation. The organization has designed and implemented customized processes that are uniquely its own – appropriate and responsive to Montefiore’s organizational dynamics and market situation. Each organization seeking to transform its perioperative services must develop a design process and operating model that fits its own goals, priorities and culture, as well as unique market circumstances. However, there are several fundamental design principles that are essential for any organization hoping to achieve optimal performance levels. Gaining leadership alignment around these principles is the first step toward achieving long term, sustainable change:

- *Highly engaged leaders are critical at all levels of the organization. **Leading by example is the only way to make progress in changing culture.***
- *Every initiative requires a high level of coordination between disciplines; **and fostering positive working relationships within and among those disciplines is critical.** No single discipline (in the case of Perioperative Services – Anesthesia, Nursing, or Surgery) can drive an impressive degree of improvement on its own.*
- *Achieving early results **motivates the team to higher levels of performance.***
- ***The work is not done when you see the first peak in performance.** Changing behavior and processes is difficult, but sustaining the change is equally challenging.*
- *Current performance data must be reviewed continuously at all levels of the organization to monitor the impact of changes and immediately identify issues as they arise. **Data must be reliable, easy to interpret, and employed rigorously.***

While these design principles drive success in perioperative services redesign, they are relevant and applicable to all areas of the healthcare organization. The lessons learned through a comprehensive perioperative service redesign process can help educate the organization more broadly and inform subsequent improvement initiatives.

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Perioperative Services Gets the Ball Rolling

As Montefiore has demonstrated, perioperative services redesign can result in increased patient and physician satisfaction, significant revenue enhancement and improved utilization of valuable resources. Moreover, a successful improvement process centered around these four foundational elements can serve as a model for achieving sustainable, transformational operating improvement across the rest of the organization:

1. Organizational Alignment
2. Optimization of Current Operations
3. Capacity Expansion
4. Communication and Information Technology Enablers

By starting with perioperative services, Montefiore has demonstrated the potential for success in one of the most complex areas of their health system. In addition to remarkable operational and financial results to date, the process has established a foundation for continuous improvement and a culture of alignment and shared vision among a diverse set of powerful stakeholders. Efforts are currently underway to roll out the improvement approach to other areas of the MMC system.

As provider organizations across the country transition to value based reimbursement, they must maintain a simultaneous focus on cost, quality, and patient, staff and physician experience. This requires a strong organizational foundation and a culture of operational transformation that supports continuous performance improvement. Providers today are prudent to ask themselves how well they are doing along the four foundational elements of operational transformation as they assess their own readiness to transition to the future. A comprehensive perioperative services improvement process can provide a highly visible model for effective operational transformation, leading the way to greater organizational alignment and higher levels of performance and success.

Providers today are prudent to ask themselves how well they are doing along the four foundational elements of operational transformation as they assess their own readiness to transition to the future.

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