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the path to cost transformation

A systemwide assessment performed by one health system exemplifies the necessary scope and design of the path toward comprehensive strategic cost transformation.

Many multihospital organizations are feeling the pressure to get to a “new-normal” cost of care, while continuing to improve the quality, access, and outcomes of services they deliver in their communities. To be *the* provider selected—based on affordability and overall value—to participate in a region’s developing networks, an organization must have a cost position that is significantly lower than what typically can be achieved through traditional cost-cutting initiatives.

For most healthcare organizations, achieving such a position is likely to be a major undertaking, requiring extensive effort over a multiyear period

to achieve near-term and longer-term improvements. But the timing is urgent and the potential impact, transformational.

“Providers of choice” will be strategic about cost, deploying a comprehensive, systemwide approach that includes all of the items identified in the exhibit on page 2. The exhibit outlines three categories of initiatives and depicts how, from left to right (or first to third, below), these three categories pose progressively greater challenges for an organization:

- > *Margin improvement*—applying traditional strategies related to areas such as productivity, overhead, and the revenue cycle
- > *Business restructuring*—optimizing the portfolio of businesses, services, and products and redesigning the delivery system and provider network
- > *Clinical transformation*—focusing on efforts such as reducing clinical variation, enhancing care delivery efficiency, improving performance of physician operations, and other initiatives

Ultimately, a health system cannot begin such a large initiative without taking a critical, all-encompassing first step: performing a formal, systemwide assessment of the organization’s current cost and quality position and strategic improvement opportunities going forward. Such an assessment should encompass quantitative

AT A GLANCE

- > A healthcare organization’s efforts to strategically transform its cost structure in preparation for value-based payment invariably must begin with a systemwide assessment of cost and quality.
- > Such an assessment should focus on three categories of performance improvement activities: margin improvement, business restructuring, and clinical transformation.
- > A work-team approach is recommended, where teams with multidisciplinary representation assume responsibility for assessing specific areas (e.g., acute care enterprise, physician enterprise, business restructuring).

FRAMEWORK FOR COST TRANSFORMATION		
Margin Improvement	Business Restructuring	Clinical Transformation
Productivity	Business lines	Clinical integration
Service delivery costs	Services and products	Clinical variation
Overhead costs	Delivery system	Care delivery efficiency
Revenue cycle	Capital allocation process	Performance of physician operations
Supply chain	Non-operating performance	Care process design
Progress Toward Comprehensive Cost Transformation:		
Hard Harder Hardest		

Source: Kaufman, Hall & Associates, LLC

and qualitative findings from internal and external sources that identify how the organization can transform cost systemwide while ensuring desired quality and outcomes.

Offered here is a detailed case example describing how one such assessment was undertaken by a health system in the western United States. The assessment aimed to identify both cost- and quality-improvement opportunities and the infrastructure, processes, and other resources required to realize those opportunities. The ultimate objective was to create a roadmap that would guide the efforts of the health system's senior leadership in planning, launching, and monitoring a comprehensive, achievable approach to cost transformation.

Case Study: Launching a Systemwide Assessment

To meet its mission of delivering appropriate, quality care to patients and to fulfill the strategic and financial imperatives related to this mission, our case study health system, which we will refer to as ABC Health, identified the need to improve its existing cost structure by \$200 million within one to three years. The organization required this level of cost reduction to achieve its highest-priority goals for population health management.

Two key initiatives were continuous improvement of the network's performance toward achieving the Triple Aim and the development of a clinically integrated network (CIN) whose affordability would be attractive to payers and other healthcare purchasers.

ABC Health achieved annual revenues of roughly \$2 billion through a six-hospital network and a large physician network of employed and affiliated physicians. Like many organizations that have acquired hospitals over time, ABC Health had hospitals that operated under silo-like models and structures, with decisions made at local levels. Centralization of supply chain, IT, and other functions was minimal. To lower costs, ABC Health recognized the need for a regional strategy that would maximize "systemness." Shared data and information reporting would be essential to identifying and implementing the best clinical and operating practices that could lower costs across facilities and the physician enterprise while improving quality.

In early 2015, ABC Health's leaders initiated a systemwide assessment to identify the organization's cost-transformation opportunities. To provide direction and oversight, the health system chartered a steering committee with

senior executives across the region from clinical, operations, and finance functions. This committee worked over a four-month period to quantify, identify, and prioritize areas of potential cost savings enterprisewide.

To cover the scope of work illustrated in the previously cited exhibit, the committee created five work teams—with multidisciplinary representation from across ABC Health—each of which was charged with one of the following areas:

- > The acute care enterprise
- > The physician enterprise
- > Business restructuring
- > Inpatient clinical variation
- > Professional and ambulatory variation

Each team was responsible for completing four key tasks:

- > Collect and analyze internal and external data
- > Conduct stakeholder interviews
- > Identify and quantify opportunities
- > Present summary recommendations

The Acute Care Enterprise

The acute care enterprise team looked for margin improvement opportunities in hospital operations, as itemized in the left column of the exhibit. Here, again, the focus was on more traditional areas of cost-improvement emphasis, such as productivity, overhead, and supply chain.

The team started by collecting three years of ABC Health's general ledger data from 2012 through 2014 to assess internal cost trends by hospital, functional area, (e.g., revenue cycle, nursing), and cost center (e.g., an ICU step-down unit). The team disaggregated labor and nonlabor costs and analyzed these costs at the lowest reporting cost-center level within each hospital.

Costs were volume-adjusted to account for variance in departmental and hospitalwide

volumes and to provide a comparable cost per unit of service. For example, "patient days" was the volume adjuster for a nursing unit, with "nurse hours worked per unit patient day" calculated and examined for each nursing unit in each hospital over the three-year period.

The team performed three levels of benchmarking with these volume-adjusted performance data.

Internal trending best-practice benchmarking. By analyzing productivity and cost-per-unit trends for all hospital cost centers over the three-year period, the team was able to assess each cost center's internal performance.

Intra-hospital best-practice benchmarking. The team compared the performance of each hospital cost center with that of peer cost centers across all of ABC Health's hospitals—with *peer* defined as being of similar type with like functions and services. For example, the team ensured that the broad category of "diagnostic services" contained data and associated costs only for services that existed in all of the hospitals. If positron emission tomography scans were not performed in all hospitals, such data and associated costs were removed from all hospitals' data and costs.

External peer group benchmarking. The team compared current cost center, hospital, and health system cost performance with data from commercial and proprietary sources for an appropriate *peer group*, defined as being of similar type with like functions, services, and net operating revenue. State staffing-ratio requirements also were considered in defining the external peer group.

When examining and comparing costs, the team considered the high-end range of opportunity to be the comparison of current costs, with 25th

percentile performance defined as cost ratios lower than 75 percent of the submitted benchmark data, whether experienced within a cost center, an ABC Health hospital, ABC Health as a whole, or an external peer group.

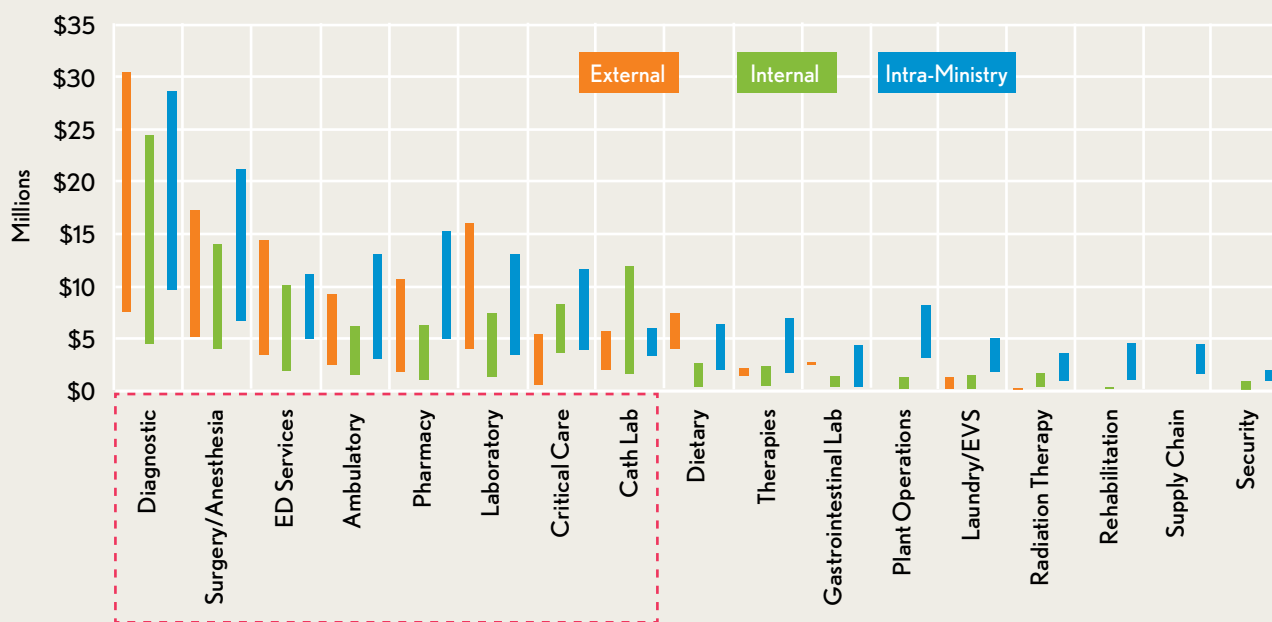
The ability of most cost centers to achieve the intra-hospital and external benchmark 25th percentile at some point during the three-year period was an important outcome in that it indicated that 25th percentile performance was a reasonable target. The team assessed the range of savings that would be achieved if all cost centers performed at 25th, 35th, and 50th percentile relative to internal trending, intra-hospital, and external benchmarks.

Based on this work, the team established three reference points for identifying the savings opportunities at specified desired percentiles.

Use of multiple benchmark sources—individual department trending, intra-hospital benchmarking, and external benchmarking—helped to build consensus within ABC Health around the amount of variation across the health system and to substantiate the level of improvement that might be achievable. More often than not, the different benchmarking sources pointed to comparable ranges of opportunity, and where differences were noted, further analyses were conducted to understand the sources of variation (e.g., possibly higher patient acuity levels at a hospital).

A significant proportion of the opportunity resided in eight functional areas—diagnostic, surgery/anesthesia, emergency, ambulatory, pharmacy, laboratory, critical care, and cath lab (see the exhibit below). Higher blue bars (e.g., surgical services/anesthesia, ambulatory, and pharmacy) indicated areas where ABC Health's

OPPORTUNITY ANALYSIS BY FUNCTIONAL AREA



Source: Kaufman, Hall & Associates, LLC

intra-hospital savings opportunities exceeded those indicated by the external peer benchmarks (orange bars), meaning individual hospitals within the health system already were performing better than external peer 25th percentile benchmarks for comparable volume-adjusted costs. The findings in these instances pointed to an opportunity for ABC Health to leverage existing internal best practices to improve the overall delivery and cost of services.

The team also understood that the ability to implement recommended savings opportunities would require receptivity to change across the acute care and physician enterprises.

Therefore, to assess receptivity levels and identify potential areas of concern, interviews were conducted with executive leaders and key stakeholders (e.g., physicians, directors of high revenue and high cost centers).

The interviews exposed two significant areas of need for ABC Health:

- > The need for reduced variation and increased dissemination of best practices within and among the health system's hospitals
- > The need for new approaches to centralization and sharing of services across the health system

On reviewing the results of its efforts, including the interviews and comparisons from the three benchmark analyses, the team concluded that the intra-hospital findings represented the most appropriate range of opportunity (\$97 to \$180 million) for cost centers—one that best aligned with the strategy of focusing on variation reduction and best practices within and across the health system.

Through selective centralization of overhead services and functions, additional cost savings for shared or “back-office” services in the range of

\$10 million to \$25 million could be achieved. The overhead analysis compared shared-service functions—such as IT, human resources (HR), accounting/finance, revenue cycle, materials management, and marketing—with a comparable external peer benchmark based on net operating revenue. The metric used was “total expense as a percentage of net operating revenue.” The analysis included comprehensive reviews of each ABC Health entity to uncover potential duplications in shared services among individual hospitals, owned medical groups, and the corporate office.

Although costs could be reduced in most overhead areas, IT and HR represented the largest improvement opportunities. For example, HR functions—such as management of compensation and benefits, employee health, staff training, labor relations, and employee recruiting—had been occurring at each hospital, but could be centralized at the system level.

The final range of opportunity identified by the acute enterprise team for overhead plus functional cost center areas was \$107 million to \$205 million.

The Physician Enterprise

The physician enterprise team looked at business-related margin improvement opportunities in physician practices. ABC Health had an expansive physician network, with six employed medical groups and an equal number of affiliated groups serving the region. Business focus areas for the team included physician productivity and compensation, revenue cycle practices (specifically denials management), and practice operations, including financial/operating expenses, nonprovider support staff, and cost to collect payments for services provided.

The team found significant variation in the net investment per physician across the medical groups, largely driven by differences in nonphysician staffing levels. Staffing ratios overall were substantially higher than those of an external median benchmark. Aggregation of small practices over time had resulted in uneven levels of clinic staffing. Inconsistent staffing practices by physicians compounded the problem.

For example, some physician groups had twice as many medical assistants and nurses as other physician groups, without correspondingly higher levels of revenue. Work processes were not standardized, and the roles and responsibilities of support staff could vary significantly across sites. In one group setting, a medical assistant staffed the front desk, while in other settings, medical assistants assumed purely clinical responsibilities.

Inconsistencies across providers represented a clear opportunity to achieve tighter alignment between provider productivity and compensation.

The team also identified a substantial opportunity to improve performance by reducing claims denials by insurers. The team determined that, if internal best practices were achieved among the physician groups, up to \$1 million of additional net revenue could be captured, particularly through efforts to decrease administrative denials. Improvements in operations and staff training to ensure complete front-end and back-end information capture would be required.

Cost savings opportunities for business aspects of the physician enterprise ranged from \$17 million to \$23 million.

Business Restructuring

The business restructuring team looked for cost-restructuring opportunities in the *harder-to-achieve* areas, appearing in the middle column of the exhibit on page 2.

The team initially considered each business and service in ABC Health's overall portfolio to determine the extent to which it could help the organization achieve its strategic vision for future healthcare delivery. The team raised difficult questions—for example, “Is this laboratory or rehab business the right business for us going forward? Or could/would some other entity in the region better provide such services?”

The team examined the organization's delivery network, which—having been developed over time—contained numerous inefficiencies. For example, a common, major source of unnecessary expense was duplication of low-volume services within close proximity. This problem was compounded by the inherent difficulties of maintaining clinical proficiency and high quality in programs and services that operate at low volumes.

The team developed and mapped an inventory of existing services and identified potential “high-cost duplicative” and “low-value/inefficient” offerings. The team also looked for hospital and ambulatory care inefficiencies that either drove unnecessary capital investment or added operating expense. For example, duplication of expensive clinical and technological resources often occurs in systems with an overly large number of facilities.

The team found considerable duplication of assets, investments, and capital expenditures in programs across ABC Health. In the acute care enterprise, redundancies in total joint replacement, spine surgery, and cardiac surgery

programs presented opportunities for business restructuring. Cardiac surgery programs existing at each of the six hospitals could be consolidated to one or two sites, for example. In ambulatory settings, laboratory and home health businesses could be consolidated or divested.

Executive interviews with leadership and physicians found receptivity to change. Leaders at the local level recognized the significant duplication of services and the variation in quality across the system. They understood that systemwide service reconfiguration presented a large opportunity to improve care quality and access and to reduce cost, and they expressed willingness to identify and model around best-performing services and practices across the region.

These findings were promising, as many health systems are struggling with the political challenges involved in “right sizing” and “right placing” facilities and services. Estimated potential savings through service restructuring efforts for ABC Health were \$25 million to \$35 million.

Inpatient Clinical Variation

Unwarranted variation in clinical care can lead to poor outcomes and high costs. Causes of such variation include overuse of supply-sensitive care (e.g., admitting patients with chronic illnesses to a hospital instead of managing their care in an ambulatory facility or physician office), misuse of preference-sensitive care (e.g., use of a high-cost orthopedic prosthesis when a lower-cost one would be equally effective), and underuse of effective care (e.g., performing better blood pressure management to reduce the risk of strokes and heart attacks).^a Use of clinical pathways and guidelines can help eliminate unwarranted variation in practice.

a. *Effective Care, Preference-Sensitive Care, and Supply-Sensitive Care*, Dartmouth Atlas Project Topic Briefs, Jan. 15, 2007.

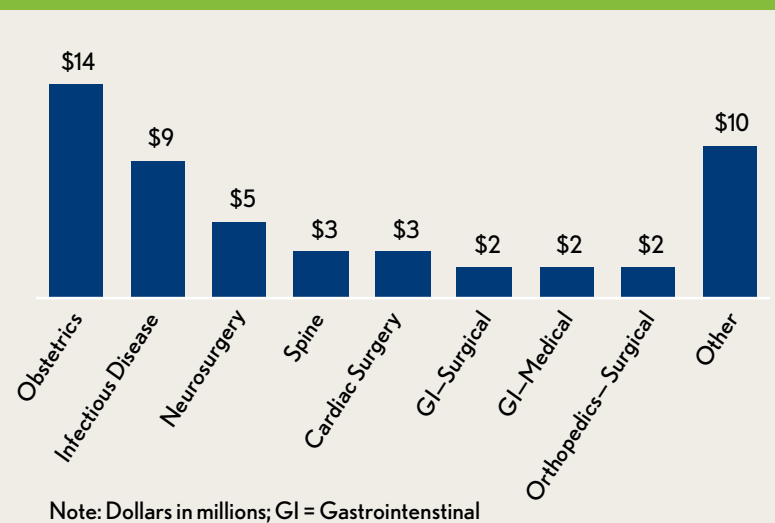
The inpatient clinical variation team looked for cost-restructuring opportunities in the *hardest-to-achieve* areas noted in the exhibit on page 2.

To this end, the team focused on identifying and quantifying opportunities to reduce variation in clinical cost, quality, and patient outcomes through standardization of care protocols, use of clinical guidelines and pathways, and other approaches. The team gave special attention to recent variation-reduction initiatives completed at one of ABC Health’s hospitals, looking for ways to replicate successes systemwide.

The team reviewed cost and utilization data for DRGs in all of the hospitals, with attention given to direct fixed costs, direct variable costs, and indirect costs.

These three costs are all part of the total cost of delivering care. *Direct fixed costs* are costs directly incurred by the department delivering the care,

REDUCTION OF INPATIENT CLINICAL VARIATION BY \$50M REPRESENTS “OPPORTUNITY AT BEST”



Source: Kaufman, Hall & Associates, LLC

Lessons Learned from ABC Health

Five lessons learned from this case study are germane for all healthcare organization:

- > Getting to the “new normal” cost of care—while improving quality, access, and outcomes of services provided in communities nationwide—requires of hospitals a comprehensive, systemwide approach to cost transformation.
- > A thorough assessment of an organization’s position in the communities it serves, comparing current performance with internal and external benchmarks, can readily identify significant improvement opportunities in functional/clinical areas.
- > Most organizations would benefit from reducing clinical and operational variation through adoption of best practices within and across their network.
- > Right-sizing and right-placing facilities and services are necessary steps for enabling organizations to improve care quality and access while reducing costs.
- > Cost transformation is best supported by an enterprisewide structure with appropriate oversight, multidisciplinary cost-improvement teams with specific goals and objectives, and sound project management.

but they do not vary based on work effort (e.g., a supervisor’s salary). *Direct variable costs* are expenses that vary with the work effort and are incurred by the cost center or department providing the clinical service to patients (e.g., the cost of nursing staff, anesthesiology, surgical technicians, and supplies that are incurred to support the performance of a surgical procedure). By contrast, *indirect costs* are costs allocated to a service but not directly tied to its delivery (e.g., IT and HR costs).

The team identified as high priority any DRGs that exhibited a large financial impact and high variability in direct variable cost per case across hospitals. Such DRGs included sepsis, total joint replacement (TJR), cardiac surgery, and pneumonia. The team sought ways to reduce this variation, which could have resulted from inconsistent

treatment approaches or uneven quality and patient outcomes.

Variation in the treatment of sepsis might be reduced, for example, by ensuring each patient’s care is managed by an intensivist and by increasing care standardization through use of order sets, pathways, protocols, and evidence-based medicine. Standardization lowers cost and improves patient outcomes by promoting a more efficient approach. For example, use of a standardized order set for identifying sepsis often improves the timeliness and effectiveness of treatment.

Similar principles apply to managing variation in TJR procedures and in treatment of pneumonia. For example, variation in the approach to TJR could be reduced by eliminating high-cost physician-preference items and ensuring use of pre- and postoperative pathways. Variation in pneumonia treatment could be reduced through increased use of protocols and pathways and reduction of inappropriate antibiotic usage.

The team projected that ABC Health could realize savings of up to \$50 million if each of its hospitals were at the top-performer level in direct variable costs per case for the top DRGs in each service and subservice line. Key savings drivers would include faster diagnoses and reduced lengths of stay, patient volumes, implantable devices, and preference items. Obstetrics and infectious disease were identified as being the service lines with greatest opportunity (see the exhibit on page 7) because volumes were high—for deliveries and sepsis, respectively—as was cost variability.

Executive interviews indicated that collaborative planning by clinical departments across the hospitals was limited. Developing and sharing a common approach to treatments across ABC

Health hospitals would require extensive physician education and engagement in clinical pathway and protocol use.

Professional and Ambulatory Care Variation

Health systems that wish to compete effectively on a cost and quality basis must address spending in professional network areas, regardless of the proportion of payment under risk-based arrangements. Those organizations that do not address such spending risk being excluded from networks due to higher provider costs and ambulatory utilization.

The professional and ambulatory care variation team focused on identifying key opportunities to improve the total-cost-of-care performance for ABC Health's 300,000 commercial and Medicare patients managed under capitated and shared-risk arrangements through Medicare Advantage and commercial programs across the health system's employed and independent physician networks.

The team assessed the professional (physician) component of spending, addressing areas such as coding efficiencies, utilization management, referrals to specialists, clinical protocol development and use, and efficiency of primary care practices. Acute care components, such as admissions and bed days per thousand patients, skilled nursing facility bed days, and out-of-network costs for each employed medical group or affiliated group that managed ABC Health's covered patients, also were evaluated.

The analyses found substantial variation in the cost and efficiency of care delivered to patients at a network level (e.g., utilization management), specialty and subspecialty level (e.g., orthopedics, dialysis), and with acute care (e.g., avoidable admissions).

Costs were particularly high under both commercial and Medicare Advantage arrangements in radiology, hospital outpatient physical therapy and imaging, primary care, orthopedics, dermatology, and anesthesiology. One reason for the high costs was that, in some instances, primary care physicians were referring patients to specialists at high rates without fully understanding the specialists' spending and utilization patterns. For example, some primary care physicians referred to cardiologists at significantly higher rates than did their peers, even though the cardiologists' per patient spending on diagnostic testing and imaging far exceeded that of primary care physicians.

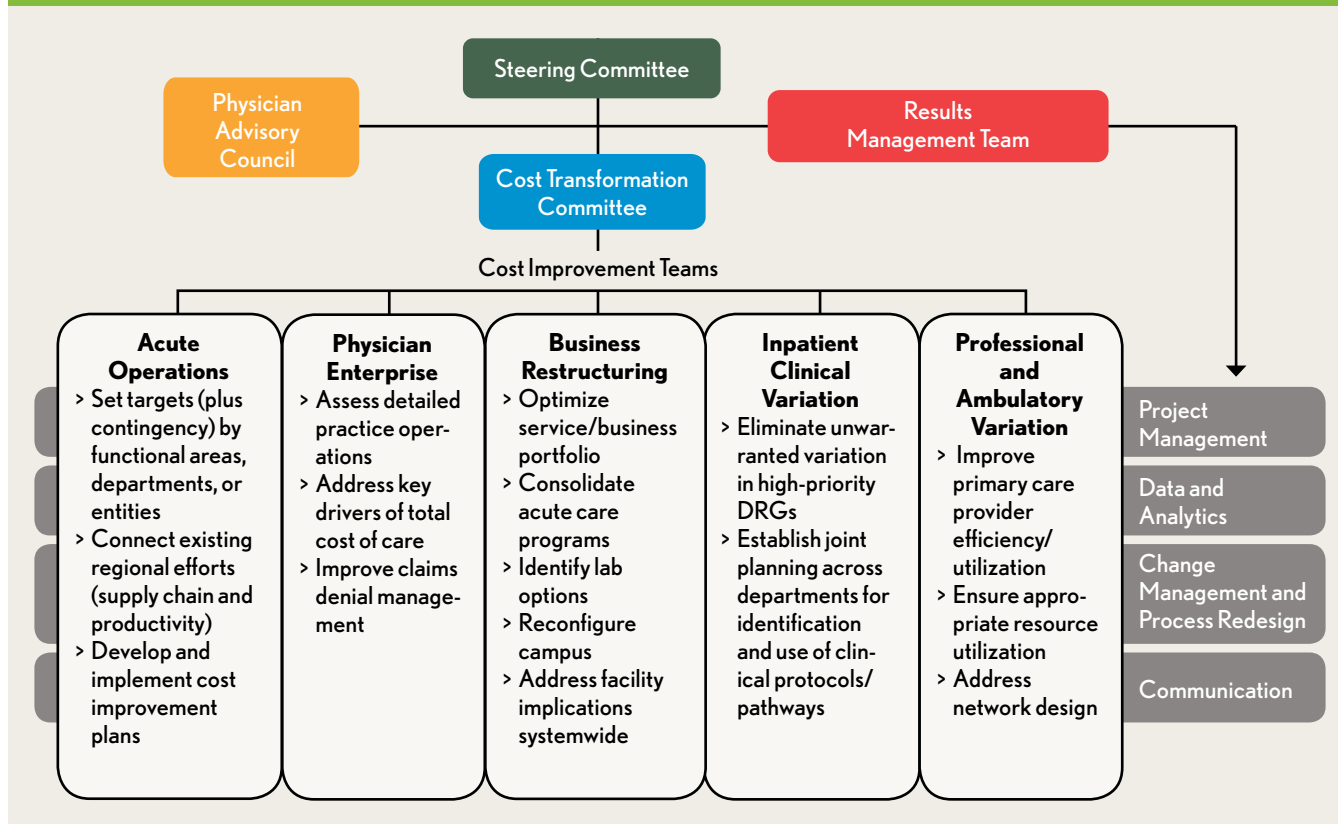
QUANTIFICATION OF SYSTEMWIDE OPPORTUNITY

Work Stream	Analysis	Estimated Opportunity	
		Low	High
Acute Enterprise	External Benchmark	\$60M	\$185M
	Intra-Hospital Benchmark*	\$97M*	\$180M*
	Internal Trend Benchmark	\$47M	\$137M
	Overhead	\$10M	\$25M
Physician Enterprise	Physician Productivity and Compensation		
	Revenue Cycle	\$1M	\$1M
	Practice Operations	\$16M	\$22M
Business Restructuring	Acute and Non-Acute Program Optimization	\$25M	\$35M
Inpatient Clinical Variation	Direct Variable Cost per Case for High-Priority DRGs	\$20M	\$50M
Professional and Ambulatory Variation	Medical Management	\$9M	\$16M
Total Estimated Opportunity		\$178M	\$329M

Source: Kaufman, Hall & Associates, LLC

All benchmark numbers in the Acute Enterprise section are not used to calculate the Total Estimated Opportunity. Asterisks indicate the selected benchmark and the specific benchmark numbers used in the calculation.

EXAMPLE ORGANIZATIONAL STRUCTURE TO SUPPORT COST TRANSFORMATION



Source: Kaufman, Hall & Associates, LLC

The team estimated that a 10 percent reduction in total medical expenses, or up to \$16 million, could be achieved for patients covered by capitated payment health plans through more effective medical management, including utilization management, disease management, and physician education.

Cost Transformation Infrastructure

On completion of the systemwide assessment, the teams had identified a total range of approximately \$180 million to \$330 million in cost-improvement opportunity (see the exhibit on page 9). To plan, launch, implement, monitor, and sustain this level of improvement across ABC Health would require the creation of

an infrastructure under which change initiatives could be managed.

To this end, ABC Health established a foundational triumvirate comprising:

- > A steering committee to provide leadership and oversight
- > A physician advisory council to advise the steering committee
- > A results management team to provide comprehensive project management

A smaller cost transformation committee, which included a mix of clinical and operational leaders, provided dedicated transformation resources and nimble decision making.

Reflecting the work streams during the system-wide assessment, the five implementation teams then were charged with designing and implementing improvement initiatives that would meet or exceed the systemwide strategic goal.

For example, the team charged with improving professional and ambulatory care variation assumed responsibility for evaluating the organization's primary care operations and identifying ways to improve care efficiencies, utilization, and distribution of providers. Through this effort, the team ensured appropriate resource utilization and an optimal physician network designed to best meet patients' needs. Many employees and physicians joined the effort as each team was customized to specific functional needs and constituencies.

Critical Success Factors

The structures for cost transformation will be organization-specific, but no matter how an organization defines its work streams, four elements will be essential in all such undertakings:

- > Sound project management
- > Accurate and timely data and analytics
- > Effective change management and process redesign
- > Clear communication with all relevant stakeholders

Communication with employees and physicians is critical. A strategic cost transformation project cannot succeed if these groups do not fully understand the imperatives behind improvement initiatives, how they are expected to participate, and when and how the initiatives will be rolled out. The keys to success are to ensure these stakeholders are well represented on multidisciplinary teams, to inform these teams' efforts with

clear objectives and goals, and to report measurable outcomes at consistent intervals.

It also is important to recognize that cost reduction is difficult work. It requires challenging data collection and analysis, politically sensitive decisions, complex process improvement, and vigilant monitoring and reporting to ensure that costs don't creep back in. Realization of the defined savings opportunity typically will challenge operating norms and priorities. For these reasons, perhaps the most fundamental success factor is the dedicated commitment of the executive leadership team. ■

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