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The New Cost Mandate

Eight strategies to contain future cost growth

RESEARCH REPORT

Look inside for:

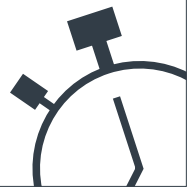
- Insights into what really drives hospitals' and health systems' long-term margin challenge
- How to move from cost-cutting campaigns to permanent savings solutions
- Strategies to rebase spending on supplies, pharmaceuticals, and purchased services
- Guidance on improving workforce productivity and slowing the growth of labor expenses

TOPIC

Cost control

READING TIME

1.5 hr.



BEST FOR

Finance and strategy leaders

WHAT YOU'LL LEARN

- How to identify and prioritize opportunities to capture outsized cost savings
- The key drivers behind today's fastest-growing expenses
- Guidance on finding the right balance between rebasing and bending the operating cost curve
- Tactics to address the latest areas of supply spending and workforce growth

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Eight strategies to contain future cost growth

RESEARCH REPORT

Health Care Advisory Board

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The New Cost Mandate

11 Insights for Hospital and Health System Executives

1. **Hospitals and health systems currently face a cost-driven margin challenge.** Operating expense growth has been steadily increasing since 2013—and is now outpacing revenue growth. Between 2015 and 2016, the industry saw its fastest operating expense growth since the passage of the Affordable Care Act (ACA), and it surpassed operating revenue growth by 0.9 percentage points. Rising labor, pharmaceutical, and purchased services costs fueled this recent and rapid growth.
2. **In the long term, however, downward revenue pressure will eclipse cost growth as the dominant force behind providers' margin challenge.** Hospitals and health systems face an array of threats to both future volumes and future prices. Beyond declining inpatient admissions and stagnating outpatient volumes, a multitude of pricing pressures—payment cuts, new payment models and policies, payer mix shifts, case mix shifts, and spikes in bad debt—will erode hospitals' and health systems' margins.
3. **Absent intervention, many hospitals and health systems are rapidly approaching negative operating margins.** The Congressional Budget Office projects that, without improving productivity or reducing costs, 60% of hospitals will have negative margins by 2025. Advisory Board modeling projects a similar scenario in which a model $1 billion health system with a 3% operating margin in 2017 begins seeing negative margins in 2021 and has a -4.2% operating margin in 2025.
4. **While a comprehensive cost containment strategy is central to margin management, revenue growth is also a necessary input.** As long as hospitals and health systems continue to grow their revenue base, cost avoidance can be sufficient to achieve sustainable margins. However, without positive top-line growth, organizations would need absolute cost cuts, requiring more drastic measures.
5. **Lasting margin management requires structural, rather than cyclical, solutions.** In the past, many hospitals and health systems successfully reduced costs, but the savings were short lived because the cost-containment tactics were implemented with a campaign mentality. This may have been sufficient when the industry faced temporary financial pressures driven by the broader economic downturn. However, today's challenges are structural and enduring in nature, requiring permanent solutions that rebase and bend the cost curve to avoid future expenses.
6. **Hospitals and health systems should prioritize rebasing external spending as the first step in a comprehensive cost containment strategy.** Unlike labor spending, organizations have an opportunity to lower the unit cost of supplies and purchased services. By front-loading these strategies, the savings will continue to compound and accumulate, ultimately reducing the savings organizations would otherwise need to find in labor expenses.
7. **Large savings opportunities remain in external spending despite long-standing focus on supply cost management.** As a new source of rapid spending growth, organizations need to critically assess purchased services contracts to identify pricing opportunities. Hospitals and health systems should then build on previous success in renegotiating device and commodity supplies contract prices by curating product mix. Finally, providers have little control over rapid drug price growth and, therefore, must prioritize pharmaceutical utilization management to find further savings.
8. **Hospitals and health systems should seek to slow the growth of labor expenses rather than rebase them through undesirable tactics such as mass reductions in force.** A successful strategy for achieving workforce-related savings must be grounded in labor market realities. Employers cannot—and should not—push away talented employees by lowering compensation or cutting benefits.
9. **Invest in labor and technology substitutions to enable scale and improve productivity.** Hospitals and health systems must find ways to slow workforce growth. For administrative functions, move beyond traditional centralization to true integration; generate newfound savings by eliminating role redundancy at both frontline and managerial levels. For clinical staff, reduce the need for new hires by reengineering clinician workflows around top-of-impact practice, deploying time-saving technologies, and better managing length of stay.
10. **Reducing care variation will generate savings across all major expense categories.** Enabling more consistency and predictability allows hospitals and health systems to provide care that is both high in quality and low in cost. Reducing unwarranted variation in care delivery is the key to unlocking a range of savings opportunities in areas such as supplies, devices, pharmaceuticals, and even labor.
11. **Transforming the fixed cost structure is the ultimate step in containing variable expenses and slowing long-term cost growth.** In many respects, the delivery system organizations have is not the delivery system they need or can afford. In the long term, hospitals and health systems must rightsize capacity to ensure fixed costs support operating margin goals.

Source: Health Care Advisory Board interviews and analysis.

Unpacking the Margin Management Challenge

Understandably Distracted by Our Luminosity

In many ways, hospitals and health systems today are like stars. Take, for example, Antares, a red supergiant, and the 15th brightest star in the sky.

From far away, Antares shines brightly. It appears healthy and luminous. But the red supergiant faces a significant problem upon closer inspection—Antares is nearing the end of its life. It is rapidly devouring all its fuel to burn so brightly. Eventually, Antares will use up the rest of its hydrogen and collapse.

Like Antares from afar, hospitals and health systems appear healthy. Over the past few years, the provider industry saw record margins and tremendous growth following the passage of the Affordable Care Act (ACA).

But a new challenge has become clear: organizations' operating expenses now outpace their operating revenue. Hospitals and health systems are rapidly devouring their hydrogen and must act quickly to avoid collapsing.

However, Fundamental Problems Lurk Beneath the Surface

JUDY SCHMIDT FROM FRESH MEADOWS, NY, USA

Source: https://commons.wikimedia.org/wiki/File%3AInfrared_Rho_Ophiuchi_Complex.jpg; Health Care Advisory Board interviews and analysis.

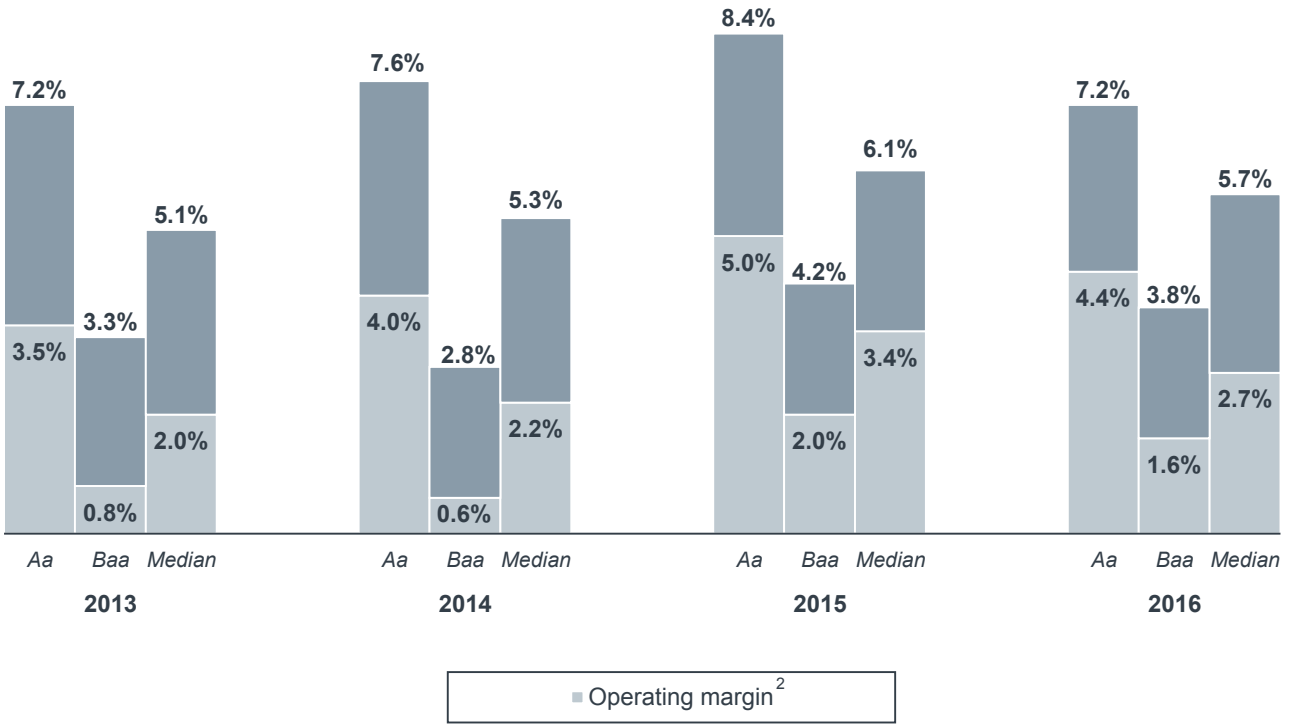
Approaching Our Antares Moment?

After steady growth for several years, hospitals and health systems experienced margin deterioration in 2016. This industry-wide phenomenon affected all organizations, not just stand-alone hospitals, small systems, or those without Aa bond ratings.

This research report unpacks the drivers of the emerging margin management challenge and provides hospital and health system leaders with a road map of strategic solutions to ensure that their organizations do not become stars that fizzle out.

Hospital Industry Experiencing Margin Deterioration Across the Board

Excess Margin[1] Medians of Freestanding Hospitals, Single-State & Multi-State Healthcare Systems, by Broad Rating Category



1) Excess margin = (total operating revenue - total operating expense + non-operating revenue) / (total operating revenue + non-operating revenue) * 100.
2) Operating margin = (total operating revenue- total operating expense) / total operating revenue * 100.

Source: Moody's Investors Service, Preliminary Medians, 2013, 2014, 2015, 2016; Health Care Advisory Board interviews and analysis.

Expenses Rapidly Growing

Rapid cost growth put immediate pressure on margins in 2016. Between 2015 and 2016, the industry saw its highest operating expense growth since the passage of the ACA. During this period, operating expense growth outpaced operating revenue growth by 0.9 percentage points.

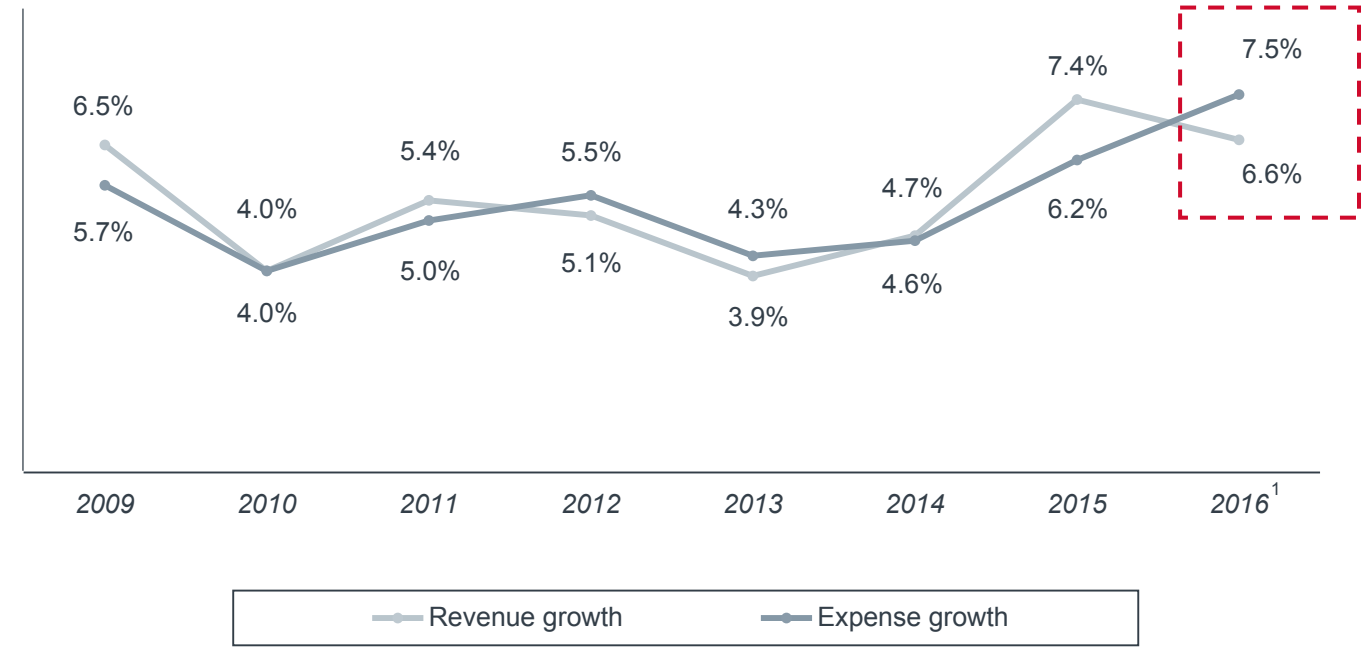
In recent years when operating expenses grew faster than operating revenue—both 2012 and 2013—it was by less than half of a percentage point. In addition to the 2016 delta being nearly twice this size, operating expenses have been on a steady incline since 2013 with no indications of slowing.

At first glance, hospitals and health systems face a cost-driven margin challenge.

In the Short Term, a Cost-Driven Margin Challenge

Revenue and Expense Growth Rates for Non-Profit Hospitals

2009–2016 Medians, n=444



⚠ Costs outgrowing revenue

⚠ Record cost growth since 2009

⚠ Gap bigger than in 2012 and 2013

⚠ More than three percentage point cost growth since 2013

1) Preliminary median.

Source: Moody's Investors Service, "Revenue Growth and Cash Flow Margins Hit All-Time Lows in 2013 US Not-for-Profit Hospital Medians," August 2014; Moody's Investors Service, "Preliminary 2016 Medians Skew Lower as Revenue and Expense Pressures Hinder Profitability," *Moody's Sector In-Depth*, May 2017; Health Care Advisory Board interviews and analysis.

We've Been Here Before

Hospital and health system leaders have faced periods of financial challenge well before 2016. Advisory Board research teams have published a host of resources to help leaders control operating costs and weather economic downturns, most notably during the 2009 recession.

Unfortunately, previous savings were often short-lived because cost containment tactics were implemented inconsistently or with a campaign mentality. Leaders deployed temporary solutions in response to cyclical economic events.

Further, an ad hoc cost containment strategy was often sufficient for many hospitals and health systems because they could rely on continuous—sometimes accelerating—revenue growth.

However, revenue began decelerating in 2015, and all signs point toward continued downward pressure. Hospitals and health systems face considerable threats to both their volumes and their prices.

Select Advisory Board Cost-Saving Resources

Capture Value Through Supply Purchasing

Explores strategies to optimize supply cost savings by increasing physician engagement and maximizing partnerships with suppliers

Untapped Opportunities for Saving Millions

Details 11 cost-cutting strategies for reducing premium labor, modernizing outdated care protocols, eliminating supply waste, and restructuring unfavorable contract terms

Achieving Cost-Savings Goals Through Care Variation Reduction

Showcases nine tactics one organization uses to engage and empower physicians to reduce unnecessary care variation

The Sustainable Acute Care Enterprise

Features four opportunities to radically restructure costs and operations to break even on Medicare

Rising Above the Bottom Line

Provides nurse leaders with a four-step manual for reducing labor costs while safeguarding their staff and the care they deliver

Realizing the Potential of Energy Savings

Highlights eight insights CFOs need to know about reducing energy costs

All of these resources are available on **advisory.com**

Source: Health Care Advisory Board interviews and analysis.

Volumes Increasingly Vulnerable

The first thing to note is that volumes are increasingly vulnerable. To start, the long-standing outmigration of procedural care from hospitals to ambulatory sites continues, and recent CMS policies only exacerbate the trend. Furthermore, patients with high-deductible health plans often forgo care, population health and care management reduce utilization, and new competitors disrupt established referral chains.

For the most part, health systems have relied on steady growth in outpatient volumes to cross-subsidize declining inpatient admissions. But outpatient volumes are now stagnating too.

Market Forces Both Reducing and Redirecting Lucrative Business

Key Trends Threatening Future Volume Growth

Continued outmigration of profitable procedural care

Patients with high-deductible health plans forgoing care

Narrow networks redirecting market share

Growth of outpatient procedures stagnating

Population health and care management reducing utilization

New competitors disrupting established referral chains

A Perilous Cross Subsidy

-6%
Cumulative change in total inpatient admissions, 2006-2015

-0.2%
Change in outpatient surgeries, 2013-2014

Source: Medicare Payment Advisory Commission, *A Data Book: Health Care Spending and the Medicare Program*, June 2017; American Hospital Association, "Trendwatch Chartbook 2016: Trends Affecting Hospitals and Health Systems," 2016; Health Care Advisory Board interviews and analysis.

Death by a Thousand Cuts

In addition to volume threats, prices face tremendous pressure from multiple sources. In many respects, providers' reimbursement rates face death by a thousand cuts.

The Medicare productivity adjustment, site-neutral payments, and disproportionate share hospital cuts all pose a direct threat to pricing.

A range of new payment models, including pay-for-performance programs and bundled payment models, impose new financial accountability for inpatient care. Additionally, the Medicare Access and CHIP Reauthorization Act (MACRA) creates additional pressure for clinicians to adopt risk-based payment models.

Finally, the inevitable shift from privately reimbursed procedural care to publicly insured medical care is driven by national demographics and undermines long-standing cross-subsidies.

Combined, these trends reveal a long-term, revenue-driven margin challenge. These are structural changes to the health care economy and will persist even if the near-term cost growth tempers.

Pricing Trends Reveal a Structural, Revenue-Driven Margin Challenge

Wide Array of Downward Pricing Pressures

Direct Pricing Threats

- Medicare productivity adjustment
- Commercial denials
- RAC[1] reemergence
- Site-neutral payments
- DSH[2] cuts
- HDHPs[3] fueling bad debt

New Payment Models

- Pay-for-performance programs
- Bundled payment models
- Accountable Care Organization (ACO) programs
- Merit-based Incentive Payment System (MIPS)

Ongoing Payer and Case Mix Shifts

- Increases in lower-reimbursed, publicly insured cases
- Growth in lower-margin medical care
- Continued uncompensated care in states without Medicaid expansion

1) Recovery audit contractor.
2) Disproportionate share hospital.
3) High-deductible health plans.

Source: Health Care Advisory Board interviews and analysis.

A Cost Solution to a Revenue Problem

As a result, hospitals and health systems nationwide will need to redouble their margin management efforts. While top-line growth and revenue capture will still be critical parts of the equation, industry experts highlight cost containment as the primary solution to long-term margin challenges.

For example, the Congressional Budget Office (CBO) writes that, without improving productivity or reducing cost growth, the share of hospitals with negative profit margins will increase to 60% by 2025.

Sources such as the Medicare Payment Advisory Commission (MedPAC) and Moody's Investors Service also highlight the importance of slowing cost growth to preserve margins.

Today's margin pressure is the cumulative result of many forces rather than a single economic event. Containing operating expense growth will require structural solutions that permanently address the underlying sources of rapid cost growth. Leaders can no longer rely on cyclical tactics that yield temporary savings.

Industry-Wide Agreement on Focal Point for Margin Performance

CBO Projects Negative Margins at Current Course and Speed

"[Our analysis showed that] if…hospitals were unable to increase their productivity (or reduce cost growth in some other way), then **the share of [hospitals] with negative profit margins would increase to 60 percent in 2025, and the average profit margin would fall to negative 0.2 percent."**

Congressional Budget Office, September 2016

MedPAC Calls Out the Impact of Future Costs on Margins

"The level of Medicare margins for 2018 may **depend largely on hospitals' ability to control cost growth**."

MedPAC, March 2017

Moody's Points to Labor, Pharma as Key Cost Drivers

"The three-year operating revenue CAGR[1] of 6.2% [in 2016] outpaced the three-year expense CAGR of 5.8% for the second consecutive year. **This dynamic will be reversed in the near term as revenue pressures persist and expenses are stressed** by salary, benefits and premium labor, pension funding, as well as pharmaceutical costs pushing supply expenses up."

Moody's, May 2017

1) Compound annual growth rate.

Source: CBO, *Projecting Hospitals' Profit Margins Under Several Illustrative Scenarios: Working Paper 2016-04*, September 2016; Medicare Payment Advisory Commission, *A Data Book: Health Care Spending and the Medicare Program*, March 2017; Moody's Investors Service, "Preliminary 2016 Medians Skew Lower as Revenue and Expense Pressures Hinder Profitability," *Moody's Sector In-Depth*, May 2017; Health Care Advisory Board interviews and analysis.

Introducing Antares Health System

At the outset of this research initiative, Advisory Board researchers sought to determine how these economic forces could affect health system margins.

The research team created a model based on industry performance data and consolidated financial statements. The model, known as Antares Health System, will be used as a reference to illustrate the impact of various strategies and solutions throughout this research report.

To start, Antares Health System has $1 billion in operating revenue and $970 million in operating expenses, yielding a 3% operating margin in 2017. It has five hospitals, 820 beds, and 390 employed physicians.

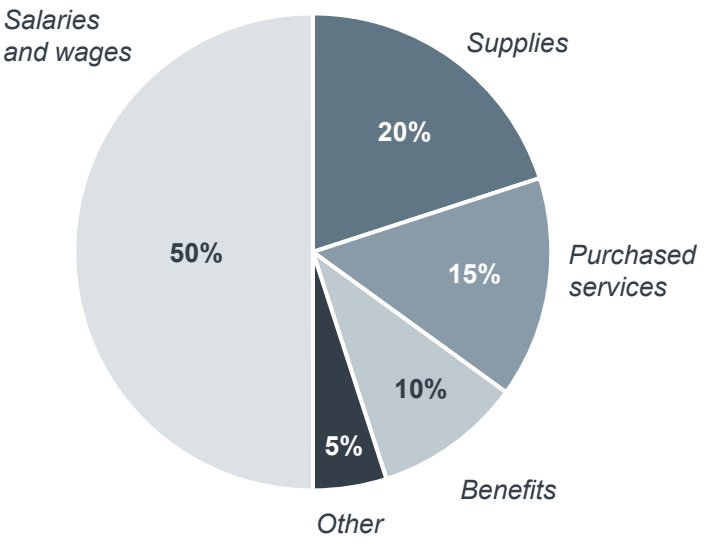
Antares's cost structure mirrors the industry-wide average: 50% of operating expenses are spent on salaries and wages; 10% on benefits; 20% on supplies; 15% on purchased services; and 5% on other expenses.

Using this baseline, the research team combined historical cost and revenue data with expectations for future expense and revenue growth to project Antares's annual operating margin between 2017 and 2025.

Antares Health System Profile[1]

- $1B in operating revenue
- $970M in operating expenses
- Operating at a 3% margin
- Eastern U.S., suburban location
- Five hospitals
- 820 beds
- 6,400 employees
  - 390 employed physicians
  - 3,320 non-physician clinical staff
  - 2,690 non-clinical employees

Operating Expense Structure, 2017



1) Advisory Board-created, model health system.

Source: Health Care Advisory Board interviews and analysis.

Houston, We Have a Problem

Absent intervention, Antares will have a -4.2% margin in 2025, with losses beginning in 2021.

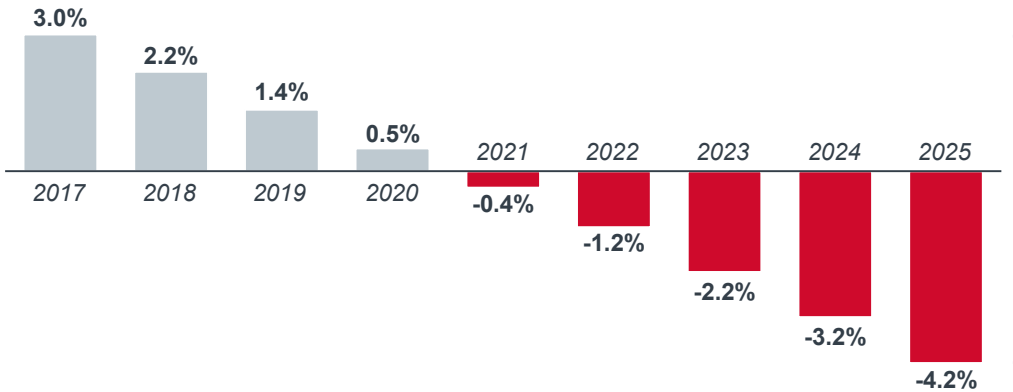
This scenario is based on the following assumptions: the growth in Antares's operating expenses slows to match the industry's best performance since the passage of the ACA, and Antares's operating revenue decelerates gradually based on pressures to volumes and pricing. Together, these assumptions yield the -4.2% margin in 2025.

The research team then calculated Antares's necessary cost growth to achieve a 3% margin in 2025 using the same revenue projection. In this solution scenario, Antares needs to find between $320 million and $350 million in cumulative cost avoidance between 2017 and 2025.

While these projections are based on past industry performance and trending downward pressure on reimbursement, they are hypothetical. Exact operating expense and revenue growth rates will vary by market and organization. Antares's projections are meant to provide a reference point throughout this study and help illustrate the results of a comprehensive cost-management strategy.

Antares Headed Toward a Rapid Collapse

Antares's Margin Absent Intervention, 2017–2025



$320M–$350M

Cumulative cost avoidance necessary between 2017 and 2025 to achieve a 3% margin in 2025

Growth Projection Methodology

- Created model health system with $1B in operating revenue and $970M in operating expenses, yielding a 3% margin in 2017
- Began with Moody's 2015-2016 hospital operating revenue and operating expense growth rates
  - Operating revenue: 6.6%
  - Operating expenses: 7.5%
- Continued these rates beginning in 2017 and into 2018
- Projected revenue growth to decelerate based on cumulative pricing threats, payer and case mix shifts, and changing consumer demands
- Slowed revenue growth by 0.8 percentage points per year to 3% growth then held constant; this yields an average eight-year revenue growth rate of 4.3%
- Projected cost growth returning to post-2009 best performance of 4%
- Slowed cost growth by 0.8 percentage points per year to 4% growth then held constant; this yields an average eight-year cost growth rate of 5.2%
- In this scenario, the model health system has a -4.21% operating margin in 2025, with $1.39B in operating revenue and $1.45B in operating expenses
- Created alternate cost growth projection which slows cost growth by an average of 0.83 percentage points per year to 2.5%; this yields an average eight-year cost growth rate of 4.3%, matching average revenue growth during the same period
- In this solution scenario, the model health system has a 3% margin in 2025, with $1.39B in operating revenue and $1.35B in operating expenses

Source: Health Care Advisory Board interviews and analysis.

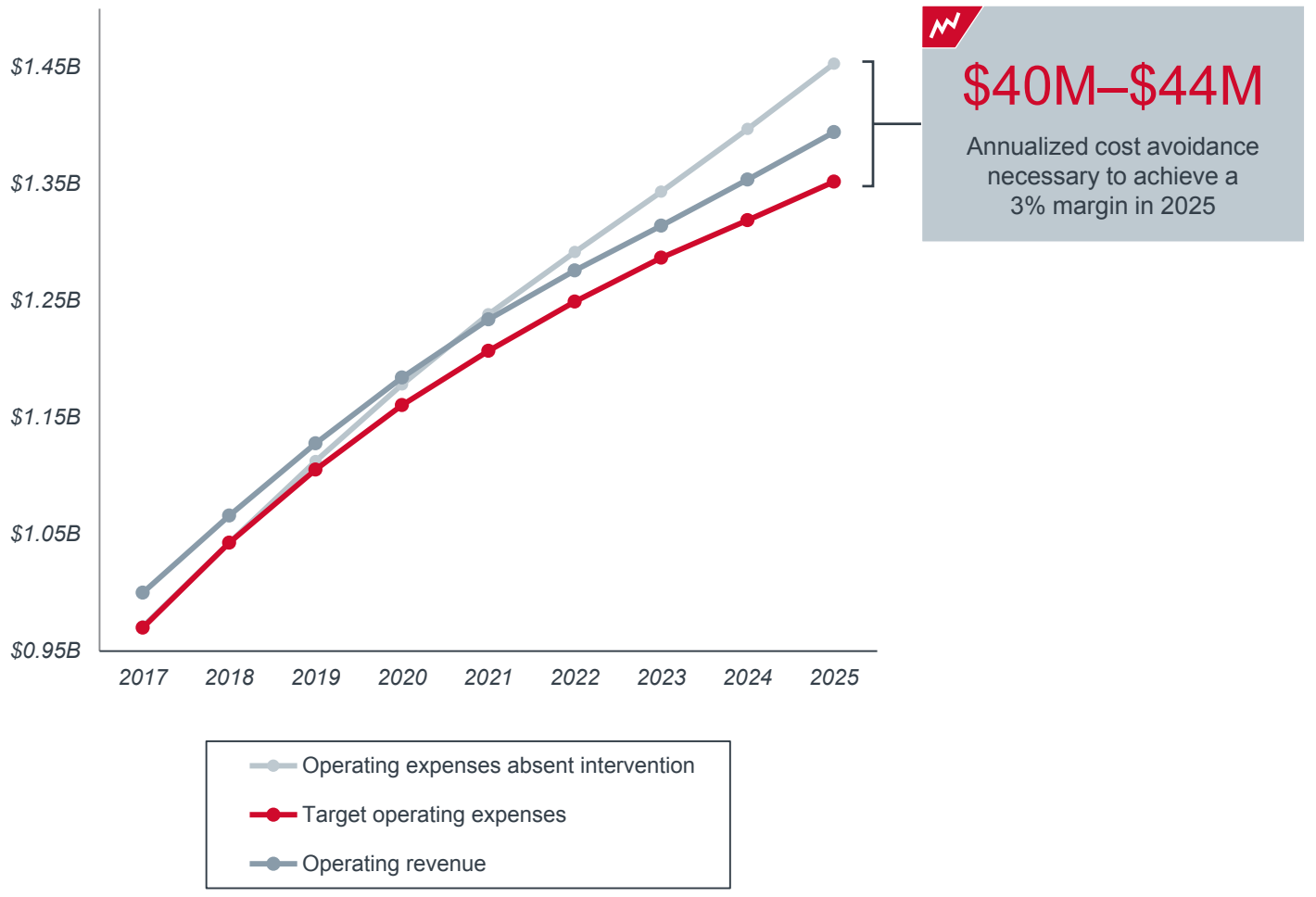
Setting the Gap to Goal

Fortunately, despite the significant challenge ahead, Antares has a path to achieve its goal without cutting its budget in absolute terms. Avoiding future costs will be sufficient as long as Antares keeps growing top-line revenue.

Based on its projected revenue growth, Antares needs to avoid $40 million to $44 million per year that it otherwise would have spent. Even with this cost avoidance, Antares's operating expenses still increase by $380 million between 2017 and 2025.

Fortunately, Slowing Cost Growth Can Close the Gap

Projected Operating Revenue and Expenses, 2017-2025



Source: Health Care Advisory Board interviews and analysis.

Growth Still Critical to Margin Strategy

Crafting a margin management strategy around cost avoidance will be successful only if hospitals and health systems maintain top-line growth. Otherwise, absolute spending cuts will be necessary.

A comprehensive margin strategy combines cost control with growth efforts such as improving revenue capture, succeeding under performance risk, and managing case mix. Advisory Board has a wealth of resources on these and other growth strategies.

The remainder of this research report, however, focuses on containing operating expenses as a central and critical part of long-term margin management.

Top-Line Growth Key to Avoiding Aggregate Cost Cuts

Select Advisory Board Revenue and Growth Resources

The Blueprint for Revenue Cycle Transformation

This infographic highlights our three-pillared, best-practice approach to improve overall revenue cycle performance

Unlocking Radical Growth

This webconference profiles opportunities and strategies for transformative system growth, both in and out of market

Competing on Consumer Experience

This research report discusses how successful systems move beyond investing in patient acquisition to converting positive initial encounters into durable relationships to secure repeat business

Customized Assessment Portal

This tool provides a direct gateway to pre-populated, customized analyses highlighting the financial impact of various payment policies

All of these resources are available on **advisory.com**

Source: Health Care Advisory Board interviews and analysis.

Target Outsized Savings Opportunities

Hospitals and health systems will need to find savings across all expense categories to meet substantial cost avoidance goals like Antares's. However, these savings will likely not be proportional to current spending.

This research report identifies and prioritizes areas of outsized savings potential. Although the size of the opportunities will vary by organization, the strategies highlighted here were clear trends across the industry during the research. Some opportunities are outsized because the expense category recently experienced rapid growth. Others are outsized because, despite previous attention, much work still remains.

The array of topics on this page is not exhaustive; every organization will need to implement a wide variety of cost-savings tactics. However, there are three strategies intentionally not included in this research: mass layoffs, decreasing compensation, and cutting benefits.

These tactics are not the way Antares will avoid future expenses, and they likely are not the right answer for many hospitals and health systems.

Comparison of Cost Avoidance Opportunities at Antares Health System

PHARMACEUTICAL UTILIZATION

ENERGY CONSERVATION

SCALED NON-CLINICAL LABOR

MIX OF PREFERENCE ITEMS

RENEGOTIATING SUPPLY CONTRACTS

PERFORMANCE-BASED SUPPLIER CONTRACTING

OUTSOURCING NON-CORE FUNCTIONS

PHYSICIAN EFFICIENCY

PRICE OF DEVICES AND IMPLANTS

INCREASED PRODUCTIVITY

REENGINEERING WORKFLOWS

MANAGING BENEFITS SPENDING

PRICE OF PURCHASED SERVICES

REFINANCING

MANAGED DEMAND FOR NURSING LABOR

! **Not included:** Mass layoffs | Decreasing compensation | Cutting benefits

Source: Health Care Advisory Board interviews and analysis.

Starting with the End in Mind

How leaders should capture savings and avoid future expenses is just as important as where they can find those savings. There are four key pillars of Antares's sustainable cost-avoidance strategy.

First, front-load strategies that rebase costs to yield increasing dividends over time. Essentially, turn early wins into annuities.

Second, ground strategies in the realities of the labor market. Market competition and provider shortages mean that employers cannot, and should not, push away good talent by paying employees less or cutting benefits. Labor cost savings will primarily come from slowing workforce growth.

Third, connect fixed-cost capacity to operating expenses. In the long term, this will require leaders to examine the ways that excess fixed costs drive up variable expenses.

Finally, a commitment to quality and safety underpins the entire strategy. Stabilizing hospital and health system finances does not mean compromising quality or patient safety.

Develop a Purposeful Approach to Cost Containment

Pillars of Sustainable Cost Avoidance

1

Early Wins Compound Over Time

Front-load rebasing strategies that will pay dividends over time as savings compound

2

Labor Market Realities Dictate Approach

Slow workforce growth based on operational realities of labor shortages and competition

3

Operating Expenses Map to Capacity

Sustain slower operating expense growth by rightsizing capacity and rationalizing service lines

Protect Quality and Safety

Make clear the organization's unyielding commitment to quality and safety throughout the process

Source: Health Care Advisory Board interviews and analysis.

Charting the Path Forward

Hospitals and health systems need a comprehensive cost-containment strategy to protect future margins. There are three stages of cost management maturity, and the strategies in each stage get progressively more difficult. The more savings organizations achieve early on, the less they must find later in the process.

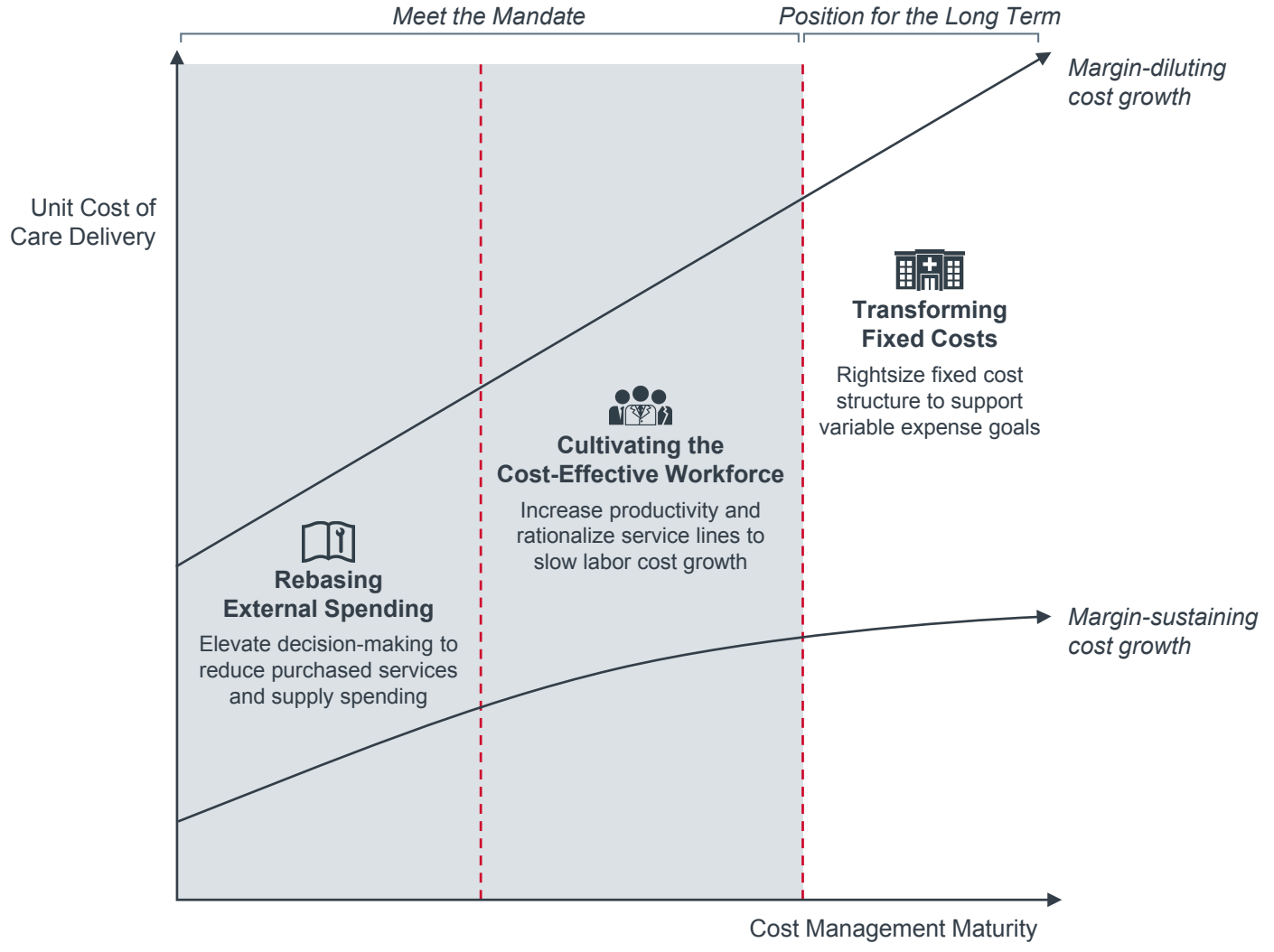
First, rebase external spending. These strategies focus on supplies and purchased services. The goal in this stage is to lower the cost curve before bending it.

Second, cultivate the cost-effective workforce. These strategies primarily help slow the growth of the largest expense category: labor. Given market realities, organizations should seek to bend the labor cost curve rather than rebase it.

Finally, transform fixed costs. In many respects, the delivery system organizations have is not the delivery system they need or can afford. In the long term, systems will need to rightsize capacity to better match fixed costs and operating margin goals.

This research report details the first and second stages. Advisory Board has additional resources on transforming fixed costs.

Contain Cost Growth to Sustain Future Margins



Source: Health Care Advisory Board interviews and analysis.

The New Cost Mandate

Eight Strategies to Contain Future Cost Growth

I Rebasing External Spending

1. Strategic outsourcing of non-core functions
2. System-level purchased services contracting
3. Hardwired escalation policy for local supply selections
4. Precise pharmaceutical utilization management

II Cultivating the Cost-Effective Workforce

5. Scaled administrative roles and responsibilities
6. Top-of-license clinician role redesign
7. LOS-driven labor demand management
8. Selective service-line rationalization

Source: Health Care Advisory Board interviews and analysis.

Rebasing External Spending

1. Strategic outsourcing of non-core functions
2. System-level purchased services contracting
3. Hardwired escalation policy for local supply selections
4. Precise pharmaceutical utilization management

Capitalize on Opportunities to Rebase

To stabilize cost growth, organizations must first identify areas of excess spending. Although labor is the single largest source of hospital and health system spending, it is also one of the most difficult categories to inflect. Market forces largely prevent employers from rebasing total labor spending.

Conversely, external spending—supplies and purchased services cost categories—composes a smaller but still significant portion of total spending and is a prime target for rebasing. Competition between third-party vendors enables active shopping and continuous pricing renegotiations. Managing utilization also rebases spending on variable expenses.

Although most organizations already focus on managing these costs, the compounding advantages of rebasing supply and purchased services spending call for an acceleration of existing efforts.

External Spending Smaller but Easier to Inflect Than Labor

Barriers to Rebasing Labor Spending

50%–60%

Of average health system spending goes to salaries, wages, and benefits

- ✖ Fair market value limits wage flexibility
- ✖ Labor shortages demand competitive compensation and benefits
- ✖ Salaried employees not true variable expense, no benefit to reduced utilization

Factors That Permit Rebasing External Spending

30%–40%

Of average health system spending goes to supplies and purchased services

- ✔ Vendor competition keeps prices down
- ✔ Widespread availability enables opportunity for active shopping
- ✔ Rationalized utilization drives savings for variable external costs

Source: American Hospital Association, "Trendwatch Chartbook 2016: Trends Affecting Hospitals and Health Systems," 2016; Analysis of health system consolidated financial statements; Health Care Advisory Board interviews and analysis.

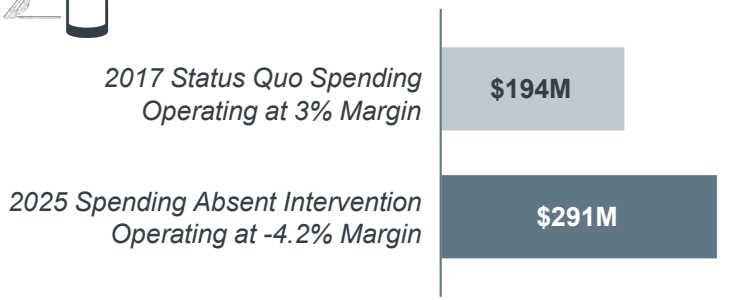
Reining In Runaway External Spending

Today, Antares, the model health system introduced on page 13, spends about 20%, or $194 million, of its operating budget on supplies and 15%, or $146 million, on purchased services. Absent intervention, supply and purchased services spending are expected to grow to $291 million and $218 million, respectively, by 2025, contributing to the system's -4.2% operating margin.

Antares must reduce spending and avoid additional costs in both categories to achieve a 3% margin in 2025. Antares will seek to avoid $95 million to $105 million in supplies and $30 million to $40 million in purchased services across the next eight years. Its purchased services goal is smaller because the organization plans to increase its outsourcing of certain functions to third-party vendors to manage labor expenses.

Antares's Necessary Cost Avoidance

Supply Spending Absent Intervention



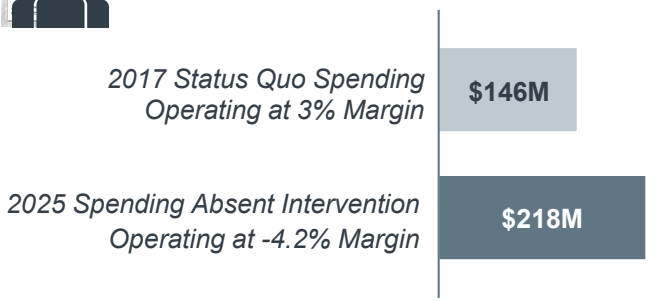
Minimum Necessary Supply Cost Avoidance

Operating at 3% Margin by 2025

$95M–$105M
Cumulative eight-year supply cost savings

$11M–$13M
Annualized supply cost savings

Purchased Services Spending Absent Intervention



Minimum Necessary Purchased Services Cost Avoidance

Operating at 3% Margin by 2025

$30M–$40M
Cumulative eight-year services cost savings

$3M–$5M
Annualized services cost savings

Source: Health Care Advisory Board interviews and analysis.

Here We Go Again?

Given the industry's enduring focus on supply chain management, finding incremental savings in supply spending may seem daunting for some providers. However, not-for-profit hospitals recently saw supply expense growth outpace total operating expense growth, indicating that previous savings efforts were insufficient or temporary. Two factors help to explain why progress has been unsustainable.

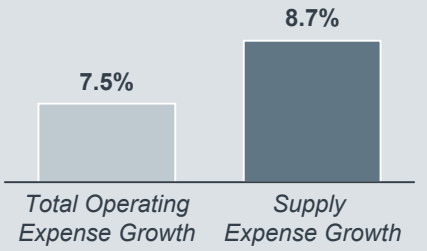
First, most hospitals and health systems designed past cost-cutting initiatives as campaigns in response to cyclical financial pressures. Although they solved near-term threats, most providers receded to previous spending patterns when those pressures abated. Second, while organizations focused on traditional supply chain inefficiencies, new cost pressures accelerated. For example, between 2011 and 2016 purchased services was the fastest growing expense category for six of the nine largest not-for-profit health systems in the country. The industry also experienced rapid pharmaceutical cost growth in recent years.

These trends indicate that, despite historic progress, there is still significant savings potential in external spending.

Despite Long-Standing Focus on Supply Costs, Clear Opportunities Remain

Disproportionate Supply Cost Growth

Not-for-Profit Hospital Growth Rates, 2015-2016

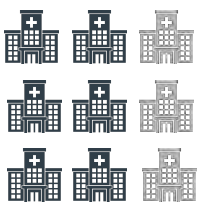


Two Primary Drivers

1 Common Cost Reduction Tactics Unsustainable

- Focus **limited to target specialty areas** such as orthopedics and cardiology
- Initiatives attempted only where there was an **existing clinical champion**
- Solutions designed as **short-term fixes**—not structural changes—allowing for recidivism

2 New or Accelerating Sources of Growth



Purchased services were fastest growing expenses for six of the nine largest not-for-profit health systems from 2011–2016[1]

> "In 2014, the U.S. health care system spent **$373.9 billion on drugs**—13.1% more than it did the previous year and the highest rate of spending growth since 2001."
>
> *Forbes*

1) Size measured using net patient revenue; analysis includes only systems that report purchased services, professional fees, or contract labor as separate expense line items in consolidated financial statements.

Source: Moody's Investors Service, "Preliminary 2016 Medians Skew Lower as Revenue and Expense Pressures Hinder Profitability," May 2017; *Forbes*, "Growth In Drug Spend Is Hitting a 13-Year High. Note to Pharma: Innovation Pays," April 2015; Analysis of health system consolidated financial statements; Health Care Advisory Board interviews and analysis.

From Cyclical to Structural Solutions

To both achieve and sustain savings going forward, hospitals and health systems need to deploy a staged strategy comprised of durable and comprehensive solutions.

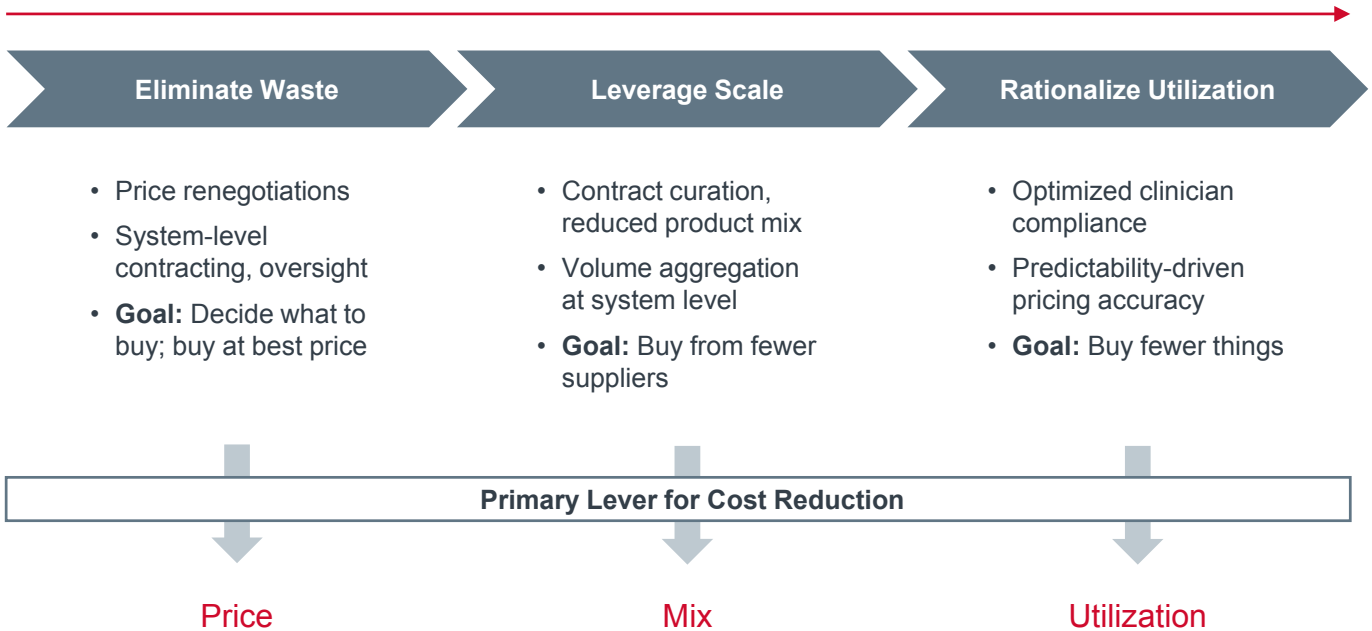
To start, organizations should rebase areas of excess spending by eliminating purchasing waste and renegotiating contracts for the best enterprise-level price.

Next, health systems should leverage scale by channeling volumes to a narrower set of high-quality, low-cost suppliers.

Finally, providers should rationalize utilization. Managing utilization improves purchasing predictability to unlock additional pricing reductions. This stage requires active clinician engagement and is often the most challenging step for organizations.

Deploying Durable and Comprehensive Strategies

Three Key Stages of Maturity When Rebasing External Spending



Source: Health Care Advisory Board interviews and analysis.

Building on Past Success

Fortunately, most hospitals and health systems can build on past success managing external spending. Although progress in specific categories differs by organization, Advisory Board research revealed industry-wide trends.

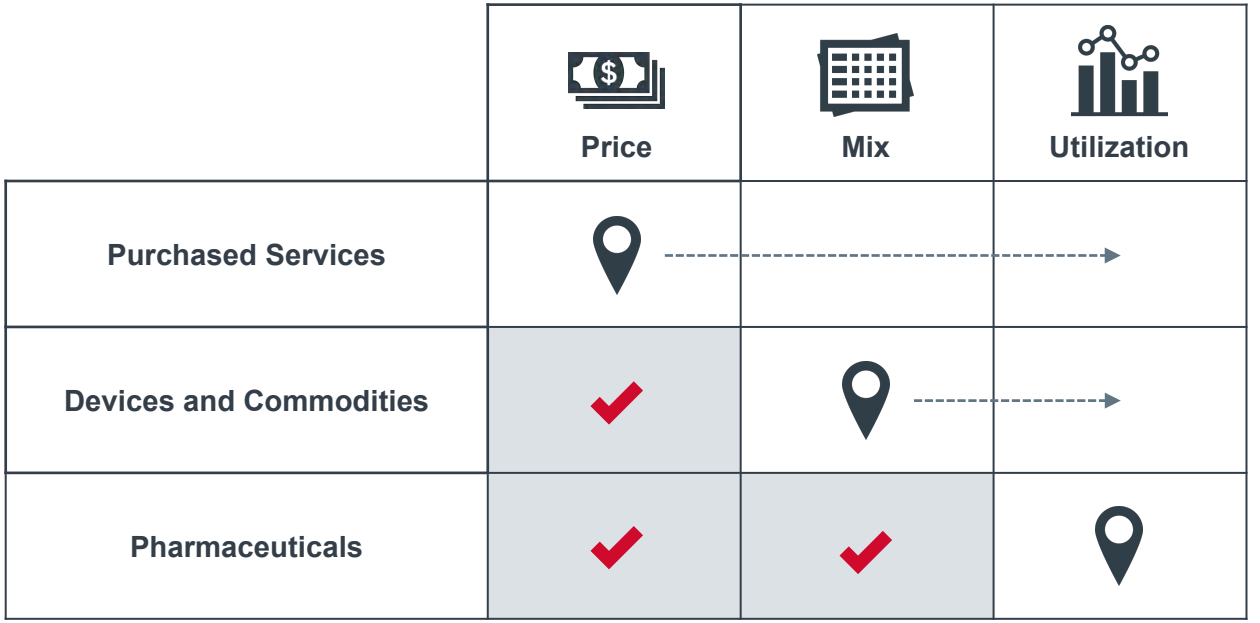
Purchased services has received the least attention to date, making it a clear starting place. Few organizations have a rigorous purchased services management process, creating an outsized opportunity to find savings through price optimization.

The next area of focus should be traditional supplies such as devices and commodities. For the most part, hospitals and health systems have already secured the best supply prices and savings through contract renegotiations. They should now prioritize curating product mix to reap the benefits of volume-based discounts.

Finally, many organizations have improved pharmaceutical contract terms and curated their inpatient formularies. Managing utilization is the next frontier of pharmaceutical savings.

Fortunately, Few Organizations Starting from Scratch

Industry-Wide Progress Toward Cost Control in Major External Spending Categories



Source: Health Care Advisory Board interviews and analysis.

Meeting the Mandate in External Spending

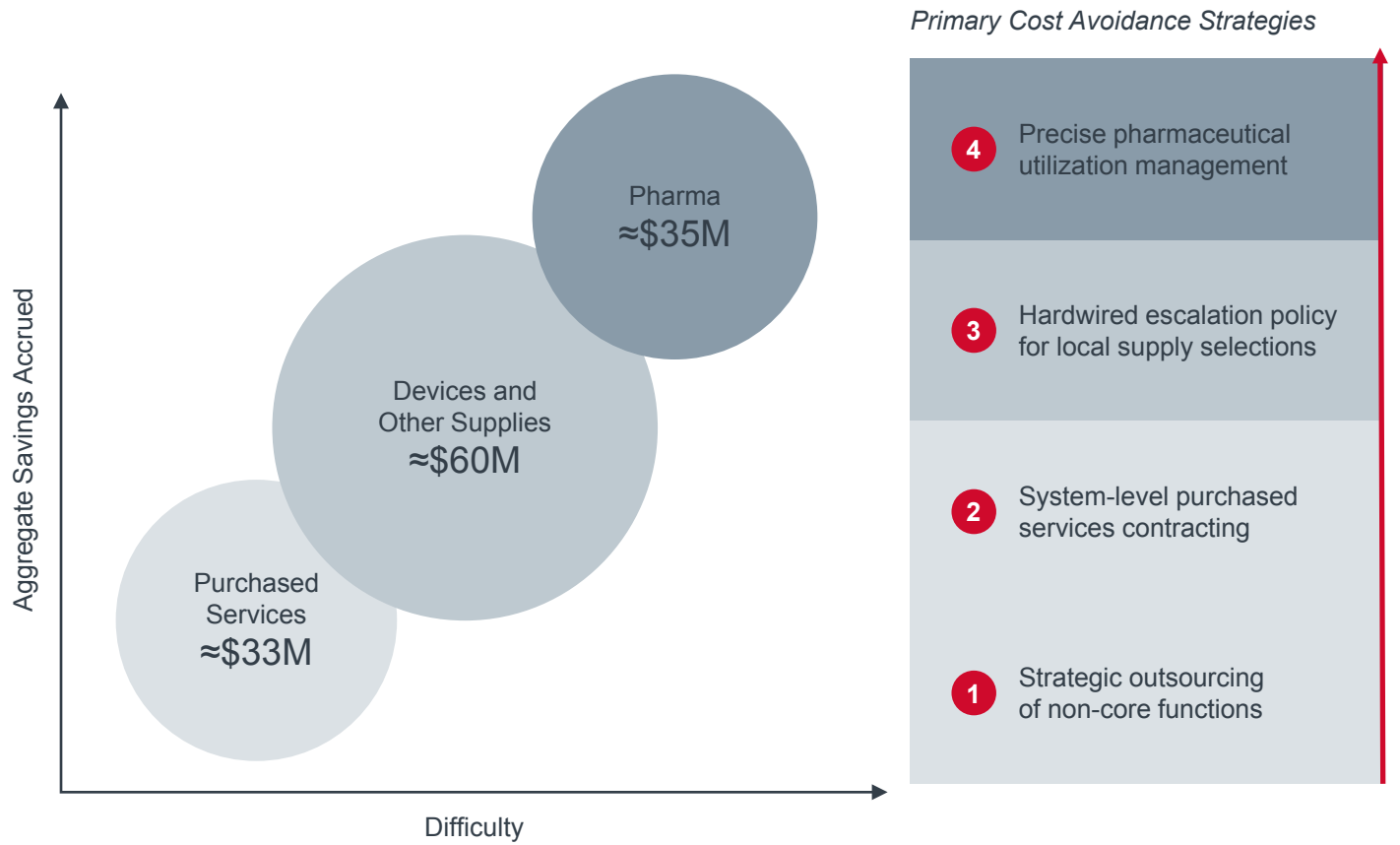
Antares needs to avoid $125 million to $145 million in external spending by 2025 to reach its 3% margin target. It will deploy four strategies, which span across three different spending categories, to achieve this goal.

First, Antares needs to avoid approximately $33 million in purchased services spending. These savings will come from determining which services can be provided more effectively and efficiently by outsourcing to a third-party vendor. After making those decisions, systems should uncover additional savings by improving the contracting process for outsourced functions.

Second, the system needs to save approximately $60 million in devices and other supplies. These savings will come from accelerating progress in supply mix curation by formalizing decision-making standards.

Finally, Antares must find $35 million in pharmaceutical spending. Because it has already exhausted price and mix-related strategies, these savings will come primarily from elevating the role of pharmacy experts to oversee utilization management.

Antares's Eight-Year Cost Avoidance Targets in Purchased Services, Supplies, and Pharmaceuticals



Source: Health Care Advisory Board interviews and analysis.

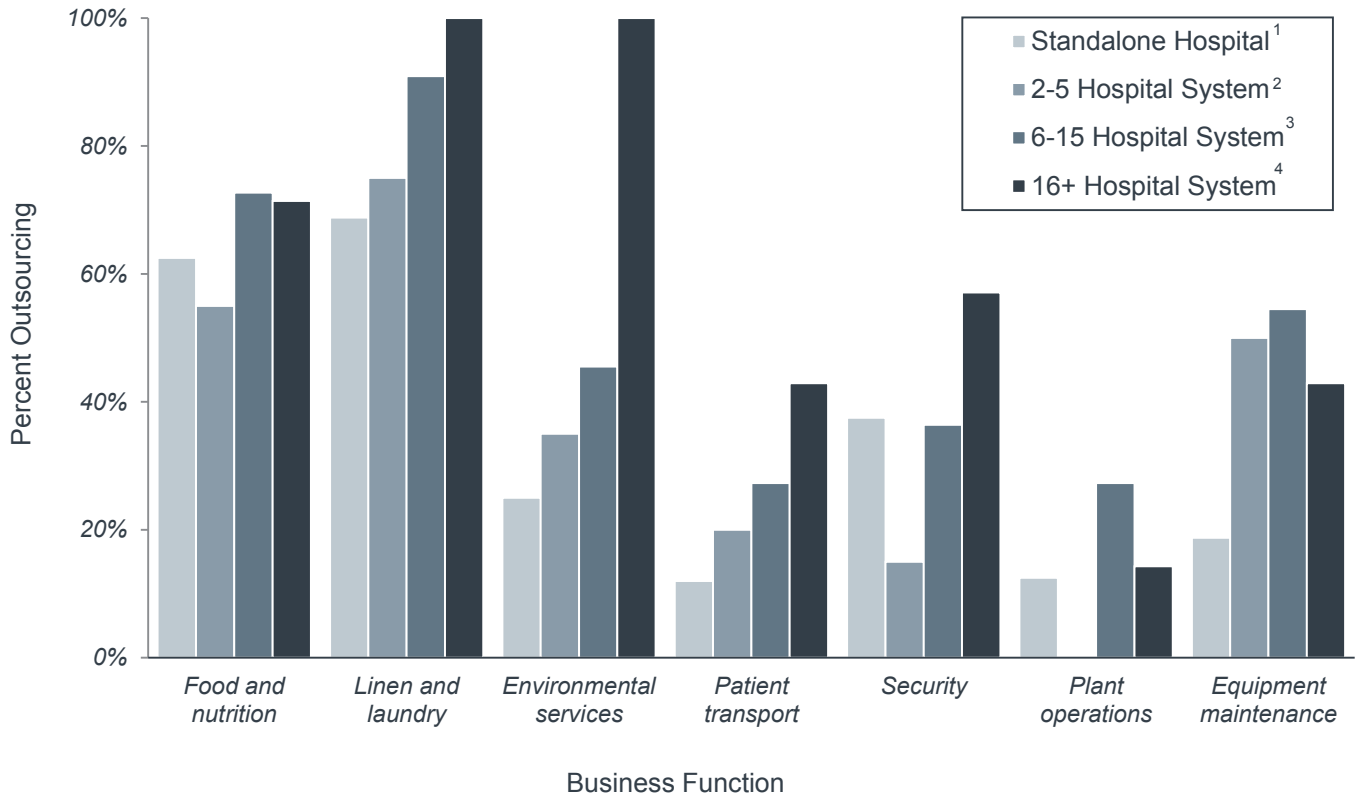
Inconsistency Abounds

Purchased services portfolios vary across the industry. Advisory Board researchers conducted a survey to identify purchasing practices for non-clinical functions at hospitals and health systems of different sizes. The results reveal few trends, even between organizations of similar size.

The lack of consistency suggests that organizations do not use uniform standards to make decisions about outsourcing.

No Clear Industry Standard, Even for Commonly Outsourced Functions

Advisory Board Survey Reveals Variable Purchasing Practices



1) N=16.
2) N=20.
3) N=11.
4) N=7.

Source: Health Care Advisory Board interviews and analysis.

Beyond Financial Considerations

Creating a standard outsourcing decision-making guide is not an easy task. In addition to the initial cost considerations, there are significant non-financial factors that influence decisions to outsource or insource any given function.

For example, the benefits of outsourcing include access to expertise and scale, reduced recruitment and management burdens, and staffing flexibility.

On the other hand, the benefits of insourcing include development and retention of strong leaders, preservation of community jobs, and immediate and unrestricted access to business intelligence associated with critical functions.

With a variety of factors to consider, leaders need a structured way to make decisions about which services to outsource versus retain in-house.

Non-price Reasons for Outsourcing and Insourcing

Major Reasons to **Outsource**

Leverage external expertise and scale
Purchased service core to vendor's business; will invest in R&D[1] and innovation

Reduce employer responsibilities
Vendor responsible for recruitment, onboarding, management, etc.

Enable staffing flexibility
System can adjust or eliminate contract as demand changes; less disruptive than employee layoffs

Major Reasons to **Insource**

Maintain consistent leadership
System can prevent management turnover, develop and retain strong leaders

Preserve jobs in the community
Choosing third-party vendors sometimes means loss to vital jobs in local community

Ensure access to business intelligence
System has immediate, unrestricted access to information; decreases likelihood of confidentiality breaches

1) Research and development.

Source: Health Care Advisory Board interviews and analysis.

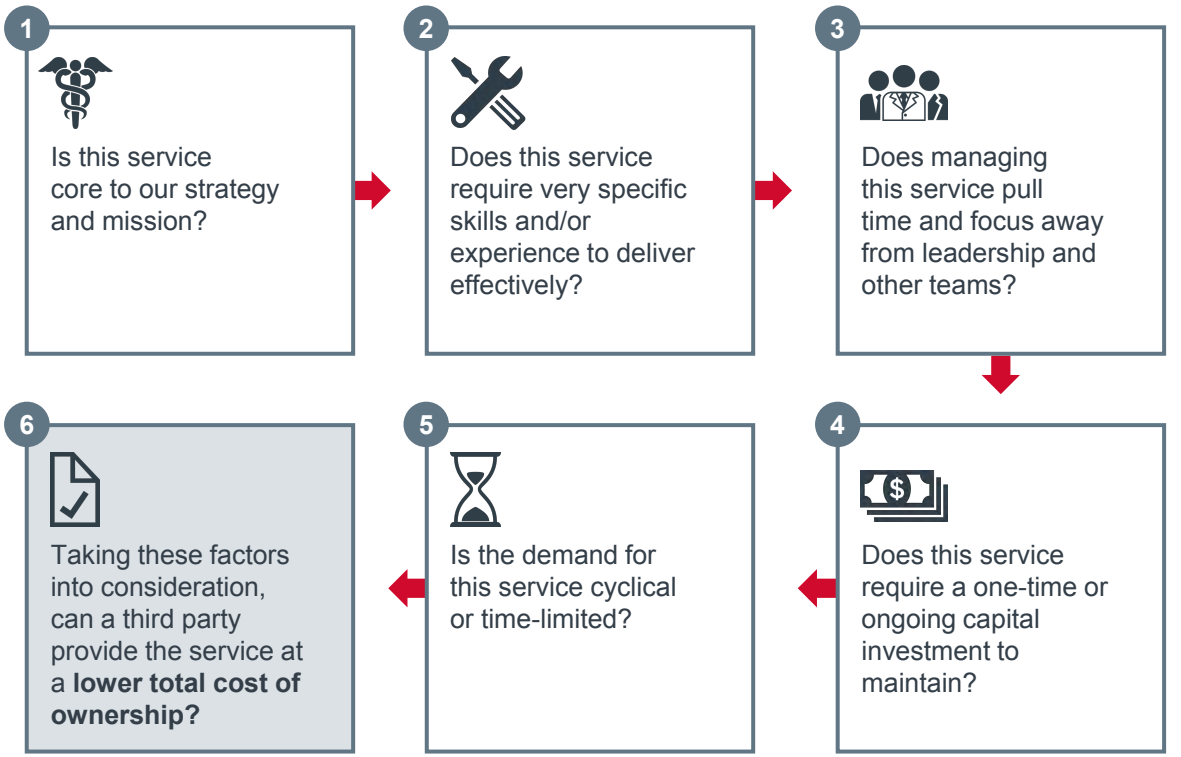
Establish Clear Principles for Purchasing Services

Advisory Board's top supply chain experts created a set of questions to guide outsourcing decisions. The total cost of ownership alone should not determine the decision to outsource before hospital and health system executives consider human capital investments and long-term business necessity. Organizations should engage in a rigorous evaluation of functions across the enterprise—both clinical and non-clinical—to determine which are truly core to the business.

Hospitals and health systems should apply this framework in two key ways. First, they should reevaluate past decisions about insourcing and outsourcing with new rigor. Second, they should apply the same stringency to new decisions going forward.

Considerations Expand Beyond Cost of Ownership

Service Outsourcing Decision Guide



Two Essential Applications

1 Reevaluate **past decisions** to insource or outsource

2 Apply rigor to **new decisions** going forward

Source: Health Care Advisory Board interviews and analysis.

Reevaluate ROI from Existing Partnerships

As a starting place, leaders should reassess existing purchased services contracts to ensure they deliver expected value.

For example, Missouri Delta Medical Center, a community hospital in Sikeston, Missouri, reversed the decision to outsource the collections segment of its revenue cycle after measuring poor returns on the expensive contract.

In 2015, the new chief financial officer identified revenue cycle improvement as a strategic priority. When the leadership team conducted a performance assessment, they realized that the organization paid the outsourced collections agency more than its entire business office.

Over the next six months, the hospital hired 10 new employees and brought collections back in-house. Beyond the $1 million expected annualized savings, the change improved accounts receivable performance by nearly 14 days almost immediately.

Missouri Delta Medical Center Found Savings by Bringing Collections Back In-House

New CFO commits to revenue cycle improvement

- Identified as 2015 strategic priority due to leadership turnover and insufficient performance against key metrics
- High days AR[1] outstanding and AR greater than 180 days old

Analysis uncovers major inefficiencies in collections

- Use of collections agency preventing visibility and control
- Despite poor performance, CFO discovered that collections agency was being paid more than entire business office

Collections function brought into hospital business office

- Over six to eight months, rolled back collections agency contract
- Hired 10 additional FTEs to perform back-end follow-up function internally

Staffing Investment Less Expensive Than Outsourced Contract

$1M

Annualized expected savings in year two and beyond from bringing collections function in-house

Near Immediate AR Performance Improvement

Days

Case in Brief: Missouri Delta Medical Center

- 144-bed hospital located in Sikeston, Missouri
- While looking into higher-than-average days AR outstanding, new CFO discovered that outsourced collections agency cost more than the entire business office
- Brought collections back in-house by hiring 10 additional FTEs; increased visibility and control improved AR performance and is expected to yield annualized savings of approximately $1M after the first year

1) Accounts receivable.

Source: Health Care Advisory Board interviews and analysis.

Purchasing Scale and Expertise

Hospitals and health systems should also critically evaluate the services they perform in-house to identify areas in which outsourcing could be more effective.

An increasing number of organizations have made these transitions in recent years. In many cases, these organizations sought external scale or expertise in response to accelerating financial pressures.

Examples of functions that are increasingly prime targets for outsourcing include lab management, certain aspects of the revenue cycle, health information technology, and imaging equipment management.

Systems Nationwide Finding New Opportunities to Outsource

Modern Healthcare

"Quest buys some PeaceHealth labs, will manage others"

HealthLeaders Media

"USA Health System slashes 70 jobs, outsourcing billing services"

BECKER'S HOSPITAL REVIEW

"Financially troubled Centegra to lay off 131 employees, outsource 230 jobs"

REUTERS

"LabCorp to acquire pathology associates medical laboratories from Providence Health & Services and Catholic Health Initiatives"

FierceHealthcare

"The outsourcing explosion: Hospitals turn to outside firms to provide more clinical services"

Common Candidates for Outsourcing

Medical laboratory management

Certain revenue cycle functions

Health information technology support

Imaging services, equipment management

Source: Modern Healthcare, "Quest Buys Some PeaceHealth Labs, Will Manage Others," February 2017; HealthLeaders Media, "USA Health System Slashes 70 Jobs, Outsourcing Billing Services," November 2016; Becker's Hospital Review, "Financially Troubled Centegra to Lay Off 131 Employees, Outsource 230 Jobs," September 2017; Reuters, "LabCorp to Acquire Pathology Associates Medical Laboratories from Providence Health & Services and Catholic Health Initiatives," February 2017; FierceHealthcare, "The Outsourcing Explosion: Hospitals Turn to Outside Firms to Provide More Clinical Services," April 2015; Health Care Advisory Board interviews and analysis.

Avoiding the Next Hiring Spree

Outsourcing functions currently performed in-house often requires making difficult decisions around workforce reductions. For many organizations, the creation of new services and functions will be an easier starting place to apply a more rigorous and standardized framework.

Scribe services provide a helpful example. Scribes are an increasingly popular resource to boost physician productivity. While it may be worthwhile to invest in the scribe functionality, employing them may not be the best approach.

As an alternative, companies such as Augmedix provide remote scribe services in which physicians use Google Glass™ to connect with scribes. This and other third-party scribe arrangements allow hospitals and health systems to add scribes but avoid a new hiring spree.

Furthermore, as technology improves and physicians become more comfortable with EHRs, the business case for scribes could become obsolete. In that case, it is much easier to restructure or terminate a vendor contract than reduce existing employee positions.

Outsourcing Advantageous When Labor Demand Is Time-Limited

Case in Brief: Augmedix

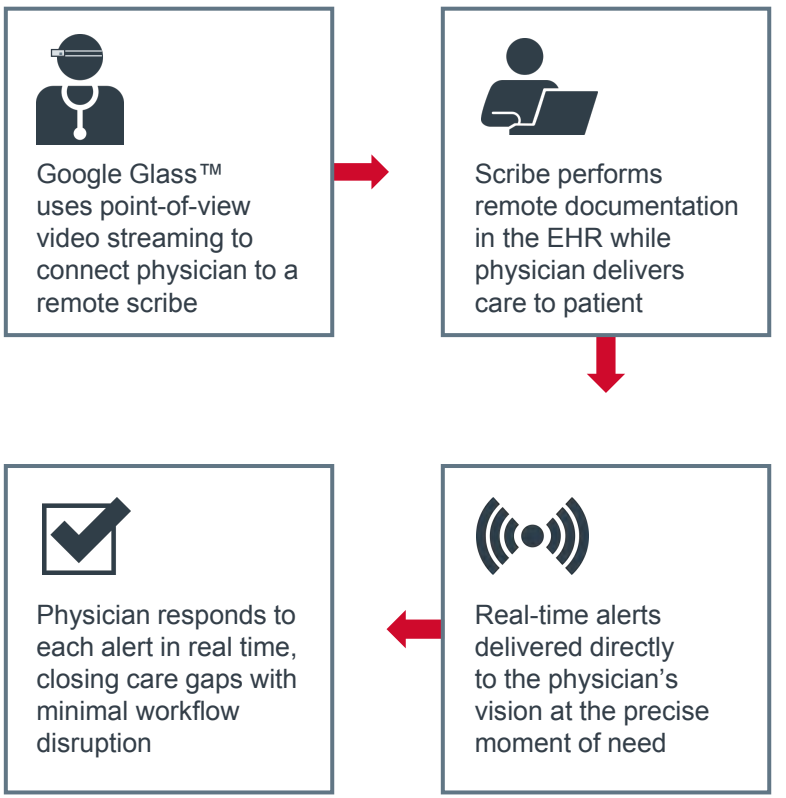
- Health care start-up company based in San Francisco, California
- Developed a platform powered by Google Glass™ to streamline physician data entry, alert delivery, and electronic health record interactions at the point of care

Could Millennial Physicians Change Demand for Scribes?

15% Of physicians in the US workforce are under 35

#1 "Technology use" the number one factor millennials use to define their generation

Augmedix's Process for Providing Scribe Services



Source: PwC, "Millennials at Work: Reshaping the Workplace", *Millennials Survey*, 2017; The Nielson Company, "Millennials: Technology=Social Connection," February 2014; Health Care Advisory Board interviews and analysis.

Decentralized Purchasing Running Up the Tab

After deciding what services to purchase from third-party vendors, hospitals and health systems have considerable opportunity to improve the purchasing process itself.

Today, many health systems have decentralized authority over spending on purchased services. By one estimate, roughly 90% of purchased services are sourced outside of the formal supply chain management structure, resulting in suboptimal contract terms, higher prices, and unmanageable spending.

At Sirius Health, a pseudonym for a progressive health system in the Midwest, decentralized purchased services spending led to an enormous budget oversight. Initially, supply chain executives estimated agency labor spending to be roughly $40 million. However, when they collected all the contracts, the actual spending turned out to be approximately $130 million. Local spending control at disparate entities was the primary reason for this expensive discrepancy.

Systems Lack Visibility into Total Purchased Services Spending

Current State of Purchased Services Contracting

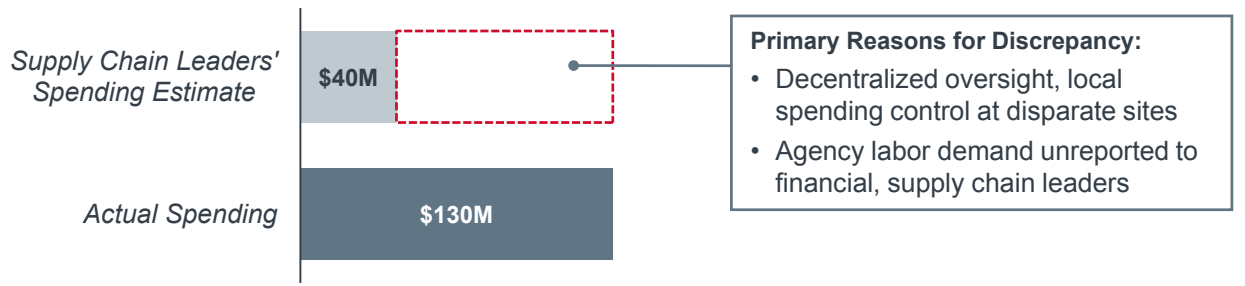
- Decentralized purchasing control
- No established tracking system
- Inconsistent involvement of financial and service area experts

>200 Categories of purchased services in hospitals

≈90% Of purchased services not formally sourced through hospital supply chain

Lack of Standardization Creates Major Spending Blind Spot at Sirius Health[1]

Agency Labor Spending, 2016



Case in Brief: Sirius Health

- Large, not-for-profit health system located in the Midwest
- Finance and supply chain leaders estimated agency labor spending to be about $40M, but analysis revealed spending was closer to $130M
- Discrepancy largely attributed to decentralized oversight of purchased services and underestimated demand for agency labor across the system

1) Pseudonym.

Source: Douglas B, "Purchased Services: An Untapped Source for Savings," *Vizient*, 2016; Health Care Advisory Board interviews and analysis.

Apply Traditional Supply Chain Practices

Fortunately, most providers already have the skills and experience necessary to address inefficiencies in purchased services contracting. Hospitals and health systems can prevent unmanageable spending by applying the best practices that already exist in supply chain management divisions to purchased services.

Specifically, contracts for purchased services should be negotiated by centralized value analysis teams comprised of finance, supply chain, and relevant service area experts. Similar to supply contracts, purchased services contracts should be tracked uniformly across the system and revisited regularly to identify improvement opportunities.

Securing Better and Lower-Cost Purchased Services Contracts

Best Practices in Supply Chain Management Equally Applicable to Purchased Services

System-Level Contracting

Contract negotiations conducted by system-level staff; where applicable, single contract established for entire system or region

Value Analysis Team Collaboration

Key finance, supply chain, and clinical service area stakeholders make purchasing decisions and work together to optimize contract terms

Shared Data Infrastructure

Both system- and local-level spending and utilization tracked in a shared system to enable transparency

Continuous Improvement

Contracts consistently revisited to evaluate return on investment, product necessity

Source: Health Care Advisory Board interviews and analysis.

Realize System Advantage in Contract Negotiations

Standardizing purchased services contracting can yield significant savings.

Yale New Haven Health System (YNHHS), based in New Haven, Connecticut, realized substantial savings by aggregating and standardizing purchased services contracts at the system level.

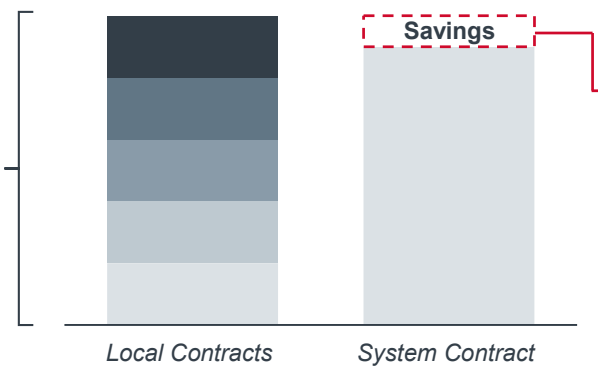
Historically, local hospitals within YNHHS held purchasing authority. When the organization launched a $125 million cost-cutting initiative, an audit of purchased services spending revealed that the system was being charged varying prices for the same service at different hospitals—sometimes even by the same vendor.

In response, YNHHS consolidated duplicative contracts at the system level, achieving an average 10% price reduction on each consolidated contract.

In summary, there are two main takeaways for purchased services strategies. First, leaders should critically assess which services should be outsourced and which should be kept in-house. Then, organizations should use existing supply chain principles to secure premium pricing and favorable contract terms.

Yale New Haven Health System Uses System Volumes to Negotiate Savings on Purchased Services Contracts

- Prior to cost-cutting initiative, purchased services contracted for at **local level**
- Analysis showed **suboptimal pricing** from contracting for same service, sometimes from same vendor, at multiple sites



10%

Average savings from consolidating local contracts at the system level

Case in Brief: Yale New Haven Health System

- Five-hospital health system and academic multispecialty group practice based in New Haven, Connecticut and affiliated with Yale University
- In 2013, Yale New Haven deployed a four-year value initiative to cut $125M in costs and reduce cost per case by 20%
- Achieved significant savings in purchased services by consolidating duplicative contracts at the system level; unlocked 10% average price reduction on each consolidated contract

Source: Health Care Advisory Board interviews and analysis.

Confronting the Costs of Devolved Control

In general, hospitals and health systems have made considerable progress standardizing supply contracting, especially compared to purchased services. However, large opportunities remain to improve product mix and generate additional savings.

Brigham and Women's Hospital in Boston, part of Partners HealthCare, discovered this firsthand. During an initiative to cut $50 million from its operating expenses in 2017, Brigham's chief operating officer realized it was the only hospital in the system that did not adopt a standardized mattress pad years earlier. This decision cost Brigham $400,000 each year. The executive team quickly reversed the decision to capture the volume discount from the Partners contract.

Brigham and Women's is hardly the only organization to have new and actionable opportunities to reduce supply spending.

Navigating Tension Between Standardization and Frontline Consensus

Case in Brief: Brigham and Women's Hospital

- 793-bed hospital located in Boston, Massachusetts; flagship teaching hospital of Brigham Health and founding member of Partners HealthCare
- Due largely to falling patient volumes, Brigham challenged with cutting $50M from operating expenses in 2017
- While struggling to meet medical supplies savings goal, hospital COO uncovered decision made by nurses not to use standard mattress pads used by the rest of the Partners system
- COO reverses decision, saving $400K per year

Brigham's Supply Standardization Timeline

2014
Partners' hospitals test mattress pads to standardize around single product for volume discount

2014-2016
Brigham nurses make decision to continue using old mattress pad; only hospital not to adopt new standard

2017
COO reverses nurses' decision; Brigham switches to standard mattress pad contract resulting in **$400K annualized savings**

> "People always like the one they're used to. I don't believe we knew we were the only outliers."
>
> *Dorothy Bradley*
> *Director for Nursing Simulation*

Source: STAT, "Not Even the Mattress Pads Were Spared: An Inside Look at a Top Hospital's Struggle to Cut Costs," 2017; Health Care Advisory Board interviews and analysis.

Establishing Clear Protocols for Escalation

Opportunities likely remain even in areas of traditional supply chain focus, such as physician preference items (PPIs). Given the often contentious nature of selecting these devices, organizations should empower physicians to lead standardization efforts but also establish clear escalation protocols to prevent indecision or impasses from impeding progress.

Rigel Health System, a pseudonym for a large system in the Northeast, designed an escalation pathway specifically for PPI standardization. They created a system-level steering committee led by three physicians that also includes supply chain, administrative, and other relevant clinical leaders. The committee convenes value analysis teams (VATs) to conduct product tests for PPIs.

While clinicians are given the chance to reach consensus, they are time-limited. If the VAT and steering committee cannot reach consensus, the decision is elevated to system executives, who can reverse decisions against standardization or mandate an accelerated timeline. Since implementing this new process, Rigel has seen an average annual savings of $6 million to $8 million.

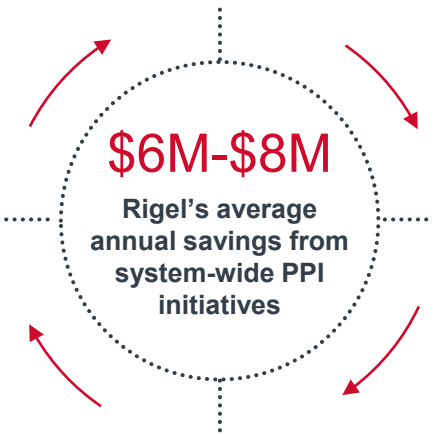
Rigel's[1] Executive Involvement Accelerates Progress, Improves Results

System-Level Steering Committee Sets PPI[2] Initiative Agenda

- Overseen by two executives and led by three physicians
- Comprised of other supply chain, administrative, and clinical leaders
- Meets monthly to discuss PPI contracting initiatives identified by supply chain financial and quality analyses

Executive Escalation Prevents Deadlock

- Steering committee executives review decisions at impasse
- Can reverse recommendations against standardization or mandate accelerated timelines



Value Analysis Teams Make Product Recommendations

- Steering committee designates two physician leaders from relevant clinical areas to lead product tests and other PPI value-based analyses
- Where applicable, VATs[3] make recommendations around product standardization and timeline

Steering Committee Reviews Clinical Decisions

- Product recommendations from VATs brought back to steering committee for approval, further discussion

Case in Brief: Rigel Health System

- 10-hospital health system based in the Northeast
- Conducting a major cost-cutting initiative to cut more than $500M from the system's operating budget
- System will continue to reduce PPI spending through a dedicated governance structure and executive escalation pathway
- So far, achieved average annual savings of $6M–$8M

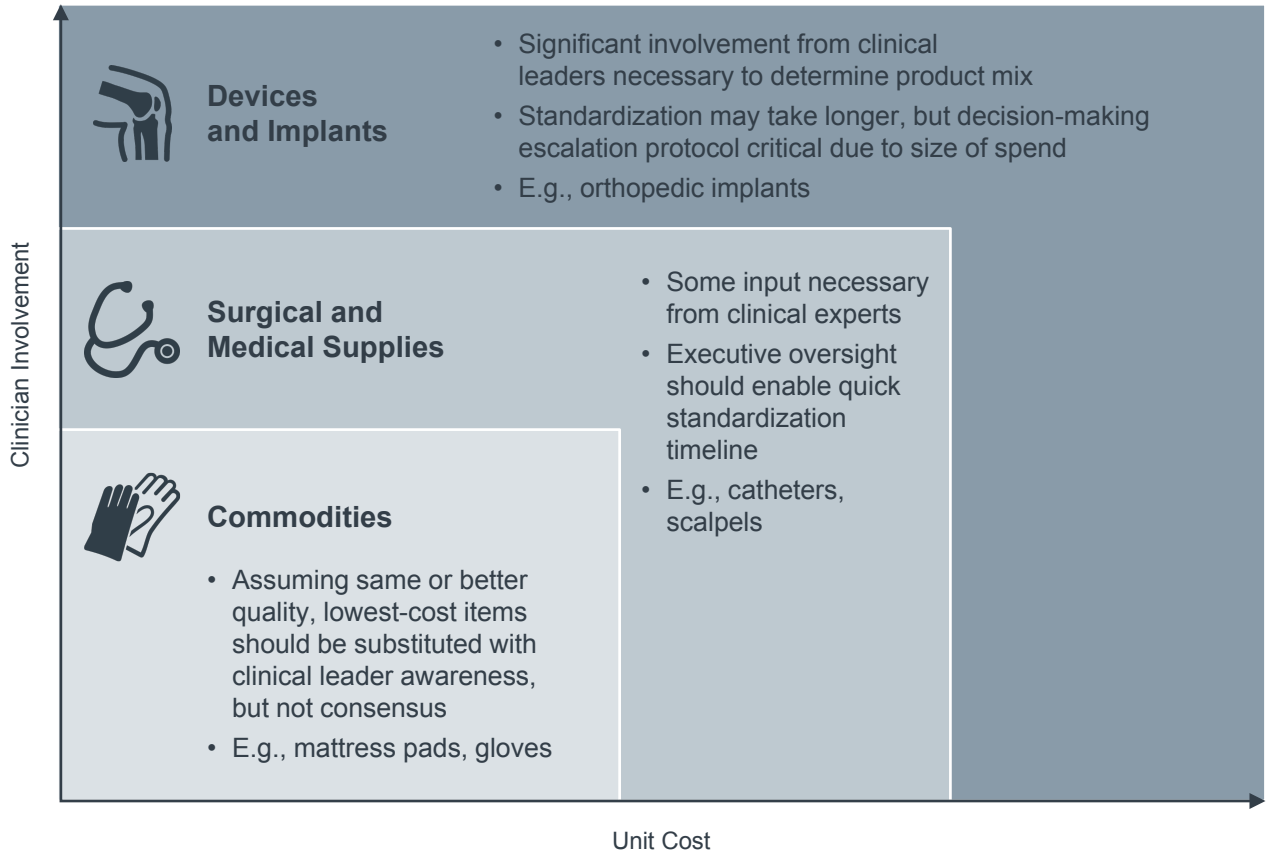
1) Pseudonym.
2) Physician preference item.
3) Value analysis teams.

Source: Health Care Advisory Board interviews and analysis.

Accelerate Product Standardization Initiatives

Achieving clinician consensus is important but can also be a rate-limiting factor. To avoid stalled progress, hospitals and health systems should establish formal guidelines for clinician involvement in all supply decisions. Physicians and other service area experts should be actively involved for the highest-cost, most complex items such as devices and implants. Conversely, organizations need only prioritize clinician awareness—rather than consensus—for highly interchangeable commodity supplies.

Balance Local Involvement with Executive Oversight



Source: Health Care Advisory Board interviews and analysis.

No End in Sight

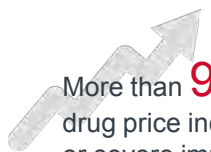
Pharmaceuticals are a supply category of their own, and price growth continues to erode hospital and health system margins. This seemingly never-ending price growth is primarily market-driven, limiting providers' opportunity to secure lower prices. Further, most organizations have already addressed product mix as inpatient formularies are largely established and well cultivated.

But the sheer size and rapid growth of health system drug spend makes looking for additional savings an essential component of providers' cost-avoidance strategies.

Pharmaceutical Costs Continue to Climb

Drug Costs Challenging System Margins

> Over the next year, rising labor and **pharmaceutical costs will continue to pressure the expense growth rate**, and revenue growth will temper amid declining reimbursement from both private and governmental payors.
>
> *Moody's Investors Service*



More than 90% of hospitals report drug price increases have moderate or severe impact on their budgets

Price Growth Largely Out of Provider Control

↑ 14.77%

Change in **brand** drug prices, 2015

- Market exclusivity
- FDA's Office of Generics backlog
- Manufacturers' refusal to share drug samples with generic drug manufacturers

↑ 9.21%

Change in **specialty** drug prices, 2015

- High cost
- May require special storage or handling
- Often limited distribution

↑ 2.93%

Change in **generic** drug prices, 2015

- Consolidation of generic manufacturers
- Raw materials shortages
- Manufacturing disruptions

Source: Moody's Investors Service, "Preliminary 2016 Medians Skew Lower as Revenue and Expense Pressures Hinder Profitability," May 2017; Dennis B, "Prescription Drug Prices Jumped More Than 10% in 2015, Analysis Finds," *The Washington Post*, January 2015; American Hospital Association and Federation of American Hospitals 2016 Final Report: Trends in Hospital Inpatient Drug Costs; ASPE Trends in Prescription Drug Spending, 2016; Health Care Advisory Board interviews and analysis.

Traditional Pharmacy Strategies Running Dry

Traditional pharmaceutical supply chain solutions such as formulary management, generic substitutions, and inventory control are largely exhausted. Utilization management presents the biggest remaining opportunity for drug cost containment.

However, pharmaceutical utilization is not uniform across inpatient and outpatient care settings. Hospitals and health systems need to carefully manage inpatient drug utilization as they are typically reimbursed under a DRG payment.

This is not the case for outpatient utilization. Increased outpatient drug spending is generally associated with increased revenue because reimbursement is based on the price of the drug plus a percentage markup. At some organizations, outpatient drug spending accounts for more than half of the entire drug budget.

After Focus on Price and Mix, Opportunity Remains in Utilization

Common Tactics for Drug Cost Containment

Improved purchasing contracts

Generic substitutions

Formulary management

Waste reduction

Inventory control

$86.5B

National potential annual cost savings through improved drug use management across all care settings

Not All Pharmaceutical Utilization a Cost Center

30%
IP[1] Drug Spending

- Most inpatient drugs reimbursed under the DRG payment
- Systems must carefully **manage these costs to maintain profitability**

50%
OP[2] Drug Spending

- Reimbursement based on the price of the outpatient drug plus a percentage markup
- **Increased spending correlated with increased revenues**, typically an indication of healthy growth in pharmacy business

1) Inpatient.
2) Outpatient.

Source: IMS Institute Report, "Avoidable Costs in US Healthcare," 2013; Health Care Advisory Board interviews and analysis.

Pinpointing the Factors Underlying Drug Spending

As a result of this lack of uniformity in drug profitability, health systems should establish a more precise drug budgeting process to gain insight into the nuances of pharmaceutical spending and ensure they control utilization without creating unintended financial consequences.

At OhioHealth, a 10-hospital health system based in Columbus, Ohio, the pharmacy team owns the budgeting process. Pharmacy leaders developed a system-wide drug budget equation that saw just 2% variance in the most recent budget year.

The team segments the budget at the site level and calculates projections based on three key drivers that impact drug spend: price, formulary, and utilization. This level of detail allows pharmacy leaders to pinpoint exactly why drug spending increases across the organization and where improvement opportunities exist.

OhioHealth Quantifies Impact of Individual Drivers

Projected Site-Level Drug Budget Inflation

Global increase in price of drug *X* adjusted for site-level product mix

Physicians at Site Two confirm intent to prescribe new-to-market drug

Acquisition of new neurology practice adds volume of high-cost drugs at Site Four

Site	Price	Formulary	Utilization	Total
1	8.0%	7.7%	1.8%	17.5%
2	8.0%	26.9%	-1.1%	33.8%
3	7.6%	0.0%	-0.6%	7.0%
4	7.5%	7.8%	16.7%	32.0%
…	…	…	…	…

New prescribing protocol implemented at Site Two to substitute for lower-cost alternatives

2%

Budget variance with pharmacy-led, long-range financial planning processes

Case in Brief: OhioHealth

- 10-hospital, not-for-profit health system headquartered in Columbus, Ohio; consists of 12 pharmacies, 65 clinics, and 11 infusion clinics across Central and Southeast Ohio
- VP of Pharmacy Services identified need to transform and take ownership of pharmacy long-range financial planning (LRFP) processes due to lack of pharmacy knowledge among budgeting team
- Over the course of three consecutive budget cycles, the team made changes to the pharmacy LRFP process, improving their budget accuracy each year, and increasing their oversight of those processes
- In FY16, the team produced a budget that saw just 2% variance

Source: Health Care Advisory Board interviews and analysis.

Elevate Pharmacy's Role in Utilization Management

Organizations should also elevate pharmacy's role in process design and decision-making to take utilization management to the next level.

At Polaris Health Center, a pseudonym for a two-hospital academic health system in the South, pharmacists expanded their influence on utilization management by leading a dedicated VAT. The team undertakes roughly 20 utilization management initiatives annually and generates new savings averaging $2 million each year.

Polaris attributes their success to a clear mechanism for pharmacy experts to collaborate with physicians around utilization and address unexpected price increases. This partnership is critical for both quality and cost improvement.

Pharmacist-Led Value Analysis Team Key to Success

Polaris Health Center's[1] Value Analysis Team

- Pharmacy-led team created in 2012 by executive director of pharmacy
- Conducts more than 20 utilization management initiatives per year, focusing on quality and ensuring cost-effective use of drugs
- Generates an average of **$2M per year** through standardized process of identifying opportunities and developing new protocols

Benefits of Formalizing Team Initiatives

- Remain **agile** in reaction to unexpected price increases
- Establish **pharmacy's role** in utilization management
- Create a forum for **collaboration** with physicians

Case in Brief: Polaris Health Center

- Two-hospital academic medical center located in the South
- Executive director of pharmacy created a pharmacy-led value analysis team (VAT) in 2012; team was charged with critically assessing the value of each drug used in the health system in terms of safety, efficacy, uniqueness, reimbursement, and contribution to total cost of care
- The VAT oversees 16-24 initiatives per year, using strategies around formulary management, inventory management, and patient care improvement to enhance quality while reducing costs
- The average annual cost savings produced through VAT initiatives is $2M; savings reached as much as $3.5M in some years

1) Pseudonym.

Source: Health Care Advisory Board interviews and analysis.

Quantifying Savings from Best-in-Class Strategies

The savings mandate for supplies and purchased services at Antares, the model health system introduced on page 13, is $125 million to $145 million from 2017 to 2025.

The examples highlighted in this section provide approximately $84 million toward that goal. Antares still needs to avoid additional costs to achieve a 3% operating margin in 2025. To do so, it should augment these strategies with additional external spending tactics that leverage volume to drive down prices and manage supply utilization.

$125M–$145M

Antares's external spending cost avoidance mandate, 2017–2025

Applying Strategies to Antares

1	Strategic outsourcing of non-core functions	≈$16M
2	System-level purchased services contracting	≈$15M
3	Hardwired escalation policy for local supply selections	≈$26M
4	Precise pharmaceutical utilization management	≈$27M

≈$84M Eight-year cumulative savings from four primary cost avoidance strategies

Highlighted Advisory Board Tactics for Additional Savings in External Spending

- Prevent unnecessary surgical supply waste
- Minimize PPI contract savings leakage
- Revisit unfavorable contract terms
- Contract directly for preference items
- Realize the potential of energy savings
- Revise blood utilization policies
- Dedicate a pharmacist to ED medication reconciliation

FOR MORE INFORMATION
on these topics, see The Finance Leader's Resource Guide, available on advisory.com

Source: Health Care Advisory Board interviews and analysis.

Additional Advisory Board Resources

Advisory Board research teams have published a variety of resources to help leaders contain costs in external spending categories such as supply chain, pharmacy, and purchased services. These resources provide guidance for providers when designing an enterprise-wide savings strategy for external spending.

Best Practices for Rebasing External Spending

Capture Value Through Supply Purchasing

10 strategies for reducing supply costs and engaging stakeholders

The Sustainable Acute Care Enterprise

Radically restructuring costs and operations to break even on Medicare

Partnering with Physicians for Supply Chain Reform

Designing physician alignment models to achieve meaningful supply cost savings

Best Practices for Bending the Expense Growth Curve

Managing supply costs by working with physicians and vendors to reduce variation among preference items

Revisiting Supply Cost Strategies

A disciplined approach to managing your GPOs in today's cost environment

Pharmacy System Strategy

Leveraging scale to increase efficiency, enhance quality, and improve the patient experience

Next-Generation Supply Cost Savings

Remaking partnerships with suppliers and physicians to achieve sustainable value

Realizing the Potential of Energy Savings

Eight insights CFOs need to know about reducing energy costs

All of these resources are available on **advisory.com**

Source: Health Care Advisory Board interviews and analysis.

Key Takeaways

1	**Capitalize on opportunities to compound savings by rebasing external spending at the outset**	Health systems can generate outsized savings in external spending by front-loading cost avoidance strategies that rebase spending and compound the effects over time. Achieving outsized cost avoidance in external spending moderates pressure to reduce labor expenses. Further, investments in strategic outsourcing will help stabilize labor cost growth.
2	**Reevaluate purchased services portfolio using consistent standards; apply same rigor to outsourcing decisions moving forward**	Health systems should not assume that they are receiving strategic value from currently outsourced functions, or that currently insourced services cannot be performed more efficiently and effectively by a third-party vendor. System executives should actively seek new opportunities to outsource non-core services when a vendor can deliver greater value.
3	**Leverage existing supply chain management infrastructure to build a foundation for effective purchased services contracting**	Organizations should apply best practices from supply chain management to their process for contracting with third-party vendors. Involve all critical stakeholders in the contracting process and unlock the benefits of scale in volume pricing by negotiating at the system level whenever possible.
4	**Balance clinical consensus and speed to impact when standardizing supply mix**	The next wave of supply savings will come from standardizing mix around a limited set of high-value products. Clinical expertise is necessary to identify the right mix, but executive oversight will prevent consensus from becoming a rate-limiting factor.
5	**Elevate the role of pharmacy experts in financial planning and utilization management to limit the impacts of drug price growth**	Health systems face ongoing drug price growth and are reaching the limits of traditional drug cost management tactics. Pharmacy experts should be an integral part of budgeting and utilization management efforts to support financial sustainability.

Source: Health Care Advisory Board interviews and analysis.

Cultivating the Cost-Effective Workforce

5. Scaled administrative roles and responsibilities
6. Top-of-license clinician role redesign
7. LOS-driven labor demand management
8. Selective service-line rationalization

Health Care's Incurable "Cost Disease"?

The symphony and health care both suffer from what the late economist William Baumol coined "cost disease"—wages continue to inflate but productivity remains flat over time.

The symphony requires the same number of violinists, cellists, and horn players to perform Beethoven's 5th Symphony in 2017 as it did in 1817. Similarly, the number of clinicians required to effectively treat a patient has largely remained unchanged for decades.

As input costs and ticket prices escalated with musicians' salaries, the symphony quickly priced itself out of many consumers' budgets. Technological substitutions filled the gap, providing lower-cost alternatives in the form of records, CDs, MP3s, and now streaming services.

Considering labor-related expenses account for 50% to 60% of average hospital and health system operating expenses, lowering costs and prices will not be possible without significant productivity gains. Providers will need to address their cost disease to prevent the same fate as the symphony.

Labor-Intensive Industries Struggle to Reduce Costs

Theory in Brief: William Baumol's "Cost Disease"

- Productivity in labor-intensive service industries grows much more slowly than the overall economy
- Wages must grow with the overall economy to maintain talent
- This combination increases costs and reduces return on investment

> The number of players, the number of instruments, the amount of time it took to 'produce' a Mozart quartet in the 18th century will not have changed one whit two centuries later."
>
> *Sen. Daniel Patrick Moynihan presenting Baumol's work to the Senate Finance Committee*

Industries Plagued by Seemingly Unavoidable Cost Growth

Image: © 2014, Robert and Talbot Trudeau

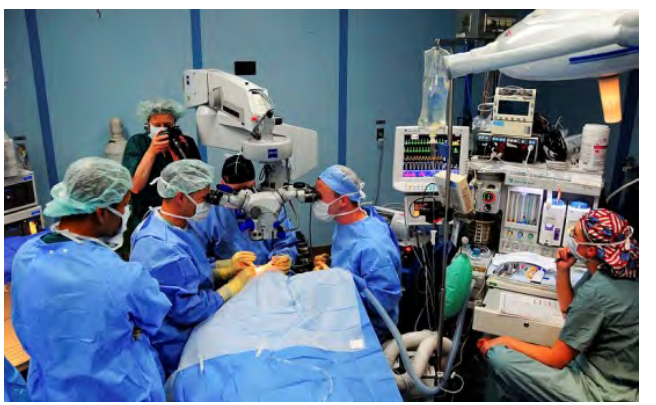


Image: © 2008, U.S. Navy

Source: Lee T, "William Baumol, Whose Famous Economic Theory Explains the Modern World Has Died," *Vox*, May 4, 2017; Will G, "An Old 'Disease' That Could Help Lawmakers Understand Today's Health-Care Debate," *The Washington Post*, May 17, 2017; Health Care Advisory Board interviews and analysis.

The Hiring Spree Continues

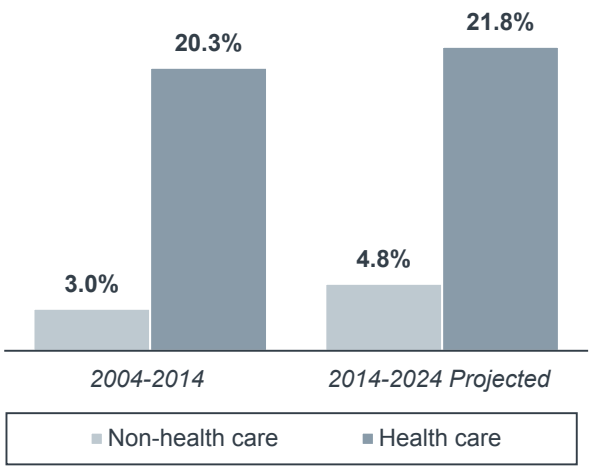
Stagnant productivity continues to create an artificially high demand for labor, forcing hospitals and health systems to hire at extraordinary rates. Job growth in the health care industry dramatically outpaces other sectors of the national economy.

Between 2004 and 2014, health care had six times more job growth than the economy average, and the Department of Labor projects this trend will continue. Most of the growth has been in administrators, beginning in the early 1990s when managed care emerged.

Labor Growth Projected to Increase

Job Growth in Health Care Compared to All Other Employment Sectors

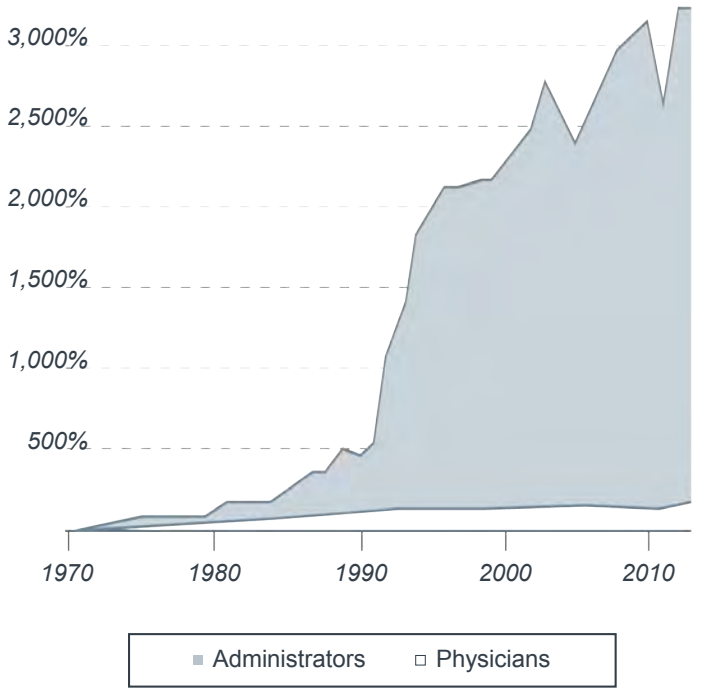
2004-2014 and Projected 2014-2024



-0.6%

Health care productivity growth, 1990-2010

Growth of Physicians and Administrators,[1] 1970-2013



1) Spans three occupational categories: management, non-financial administrative support, and financial administrative support.

Source: Diamond D, "Obamacare, the Secret Jobs Program," *Politico*, July 13, 2016; US Department of Labor, Bureau of Labor Statistics, Employment Projections Program: Table 1.9, 2014-24 Industry Occupation Matrix Data, by Industry and Table 2.7, Employment and Output by Industry; Woolhandler S and Himmelstein DU, "The National Health Program Slide-Show Guide," *Center for National Health Program Studies*, Cambridge, MA, 2014; Health Care Advisory Board interviews and analysis.

Adding Fuel to the Fire

In addition to individual productivity challenges, system-level inefficiencies prevent organizations from optimally using their labor.

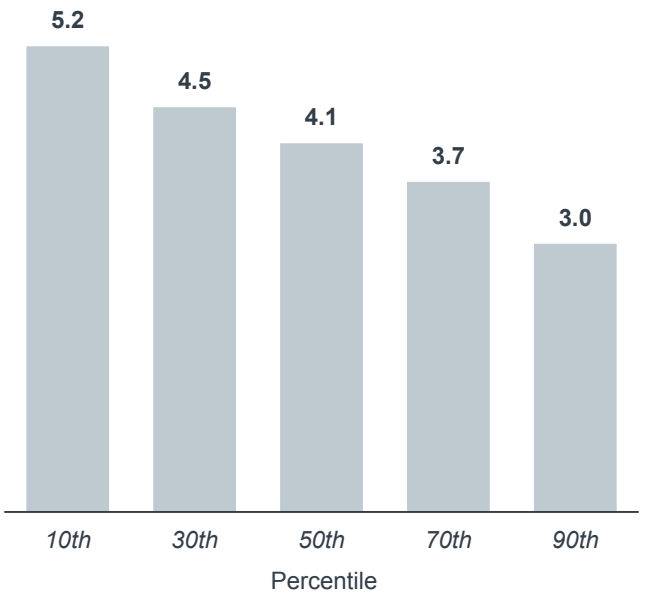
Unwarranted variation in care delivery further drives up the need for staff. Any extension in length of stay (LOS) increases the demand for clinical labor and prevents employees from treating additional patients.

Hospitals also continue to staff an unnecessary number of beds despite declining inpatient occupancy rates.

System-Level Inefficiencies Exacerbate Demand for Labor

Unwarranted Length of Stay Increases Demand for Clinical Staff

2016 Medicare ALOS[1] Data, Days



Suboptimal Inpatient Occupancy Drives Inefficient Use of Labor

Implications of Low Occupancy Rates

- Clinicians treating fewer than optimal number of patients
- Redundant administrative staff, leaders to oversee services
- Increased pressure on volume-driven staffing systems to predict open beds

Inpatient Occupancy Rates, 2015

62% Average among all hospitals

1) Average length of stay.

Source: Advisory Board Hospital Benchmark Generator; Health Care Advisory Board interviews and analysis.

Addressing Antares's Labor Expenses

Labor-related expenses account for 50% to 60% of an average health system's operating expenses. As such a large portion of organizations' cost structures, managing growth in this category will be critical.

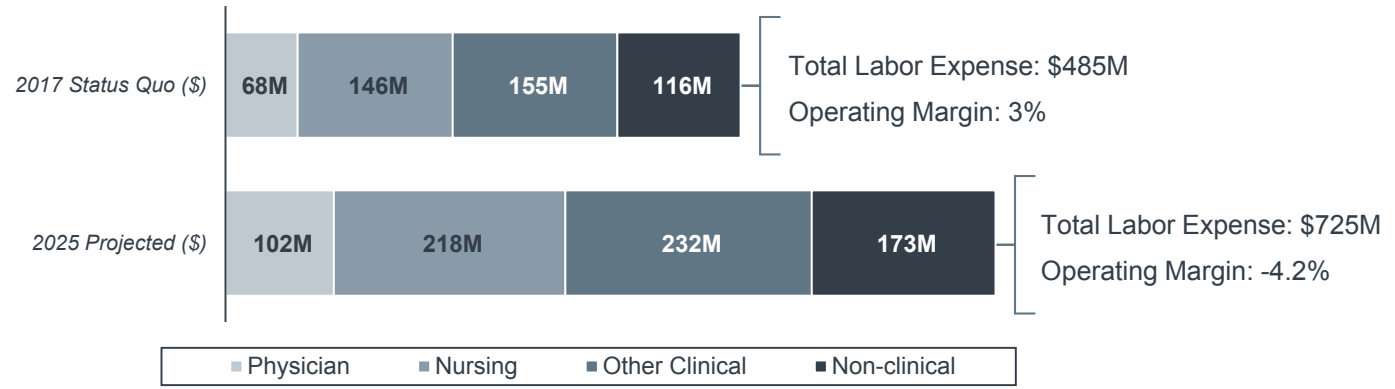
As long as hospitals and health systems grow volumes and revenue, they can continue to hire more staff each year. Labor savings and cost avoidance should primarily come from slowing workforce growth, rather than decreasing it in absolute terms.

Antares Health System needs to avoid $160 million to $170 million over eight years, or about $20 million per year in annualized cost avoidance, to achieve a 3% margin in 2025. Even with this avoidance, Antares will spend $190 million more on labor in 2025 than it does in 2017.

Significant Yet Achievable Cost Avoidance

Labor Expenses at Antares

2017 and 2025 Projected (Absent Intervention)



Antares's Necessary Labor Cost Avoidance to Achieve 3% Margin in 2025

$160M–$170M	$20M–$22M	≈22%
Cumulative eight-year labor cost avoidance	Average labor cost avoidance per year	Cost avoidance as a percentage of projected labor expenses

Source: Health Care Advisory Board interviews and analysis.

Meeting the Mandate in Labor Spending

No stone can be left unturned in Antares's pursuit of savings, but it will not seek proportional savings in all labor categories. Antares's labor-related plan involves four strategies.

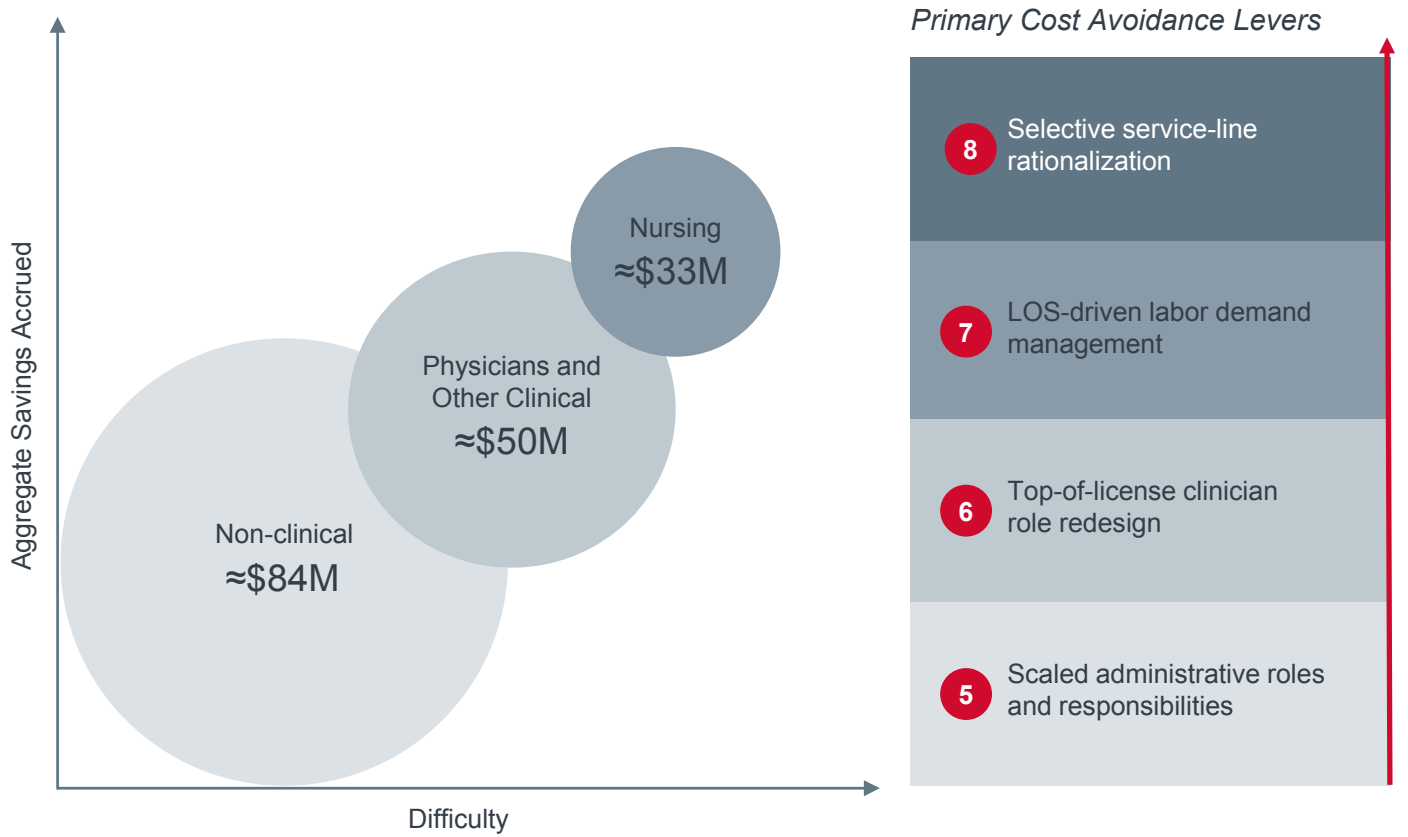
First, the system needs to avoid approximately $84 million in non-clinical labor expenses. These savings will come from scaling administrative roles and responsibilities. Systems should improve efficiency by consolidating administrative functions and reducing duplication wherever possible.

Second, Antares needs to avoid approximately $50 million in physician and non-nursing clinician expenses. These savings will come primarily from top-of-license clinical care—improving clinician productivity to reduce need for additional hires over time.

Third, Antares needs to avoid approximately $33 million in nursing expenses. It will do this by improving LOS and managing the demand for nursing labor rather than squeezing out incremental nursing productivity.

The last strategy—rationalizing service offerings—should yield Antares additional savings in all labor categories.

Antares's Eight-Year Cost Avoidance Targets in Labor



Source: Health Care Advisory Board interviews and analysis.

So Far, Economies of Scale Beyond Our Reach

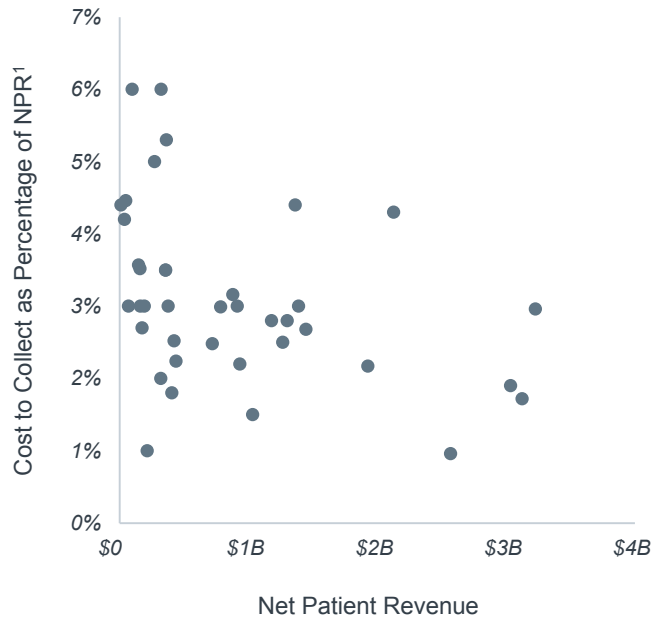
So far, bigger has not translated to better in terms of labor cost efficiency.

Health systems continue to grow, but they fail to reap the benefits of scale and lower administrative expenses. In revenue cycle, for example, Advisory Board benchmarks show no statistically significant correlation between a system's net patient revenue and its cost to collect.

Some health system leaders interviewed in the research believe the "holding company" mentality is a barrier to reaching administrative scale. To unlock cost-effective administrative functions, health systems should operate as more tightly integrated entities with unified goals instead of as fragmented consortiums of hospitals.

Bigger Has Not Meant Much Better in Revenue Cycle

Cost to Collect Not Correlated with Health System Net Patient Revenue



Holding Company Mentality Generates Fragmentation, Suboptimal Performance

> **As an organization, we suffer from an ongoing struggle of whether we are a holding company or an operating company.** Some CFOs are operators, others are accountants. I'm a big believer that we need to start more actively *operating* at the corporate level.
>
> *Chief Financial Officer*
> *System with $10B+ in Net Patient Revenue*

1) Net patient revenue.

Source: 2017 Revenue Cycle Benchmarking Survey, Financial Leadership Council; Health Care Advisory Board interviews and analysis.

Achieving Scale in Administrative Functions

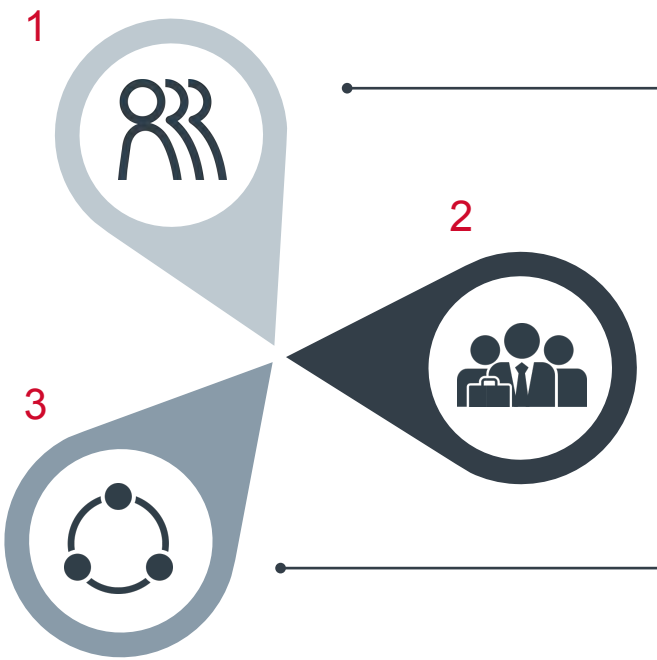
There are three primary components to achieving administrative economies of scale.

First, health systems must reduce duplicative positions across all administrative functions.

Second, organizations need to balance managerial span of control, ensuring managers have the right number of direct reports: not too many, but not too few either.

Third, health systems must achieve true integration across centralized functions, harnessing the benefits of systemness to derive greater value from each business unit.

Three Components of the Scaled Administrative Infrastructure



Reduced Duplication

Eliminate redundancy in frontline and managerial roles and responsibilities

Balanced Span of Control

Establish standardized direct report ratios for managerial positions

Value-Driven Integration

Harness benefits of co-location to improve business unit performance

Source: Health Care Advisory Board interviews and analysis.

Centralization Necessary but Insufficient

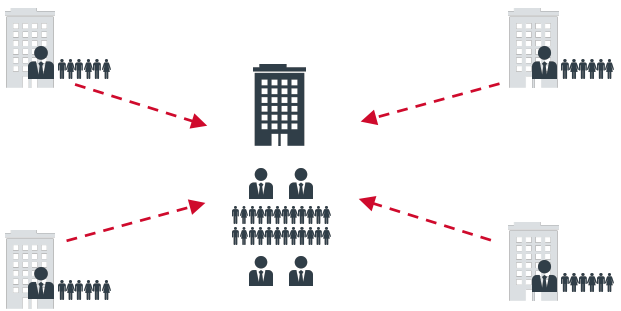
Centralization is a necessary first step in improving administrative efficiency.

However, co-location is a means—not an end—to achieving true scale. The space and utilities savings generated through centralization alone are often outweighed by overstaffing and increased overhead.

Economies of scale can be achieved only when health systems combine the benefits of centralization with true consolidation by eliminating duplicative roles and responsibilities.

Traditional Efforts Not Yielding Scale

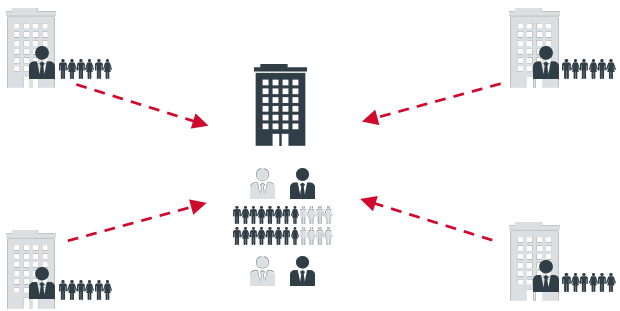
Traditional Centralization



Centralization Savings Levers

- ✓ Reduced space expense
- ✓ Reduced utilities expense
- ✗ Eliminated role duplication
- ✗ Expanded span of control

Centralization and Consolidation



Consolidation Savings Levers

- ✓ Reduced space expense
- ✓ Reduced utilities expense
- ✓ Eliminated role duplication
- ✓ Expanded span of control

Source: Health Care Advisory Board interviews and analysis.

Protect Engagement While Reducing Duplication

Any strategy for reducing duplication must protect staff engagement.

Castor Health, a pseudonym for a three-hospital system located in the South, demonstrates how organizations can address administrative duplication without mass layoffs. Castor removed more than 800 roles from corporate overhead through voluntary separations, yielding $50 million in savings.

The key to this strategy was prioritizing low-disruption separation strategies. Castor offered alternatives, including buyouts and early retirement, and even guaranteed health care benefits to employees close to retirement but not yet eligible for Medicare. As a result, Castor was able to rightsize corporate overhead without jeopardizing the engagement of remaining staff members.

Castor Health[1] Pursues Alternatives to Mass Reductions in Force

Tried and True Strategies

Perform an open position audit evaluating business need for new hires

Benchmark business function productivity to establish savings targets

Identify duplication and develop strategy to eliminate redundant roles

Offer alternatives to layoffs including buyouts, voluntary separation, retirement

Case in Brief: Castor Health

- Three-hospital health system located in the South
- Benchmarked system-wide labor productivity and established four-year $100M savings target
- Removed more than 800 roles out of corporate overhead through voluntary separation, achieving $50M in savings

$50M

Savings achieved in first two years of consolidation

1) Pseudonym.

Source: Health Care Advisory Board interviews and analysis.

Duplication Not Isolated to the Front Lines

Duplication is not isolated to frontline staff. Health systems should also pursue administrative scale by improving span of control at the managerial level.

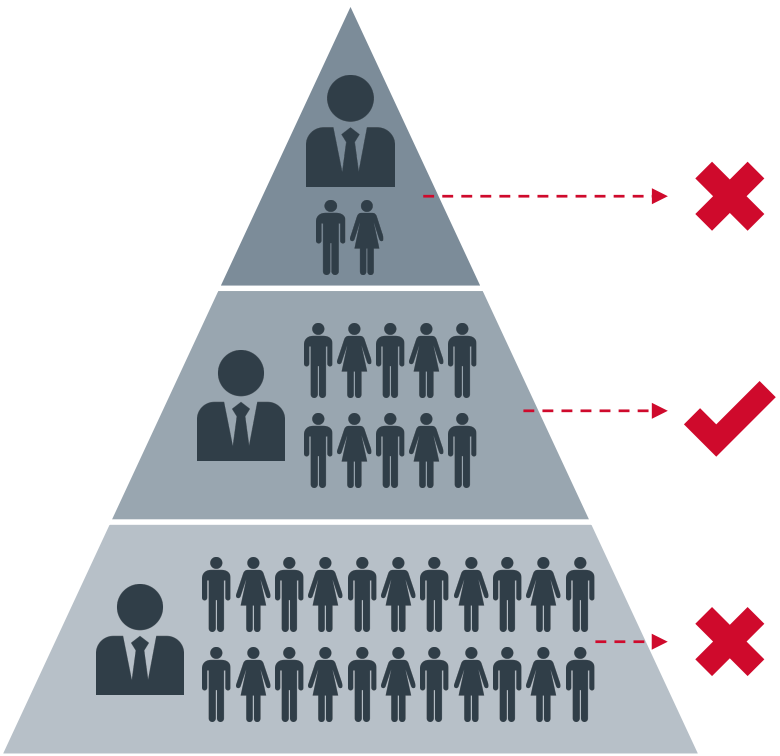
Hadar Health System, a pseudonym for a nine-hospital system located in the Midwest, consolidated administrative functions in marketing, compliance, legal, revenue cycle, and care management departments by establishing thresholds for span of control.

They started by evaluating the role of anyone who had less than 5 or more than 20 direct reports and made adjustments accordingly. This strategy alone yielded an immediate $20 million in reduced labor expenses.

While balancing span of control can be effective for reducing managerial duplication, organizations should tread carefully when pursuing this strategy. Advisory Board research suggests, for example, that nurse managers are often subject to overload and burnout. Hospitals and health systems should be careful not to hurt employee engagement or drive away talent by adhering too closely to predetermined direct-report thresholds.

Establish Thresholds for Managerial Span of Control

Too Many, Too Few Direct Reports Problematic



Case in Brief: Hadar Health System[1]

- Nine-hospital system located in the Midwest
- Consolidated administrative functions in marketing, compliance, legal, revenue cycle, and care management
- Assessed span of control at corporate level to identify management-level duplication
- Established threshold of 5 to 20 direct reports for corporate administrators
- Achieved $20M in savings

1) Pseudonym.

Source: Health Care Advisory Board interviews and analysis.

Re-scoping Leadership Roles at Antares

The research team estimated the potential savings for Antares Health System using Advisory Board's Span of Control Benchmark Generator.

By moving executive, director, and non-nursing manager span of control from the 50th percentile to the 75th percentile, Antares could achieve nearly $9 million in immediate savings.

These are impressive results, but hospitals and health systems should consider two caveats before re-scoping their leadership roles.

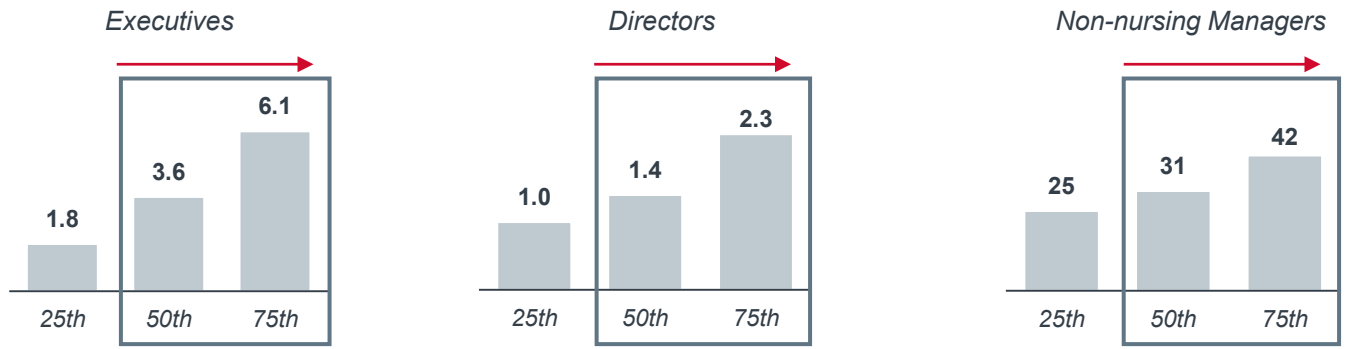
First, these thresholds are average management ratios. The goal should not necessarily be to ensure that every executive has exactly 6 direct reports or that every non-nursing manager has exactly 42 direct reports.

Second, leadership titles are not solely related to staff management. They can help recognize a star performer, accompany salary increases, or build external credibility. This type of qualitative information must be considered before pursuing this approach.

Quantifying Savings From 50th to 75th Percentile Improvement

Antares Management Structure Before and After Improvement

Direct Reports (FTEs) per Hospital Non-nursing Administrator



Reduction in Number of Administrators

18 → 10

84 → 51

147 → 108

$1.77M
Immediate savings from improving executive span of control

$3.63M
Immediate savings from improving director span of control

$3.28M
Immediate savings from improving manager span of control

Source: Span of Control Benchmark Generator, HR Advancement Center; Health Care Advisory Board interviews and analysis.

Evolving from Consolidation to Integration

The final step in achieving administrative economies of scale is full-scale, system-level integration.

Even for the most frequently centralized functions, operational integration has been an uphill battle. According to Advisory Board's latest revenue cycle benchmarking survey, the number of centralized revenue cycle functions at a health system is not correlated with reduced cost to collect. The cost to collect at many organizations actually increases as they centralize.

Advisory Board revenue cycle experts recommend three keys to achieving effective integration:

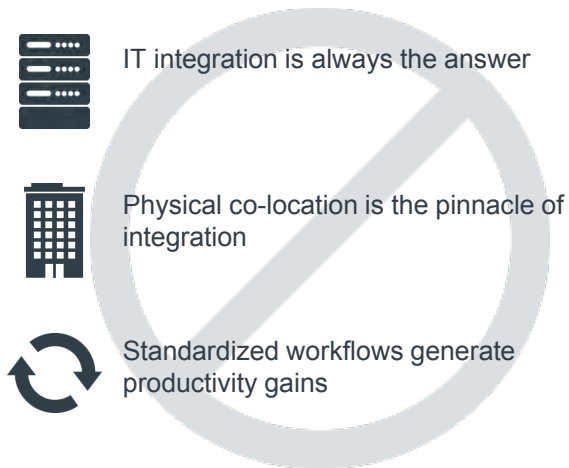
First, health systems should have a shared reporting structure. Unified management and performance expectations are essential for consistent high performance.

Second, organizations should take advantage of shared economies of intellect, hardwiring best practices so employees can learn from each other.

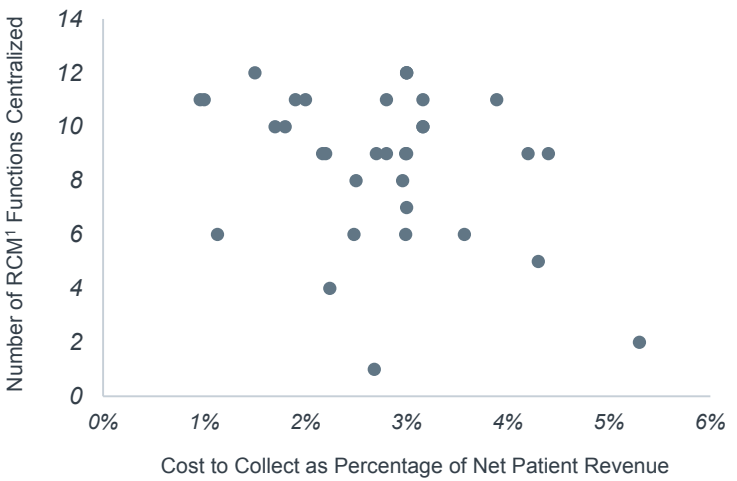
Finally, health systems should establish shared accountability, with standard key performance indicators and expectations that hold the entire business function accountable across the system.

Striving to Make Revenue Cycle Integration More Than the Sum of Its Parts

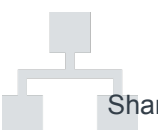
Revenue Cycle Consolidation Myths



Level of Centralization Uncorrelated with Lower Cost to Collect



Keys to Effective Revenue Cycle Integration



1 Shared Reporting Structure

2 Shared Economies of Intellect

3 Shared Accountability

1) Revenue cycle management.

Source: 2017 Revenue Cycle Benchmarking Survey, Financial Leadership Council; Health Care Advisory Board interviews and analysis.

Still in Search of Top-of-License Care

Unlike administrative roles, most clinical positions cannot be easily centralized or consolidated. Therefore, labor cost avoidance must come from improving productivity through top-of-license care.

While the principles of top-of-license care delivery should be applied to all clinicians, hospitals and health systems should prioritize improving the productivity of their most expensive clinician: the physician. The two primary levers for achieving physician top-of-license care delivery are labor substitution and technology enablement.

Two Levers for Elevating Physician Performance

Primary Principles for Achieving Top-of-License Clinical Care

1

Labor Substitution

Elevating the role of advanced practitioners to ensure maximum physician productivity

2

Technology Enablement

Leveraging technology to alleviate administrative burdens and eliminate physician time waste

Advisory Board Publications on Top-of-License Care, available on advisory.com

- The Sustainable Acute Care Enterprise:
  Radically restructuring costs and operations to break even on Medicare
- Five Steps to Build the Advanced Medical Home
- Reengineering Practice Workflows:
  Alleviating the growing administrative burden on the practice of medicine

Source: Health Care Advisory Board interviews and analysis.

Prioritize Physician Productivity Gains

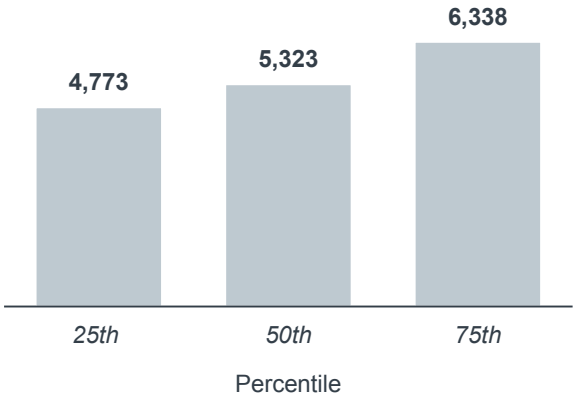
In addition to being the most expensive labor resource, physicians exhibit wide variation in productivity.

According to Advisory Board's Medical Group Benchmark Generator, 25th percentile primary care physicians produce 1,565 fewer work relative value units (wRVUs) per year than their 75th percentile peers. This difference translates into millions of dollars considering health systems can easily invest upwards of $400,000 per employed physician at lower-performing multispecialty groups.

Still Substantial Running Room to Manage Labor Cost Growth

Physician Productivity

2016 wRVU[1] Productivity per Primary Care FTE



Employment Remains Expensive

$400K

Expected per-physician losses at multispecialty employed medical group[2]

Trends Point to Continued Growth

49%

Increase in the number of hospital-employed physicians, 2012-2015

> **"Physician compensation is like college tuition: We all realize the rising costs are not sustainable, but no one knows what to do**…. Nobody else in our health system gets the year-over-year wage growth that our physicians do. But on the other hand, everything else that costs that much is bricks and mortar, and you can't fill those beds without providers."
>
> *Medical Group CEO at an Eight-Hospital System*

1) Work relative value unit.
2) For a bottom-quartile performing medical group with 150 or fewer physicians.

Source: 2017 Integrated Medical Group Benchmark Generator, Medical Group Strategy Council; Health Care Advisory Board interviews and analysis.

Physician Productivity Key to Slowing Cost Growth

There are several ways to manage investments in the physician enterprise over time, but not all are advisable.

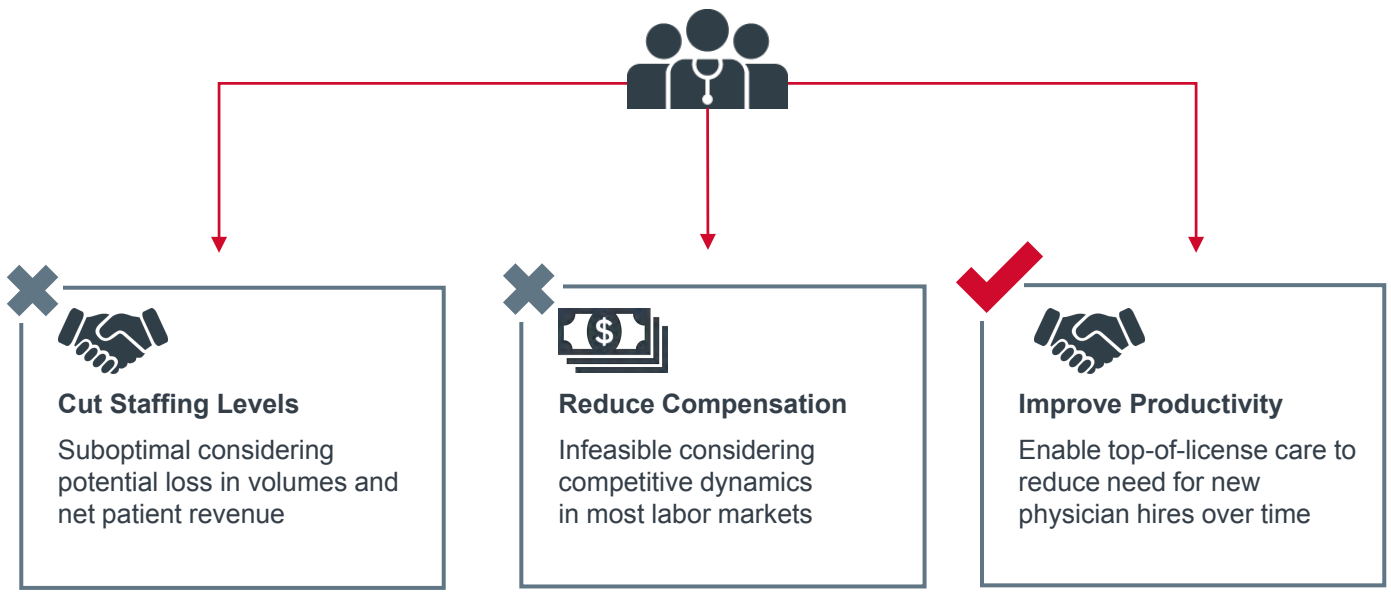
Reducing staffing levels yields quick wins, but forgone volumes and revenue will likely offset any savings.

Decreasing compensation would also create immediate savings—but is likely to drive away top talent.

Improving physician productivity may require up-front investments in personnel or technology, but it provides the best approach for sustainable long-term cost avoidance. This strategy increases physician production, reducing the rate at which organizations need to hire new physicians moving forward.

Prioritize the Long Term Over Quick Wins

Multiple Avenues for Reducing Physician Labor Expense



To explore these topics in more depth, see our recent publication:
Report from the Frontier of Physician Compensation: How Physician Pay Is Evolving in an Age of Consumerism and Burnout, available on advisory.com

Source: Health Care Advisory Board interviews and analysis.

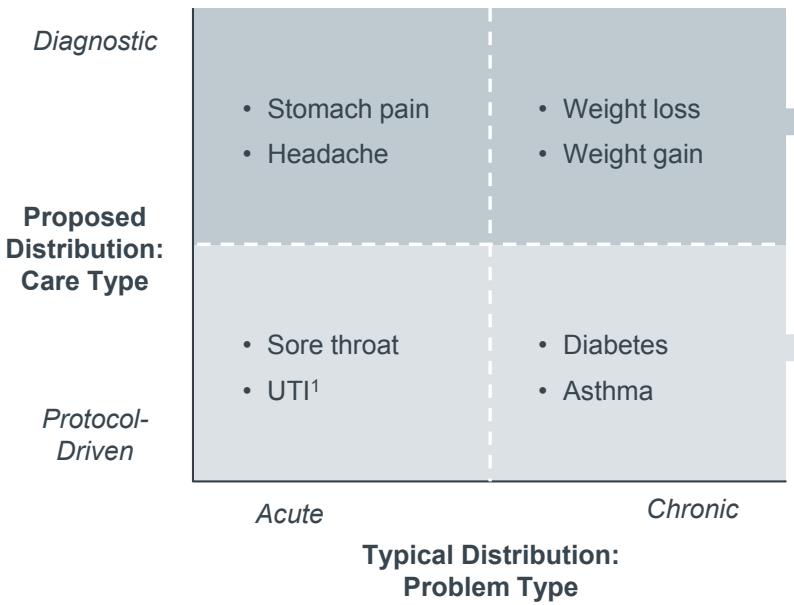
Improving Clinician Labor-Cost Efficiency

The status quo model asks doctors to deliver most care, rather than segmenting the clinical workforce so every member of the care team operates at top-of-impact.

Even organizations that segment work often organize visits by acuity and problem type. Instead of focusing strictly on acuity, care teams should segment patient visits based on the type of care that needs to be delivered. Diagnostic care should fall to physicians while advanced practitioners (APs) handle protocol-driven cases.

Provider Skills Map to Care Type, Not Problem Type

Classifying Primary Care Visits



Physician Advantage

- Physicians trained in differential diagnosis
- Shorter visits help meet productivity expectations
- Median compensation: **$241,704**[2]

Advanced Practitioner (AP) Advantage

- APs trained in patient education techniques
- Cost effective to spend more time with patient
- Median compensation: **$108,464**[3]

1) Urinary tract infection.
2) Median annual compensation for internal medicine physician.
3) Median annual compensation for internal medicine nurse practitioner.

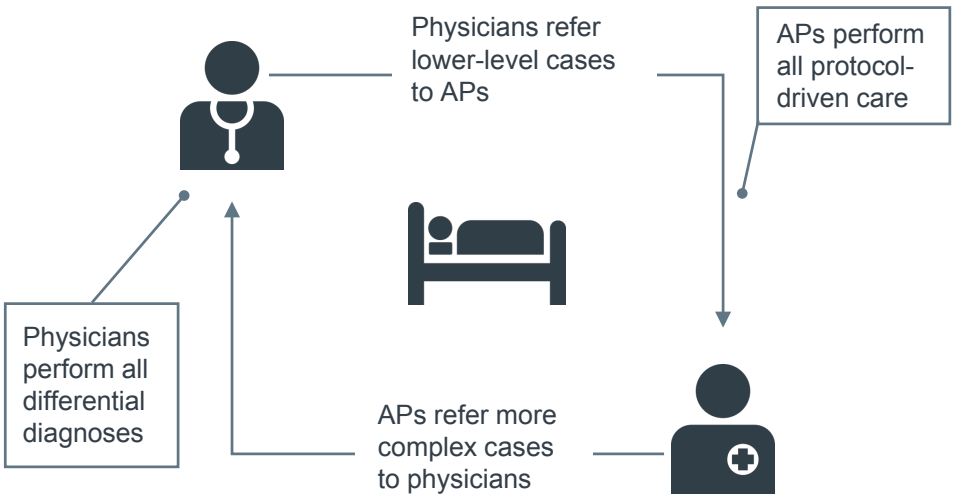
Source: 2017 Integrated Medical Group Benchmark Generator, Medical Group Strategy Council; Health Care Advisory Board interviews and analysis.

Elevating APs' Prominence in the Practice

Sargas Health System, a pseudonym for a 12-hospital system located in the Midwest, deploys APs against all protocol-driven care to protect physicians' time for the most complex patients. The organization also backfills physicians with APs as physicians retire or leave the system. Sargas expects to save $4 million to $5 million in labor expenses per year using this strategy to reshape their medical group.

Protect Physician Capacity for Complex Cases

Reimagining the Physician Role with Team-Based Care



$4M–$5M

Expected savings from increasing AP:MD ratio and expanding AP scope of responsibilities

Case in Brief: Sargas Health System[1]

- 12-hospital health system located in the Midwest
- Increasing advanced practitioner-to-physician ratio over time by backfilling physicians with advanced practitioners
- Expected savings of $4M-$5M per year

1) Pseudonym.

Source: Health Care Advisory Board interviews and analysis.

Long Term, Labor Substitution an Incomplete Solution

In the long term, labor substitution alone may not be sufficient to manage labor expenses.

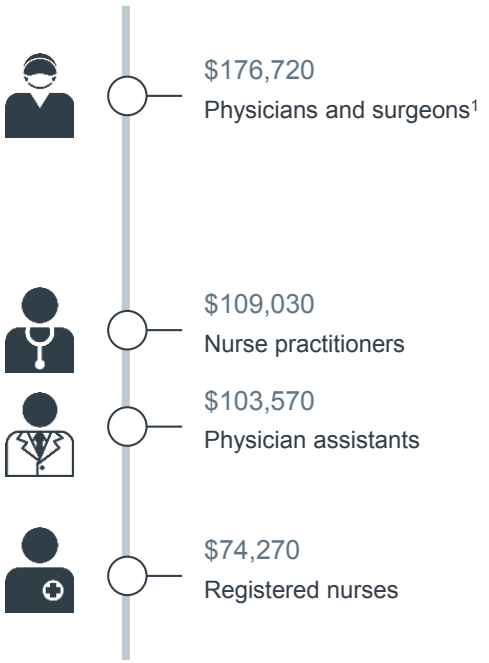
Wages will continue to rise over time, and market-specific labor shortages and competition will further drive up salaries.

As these pressures mount, hospitals and health systems need to employ alternatives to labor substitution by leveraging technology wherever possible to supplement—or even substitute—human labor.

Rising Wages and Nursing Shortage Limit Benefits

Mean Annual Wages by Occupation

Individuals Employed at General Medical and Surgical Hospitals, May 2016



Nursing Shortage Projected to Worsen Across Next Decade

the Atlantic

The U.S. Is Running Out of Nurses

"The country has experienced nursing shortages for decades, but an aging population means the problem is about to get much worse."

700K

Nurses expected to retire or leave the labor force by 2024

1.2M

Projected job openings due to growth and replacement needs, 2014-2024

1) Anesthesiologists, family and general practitioners, internists, obstetricians, gynecologists, pediatricians, psychiatrists, surgeons.

Source: Grant R, "The U.S. Is Running Out of Nurses," *The Atlantic*, Feb. 3, 2016; Bureau of Labor Statistics, "May 2016 National Occupational Employment and Wage Estimates, United States," May 2016; Health Care Advisory Board interviews and analysis.

Technology the Next Frontier in Labor Productivity

New innovations in technology enable organizations to embrace the next frontier in productivity.

Currently, hospitals and health systems primarily use technology to enhance the productivity of individuals. However, as organizations exhaust these strategies, managing hiring rates will become increasingly dependent on full-scale automation where possible.

Moving from Enablement to Automation

Numerous Opportunities Ahead in Technology-Enabled Role Redesign

Mobile Diagnostics

At-home technology can diagnose specific conditions and monitor vitals

Enhanced Self Care

HF Defender HEART FAILURE

Mobile apps can monitor patient status, update care team, direct patient to appropriate care

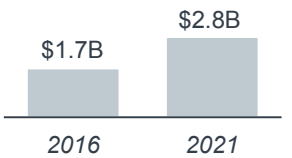
Data Analytics

The University of Chicago Medicine

Google

New emerging partnerships use machine learning to predict hospitalizations and monitor patients

Robotics



Projected increase of 65% in the market for health care robots (e.g., surgical robots) by 2021

-3%

Projected change in worldwide health care jobs from widespread use of telemedicine[1]

36%

Estimate of technical potential for automation in health care[2]

$2B

H1 2016 venture funding in digital health technologies

1) Projections from The World Economic Forum's Future of Jobs report, 2015-2020.
2) McKinsey cross-industry analysis.

Source: Financial Buzz, "The Growth of Robotic Innovation in the Medical Sector," March 7, 2017; Heller K, "Self-Funded Team Led by ER Doctor Wins 'Star Trek'-Inspired Competition," *The Washington Post*, April 13, 2017; Pogorelc D, "For a Heart Failure Patient, HF Defender App Is Like a Cardiologist in Your Pocket," *MedCity News*, Aug. 19, 2013; Sweeney E, "Academic Medical Centers Teaming Up with Google to Bolster Machine Learning and Predictive Analytics," *FierceHealthcare*, May 22, 2017; Chui M, et al., "Where Machines Could Replace Humans—and Where They Can't (Yet)," *McKinsey & Company*, July 2016; World Economic Forum, "The Future of Jobs," Jan. 2016; Mom M and Adams A, "Digital Health Funding 2016 Midyear Review," *Rock Health*, 2017; Health Care Advisory Board interviews and analysis.

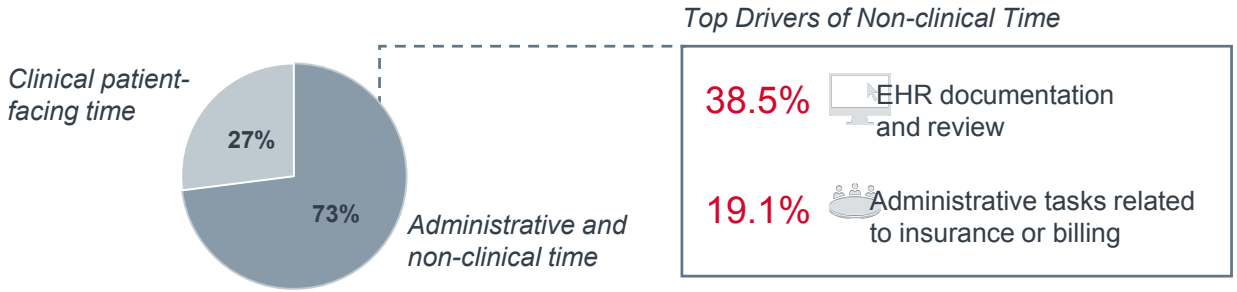
Finding Technology Solutions for Administrative Tasks

Non-clinical tasks, for example, are ripe for automation. Currently, physicians spend only about a quarter of their days treating patients. They spend the vast majority of their time on non-clinical tasks, including working in the EHR and on billing-related activities. This undesirable task allocation hinders productivity and fuels burnout.

Health systems should use technology to off-load administrative burdens, boost productivity, and stem physician burnout. These principles also apply across the care team, especially to nurses.

Physicians Overburdened, Underproductive, and Burned Out

Allocation of Physician Time in Ambulatory Practice



Physician's **Current** Role	Physician's **Future** Role
Practicing Below License Treating low-acuity patients better suited for AP-level care	**Practicing at Top of License** Using EHR to optimize workflows, generate acuity-driven care pathway
Seeing Suboptimal Patient Volumes Overburdened with administrative tasks causing burnout, hindering productivity	**Treating Optimal Number of Patients** Leveraging telemedicine to reduce travel time, treat higher volumes

Source: Sinsky C, et al., "Allocation of Physician Time in Ambulatory Practice: A Time and Motion Study in 4 Specialties," *Annals of Internal Medicine*, December 2016; Health Care Advisory Board interviews and analysis.

Beyond Traditional Nursing Productivity Tactics

There is no shortage of supply-side strategies to improve nursing productivity. However, many of these strategies have been largely exhausted or remain intentionally unpursued.

For example, some organizations have yet to implement volume-driven staffing models because they require investments in technology and changes in employment status. For example, organizations would need to switch nurses from full-time to part-time schedules to enable scheduling flexibility. This may be financially and culturally difficult, especially in heavily unionized regions.

Considering these supply-side challenges, hospitals and health systems should focus on managing demand for nursing labor within a patient episode by improving LOS. Reducing LOS is hardly a novel approach, but its purpose is evolving. In the past, hospitals managed LOS to create new capacity. But hospitals and health systems should now manage LOS to control staffing expenses as well. In fact, two of the five largest opportunities to reduce operating expenses through care variation reduction directly relate to the demand for nursing labor: ICU/CCU LOS and routine bed LOS.

Balance Focus on Enhancing Supply with Decreasing Demand

Traditional **Supply-Side** Strategies

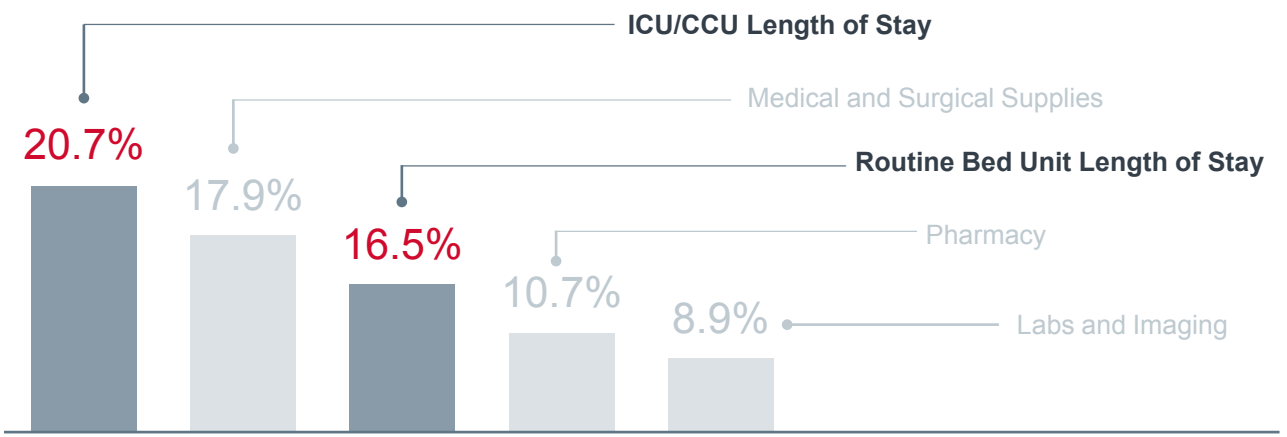
- ✔ Volume-driven staffing
- ✔ Top-of-license practice
- ✔ Minimum productivity standards

Emerging **Demand-Side** Focus

Decrease demands on nurses by improving average length of stay in ICU and general medical/surgical beds

Leading Opportunities to Reduce Costs Through Care Variation Reduction (CVR)[1]

LOS Reduction Accounts for More Than One-Third of Total CVR Savings Opportunity



1) As a percentage of total cost reduction opportunity for the cohort of 300- to 400-bed hospitals.

Source: Advisory Board Direct Cost Reduction Opportunity Analysis, Medicare Fee-for-Service Claims Data; Health Care Advisory Board interviews and analysis.

Clear Opportunities Within Our Own Organizations

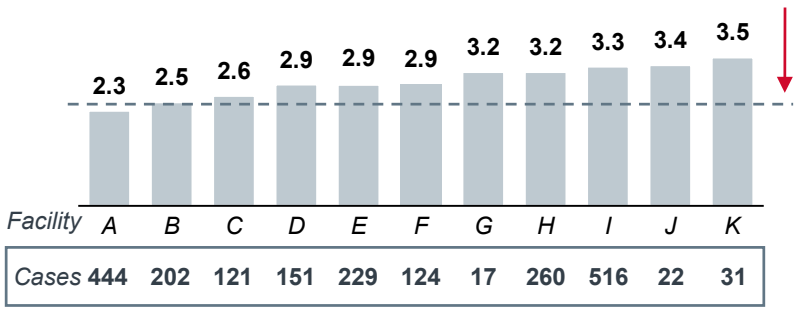
Before attempting to achieve industry-wide average length of stay (ALOS) benchmarks, health systems should start by addressing intra-system variation.

Consider this analysis of knee and hip replacements at Capella Health System, a pseudonym for an 11-hospital health system located in the Midwest. Capella exhibits wide variation in ALOS performance across facilities, with more than a full day separating Hospitals A and K for knees, and double that for hips.

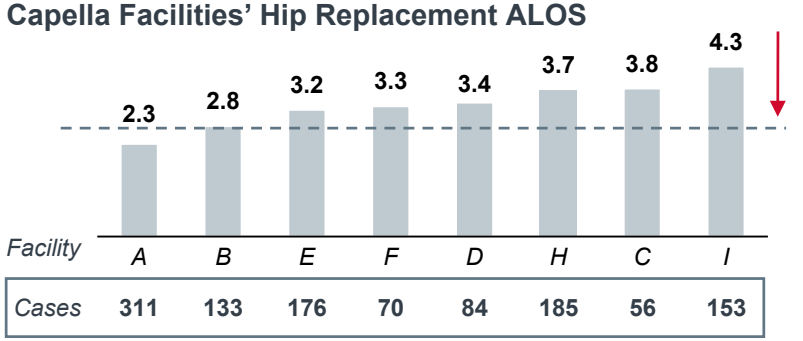
Hospital B is a top quartile performer within the system. If Capella could make Hospital B's strong performance consistent across the system, it could save more than a thousand days of inpatient care. Those days' worth of nursing labor could have been avoided or available to treat additional patients.

Health Systems Experiencing Intra-system Variation

Capella Health System's[1] Facilities' Knee Replacement ALOS[2]



Capella Facilities' Hip Replacement ALOS



System-Wide Avoidable Days if ALOS at All Capella Facilities Matched Site B

Knee and hip replacement volume at given facility

x

ALOS difference between top 25th percentile and given facility

=

Opportunity for facility (to calculate total system opportunity, sum opportunity for each facility)

1,168 days

Annual avoidable days if all facilities matched system's own top 25th percentile ALOS (563.7 from knees, 604.7 from hips)

Case in Brief: Capella Health System

- 11-hospital system located in the Midwest
- Represents a typical volume and level of variability in multi-facility health systems analyzed by Advisory Board's "Systemness" Model of Clinical Standardization Opportunity

1) Pseudonym.
2) Average length of stay.

Source: Health Care Advisory Board interviews and analysis.

Improving Performance to Industry Best Practice

Once organizations address intra-system variation, they should compare their performance to industry best practice.

For example, improving Antares's length of stay from industry 50th percentile to 80th percentile for the top 10 highest-volume MS-DRGs could yield nearly $6 million in avoided nursing labor expenses over eight years.

In addition to controlling labor expenses, reducing ALOS will free up capacity. However, few hospitals face capacity constraints amid declining national inpatient admissions. At these organizations, eliminating excess capacity through service line rationalization may unlock additional opportunities for labor savings. Once clinical services operate as efficiently as possible, health systems may realize they do not need to offer all services at every location.

Sizeable Savings for Antares from Top 10 MS-DRGs Alone

Length of Stay Improvement from 50th to 80th Percentile

2016 Top 10 Highest-Volume MS-DRGs

MS-DRG	50th	80th	Change in ALOS
189- Pulmonary edema & respiratory failure	4.20	3.36	0.84
190- Chronic obstructive pulmonary disease w mcc	4.18	3.37	0.81
193- Simple pneumonia & pleurisy w mcc	4.88	3.97	0.91
194- Simple pneumonia & pleurisy w cc	3.70	3.05	0.65
291- Heart failure & shock w mcc	4.80	3.90	0.90
292- Heart failure & shock w cc	3.79	3.14	0.65
392- Esophagitis, gastroent & misc digest disorders w/o mcc	3.00	2.51	0.49
470- Major joint replacement or reattachment of lower extremity w/o mcc	2.94	2.36	0.58
871- Septicemia or severe sepsis w/o mv 96+ hours w mcc	5.41	4.46	0.95
872- Septicemia or severe sepsis w/o mv 96+ hours w/o mcc	4.10	3.43	0.67

37

Additional daily free beds due to ALOS improvement across 10 highest-volume MS-DRGs

21,900

Fewer nursing hours demanded per year for these 10 MS-DRGs

$5.8M

Total potential nursing cost avoidance over eight years

Source: Health Care Advisory Board interviews and analysis.

Fine-Tuning the Clinical Service Portfolio

For example, Yale New Haven Health System (YNHHS) applied a purposeful and disciplined approach to service distribution across its market.

In 2012, YNHHS acquired Hospital of Saint Raphael, located less than a mile from the main hospital campus on York Street. After the acquisition, YNHHS performed a systematic review to decide which services to provide at each location. Some were consolidated at the main campus, some at Saint Raphael, and others continue to be provided at both campuses.

YNHHS invested $160 million to acquire Saint Raphael, but it realized $200 million in savings attributable to service line consolidation alone. Beyond the initial wins, leaders at YNHHS reported that they increased volumes and expect to generate ongoing savings in the future.

Geographic Proximity Enables Clinical Economies of Scale Post-acquisition

Yale New Haven Health System
Post-acquisition Service Line Allocation

York Street

- Major trauma
- Cardiac surgery
- Oncology
- Transplant
- High-risk obstetrics
- Children's hospital

Both Campuses

- Behavioral health
- Emergency services
- General medicine
- Heart and vascular
- Neurosciences
- Urology
- Women's services

Saint Raphael

- Musculoskeletal center
- Low-risk, high-amenities obstetrics
- Specialty geriatrics
- Specialty GI surgery
- Neurovascular
- Medical heart failure

$160M

Cost to acquire Hospital of Saint Raphael

$200M

One-time savings attributable to consolidation of clinical services, economies of scale

Case in Brief: Yale New Haven Health System

- Five-hospital health system and academic multispecialty group practice based in New Haven, Connecticut and affiliated with Yale University
- Acquired Hospital of Saint Raphael, located eight blocks away from main hospital campus
- Immediately consolidated trauma, cardiac surgery, and cancer care
- Consolidation led to 300 FTE decrease, including seven senior executives
- No adverse impact to community services offered

Source: Cheney C, "How Yale-New Haven Health System Cut Spending by Millions," *HealthLeaders Media*, October 6, 2016; Health Care Advisory Board interviews and analysis.

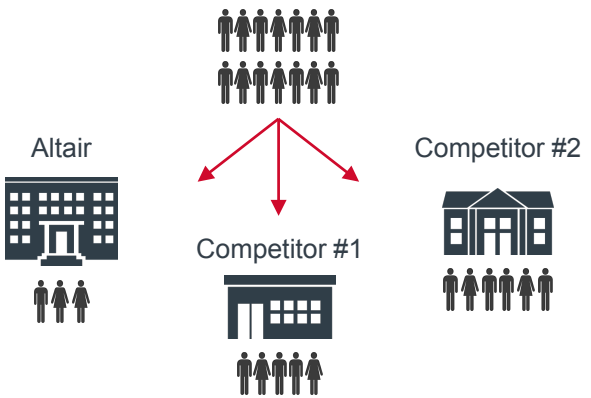
Confronting Difficult Decisions

Sometimes service line consolidation is not enough, and organizations must confront the difficult decision to eliminate services.

Altair Healthcare System, a pseudonym for a one-hospital system located in the Northeast, provided adult day services for 15 years but faced strong competition and low volumes, resulting in losses year after year. It became clear to leaders that the business was unsustainable. Altair made the difficult decision to sell its operating license and no longer provide the service.

Consolidation Sometimes Not Enough

Altair Healthcare System's[1] Adult Day Center Business Unsustainable in Current Market



$600K

Annual loss on adult day center

Case in Brief: Altair Healthcare System

- One-hospital health system located in the Northeast
- Adult day center experiencing low volumes, market competition
- System incurred losses for 15 years, no downstream revenue
- In process of selling operating license to avoid future $600,000 per year losses

Rationalization Checklist

- ✖ Steady volumes
- ✖ Few competitors
- ✖ Critical to mission
- ✖ Positive operating margin
- ✖ Downstream revenue

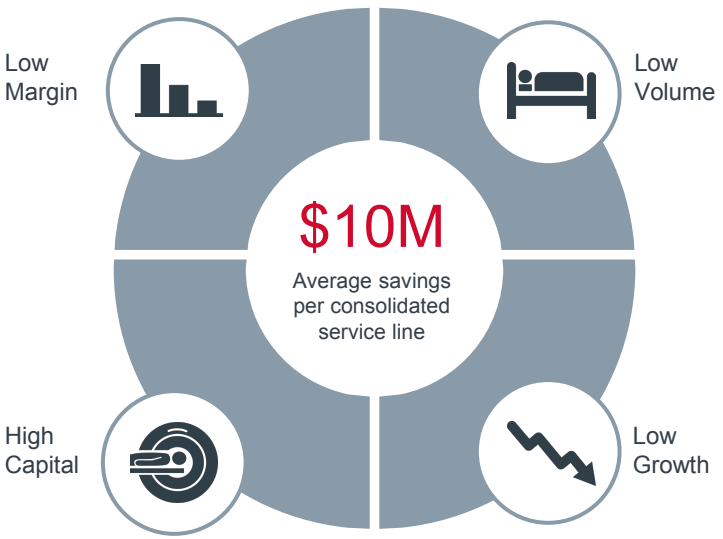
1) Pseudonym.

Source: Health Care Advisory Board interviews and analysis.

Essential Elements of Service Rationalization

While examples of full-scale service elimination are still few and far between, many organizations are already engaging in service line consolidation as an initial step toward rightsizing their clinical service portfolios. Before proceeding, health systems should evaluate potential consolidation in areas exhibiting a combination of the following four characteristics: low margin, low volume, high capital, or low growth. Once organizations identify candidates for consolidation, they must apply a principled approach that engages all stakeholders—including physicians, executives, and community members—with clearly defined goals.

Identifying Top Opportunities



Applying a Principled Approach

Staff Transitions
Responsibilities appropriately reassigned, transition tailored to retain highest-quality staff members

Purposeful Planning
System ensures that each goal of eliminating duplication corresponds with a deliberate action plan

Staged Timeline
Process of eliminating duplication follows appropriate schedule, enabling timely execution of essential tasks

Physician Engagement
Needs of clinical staff affected by transition addressed through transparent involvement of leadership

Study in Brief: The Hospital of the Future

Read this Health Care Advisory Board research report and learn how to eliminate unnecessary duplication, rightsize hospital capacity, and rethink acute care models; available on advisory.com

Source: Health Care Advisory Board interviews and analysis.

Quantifying Savings from Best-in-Class Strategies

Antares, the model health system introduced on page 13, set out to find $160 million to $170 million in labor cost avoidance over the next eight years.

The examples in this section generate approximately $109 million in labor cost savings. Antares will need to find additional savings to meet its operating margin goal in 2025. The system should continue to implement strategies that bend the labor cost curve by improving workforce productivity and matching fixed cost capacity to future patient demand.

$160M–$170M

Antares's labor cost avoidance mandate, 2017–2025

Applying Strategies to Antares

5	Scaled administrative roles and responsibilities	≈$55M
6	Top-of-license clinician role redesign	≈$14M
7	LOS-driven labor demand management	≈$10M
8	Selective service-line rationalization	≈$30M

≈$109M Eight-year cumulative savings from four labor cost-avoidance strategies

Highlighted Advisory Board Tactics for Additional Savings in Labor Spending

- Make your employees accountable for their health costs
- Flex staffing to demand
- Build a value-driven staffing model
- Stop millennial turnover in the first three years of employment
- Tie employee compensation to enterprise-wide performance

FOR MORE INFORMATION
on these topics, see The Finance Leader's Resource Guide, available on advisory.com

Source: Health Care Advisory Board interviews and analysis.

Additional Advisory Board Resources

Advisory Board research teams have published a variety of resources to help hospitals and health systems contain labor expenses. Research teams have also developed a number of web-based, quantitative tools to help leaders identify specific opportunities at their organizations.

These resources provide targeted guidance to help executives design an enterprise-wide strategy to manage labor expenses.

Best Practices and Tools for Avoiding Labor Cost Growth

Bending the Labor Cost Curve

Discover "next-generation" labor savings tactics that peer executives believe most warrant further investment of time and resources

The Care Transformation Business Model

Outlines strategies for building an attractive network, adding covered lives, securing favorable contracts, and attaining strong long-term network performance

Realizing Full Value of the Care Team

Strategies for designing advanced practitioner clinical roles, strengthening physician-advanced practitioner collaboration, and managing the advanced practitioner cohort

Achieving Top of License Nursing Practice

Explore 20 best practices for ensuring frontline nurses have the time and interprofessional support they need to practice to the full extent of their training and skills

Span of Control Benchmark Generator

Explore the results from our national benchmarking survey on hospital span of control, and find where you can slice and dice the data to compare your organization's performance to that of your peers

Integrated Medical Group Benchmark Generator

Explore benchmarks on medical group practice performance to accurately assess your performance relative to peers

All of these resources are available on **advisory.com**

Source: Health Care Advisory Board interviews and analysis.

Key Takeaways

1	**Slow workforce growth by eliminating duplication, improving productivity, and ensuring the appropriate distribution of services across the system**	Health systems should prioritize labor strategies that create structural changes and bend the cost curve rather than implement cyclical tactics, such as decreasing compensation or benefits. Labor is the largest operating expense category for health systems, and slowing its cost growth will be critical to long-term system sustainability.
2	**Capture increased value from consolidation by moving from centralization to integration**	To date, physical co-location of non-clinical staff has been insufficient to achieve administrative economies of scale. As health systems continue to grow, they must evolve beyond basic centralization by eliminating duplication, improving span of control, and pursuing integration in business functions.
3	**Enable top-of-license practice to slow the rate of additional clinician employment over time**	While health systems must strive to manage the investment in employed medical groups, efforts to reduce headcount or compensation will be ineffective. Organizations can achieve long-term physician cost avoidance by improving productivity through top-of-license role redesign and using technology to make workflows more efficient.
4	**Balance traditional tactics that increase nurse productivity with new strategies designed to reduce the demand for nursing labor**	Health systems have typically focused on supply-side solutions to improve nurse productivity. Given labor market forces, organizations should also reduce the demand for nurse labor within a given episode of care by improving length of stay.
5	**Achieve clinical economies of scale through selective service-line rationalization**	Health systems should evaluate their clinical service portfolios to determine the most appropriate distribution of services across the system. Rationalizing sub-scale service lines will allow organizations to more accurately map labor to volumes.

Source: Health Care Advisory Board interviews and analysis.

Related Research Memberships

For more information about:

Engaging physician leaders in care variation reduction

Physician Executive Council

Provides best practices on reducing care variation, engaging the medical staff, and optimizing the use of physician leaders

Publications

- Achieving Cost-Savings Goals Through Care Variation Reduction
- 10 Insights on Reducing Care Variation from Pioneer Health Systems
- Achieve Better Clinical Decision Support with Fewer Alerts

Enhancing nursing performance and improving patient outcomes

Nursing Executive Center

Arms nurse executives with the market insights and guidance they need to set strategy and achieve organizational goals

Publications

- Design and Embed Care Standards that Nursing Will Embrace
- Rising Above the Bottom Line
- Untapped Opportunities for Saving Millions

Recruiting, engaging, and retaining staff

HR Advancement Center

Helps HR leaders work more efficiently to advance their organization's most critical goals through its people

Publications

- Win Talent in a Candidate-Centric Market
- Stop Turnover in the First Three Years
- Bending the Labor Cost Curve

Working with pharmacy leaders to integrate their expertise

Pharmacy Executive Forum

Assists pharmacy leaders in developing strategic business plans and leading medication-related performance improvement

Publications

- Elevating Pharmacy Leadership to Meet System Goals
- What CEOs Don't Know About Pharmacy
- Health System Specialty Pharmacy

Source: Health Care Advisory Board interviews and analysis.

Want more on **cost control**?

This report is a publication of the Health Care Advisory Board, a division of Advisory Board. As a member of the Health Care Advisory Board, you have access to a wide variety of material, including webconferences, research reports, implementation resources, our blog, and more. Check out some of our other work on margin management.

Executive Research Briefing: The Finance Leader's Resource Guide

Includes no-regrets strategies needed to support mission and margin in any regulatory environment.

Implementation Resource: Cost Reduction Opportunity Assessment

Helps identify potential opportunities for cost reduction for Medicare patients by comparing your performance to a cohort of peer institutions.

Executive Research Briefing: The Hospital of the Future

Outlines 12 tactics for restructuring the acute care asset to compete on value by reallocating services across the system and rightsizing excess inpatient capacity.

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