Bundled Care
State of Play,
Lessons Learned,
and Future Prospects
This report provides an overview of healthcare bundles, including the history of their development and the outlook for their future. It is meant to inform discussions among healthcare decision makers as they forge a path for bundled care.

Booz & Company works with clients on a wide range of innovative payment and care models, including accountable care organizations, patient-centered medical homes, and bundled-care products. The firm also sponsors a nationwide multi-stakeholder survey that assesses the attitudes of employers and payors and their readiness for bundled care.

The authors of this report are senior Booz & Company experts who serve healthcare clients across the value chain, including payors, consumer-health companies, hospitals and health systems, and integrated care organizations.
EXECUTIVE SUMMARY

U.S. health industry supply, demand, and cost pressures have been increasing for decades. In response to these pressures, the healthcare system is slowly evolving from a model that focuses on paying providers for discrete activities, often on a fee-for-service basis, to one that ties payment to outcomes and requires stakeholders to collaborate in the integrated delivery of interrelated services. A primary goal of the new healthcare model is to increase quality of care and improve outcomes while reducing costs.

Bundled care, the focus of this report, breaks with today’s dominant fee-for-service medical model by offering a complete package of care for a specific condition. A single fee covers everything related to a condition or procedure, from diagnosis to recovery, and patients are given a clear sense of the activities and costs associated with the condition up front. This transparency enables patients to make better decisions about which provider offers the most value. It enables providers to integrate activities across the value chain, and thus to improve the quality of care while minimizing the total cost associated with a condition.

The bundled-care model is attracting interest from healthcare professionals for a number of reasons. It reduces fragmentation and waste in care delivery, enables patients to take a more active role in their care, and can be easily integrated with other emerging care models.

Other emerging care models often share common characteristics, all involving the transformation of care delivery, but each takes a different approach. Concepts such as global payments (lump sum payments per treatment) and capitation (lump sum payments per patient) are regaining attention as constructs that encourage providers to maintain high standards of care while avoiding unnecessary treatments.

One care-delivery model is the accountable care organization (ACO), which rose to prominence with the passage of the Patient Protection and Affordable Care Act (PPACA). ACOs are groups of healthcare providers that work together to deliver a range of services to an assigned population of patients. Third-party payors allow ACOs to keep a portion of the savings they realize through these collaborative arrangements. Another model is the patient-centered medical home (PCMH). This delivery model calls for primary-care physicians to coordinate treatment for their patients across providers. PCMHs can work with ACOs to gain access to a spectrum of care options for their patients. Hundreds of ACO and PCMH pilots have been announced or are already operating across the country. Both models emphasize concepts such as care teams, panel management, prevention and wellness, care guidelines, evidence-based medicine, and patient engagement that are also central to many bundled-care models.

Today's market and regulatory environment supports bundled care more than it had in the past. The PPACA also creates a regulatory environment that allows for and encourages physicians and hospitals to participate in “gain-sharing” programs (shared incentive programs in which institutions or teams benefit directly when they reduce costs). Electronic medical records, when combined with claims data, provide a basis for creating and monitoring patient care pathways. New technologies can track the economic contributions of each care provider without reliance on claims data.

Most medical conditions can be partially or fully bundled in some way, but some are more suitable for bundling than others. High-cost, high-volume elective procedures with controllable variability and relatively standard protocols are the easiest to bundle.
However, the principles of bundling extend readily to any setting where treatment paths are clear. The best bundles provide pricing that is easy for consumers to understand, along with acceptable, attractive payment structures for providers.

The early pilot programs and demonstrations have provided a proof-of-concept for bundled care. A look at roughly 70 past and present bundled programs reveals that a majority of the initiatives have focused on bundling surgical care, with an emphasis on cardiac and orthopedic procedures. A large portion of bundles to date have been retrospectively paid, covering hospital and physician costs in an inpatient setting. Prospectively paid bundles are relatively new to the game. The bundles have been initiated by a variety of stakeholders, most often the U.S. Centers for Medicare & Medicaid Services or private payors, but also provider systems and even select employers.

Where bundles have been successfully implemented, they have almost universally delivered positive results. They have significantly lowered costs for patients and their sponsors. These cost reductions have correlated with quality improvements, and bundle participants have seen reductions in mortality rates and the number of complications. Physicians have credited the programs with improving efficiency. Success in implementation depends upon the quality of execution. The most successful implementations have occurred in programs where organizations have made full commitments, providing adequate resources and strong, multi-stakeholder teams.

Notably missing from bundled efforts to date is a focus on consumer-centricity. This will be required as healthcare becomes increasingly “productized.” Market winners will be those that can provide high quality at a more competitive price and with features that are important to consumers.

Many treatments and conditions, including outpatient care, orthopedics, cardiac care, selected oncologic diseases, and maternity, are candidates for care bundles. It is now a priority for the healthcare system to scale the bundled-care model to include more patients and conditions. Senior leadership is essential for successful implementation. Stakeholders must take several steps, including investing in research to understand consumers and markets, developing enabling technologies and consumer-support tools, and understanding the transition path and organizational implications of bundled care.

Although many challenges still need to be addressed, bundles can be an important part of the healthcare improvement solution. Market makers that learn to scale bundles in a sustainable way will likely have a first-mover advantage and could develop long-term competitive advantages.
THE CONCEPT OF BUNDLED CARE

In order to “bend the cost curve” and reduce overall expenses, the U.S. healthcare system will need to shift from its current fee-for-service construct—with payments and incentives for activity-based siloed care—to a more outcome-based integrated approach that will require collaboration among all stakeholders. The basis of competition for payors and providers is shifting; collaborative care models are gaining momentum and will be increasingly prominent in the coming years. The traditional models have tended to focus on revenues, negotiation skills, institutional agency, and the provision of state-of-the-art care. The new models tend to emphasize margins, collaboration, patient agency, and the provision of high-quality, cost-effective care (see Exhibit 1).

A number of innovative models are emerging that have the potential to reduce healthcare costs while maintaining or improving outcomes. They do so by encouraging providers to collaborate across the value chain to capture scale benefits and deliver more integrated service. They may also provide incentives to consumers to seek out the highest-quality affordable care.

Accountable care organizations (ACOs) are groups of physicians, hospitals, and other providers that collaborate to deliver services across care settings and share costs. Patient-centered medical homes (PCMHs) are teams led by physicians (or other primary-care providers) that provide coordinated, comprehensive care to patients with the goal of improving health outcomes. Bundled care is a complete package of care for a specific condition. A single fee covers everything related to a condition or procedure, from diagnosis to recovery, and patients are given a clear sense of the activities and costs associated with the condition up front.

All three of these models aim to realize savings by eliminating unnecessary tests and procedures, often by implementing payment structures such as capitation and global payment that provide incentives to manage population health. And each relies on improved data analytics to enhance decision making. Bundled care is our focus in this report, but the three models are often linked. PCMHs often form the backbone of ACOs or can be considered primary-care bundles in themselves.

Exhibit 1
The Basis of Competition for Payors and Providers Is Shifting

<table>
<thead>
<tr>
<th>THE BASIS OF COMPETITION FOR PAYORS AND PROVIDERS</th>
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<tbody>
<tr>
<td>From ...</td>
</tr>
<tr>
<td>Revenue - Focus on covering fixed costs with higher</td>
</tr>
<tr>
<td>volumes and siloed profits in a “fee-for-service”</td>
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<tr>
<td>environment</td>
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<tr>
<td>Margin - Enabling enhanced system-level margins</td>
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<tr>
<td>through cost sharing and outcome-based reimbursement</td>
</tr>
<tr>
<td>Negotiation - Payors, hospitals, and physicians negotiating contracts, reinforcing “zero-sum” economics</td>
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<tr>
<td>Collaboration - Recognition that enhanced data sharing and linked incentives can bring prices down while preserving margins</td>
</tr>
<tr>
<td>Institution-Centricity - Limited exchange of data; disjointed patient outreach</td>
</tr>
<tr>
<td>Patient-Centricity - Full transparency; increased patient engagement and incentives</td>
</tr>
<tr>
<td>State-of-the-Art Care - Quality of care marketed as newest technology and latest procedure, even if little clinical difference</td>
</tr>
<tr>
<td>High-Quality, Cost-Effective Care - Quality of care marketed by outcome performance - Focus on total cost of care</td>
</tr>
</tbody>
</table>

Source: Booz & Company analysis
Accountable Care Organizations
Like many aspects of the Patient Protection and Affordable Care Act (PPACA), ACOs are highly regulated—they get paid only for services that meet stipulated quality metrics—but also vary widely in their particulars. They are groups of physicians, hospitals, and other providers that collaborate to deliver services across care settings and share costs. They came to prominence as part of PPACA, most notably through Medicare ACO programs such as the Pioneer ACO Model and the Medicare Shared Savings Program. As of January 2013, more than 400 ACOs have been announced. ACOs allow providers to share in the savings they generate when they improve costs and meet quality ratings. To date, efforts have mainly sought to modify the behavior of healthcare professionals by giving them incentives to reduce unnecessary physician consultations, hospital admissions, and emergency department utilization, and to decrease the number of unnecessary tests administered to patients. Most have not focused on modifying patient behavior. Their success is often underwritten by their use of electronic medical records (EMRs), and effective ACOs usually have superior data analytics and care management capabilities that enable them to improve overall system performance and provide first-rate support to physicians.

Patient-Centered Medical Homes
A PCMH can act as a backbone for an ACO (without all of the governance components associated with an ACO) or a “primary-care bundle” to coordinate care across healthcare settings. The PCMH model involves a team, led by a physician or other primary-care provider, that provides coordinated, comprehensive care to patients with the goal of improving health outcomes. The primary-care provider maintains comprehensive records that incorporate information from all of the patient’s healthcare professionals. PCMHs focus principally on improving chronic-care management, ensuring delivery of preventive services, and managing minor emergent or urgent illnesses. Both PCMHs and ACOs promote approaches and concepts such as care teams, panel management, prevention and wellness, care guidelines, evidence-based medicine, and patient engagement that are also central to bundled-care models. PCMHs began to appear in their current form in the mid-2000s, and there are hundreds of medical homes across the country today. Philadelphia-based payor Independence Blue Cross has 300 medical homes in its network alone. Payors provide a large portion of the infrastructure required by PCMHs, and primary-care providers are compensated for the additional work required to implement them through higher reimbursements that result from quality improvements and cost reductions.

Healthcare Bundles
Bundled care breaks with today’s dominant fee-for-service medical model by offering a complete package of care for a specific condition. A single fee covers everything related to a condition or procedure, from diagnosis to recovery, and patients are given a clear sense of the activities and costs associated with the condition up front. This transparency enables patients to make better decisions about which provider offers the most value. It also enables providers to integrate activities across the value chain, and thus improve the quality of care while minimizing the total cost associated with a condition. For example, a knee replacement bundle would cover everything from diagnosis and surgery to rehab—whatever is required for the patient to regain a fully functional knee. The bundled-care model is gaining traction with healthcare professionals for a number of
reasons. It reduces fragmentation and waste in care delivery, enables patients to take a more active role in their care, and can be easily integrated with other emerging care models (see Exhibit 2).

**Bundles Could Revolutionize Healthcare**

*Bundles can be extremely effective because they align the incentives for all key stakeholders,* including hospitals, physicians, payors, employers, and consumers. Bundles provide care through multidisciplinary teams that collaborate across the care continuum, and each is designed to meet the needs of particular consumer segments. Bundles that are structured for prospective payment provide incentives that encourage patients to take an active role in the healthcare process (see “Payment Mechanisms,” page 10). In these cases, consumers are given access in advance to a broad range of information about how their care is delivered and how much it costs, including quality metrics and prices for each activity, which enables consumers to compare the value of different providers’ services.

*Bundles can provide transparency and promote improvement of healthcare cost structures.* Under traditional fee-for-service models, payors and providers have incentives to maximize performance in their own areas without concern for how their activities affect the cost or quality of overall care. Bundles change that dynamic. Physicians and hospitals can share information and jointly invest to improve service and lower the overall cost of the care. Payors can share data to reduce unnecessary utilization and facilitate coordination across the care continuum to lower costs.

*Bundles can encourage providers to adopt manageable risk.* In a fee-for-service environment, payors have traditionally assumed all the risks associated with patient outcomes, including controllable risks over which they and providers may have some influence (such as the number of consults) and risks over which they have no control (such as preexisting risk factors). Bundles require providers to adjust their business model to be able to adopt manageable risk. As most providers do not have the capital or risk pool (a population of patients broad enough to cover the possibility of high-cost

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**Exhibit 2**

*Comparison of the Benefits of Two Payment Models for Health Systems and Physicians*

<table>
<thead>
<tr>
<th>Important Aspects of Innovation for Delivery Systems</th>
<th>Shared Savings Models</th>
<th>Bundled Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enables branding and share growth</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>Provides mechanism to retain value created</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>Eliminates unnecessary administrative work</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>Provides incentives for physician participation</td>
<td>○</td>
<td>●</td>
</tr>
<tr>
<td>Represents manageable risk</td>
<td>○</td>
<td>●</td>
</tr>
</tbody>
</table>

○ Limited benefit  ● Significant benefit

Source: Booz & Company analysis
obligations) to manage total risk, wider acceptance of prospective pricing depends on the development of predictable risk-adjustment mechanisms.

For bundles with warranties—guarantees in which the provider agrees to cover some costs related to incomplete health gains, complications, or readmissions—the data has consistently shown that poor-quality care is significantly more expensive overall. Thus, payors and consumers can benefit from the built-in quality incentive that warranties provide. In addition, players that provide clear quality metrics will be more likely to attract patients. Leading performers will be doubly rewarded, winning increasing volumes as their costs drop. And they can facilitate this process by branding their bundles for quality and value.

**Bundles allow payors to reduce their medical and administrative costs by using their data and expertise to create and support competitive “retail” markets for care products.** In bundled-care-delivery systems, providers will compete with one another for business from payors based on the quality and cost of their products. Payors can develop bundles that are designed, packaged, and even marketed in a way that helps consumers shop around for providers that offer the best value. Because payors store extensive information about healthcare services in their claims databases, they are usually the only entities that have enough data to create these end-to-end bundles (most healthcare systems have not yet adopted mechanisms that allow participants to share healthcare information). Payors can also make use of their data and informatics capabilities (as well as data from EMRs) to provide important information that consumers can use to make decisions about their own care. Bundled-care markets will enable payors to reduce medical and administrative costs (such as those related to billing, claims, and member and provider call volumes), allowing them to focus more on creating and supporting efficient care delivery.

**Bundles can enable major consumer involvement.** They will encourage consumers to engage the healthcare system more actively, forcing providers to design products that suit their needs. A Booz & Company consumer survey revealed that most consumers (78 percent) find bundles to be appealing, particularly because they have the potential to increase transparency in healthcare delivery, and because they can include some form of warranty.\(^5\)

In short, bundled care is poised to take off. Players have paved the way by testing a variety of offerings over the last 20 years, and critical enablers that have been missing are now increasingly in place. A new set of vendors can now provide a range of support analytics and risk assessment. Health systems can supplement claims data with EMRs to create and monitor patient care pathways. Companies can also use EMRs to track the economic contributions of each participating provider without reference to claims data. Patient databases allow healthcare organizations to identify best practices and turn information into actionable knowledge with the potential for near real-time feedback. Regulation has also changed to support bundling. Provisions in PPACA encourage network integration that improves care and allows “gain-sharing.”
WHAT OFFERINGS ARE BEST SUITED FOR BUNDLING?

A wide range of procedures, targeting acute and chronic conditions, can be treated via bundles, but some types of procedures are better suited to bundled care than others. Players must have a deep understanding of procedures to identify value drivers that determine which ones can be bundled effectively.

Exhibit 3 outlines five critical value drivers, and Exhibit 4 shows a matrix that prioritizes specific procedures according to how suitable they are for bundling.

Exhibit 3
Sample Criteria to Determine What Procedures Should Be Bundled

<table>
<thead>
<tr>
<th>Drivers of Value</th>
<th>Rationale for Productization</th>
<th>Example Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity of Disease/Procedure for Patient</td>
<td>- Opportunity for coordination due to greater fragmentation and patient challenges</td>
<td>- Length of end-to-end experience (inpatient stay, recovery, etc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Need for ongoing support/condition management</td>
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<td></td>
<td></td>
<td>- Number of annual visits; variety of sites/providers</td>
</tr>
<tr>
<td>Controllable Variability in Care Paths/Costs</td>
<td>- Generally simpler to productize procedures with limited variability</td>
<td>- Number of possible treatment paths</td>
</tr>
<tr>
<td></td>
<td>- Can be an opportunity for standardization (using evidence-based guidelines, etc.)</td>
<td>- Switching “costs” between algorithms</td>
</tr>
<tr>
<td>Effective Nature of Procedure</td>
<td>- Interest in episodes of care that are predictable and can be scheduled, allowing patient time to make decision or “shop around”</td>
<td>- Standard deviation in cost around episode of care, driven by variability in services</td>
</tr>
<tr>
<td>Size, Growth, and Future Outlook</td>
<td>- Interest in effecting change for a significant segment of the population</td>
<td>- State of medical science (developed vs. nascent)</td>
</tr>
<tr>
<td>Clinical Strength and Reputation</td>
<td>- Greatest probability of success in areas where provider is already an established “center of excellence” and has strong community physician influence and/or referral base</td>
<td>- Incidence rates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Historical size of market and growth rates for individual stakeholders and overlap</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reputation of program in community</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Share of procedures compared to state/market</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Outcome benchmarks where available</td>
</tr>
</tbody>
</table>

Source: Booz & Company analysis

Exhibit 4
Sample Prioritization Framework for Bundles

Source: Booz & Company analysis
PAYMENT MECHANISMS

Many bundled procedures are structured for retrospective payment, but those structured for prospective payment provide more direct incentives for stakeholders to work together to reduce costs. Moreover, only bundles with prospective payment schemes provide incentives for consumer engagement.

Retrospective Payments
Under retrospective payment schemes, participating parties agree on an appropriate budget for the medical condition before service is delivered. However, the provider continues to bill and receive payment on a fee-for-service basis. On an annual or quarterly basis, the payor conducts budget reconciliation, assessing total charges in comparison to the budget amount for a given volume of patients. A provider that charges less than the budgeted amount receives a bonus; one that charges more than targeted will have funds withheld or called back by the payor. Although significant, these adjustments do not encompass the full difference between actual and budgeted expenses. For example, the Acute Care Episode (ACE) initiative of the Centers for Medicare and Medicaid Services (CMS) limited adjustments to 25 percent.

The pros of a retrospective system are that it is relatively easy to administer using the existing claims system “chassis,” which enables providers to “ease into” implementation of bundled payments. But a number of factors limit players’ ability to reduce costs through retrospective payment schemes. These plans add administrative costs to the system. Their delayed and averaged approach to shared savings is indirect and often arcane, which can further exacerbate administrative and managerial costs. Most important, they do not provide incentives to consumers to engage in ways that would drive down costs.

Prospective Payments
Under a prospective payment model, the bundling organization sets a budget but also a fixed, risk-adjusted price for each bundle. The control benefits accrue directly in the form of larger profit margins (although those organizations that cannot control costs may capture lower margins than predicted). Prospective payment schemes are more convenient for consumers because they charge a single fee, eliminating complex co-pays and separate professional and facility fees.

To ensure that bundled products are not offered only to the healthiest, least risky patients, the price of most bundles will need to be risk-adjusted based on preexisting health status. The challenge with prospective payments today is that risk-adjustment mechanisms are just evolving and the incumbent claims systems are ill suited to administering prospectively paid bundles. However, with enabling technologies, they could make today’s complicated claims payment system no longer necessary for significant portions of the care delivered in the United States.

Consumer Engagement and Pricing
Perhaps the most important aspect of the migration to a new system is the potential of bundled care to activate and engage consumers. Good bundled products are centered on consumers, providing transparency into the healthcare process and tools that help consumers make decisions. Menus that list bundle prices, features, and quality scores can help consumers understand and compare services. For example, Lasik surgery bundles enable customers to choose from multiple provider offers, comparing price, follow-on services, warranties for complications, and other features.

The best bundles also provide support to consumers as they make their way through their care journey. Bundles may provide a variety of features to support consumers. Some
provide access to care coordinators and decision-making aids that help consumers understand their treatment options. Others provide access to financial advisors that can help the consumer understand how to pay for service. Support services are key to ensuring that patients are engaged and active participants in their own care.

Tools and Systems for Pricing and Payment
Bundling initiatives have approached pricing in different ways. The majority of bundle initiatives have relied on claims, using historical data to group charges related to the bundle condition and analyzing this information to arrive at an average appropriate charge for the bundle. The Prometheus Bundled Payment Experiment, a program sponsored by the Commonwealth Fund and the Robert Wood Johnson Foundation, focused on creating software that could automate this claims aggregation process. This method uses data that is readily available and does not require the development of new billing or costing systems. However, the system still requires extensive gathering and analysis of data, and it can be challenging to ensure that software is compatible with different claims databases. Moreover, claims and charges, which are often based on outdated information and arbitrary attributions, do not always reflect current provider costs or other current information, and thus could potentially lead a provider to significantly over- or under-price a bundle in relation to actual costs.

Bottom-up cost approaches that measure the actual resources used in the delivery of care can offer a more accurate cost assessment, but relatively few players have used them. Some providers with robust cost accounting systems have attempted to estimate costs bottom-up. UCLA used a combination of its own cost information, Medicare diagnosis-related group (DRG) billing information, and Medicare physician relative value unit tables to develop its bundle pricing. Crozer Keystone and three other participants in a coronary artery bypass graft (CABG) pilot conducted by CMS made major improvements to their cost accounting systems as a result of the bundle trial. A number of organizations have begun to focus on developing cost accounting abilities before starting a bundle in order to create more accurate and actionable bundles in the future. M.D. Anderson Cancer Center at the University of Texas, Boston Children’s Hospital, Brigham and Women’s Hospital, Cleveland Clinic, Massachusetts General Hospital, Mayo Clinic, Memorial Sloan-Kettering, the University of Pittsburgh Medical Center, University of California–Los Angeles, University of California–San Francisco, and the University of Southern California have all launched time-driven, activity-based costing initiatives.

Likewise, players have been slow to adopt prospective payment schemes, even though they can be easier to implement and give providers stronger incentives to reduce costs. One barrier is that prospective schemes are often incompatible with existing processing systems. Providers operating on their own or in partnership with employers have been most likely to implement prospective payment schemes, perhaps because they are less invested in status quo claims processing methods.
MOVING INTO BUNDLED CARE

Bundled care is not a new concept. DRG payments, which combined payments for procedures and hospital inpatient stays, were introduced in 1982. Our research identified almost 70 bundle initiatives, and many more may be under way without publicity. Exhibit 5 shows a breakdown of these initiatives by payment type, instigator, and several medical attributes. The majority of these initiatives are pilot-based and focus on easily delineated medical episodes such as joint replacements and cardiac surgery, but the universe of bundles is expanding.

Bundles have taken on a variety of forms:

- **Acute episode bundles**: These include all inpatient hospital and physician costs. They often include warranties for avoidable readmissions and complications. The types of procedures and conditions involved center on major surgical interventions or catastrophic episodes. Examples include the CMS’s ACE demonstration bundles, covering procedures such as hip replacement and CABG.

- **Temporal care cycle bundles**: These are centered on acute procedures such as major surgical interventions, covering the costs for designated time periods before and after the procedure. The fee covers guidance for preparation, routine tests, the surgery and inpatient stay, and a 90-day post-surgery rehab period including follow-up visits and physical therapy. Examples include the UCLA organ transplant bundle and Geisinger’s bundles for CABG and percutaneous coronary intervention.


Exhibit 5
Design and Composition of Researched Bundles

Clear patterns emerge across the 69 bundle programs examined:
- Involvement/initiation has been relatively evenly spread across industry players
- Although moving toward chronic and medical bundles recently, the majority of initiatives have been surgical, with a strong emphasis on cardiac and orthopedic bundles

Note: Under “Payment Type,” “N/A” refers to bundle payments that are unclassifiable using publicly available information. It is likely that many of these programs are paid retrospectively. Many prospectively paid programs are more recent, and challenges with this type of system are not yet known. Sums may not total 100 due to rounding.

Source: Booz & Company analysis
• Medical condition bundles: These cover a relatively long-term medical event, such as pregnancy or chronic surgical conditions, with a recognized milestone ending, such as remission for cancer. They cover costs involved with chronic or nonsurgical medical care. An example is the Maricopa pregnancy bundle, which begins at the outset of the pregnancy and ends with the first well-baby visit.

• Subscription bundles: These charge a designated sum covering all care associated with a chronic condition for a specified time period, such as a year. For example, the Prometheus diabetes bundle charged US$10,000 per year for the care of an obese, insulin-dependent individual.

Acute episodes and temporal care cycles have dominated the bundle landscape thus far, with the majority focusing on cardiac and orthopedic procedures. Of the programs reviewed, 87 percent of bundles were for surgical conditions, and 91 percent of those surgical bundles were for either cardiac or orthopedic procedures. However, chronic-care and medical bundles are on the rise. Geisinger has used its experience with acute bundles to develop chronic-care models. In 2011, United Healthcare moved into cancer care.10 Arkansas, which launched a statewide bundle initiative, has included ADHD in its initial set of targeted conditions and has plans to expand to many chronic conditions within the next three years.11

Historically, payors have been primary drivers behind bundled care. But providers, states, CMS, and employers have all pioneered bundles.
THE RESULTS FROM BUNDLE EXPERIMENTS

Where bundles have been successfully implemented, they have almost universally delivered positive results. The bundle has significantly lowered costs for the entity paying for care, whether that is a payor, sponsor, or individual patient. Medicare saved $42.3 million via its CABG bundle initiative from 1991 to 1996, representing an average discount of 10 percent, and beneficiaries saved a combined $7.9 million in co-insurance costs. Providers have also achieved significant savings. Initial pilots saw the greatest gains in supply and medical device costs. Hillcrest Medical, a Medicare ACE pilot site, achieved a 20 percent reduction in supply costs and a 6 percent reduction in implant costs. Improved coordination has also led to reduced lengths of stay and lowered costs as a result.

Redesign of the care process provides further opportunities for savings. For example, Tria Orthopaedic of Bloomington, Minn., reduced its joint replacement costs by 15 to 20 percent by sending patients to a nearby hotel to recover from the procedure. Many employers, which are typically focused on long-term saving objectives, have already captured gains from partnering with more qualified medical facilities that recommend lower-cost, less invasive care for their employees.

Cost reductions have correlated with quality improvements (see Exhibit 6). Bundles have yielded reductions in mortality and complications. The CABG bundle implemented by CMS achieved an 8 percent reduction in mortality compared to an industry-wide improvement of only 1 percent over the same time period. Geisinger’s ProvenCare CABG bundle achieved a 67 percent mortality reduction and a 10 percent drop in complications. Baystate Medical implemented an orthopedic bundle that reduced the cases in which complications occurred from 50 percent to nearly zero. Patient indicators have improved in chronic-care bundles as well. As participation in Geisinger’s diabetes bundle increased from 2 to 15 percent of the diabetes population being treated there, the percentage of HbA1c readings at goal increased from 33 to 52 percent. Patient satisfaction also increased. Baystate Medical’s orthopedic bundle enabled it to achieve a 27 percent improvement in its Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) rating. Physicians are enthused about the potential of bundles to improve healthcare efficiency and give them more control over the continuum of services related to the care they provide. Physicians involved in United Healthcare’s oncology bundle, which removes the financial incentive to order high-cost drugs, are relieved to be able to choose the best care regimen for patients without wondering about revenue they would lose under the old system if they didn’t prescribe expensive drugs.

Exhibit 6
Results from Researched Bundle Initiatives

- Where information is available, we see that bundled programs have improved quality, including reductions in complications, lengths of stay, and readmits, among others.
- All bundled programs that reported costs showed improvements, with the exception of Oklahoma Heart Hospital (as part of ACE demonstration).

Source: Booz & Company analysis
CHALLENGES IN THE TRANSITION TO BUNDLES

Players that have implemented bundles have reaped benefits, but they have also encountered challenges. Many of these challenges derive from one-time startup issues they won’t encounter again. Resolving IT compatibility problems and developing efficient data capture, analysis, and reporting abilities requires significant up-front investment. Providers also noted frustration with payors that were not organized to negotiate for or manage a bundled payment, even though many payors have shown pronounced interest in bundles and may indeed reorganize to meet the demands of a bundle-driven marketplace. Programs that used a retrospective budget reconciliation payment process introduced significant additional administrative burdens. As systems and organizations are updated to calculate and manage prospective bundle payments, organizations may avoid these added administrative costs and remove significant labor costs inherent in existing billing processes.

Organizations implementing bundled products will face some near-term challenges. Players are likely to encounter difficulties working out what to include in their bundles and figuring out how to construct coherent packages. They will have to persevere to shift the paradigm so that participants offering related services across the continuum of care begin to collaborate rather than compete. And they will have to innovate to solve the risk-adjustment challenge and reduce the complexity of managing overlapping bundles.
LESSONS LEARNED

The evidence indicates that bundles enhance healthcare delivery by reducing costs, improving outcomes, and increasing patient satisfaction. Those that have already been implemented provide lessons that will make it easier to implement new bundles in the future. We discuss some of the most important lessons here.

Expand the Universe of Bundled Care

Pilots have focused on bundling care for the small portion of patients who qualify based on strict guidelines (factors can include the patient’s risk profile and co-morbidities, and the stage of a patient’s disease). Strict guidelines for participation can be particularly helpful during pilots designed to test bundles under limited conditions. But given the success of most pilots, payors and providers should increase the availability of bundles to include a wider range of patients within each disease category.

One way to increase availability is by risk-adjusting to manage sick and healthy patients. Payors must develop more accurate and predictable risk-adjustment mechanisms to gain wider acceptance of bundles by providers. Payors serve large populations and can thus spread their risk widely, but providers serve much smaller populations and could be devastated by a catastrophic case. To make risk more palatable and manageable for providers, payors should adjust their prices for risk based on controllable variance. For example, analysis of Medicare payments distributed between 2007 and 2009 on behalf of patients who had 30-day episodes of major joint replacement (MS-DRG 470) revealed that the cost per episode was higher for patients who suffered from multiple chronic conditions. The more chronic conditions a patient had, the higher the per-episode cost. A full 46 percent of MS-DRG 470 payments were made on behalf of patients suffering from five or more chronic conditions. Excluding these patients from bundled payments would leave a $10 billion savings opportunity on the table.

Organizations can capture scale benefits by bundling more procedures. Payors and providers have multiple transition path options for successful implementation of a bundling ecosystem. They can gain scale either by bundling across facilities or by focusing on particular lines of service. The best direction is market-specific: providing solutions that best meet the needs of the provider’s chosen primary patient population. The pace of transition toward healthcare bundles can be designed to fit the capacity of the operating model and organizational construct to evolve.

Provide Transparency and Decision-Support Tools to Drive Consumer Engagement

Payors and providers must deliver transparent quality and cost information to customers, along with tools to support customer decision making. This will foster trust in healthcare organizations. This information includes a clear breakdown of services and treatment options, as well as prices and quality metrics for each. Booz & Company research indicates that consumers are more likely to trust a product that is offered and branded by a care-delivery system, as opposed to an insurance company or other intermediary.

Keep Providers Interested and Improve Trust among Stakeholders

Booz & Company research conducted in 2012 shows that 45 percent of physicians are currently pursuing or are interested in bundles, and another 22 percent want further information about them. Thirty percent of hospitals are already pursuing bundled delivery options, and 51 percent say they are interested in them. The main challenge in scaling procedures is keeping providers interested in bundled care and ensuring that their compensation is perceived as equitable and appropriate.
Michael C. Zucker, SVP and chief development officer with Baptist Health System, an institution that has successfully piloted bundled care, recommends that organizations take a number of steps to keep physicians interested: Work closely with them from the outset to define a vision for bundled care; set short-term, actionable objectives; and demonstrate early wins. Zucker also says physicians should be empowered to make decisions, and he notes that they are motivated by improvement in the quality of care.21

Create More Value by Achieving Scale in the New System
A significant portion of the savings in bundled products comes from sharing administrative costs, and multiple bundles are required to achieve those savings. A Booz & Company analysis of the claims data from a regional payor shows that a statewide launch of bundled products can yield significant savings over 15 years, and nearly half of the savings come from reducing administrative costs (see Exhibit 7).

Reductions in administrative costs come from many areas, including medical management (reduced prior authorizations, utilization, and care management), claims (decreased volumes from episode-based reimbursement), member services (reducing the number of calls members make to ask questions about benefits), and provider services (reduced interactions with payors).

Better Technologies and Tools Are Required to Create More Value
To increase the population and number of procedures covered by bundles, payors and providers must rely heavily on enabling technologies. Our review of past and current bundled programs indicates that organizations with systems for measuring costs and reporting outcomes have an edge. Geisinger’s full connectivity on Epic and experience collecting and analyzing patient information enabled it to successfully execute multiple bundles. UCLA benefited from using the existing risk-adjusted outcomes registry that was developed for the United Network for Organ Sharing when it implemented its organ transplant bundle. By tracking its own results and benchmarking its performance against that of competitors, UCLA was able to identify where changes in care delivery reduced costs and improved outcomes. Organizations that didn’t have strong existing data capabilities benefited from

![Exhibit 7](source.png)

**Source of 15-Year Cash Inflow in Product Environment**

<table>
<thead>
<tr>
<th></th>
<th>Statewide Hip &amp; Knee</th>
<th>Statewide Similar Procedures</th>
<th>Full Statewide Product-Based Launch</th>
</tr>
</thead>
<tbody>
<tr>
<td>$72M</td>
<td>100%</td>
<td>61%</td>
<td>48%</td>
</tr>
<tr>
<td>$228M</td>
<td>35%</td>
<td>31%</td>
<td>21%</td>
</tr>
<tr>
<td>$687M</td>
<td>4%</td>
<td>4%</td>
<td>48%</td>
</tr>
</tbody>
</table>

Source: Regional payor claims data; Booz & Company analysis
investing to develop them. Crozer Keystone, for example, prioritized the development IT systems that could provide comprehensive cost and quality reports at the individual physician or patient level.\textsuperscript{24} It invested in ensuring that the information was actionable, creating customized dashboards that its partners and customers could easily understand and use.\textsuperscript{25} Physicians responded well to these cost and quality reports and were highly motivated to act on the information.\textsuperscript{26}

Commitment from Senior Leadership Is Essential
Our analysis of bundle pilots indicates that successful programs always have strong support from senior leaders.\textsuperscript{27} Senior leaders will have to get involved to break down distrust among payors, hospitals, and physicians. They also have the authority to shift decision prerogatives and develop budgets to fund the new bundle initiatives. Stakeholders must understand that it may take time to realize savings, and senior leaders must clear governance models in advance to guide the distribution of financial gains.
FUTURE PROSPECTS

Bundled care can and will be an important part of the healthcare improvement solution. There is momentum in the market, and market makers will be those that learn to scale bundles in a sustainable way.

Organizations must take care in designing fair and transparent mechanisms for value distribution that set out clear rules about who gets what and when. For bundles to work, physicians must be adequately compensated to justify the additional time they must invest to develop protocols and product choices. Both payors and health systems must receive a return that justifies their investments. Consumers will receive benefits by selecting bundles that provide the best value.

The scale required to make the economics of a bundle work will vary depending on a number of factors, including how frequently the procedure is performed and the amount of controllable variability that providers are willing to accept.

Early movers will have more partners to choose from in developing bundles, and they may be more likely to accrue long-term competitive advantages—particularly if they develop intellectual property that they can license to later entrants. Below, we outline several actions that stakeholders should take to mitigate challenges they are likely to face.

• Understand the total consumer need. Designers of bundled products should conduct research and analysis to understand consumers and identify patient pain points they can address to create high-value products.

• Understand the market. To identify regions that are most suitable for bundles, payors should assess their degree of hospital-physician integration, the attitudes of their state employers and regulators, and their degree of cost transparency and variability. Providers also need to determine whether they have the necessary clinical capabilities and competitive positioning (considering price and quality) to offer bundles.

• Prepare for enabling technologies. Payors and providers will need to invest to develop key technological capabilities (for example, in EMR systems and analytics) and tools to support consumer engagement (for example, technology that supports consumer decision making).

• Assess potential transition paths. Organizations must consider a range of factors (including physician attitudes, availability of required talent, and the need to invest in multiple management systems during the transition to bundled care) that will determine how they proceed in developing healthcare bundles. Stakeholders will need to create short- and long-term goals to ensure that the effort succeeds.
Exhibit 8 lists a number of clinical areas that show promise for transformation through the development of healthcare bundles.

Exhibit 8
Clinical Areas with Strong Potential for Bundled Care

<table>
<thead>
<tr>
<th>Clinical Area</th>
<th>Pros</th>
<th>Challenges</th>
</tr>
</thead>
</table>
| Outpatient Surgeries & Procedures | - Generally fewer provider/facility hands to “touch the bundle” than with inpatient procedures  
- Largely elective procedures  
- Achieving scale simplifies administrative processes (higher as a portion of outpatient procedures than inpatient procedures) | - May be less variability in terms of total dollar amount (compared with inpatient procedures, which have a higher total dollar cost) |
| Orthopedic Procedures        | - Large component of outpatient procedures  
- Largely elective procedures  
- Wide variations in cost of care (due in part to device/technology choice availability) | - Long post-treatment (rehabilitation) phase increases complexity of bundles  
- May require bundling with more providers than simply physicians and hospitals (e.g., rehab centers) |
| Oncology                      | - Wide variations in care despite increasingly standardized protocols for initial treatments and drugs  
- High cost to system  
- Cancers in which first-line treatments are clear and have good outcomes (e.g., colon cancer, stage 1 breast cancer) most likely to become bundled successfully | - Devastating nature of disease means providers may go “off protocol” more often  
- Time period for cancer varies significantly  
- Many patients have co-morbidities, making it critical to determine whether and how to include treatment of those in the bundle |
| Maternity                     | - “Known” course of pregnancy (time line as well as complications) and protocols for treatment  
- Some “supply-side potential” to bundle neonatal care with traditional maternity care | - Pregnancy/delivery-only bundles are relatively simple to create, but neonatal bundles are a difficult subject to broach with physicians and patients  
- Standards/protocols may be difficult to adhere to even if neonatal care is included in bundle |

Source: Booz & Company analysis
CONCLUSION AND ISSUES FOR FURTHER STUDY

Several things will need to happen for bundled care to become the prevailing model.

- To achieve scale, bundles must serve a significant patient population and a large number of procedures.
- To attract patients, bundles must address clear consumer needs and preferences.
- To ensure that payors and providers can cooperate and meet their required ROI, they must agree on gain-sharing and risk-adjustment methodologies.
- To ensure that payors and providers understand costs and clinical quality data, they must develop strong enabling technologies.

In terms of research and development, some important questions remain under investigation. The synthesis of experience in these domains will help bundles create more value in healthcare delivery.

- **Investments in bundled products**: Which organizations will make the up-front investments required to catalyze the creation of a bundled product market?
- **Lessons learned for the overall “market” for bundles**: What types of providers are best positioned to make bundles work? Are large, centralized systems or fragmented systems more conducive to the success of bundles?
- **Consequences of bundled care**: Will there be “over-utilization” of profitable bundles? How will bundles affect the adoption of new technologies? Will newer technologies be value-driving instead of revenue-driving?
- **Within acute care bundles**:
  - **Provider protection**: What are the threshold levels at which providers can absorb risk? When might providers require outside stop-loss insurance to take on a greater level of risk?
  - **Feedback mechanisms**: How will providers continually capture feedback to understand which components of a bundled product are driving customer adoption over time? What product development and market research capabilities will providers need?
  - **Patient incentives for compliance**: How can providers best ensure that patients are assisted along their bundled-care journey? Which special benefit designs or incentives must payors and providers offer to ensure that patients comply with the rules governing the bundles they purchase?
- **Chronic bundles**: As acute care bundles become easier to develop and operationalize, will it get easier to capture value from chronic bundles (e.g., for diabetes or obesity)?
- **Additional stakeholders**: Are there other stakeholders that could be included in bundled-care offerings (e.g., pharmaceutical companies)? How can their incentives be aligned with those of hospitals and physicians?
The potential inherent in bundled care has only begun to be realized. One of the most powerful aspects of this approach is its combination of universality and variability. It can become a platform and standard, leading healthcare providers, payors, and regulators to common ground. But it can also be inherently flexible and adaptable, allowing a wide variety of organizations and institutions to profitably focus on a wide variety of products, procedures, and patient groups. The key is in the quality of management and design. The best-designed and best-managed bundling systems could determine who the leaders are in the next generation of the healthcare system.
ENDNOTES

11 www.nashp.org/acco/arkansas#sthash.l5nNe8W2.dpuf.
Booz & Company is a leading global management consulting firm focused on serving and shaping the senior agenda of the world’s leading institutions. Our founder, Edwin Booz, launched the profession when he established the first management consulting firm in Chicago in 1914. Today, as we approach our 100th anniversary, we operate globally with more than 3,000 people in 57 offices around the world.

We believe passionately that essential advantage lies within and that a few differentiating capabilities drive any organization’s identity and success. We work with our clients to discover and build those capabilities that give them the right to win in their chosen markets.

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