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POLICY BRIEF

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Bundled Payments

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Through the Choice Act[1] the VHA expanded its role as a purchaser of care, alongside its traditional role as a provider. Under the Act, the VHA purchases non-VHA care at fee-for-service Medicare prices for Veterans living too far from or waiting too long for care at a VHA facility. Further expansion of purchased care invites an opportunity for the VHA to reconsider not just to whom to offer it, but how to pay for it.

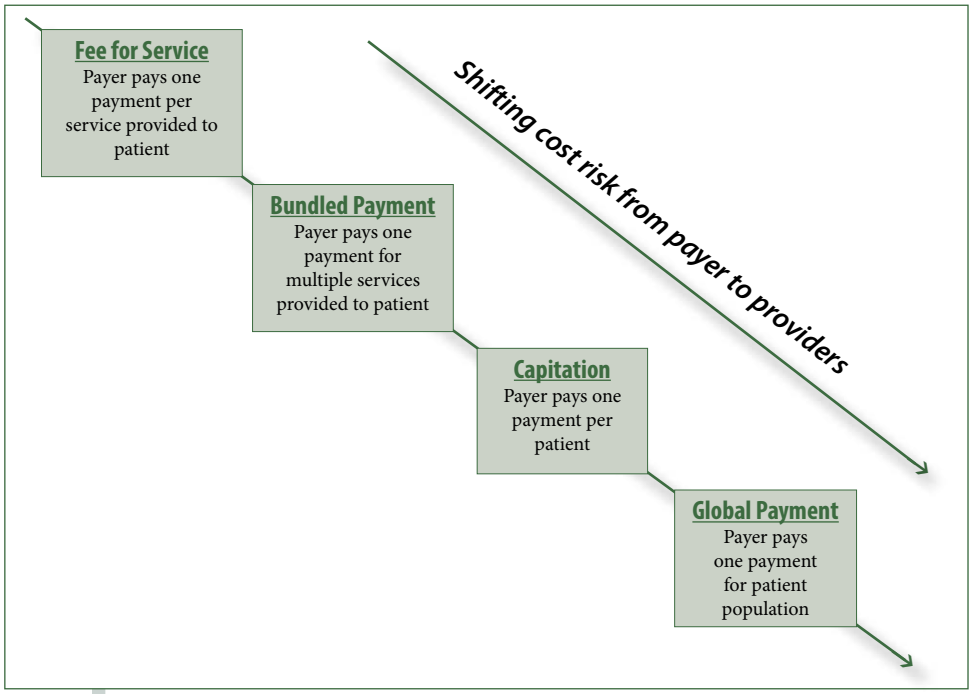
Prior PEPReC policy briefs describe the benefits and consequences of the VHA purchasing care under a fee-for-service system like Traditional Medicare[2] or under a system in which cost risk is shifted to other entities, as Medicare does with its Medicare Advantage program[3].

Bundled payments are another approach being explored by the Centers for Medicare & Medicaid Services (CMS), private payers, and self-insured employers. This Policy Brief explains what bundled payment contracting is and some key findings for health care spending, utilization, and quality from studies of prior bundled payment initiatives initiated by Medicare and including hospital care.

Bundled Payments Defined

Under a bundled payment contract, the payer pays one lump-sum amount for a pre-defined set of medical services that are provided to a patient during a pre-defined duration of time initiated by a health event (called an "episode of care"). This brief focuses on bundled services for episodes that begin with a hospital admission. Depending on the contract, the bundle may include just hospital services, or some combination of hospital services, physician services, pharmaceutical products, and post-acute care.

Figure 1. Provider Payment Approaches and Cost Risk



Unlike fee-for-service, in which payers bear almost all of the financial risk, bundled payments shift some risk to providers. Yet, the financial risk resulting from services provided after the episode of care or outside the bundle is still borne by the payer. Thus, bundled payments occupy a middle ground between fee-for-service payments and capitation or global payments. (*Figure 1*)

Bundled Payments and Health Care Spending

Many of Medicare's hospital-focused bundled payment initiatives have been associated with either lowering Medicare expenditures or slowing their growth. (Table1). The Inpatient Prospective Payment System (IPPS) was the first Medicare bundled payment program and began in 1983 (Table 2). Under IPPS, all hospital services during a hospital stay are bundled, and hospitals are paid a prospectively determined amount based on the patient's diagnosis. IPPS is associated with slowing the growth of Medicare expenditures on hospital inpatient services. In the first 5 years after implementation (1983-1988), Medicare saved approximately $17 billion (in 1988 dollars) on inpatient expenditures relative to what it would have spent had its pre-IPPS growth rate continued.[4]

Table 1. Summary of Published Evidence

Outcome	*Bundled Payment Effect*
Medicare Costs	
Bundled services	Decrease (if discount is applied)
	No change (if discount is not applied)
Services outside bundle	Increase
Utilization	
Readmissions	No change
Emergency Department	No change
Post-Acute Care	Mixed (if post-acute care is not included in the bundle)
	Decrease (if post-acute care is included in the bundle)
Quality	
Mortality	No change
Functioning	Mostly no change; some worsening

Subsequent Medicare bundled payment initiatives have been associated with lower payer costs per episode. The savings largely stem from discounts that providers offered or agreed to as a condition of participation. For example, hospitals that participated in the Medicare Participating Heart Bypass Center (HBC) Demonstration (a bundled payment initiative that commenced in 1991 and included both hospital and physician services during the hospital stay for coronary artery bypass surgery) offered 9.7% to 36.7% discounts off the IPPS payment. As a result, the program saved between $3,000 and $8,500 per episode.[5]

More recently, in 2009-2013, Medicare oversaw the Acute Care Episode (ACE) Demonstration, which covered five inpatient cardiac and two orthopedic surgical procedures.[6] Participating hospitals offered discounts up to 8.25%, depending on type of procedure and service. Thus, Medicare saved less per episode—between $71 and $1,077 per episode—in the ACE demonstration than in the HBC demonstration.[7]

The most recent bundled payment initiatives have less varied and typically smaller discounts. For example, the Bundled Payments for Care Improvement (BPCI) Initiative, which began in 2013, includes four bundled payment models for which the discount (after phase-in) on target prices for certain bundles of services ranges between 1% and 3.25%[8, 9]). The Comprehensive Care for Joint Replacement (CJR), which began in 2016, applies a discount (after phase-in) on target prices that ranges between 1.5% and 3.0%.[10] The discount rate is higher for hospitals with lower quality scores.[11] BPCI Model 1 reduced Medicare expenditures for episodes by $123 or 1.0%.[12] A case study of a particular hospital that participated in both the ACE and BPCI Model 2 programs for major joint replacement of the lower extremity cases reduced Medicare expenditures by $5,577 per episode without complications (or 20.8%), although no control group was used.[13] There are no findings on CJR episodes yet.

Table 2. Medicare's Bundled Payment Initiatives for Hospital-Initiated Episodes

Bundled Payment Initiative	*Timeframe*	*Services in Bundle?*	*Duration: >30 Days?*
Inpatient Prospective Payment System (IPPS)	1983–now	Hospital	N
Heart Bypass Center Demonstration (HBC)	1991–1996	Hospital + physician	N
Hospital Gainsharing Demonstration (HG)	2008–2011	Hospital	Y
Acute Care Episode Demonstration (ACE)	2009–2013	Hospital + physician	N
Physician Hospital Collaboration Demonstration (PHC)	2009–2013	Hospital	Y
BPCI Model 1	2013–2016	Hospital	N
BPCI Model 2	2013–2016	Hospital + physician + post-acute care (PAC)	Y
BPCI Model 3	2013–2018	Post-acute care	Y
BPCI Model 4	2013–2018	Hospital + physician	Y*
Comprehensive Care for Joint Replacement (CJR) Model	2016–2021	Hospital + physician + PAC	Y

*BPCI Model 4 episodes of care were defined as the initial hospital stay and any related readmissions within 30 days of discharge.
Note: Medicare has implemented several bundled payment initiatives for episodes associated with a hospital inpatient admission. They differ in the types of services that are included in the bundle, as indicated in the table above.

Bundled Payments and Health Care Utilization

Bundled payment contracting can affect the services that are provided. In particular, the literature suggests that when post-acute care services are included in the bundle definition (as in the BPCI Model 2 initiative), their use and intensity are diminished. For example, patients under the BPCI Model 2 program are less likely to be admitted to a skilled nursing facility (SNF); moreover, if they are admitted to one of these facilities, the length of stay is reduced. Often SNF usage is substituted for home health care, which was a less expensive option.[13] However, when post-acute care services are not included in the bundle (e.g. under IPPS, HBC, and BPCI Model 1), these services often increase.[14, 15, 16, 17,18]

In contrast to post-acute care, most bundled payment initiatives do not affect readmission rates. However, there are a few exceptions. One exception is the cardiovascular surgical episodes in the ACE demonstration (which does not include readmissions), which were associated with an increase in readmission costs per case. The other cardiovascular episodes were associated with an increase as well, but the findings are not statistically significant.[7] However, another study on the ACE demonstration found a decrease in readmission rates for orthopedic surgery episodes.[19] For certain episodes (e.g. non-surgical cardiovascular cases) under BPCI Model 3 (which did not include readmissions), the readmission rates increased. For other episodes under the same program, the readmission rates either did not change or decreased.[14]

Bundled payments' effects on ED visits have only been studied for IPPS and BPCI Models 2-4. Under IPPS, the proportion of cases admitted to the ED post-discharge increased.[15] Under the BPCI Models, the proportion did not change within a 90-day post-discharge window.[13]

Because bundled payments do not control the number of episodes, it is possible that providers may try to offset price decreases with volume increases, which may increase overall spending. However, good evidence regarding the effect on volume is limited, and, of the evidence that is of decent quality, the findings are mixed.

Bundled Payments and Health Care Quality

For the most part, bundled payment approaches have not consistently increased mortality rates, increased complications, or worsened patient functioning measures. Almost all initiatives are associated with no statistically significant change in mortality rates, with two exceptions. For cardiovascular surgery episodes under BPCI Model 2, mortality rates increased; however, for spine surgery episodes under BPCI Model 2, mortality rates decreased.

The evidence on complications is mixed. Under IPPS, there was no change in the likelihood of an intensive care unit (ICU) admission. However, under BPCI Model 1, which did not include post discharge care, the likelihood of an ICU admission increased more at participating hospitals than at non-participating ones. Under the ACE demonstration, revascularization rates increased after certain surgeries, and either remained the same or decreased after other surgeries.

The evidence regarding the effect of bundled payments on patient functional status is limited. For IPPS, the evidence points to no significant change in status.[16, 20] BPCI Models 2-4 are associated with no change for the majority of functioning measures.[14] However, three of the five measures for cardiac surgery cases under BPCI Model 4 exhibit worse performance, as does one of the three measures for SNF-initiated episodes under BPCI Model 3, one of the five measures for orthopedic surgery cases under BPCI Model 2, and two of the five measures for gastroenterology cases under BPCI Model 2.[14]

Discussion & VHA Considerations

As the VHA further develops contracts for non-VHA care, it is important for the organization to understand the potential effects of bundled payment models. To implement them, the VHA would need to identify the types of conditions for which bundled payment contracts are advantageous (just as Sood et al., 2011[21] did for Medicare), as well as the geographic areas where providers are willing to accept bundled payment contracting. VHA would also need to define episodes and bundles. For example, the VHA could pay non-VHA providers a fixed payment for cardiovascular surgeries, bundling all services during the hospitalization, or it could expand the bundle to services provided up to 90-days after discharge. If the VHA does not include post-discharge care in the bundle, it should anticipate possible increases in post-discharge care as Veterans may need more treatment from VHA skilled nursing facilities or home health agencies after treatment by non-VHA providers. However, if the scope of the bundle were expansive enough, the VHA would circumvent issues of coordination, i.e., Veterans would not have to coordinate their care between VHA and non-VHA providers.

In terms of cost, bundled payment contracting may be a way to reduce the uncertainty in VHA expenditures. By prospectively determining the prices that it will pay to the providers for bundles of services, uncertainty is reduced. The VHA could further reduce uncertainty by setting thresholds that bound the number of episodes to non-VHA. However, it is unclear whether the VHA would reduce overall costs (relative to what it would need to spend to increase the same amount of access within the VHA). This would depend on the ability for the VHA to negotiate prices that are lower than what the VHA would have to spend to hire more clinicians to perform the relevant services. Some studies estimate that internal VHA costs per service are often less than what it would pay at Medicare rates.[2] It is unclear whether the VHA could negotiate discounts off Medicare rates from non-VHA providers.

About PEPReC Policy Briefs

This evidence-based policy brief is written by the Partnered Evidence-based Policy Resource Center (PEPReC) staff to inform policymakers and VHA managers about the evidence regarding determinants of demand for VHA care within the broader health system and economy. PEPReC, the Partnered Evidence-based Policy Resource Center, is a QUERI-funded resource center that collaborates with operational partners to design and execute randomized evaluations of VHA initiatives, develops and refines perfomance metrics, and writes evidence-based policy briefs.

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