

## Overlap between Medicare's Voluntary Bundled Payment and Accountable Care Organization Programs

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Accountable care organizations (ACOs) and bundled payments represent prominent value-based payment models, but the magnitude of overlap between the two models has not yet been described. Using Medicare data, we defined overlap based on attribution to Medicare Shared Savings Program (MSSP) ACOs and hospitalization for Bundled Payments for Care Improvement (BPCI) episodes at BPCI participant hospitals. Between 2013 and 2016, overlap as a share of ACO patients increased from 2.7% to 10% across BPCI episodes, while overlap as a share of all bundled payment patients increased from

19% to 27%. Overlap from the perspectives of both ACO and bundled payments varied by specific episode. In the first description of overlap between ACOs and bundled payments, one in every ten MSSP patients received care under BPCI by the end of our study period, whereas more than one in every four patients receiving care under BPCI were also attributed to MSSP. Policymakers should consider strategies to address the clinical and policy implications of increasing payment model overlap. *Journal of Hospital Medicine* 2020;15:356-359. © 2020 Society of Hospital Medicine

Voluntary accountable care organizations (ACOs) and bundled payments have concurrently become cornerstone strategies in Medicare's shift from volume-based fee-for-service toward value-based payment.

Physician practice and hospital participation in Medicare's largest ACO model, the Medicare Shared Savings Program (MSSP),<sup>1</sup> grew to include 561 organizations in 2018. Under MSSP, participants assume financial accountability for the global quality and costs of care for defined populations of Medicare fee-for-service patients. ACOs that manage to maintain or improve quality while achieving savings (ie, containing costs below a predefined population-wide spending benchmark) are eligible to receive a portion of the difference back from Medicare in the form of "shared savings".

Similarly, hospital participation in Medicare's bundled payment programs has grown over time. Most notably, more than 700 participants enrolled in the recently concluded Bundled Payments for Care Improvement (BPCI) initiative,<sup>2</sup> Medicare's largest bundled payment program over the past five years.<sup>3</sup>

Under BPCI, participants assumed financial accountability for the quality and costs of care for all Medicare patients triggering a qualifying "episode of care". Participants that limit episode spending below a predefined benchmark without compromising quality were eligible for financial incentives.

As both ACOs and bundled payments grow in prominence and scale, they may increasingly overlap if patients attributed to ACOs receive care at bundled payment hospitals. Overlap could create synergies by increasing incentives to address shared processes (eg, discharge planning) or outcomes (eg, readmissions).<sup>4</sup> An ACO focus on reducing hospital admissions could complement bundled payment efforts to increase hospital efficiency.

Conversely, Medicare's approach to allocating savings and losses can penalize ACOs or bundled payment participants.<sup>3</sup> For example, when a patient included in an MSSP ACO population receives episodic care at a hospital participating in BPCI, the historical costs of care for the hospital and the episode type, not the actual costs of care for that specific patient and his/her episode, are counted in the performance of the ACO. In other words, in these cases, the performance of the MSSP ACO is dependent on the historical spending at BPCI hospitals—despite it being out of ACO's control and having little to do with the actual care its patients receive at BPCI hospitals—and MSSP ACOs cannot benefit from improvements over time. Therefore, MSSP ACOs may be functionally penalized if patients receive care at historically high-cost BPCI hospitals

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TABLE. Characteristics of BPCI-only, MSSP-only, and Overlap Patients

	BPCI-only	MSSP-only	Overlap	P Value for Joint Significance across All 3 Categories
Beneficiaries, n	2,824,898	702,864	243,392	
Demographic Characteristics				
Age, mean years (SD)	79 (8)	78 (9)	78 (8)	<.001
Age ≥ 85 years, mean % (SD)	27 (44)	25 (43)	26 (44)	<.001
Female, mean % (SD)	58 (49)	57 (50)	58 (49)	<.001
Black, mean % (SD)	8 (27)	9 (29)	8 (27)	<.001
Socioeconomic Characteristics <sup>a</sup>				
Dual-eligibility status, mean % (SD)	15 (36)	16 (37)	12 (32)	<.001
Residence in low-income area, mean % (SD)	18 (38)	18 (38)	13 (34)	<.001
Residence in low-education area, mean % (SD)	13 (34)	16 (36)	11 (32)	<.001
Clinical Characteristics <sup>b</sup>				
High complexity, mean % (SD)	21 (41)	20 (40)	19 (39)	<.001
Mean Elixhauser Mortality Index Score, mean (SD)	10.9 (12)	10.4 (12)	9.9 (12)	<.001
Obesity, mean % (SD)	18 (39)	19 (39)	19 (39)	<.001
Diabetes, mean % (SD)	30 (46)	28 (45)	27 (44)	<.001
Diabetes with complications, mean % (SD)	13 (34)	14 (35)	14 (34)	<.001
Congestive heart failure, mean % (SD)	31 (46)	28 (45)	28 (45)	<.001
Prior Utilization Characteristics <sup>c</sup>				
Skilled nursing facility, mean % (SD)	33 (47)	34 (47)	31 (46)	<.001
Inpatient rehabilitation facility, mean % (SD)	7 (25)	7 (25)	7 (25)	<.001
Prior acute care hospital utilization, mean % (SD)	45 (50)	41 (49)	39 (49)	<.001

<sup>a</sup>Residence in a low-income area and low-education area was measured using zip code-level American Community Survey data from 2015. Low-income areas are defined as those with a median household income lower than \$40,000. Low-education areas are defined as those with fewer than 80% of residents with a high school education.

<sup>b</sup>All clinical and prior utilization characteristics are measured over the year before admission.

<sup>c</sup>High complexity is a binary variable indicating an Elixhauser comorbidity score in the top 20% of all patients receiving LEJR in our sample.

Abbreviations: BPCI, Bundled Payments for Care Improvement; LEJR: major joint replacement of the lower extremity; MSSP, Medicare Shared Savings Program, SD, standard deviation.

regardless of whether they have considerably improved the value of care delivered. As a corollary, Medicare rules involve a “claw back” stipulation in which savings are recouped from hospitals that participate in both BPCI and MSSP, effectively discouraging participation in both payment models.

Although these dynamics are complex, they highlight an intuitive point that has gained increasing awareness,<sup>5</sup> ie, policy-makers must understand the magnitude of overlap to evaluate the urgency in coordinating between the payment models. Our objective was to describe the extent of overlap and the characteristics of patients affected by it.

## METHODS

We used 100% institutional Medicare claims, MSSP beneficiary attribution, and BPCI hospital data to identify fee-for-service beneficiaries attributed to MSSP and/or receiving care at BPCI hospitals for its 48 included episodes from the start of BPCI in 2013 quarter 4 through 2016 quarter 4.

We examined the trends in the number of episodes across the following three groups: MSSP-attributed patients hospitalized at BPCI hospitals for an episode included in BPCI (Over-

lap), MSSP-attributed patients hospitalized for that episode at non-BPCI hospitals (MSSP-only), and non-MSSP-attributed patients hospitalized at BPCI hospitals for a BPCI episode (BPCI-only). We used Medicare and United States Census Bureau data to compare groups with respect to sociodemographic (eg, age, sex, residence in a low-income area),<sup>6</sup> clinical (eg, Elixhauser comorbidity index),<sup>7</sup> and prior utilization (eg, skilled nursing facility discharge) characteristics.

Categorical and continuous variables were compared using logistic regression and one-way analysis of variance, respectively. Analyses were performed using Stata (StataCorp, College Station, Texas), version 15.0. Statistical tests were 2-tailed and significant at  $\alpha = 0.05$ . This study was approved by the institutional review board at the University of Pennsylvania.

## RESULTS

The number of MSSP ACOs increased from 220 in 2013 to 432 in 2016. The number of BPCI hospitals increased from 9 to 389 over this period, peaking at 413 hospitals in 2015. Over our study period, a total of 243,392, 2,824,898, and 702,864 episodes occurred in the Overlap, ACO-only, and BPCI-only

groups, respectively (Table). Among episodes, patients in the Overlap group generally showed lower severity than those in other groups, although the differences were small. The BPCI-only, MSSP-only, and Overlap groups also exhibited small differences with respect to other characteristics such as the proportion of patients with Medicare/Medicaid dual-eligibility (15% of individual vs 16% and 12%, respectively) and prior use of skilled nursing facilities (33% vs 34% vs 31%, respectively) and acute care hospitals (45% vs 41% vs 39%, respectively) ( $P < .001$  for all).

The overall overlap facing MSSP patients (overlap as a proportion of all MSSP patients) increased from 0.3% at the end of 2013 to 10% at the end of 2016, whereas over the same period, overlap facing bundled payment patients (overlap as a proportion of all bundled payment patients) increased from 11.9% to 27% (Appendix Figure). Overlap facing MSSP ACOs varied according to episode type, ranging from 3% for both acute myocardial infarction and chronic obstructive pulmonary disease episodes to 18% for automatic implantable cardiac defibrillator episodes at the end of 2016. Similarly, overlap facing bundled payment patients varied from 21% for spinal fusion episodes to 32% for lower extremity joint replacement and automatic implantable cardiac defibrillator episodes.

## DISCUSSION

To our knowledge, this is the first study to describe the sizable and growing overlap facing ACOs with attributed patients who receive care at bundled payment hospitals, as well as bundled payment hospitals that treat patients attributed to ACOs.

The major implication of our findings is that policymakers must address and anticipate forthcoming payment model overlap as a key policy priority. Given the emphasis on ACOs and bundled payments as payment models—for example, Medicare continues to implement both nationwide via the Next Generation ACO model<sup>8</sup> and the recently launched BPCI-Advanced program<sup>9</sup>—policymakers urgently need insights about the extent of payment model overlap. In that context, it is notable that although we have evaluated MSSP and BPCI as flagship programs, true overlap may actually be greater once other programs are considered.

Several factors may underlie the differences in the magnitude of overlap facing bundled payment versus ACO patients. The models differ in how they identify relevant patient populations, with patients falling under bundled payments via hospitalization for certain episode types but patients falling under ACOs via attribution based on the plurality of primary care services. Furthermore, BPCI participation lagged behind MSSP participation in time, while also occurring disproportionately in areas with existing MSSP ACOs.

Given these findings, understanding the implications of overlap should be a priority for future research and policy strategies. Potential policy considerations should include revising cost accounting processes so that when ACO-attributed patients receive episodic care at bundled payment hospitals, actual rather than historical hospital costs are counted toward ACO cost performance. To encourage hospitals to assume

more accountability over outcomes—the ostensible overarching goal of value-based payment reform—Medicare could elect not to recoup savings from hospitals in both payment models. Although such changes require careful accounting to protect Medicare from financial losses as it forgoes some savings achieved through payment reforms, this may be worthwhile if hospital engagement in both models yields synergies.

Importantly, any policy changes made to address program overlap would need to accommodate ongoing changes in ACO, bundled payments, and other payment programs. For example, Medicare overhauled MSSP in December 2018. Compared to the earlier rules, in which ACOs could avoid downside financial risk altogether via “upside only” arrangements for up to six years, new MSSP rules require all participants to assume downside risk after several years of participation. Separately, forthcoming payment reforms such as direct contracting<sup>10</sup> may draw clinicians and hospitals previously not participating in either Medicare fee-for-service or value-based payment models into payment reform. These factors may affect overlap in unpredictable ways (eg, they may increase the overlap by increasing the number of patients whose care is covered by different payment models or they may decrease overlap by raising the financial stakes of payment reforms to a degree that organizations drop out altogether).

This study has limitations. First, generalizability is limited by the fact that our analysis did not include bundled payment episodes assigned to physician group participants in BPCI or hospitals in mandatory joint replacement bundles under the Medicare Comprehensive Care for Joint Replacement model.<sup>11</sup> Second, although this study provides the first description of overlap between ACO and bundled payment programs, it was descriptive in nature. Future research is needed to evaluate the impact of overlap on clinical, quality, and cost outcomes. This is particularly important because although we observed only small differences in patient characteristics among MSSP-only, BPCI-only, and Overlap groups, characteristics could change differentially over time. Payment reforms must be carefully monitored for potentially unintended consequences that could arise from differential changes in patient characteristics (eg, cherry-picking behavior that is disadvantageous to vulnerable individuals).

Nonetheless, this study underscores the importance and extent of overlap and the urgency to consider policy measures to coordinate between the payment models.

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