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Health System Participation in Medicare Bundled Payment Models, 2016

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Hospital participation in Medicare bundled payment models, by system membership

System hospitals are more likely to participate in Medicare bundled payment models: Comprehensive Care for Joint Replacement (CJR) model or Bundled Payments for Care Improvement (BPCI) initiative.

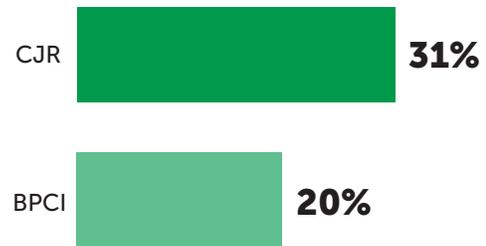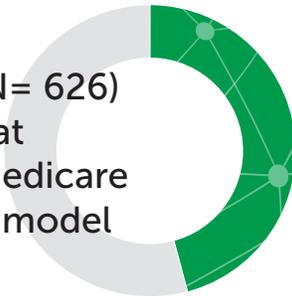**28%** of system hospitals (N= 3,513) participate in a Medicare bundled payment model

CJR **19%**

BPCI **10%**

Percentage of hospitals participating in Medicare bundled payment models, by model type
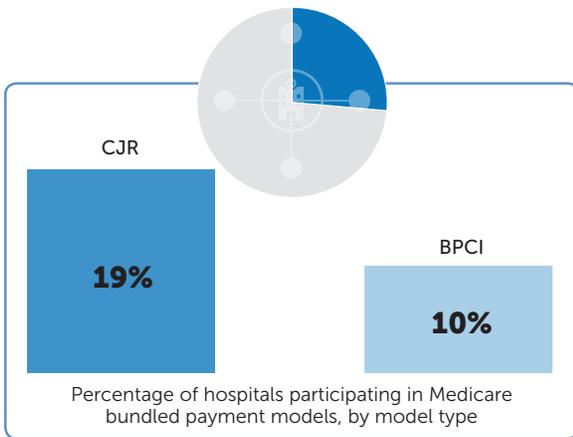
8% of non-system hospitals (N= 1,528) participate in a Medicare bundled payment model

CJR **8%**

BPCI **1%**

Percentage of hospitals participating in Medicare bundled payment models, by model type
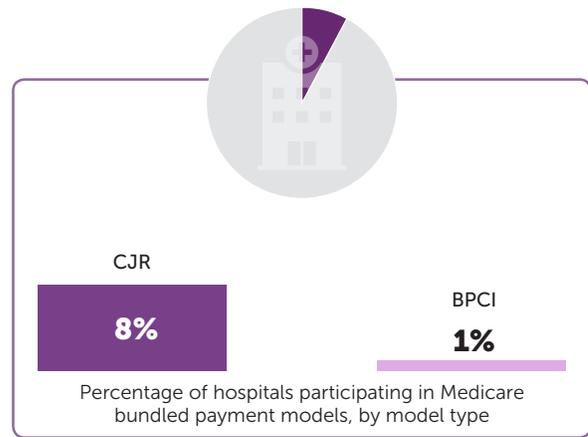
System participation in Medicare bundled payment models

About half of systems have a hospital that participates in CJR or BPCI.

46% of systems (N= 626) have a hospital that participates in a Medicare bundled payment model

CJR **31%**

BPCI **20%**

Percentage of systems participating in Medicare bundled payment models, by model type

*This analysis is based on AHRQ's Compendium of U.S. Health Systems, 2016 and the Hospital Linkage File. Developed as part of the Comparative Health System Performance (CHSP) Initiative, the Compendium and Hospital Linkage File are resources for data and research on health systems. For the purposes of the Compendium, **health systems include at least one hospital and at least one group of physicians that provide comprehensive care (including primary and specialty care) and are connected with each other through common ownership or joint management.** The CHSP Initiative includes a robust set of research activities that draw on several other definitions of health systems. For more information about these definitions, visit: https://www.ahrq.gov/chsp/chsp-reports/resources-for-understanding-health-systems/defining-health-systems.html.

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Percentage of systems participating in Medicare bundled payment models, by system type

SYSTEM SIZE

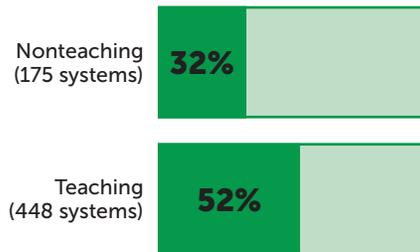**Larger systems are more likely to participate in Medicare bundled payment models.**

1 hospital (223 systems)	**37%**
2-3 hospitals (200 systems)	**38%**
4+ hospitals (203 systems)	**63%**
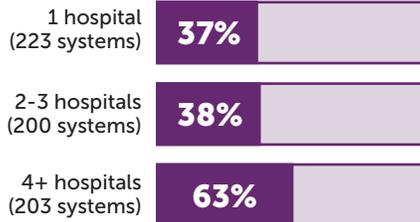
OWNERSHIP

Systems that are investor owned are more likely to participate in Medicare bundled payment models.

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Public ownership (108 systems)	**45%**
Nonprofit ownership (499 systems)	**45%**
Investor ownership (19 systems)	**79%**
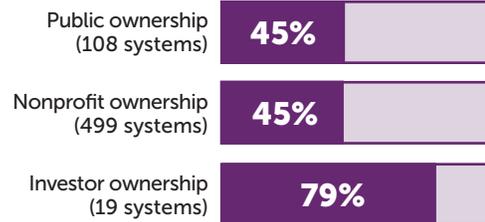
TEACHING

Systems with a high teaching intensity are more likely to participate in Medicare bundled payment models.

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Nonteaching (175 systems)	**32%**
Teaching (448 systems)	**52%**

SAFETY NET

Uncompensated care burden is not associated with differences in Medicare bundled payment model participation.

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Low uncompensated care burden (505 systems)	**46%**
High uncompensated care burden (118 systems)	**45%**
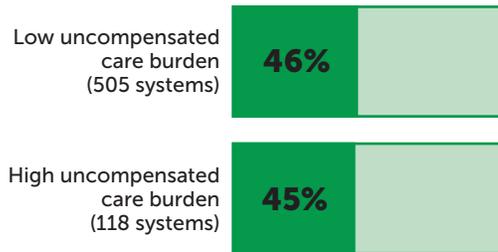
CHILDREN'S SYSTEMS

Systems without a children's hospital are more likely to participate in Medicare bundled payment models.

No children's hospitals (573 systems)	**47%**
1+ children's hospitals (52 systems)	**33%**
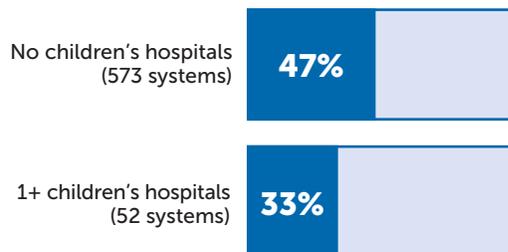
MULTISTATE SYSTEMS

Systems that operate in two or more States are more likely to participate in Medicare bundled payment models.

Operates in 1 State (525 systems)	**42%**
Operates in 2+ States (101 systems)	**66%**
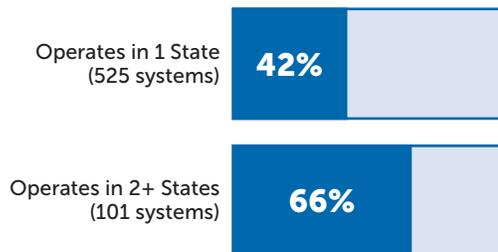
*The shaded portions of the bars represent percentages of systems with hospitals participating in Medicare bundled payment models, including the Comprehensive Care for Joint Replacement model and Bundled Payments for Care Improvement initiative. There are 626 systems in the Compendium of U.S. Health Systems, 2016. Three systems are missing results for the safety net and teaching system variables; one system is missing information for the children's system variable. These systems are excluded from relevant calculations. The relationships between system type and participation in Medicare bundled payment models do not adjust for system size or any other system characteristics. For example, large systems and multistate systems might be more likely to participate in Medicare bundled payment models through their hospitals because they have more hospitals that could participate.

Number and percentage of systems participating in Medicare bundled payment models, by system type

System type	Number of systems in Medicare bundled payment models	Total number of systems	Percentage of systems
System size			
1 hospital	83	223	37%
2-3 hospitals	76	200	38%
4+ hospitals	128	203	63%
Ownership			
Public ownership	49	108	45%
Nonprofit ownership	223	499	45%
Investor ownership	15	19	79%
Teaching			
Nonteaching	56	175	32%
Teaching	231	448	52%
Minor teaching	147	286	51%
Major teaching	84	162	52%
Safety net			
Low uncompensated care burden	234	505	46%
High uncompensated care burden	53	118	45%
Without a high DSH patient percentage hospital	168	430	39%
With a high DSH patient percentage hospital	119	193	62%
Children's systems			
No children's hospitals	270	573	47%
1+ children's hospitals	17	52	33%
At least one children's hospital	17	21	81%
Predominately children's system	0	31	0%
Multistate systems			
Operates in 1 State	220	525	42%
Operates in 2+ States	67	101	66%
Operates in 2 States	30	58	52%
Operates in 3+ States	37	43	86%

DSH = disproportionate share hospital.

Note: Three systems are missing results for the safety net and teaching system variables; one system is missing information for the children's system variable. The results are missing for these systems because all of the hospitals in the systems have missing values. These systems are excluded from relevant calculations.

METHODS

This analysis is based on: (1) the Compendium of U.S. Health Systems, 2016, which presents a list of U.S. health systems and (2) the Hospital Linkage file, which provides information on hospitals and links hospitals to systems. To operationalize the definition of health systems described above, we identified systems using the following data sources:

- American Hospital Association (AHA) annual survey of hospitals data, 2015

- SK&A integrated health system database, 2016

- QuintilesIMS™ Healthcare Organization Services (OneKey Organizations [HCOS]), 2016

In addition to being identified in one of the data sources, systems had to meet these three criteria to be included in the final list: have at least one non-Federal general acute care hospital; have 50 or more total physicians; and have 10 or more primary care physicians.

We used publicly available data from the Centers for Medicare & Medicaid Services (CMS) to construct a measure of system participation in a Medicare bundled payment model. Specifically, we examined system participation in the CMS Comprehensive Care for Joint Replacement (CJR) model and the Bundled Payments for Care Improvement (BPCI) initiative. In 2016, with few exceptions, CJR was mandatory for all inpatient prospective payment system providers located in 67 metropolitan statistical areas. BPCI was voluntary and available nationwide. We considered a system to participate in a Medicare bundled payment model if at least one non-Federal general acute care hospital participated in the CJR model or BPCI initiative.

Health system types were calculated using data from the CMS Healthcare Cost Report Information System (HCRIS) and reflect all U.S. non-Federal general acute care hospitals. Health system types are defined as follows:

- Ownership: Systems are categorized as primarily public, nonprofit, or investor owned based on the majority of non-Federal general acute care hospital beds in the system. We compared HCRIS data on investor-owned status with AHA data on investor-owned status. For cases in which the two data sources disagreed, we considered the system to be not investor owned. For systems with missing HCRIS ownership data, we filled in information from the AHA annual survey.

- Teaching: Systems are categorized as nonteaching, minor teaching, or major teaching based on their resident-to-bed ratio across systems' non-Federal general acute care hospitals. Systems with no residents are considered nonteaching systems, systems with a resident-to-bed ratio greater than zero but less than 0.25 are considered minor teaching, and systems with a resident-to-bed ratio greater than or equal to 0.25 are considered major teaching systems.

- Safety net systems: Systems are categorized as serving the safety net using two measures: (1) systems with a high systemwide uncompensated care burden calculated as the ratio of total uncompensated care to total operating expense across systems' non-Federal general acute care hospitals and (2) systems with at least one hospital with a high DSH patient percentage. In both cases, "high" is defined as the top quintile among U.S. health systems.

- Children's systems: Systems are categorized as having no children's hospitals, having a children's hospital but not predominately serving children, and predominantly delivering care at children's hospitals. Systems are considered to predominately serve children if a majority of non-Federal general acute care hospital beds in the system are in children's hospitals.

CAVEATS AND LIMITATIONS

Because the list largely relies on the definitions of systems in the three data sources and systems' members specified in the data, systems may be included in this analysis that may not precisely align with the working definition. Similarly, we approximate delivery of comprehensive care using the hospital and physician type and count information, which may lead to inclusion of systems that do not provide comprehensive care in the manner intended by the definition. Further, we rely on hospital reporting in the HCRIS data for the system types and attributes, for which information about some hospitals is missing.

Our approach to measuring system participation in Medicare bundled payment models relied on indirect measurement of system participation via systems' hospital participation. However, BPCI can have participants at other levels. Therefore, we are not capturing all aspects of systems' participation in these models. For example, if a system had a physician group participating in BPCI, but none of their hospitals participated in the contract, the system's participation would not be captured.

For more information about the methodology to construct and analyze the national list of health systems and a more detailed summary of caveats and limitations, visit: https://www.ahrq.gov/chsp/data-resources/compendium/technical-documentation.html.

About the Comparative Health System Performance Initiative

The Agency for Healthcare Research and Quality (AHRQ) created the Comparative Health System Performance (CHSP) Initiative to study the characteristics of high-performing health systems and to understand how health systems use evidence-based practices, including patient-centered outcomes research (PCOR). The effective adoption and use of PCOR evidence holds promise as a way to improve clinical outcomes and reduce costs. However, little is known about the characteristics of high-performing health systems and the role of PCOR evidence in health system performance.

The CHSP Initiative aims to address these knowledge gaps and accelerate the diffusion of PCOR evidence among health systems. Specifically, the objectives of the CHSP Initiative are to:

• Classify and characterize types of health systems and compare their performance on clinical and cost outcomes.
• Identify characteristics of high-performing health systems.
• Evaluate the role of PCOR in health system performance.
• Promote the diffusion of PCOR evidence across health systems nationally.

The Compendium of U.S. Health Systems, which presents a list of health systems in the United States, is a step toward classifying and characterizing health systems and is a data resource to help advance research on health systems. The Compendium is intended to be a resource for researchers, policymakers, health system leaders, and others who seek to study health systems and will be updated over the course of the 5-year initiative to reflect the evolving health care delivery environment.

For more information about the CHSP initiative, visit https://www.ahrq.gov/chsp/index.html.