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Report to Ranking Member, Committee on Finance, U.S. Senate

December 2018

MEDICARE

Voluntary and Mandatory Episode-Based Payment Models and Their Participants

GAO-19-156

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GAO Highlights

Highlights of GAO-19-156, a report to Ranking Member, Committee on Finance, U.S. Senate

Why GAO Did This Study

In 2017, expenditures for health care services provided through traditional Medicare totaled approximately $394 billion and were expected to grow to $730 billion by 2027. This 85 percent increase is expected to be driven by multiple factors, including increases in the number of services provided per beneficiary. In an effort to slow this growth and improve the quality of care provided to beneficiaries, CMS is testing alternatives to traditional Medicare, such as episode-based payment models. Under episode-based payment models, providers such as hospitals or physician group practices are held accountable for the cost and quality of the services provided to Medicare beneficiaries during a defined episode of care.

GAO was asked to review the episode-based payment models developed by CMS. This report (1) describes the characteristics of the providers that participated in these models and (2) compares the relative advantages of voluntary versus mandatory episode-based payment models, as identified by stakeholders.

GAO analyzed CMS data on participants and other providers and reviewed CMS's evaluations of the models. GAO also interviewed multiple stakeholders, including officials from CMS, its contractors, selected providers and organizations representing providers, as well as Medicare experts.

The Department of Health and Human Services provided technical comments on a draft of this report. GAO incorporated these comments as appropriate.

View GAO-19-156. For more information, contact Jessica Farb at (202) 512-7114 or farbj@gao.gov.

What GAO Found

As of February 2018, the Centers for Medicare & Medicaid Services (CMS) had tested, or was in the process of testing, six episode-based payment models as alternatives to traditional Medicare. In these models, rather than pay providers largely based on the volume and complexity of each individual service, CMS establishes a target payment amount to cover the costs of all the services Medicare beneficiaries may receive during a defined "episode of care" initiated by a health care event, such as a surgical hospitalization. Providers can earn additional payments if they treat beneficiaries for less than the target amount and meet certain quality metrics; in some models, providers may be penalized for expenditures that exceed the target amount or if the care provided does not meet quality goals. Provider participation in all but one of the six models being tested is entirely voluntary (i.e., eligible providers may choose to participate in the model and generally have an option to leave the model before testing ends), with participation in the remaining model mandatory for some providers (i.e., eligible providers must participate and cannot leave the model before testing ends).

According to CMS data and reports that GAO reviewed, providers participating in the six episode-based payment models typically had more beds or larger practices, had higher episode volume, and were more often located in urban areas compared to all providers that participated in traditional Medicare. Stakeholders—participants, experts, and provider groups—that GAO interviewed noted that the likelihood for financial gain under voluntary models can influence providers' decisions to participate in the models.

Stakeholders also identified relative advantages of voluntary versus mandatory episode-based payment models. In general, stakeholders reported that voluntary models largely benefit providers. For example, these models tend to have more generous terms and providers can choose to participate in only those models where they are likely to be successful. On the other hand, mandatory models are more likely to give CMS generalizable evaluation results.

Relative Advantages of Voluntary versus Mandatory Episode-Based Payment Models Identified by Stakeholders

Voluntary	Mandatory
Participants often have more favorable terms of participation (e.g., types of model incentives and degrees of risk required) than in mandatory models, as CMS has an incentive to make the model attractive so providers willingly participate.	CMS and its evaluation contractors are able to evaluate the performance of participants that are more representative of different types of providers and as such, the model's evaluation results are more generalizable.
Participants have the ability to self-select models and episodes where they have identified opportunities to successfully implement care redesign and earn performance bonuses.	CMS can test models with greater financial risks and penalties because providers are required to participate.
CMS and its evaluation contractors are able to test novel concepts in care redesign with early adopters that are interested in performing well under the model. This allows CMS to assess the feasibility of a model before additional testing.	CMS can encourage transition from traditional Medicare to value-based care models among providers that may be reluctant to make the change on their own.

Source: GAO analysis of Centers for Medicare & Medicaid Services (CMS) model evaluation reports and interviews with participants, experts, and provider groups.

Contents

Abbreviations

APM	Alternative Payment Model
BPCI	Bundled Payments for Care Improvement
CMS	Centers for Medicare & Medicaid Services
CJR	Comprehensive Care for Joint Replacement
HHA	Home Health Agency
HHS	Department of Health and Human Services
Innovation Center	Center for Medicare and Medicaid Innovation
MSA	metropolitan statistical area
OCM	Oncology Care Model
QPP	Quality Payment Program
SNF	Skilled Nursing Facility

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
441 G St. N.W.
Washington, DC 20548

December 21, 2018

The Honorable Ron Wyden
Ranking Member
Committee on Finance
United States Senate

Dear Senator Wyden:

In 2017, expenditures for health care services provided through traditional Medicare totaled approximately $394 billion and were expected to grow to $730 billion by 2027, an increase of approximately 85 percent.[1] The projected increase in Medicare expenditures is expected to be driven by multiple factors, including an increase in the volume—that is, the number of—and complexity of services provided per beneficiary. We have reported that traditional Medicare's payment structure generally pays providers based on the volume and complexity of the services they provide, rather than on the value of those services (i.e., the quality of the services relative to their cost).[2]

In an effort to slow the growth of Medicare spending and improve the quality of care provided to beneficiaries, the Centers for Medicare & Medicaid Services (CMS) tests new ways of delivering and paying for health care services.[3] Specifically, CMS's Center for Medicare and Medicaid Innovation (Innovation Center), established in 2010, tests and evaluates payment and service delivery models—referred to throughout this report as value-based payment models—to reduce spending and

[1]This was the most recent year for which Medicare expenditure data were available at the time of our review. See *The 2018 Annual Report of the Boards of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Fund* (Washington, D.C.: June 5, 2018).

[2]See for example GAO, *High Risk Series: An Update*, GAO-17-317 (Washington, D.C.: Feb. 15, 2017).

[3]CMS is the agency within the Department of Health and Human Services (HHS) that is responsible for overseeing the Medicare program.

improve quality of care for Medicare beneficiaries.[4] If a model improves quality without increasing Medicare spending, reduces Medicare spending without reducing quality, or both improves quality and reduces Medicare spending, CMS may consider expanding the model beyond the initial duration and set of participants in the model.[5]

Of the more than 35 value-based payment models the Innovation Center had tested or was in the process of testing as of February 2018, 6 were episode-based payment models—a type of model designed to test a payment methodology that holds hospitals, physician group practices, and other types of providers accountable for the cost and quality of care provided to beneficiaries during an "episode of care" for a specific health condition.[6] While episodes of care are defined differently across each of the six models, they generally comprise a health care event, such as a surgical hospitalization, and the services beneficiaries receive during a limited time period thereafter. CMS's payment methodology also varies across the six models, but generally consists of (1) a set amount for spending on all the services beneficiaries receive during the defined episode of care—known as the target price—as well as (2) bonus payments if spending is below the target price and penalties if spending is above the target price. The bonuses and penalties are used to create an incentive for providers to treat patients for less than the target price while also meeting certain quality metrics.

CMS has designated provider participation in episode-based payment models as either voluntary (i.e., interested and eligible participants may choose to participate in the model and generally have an option to leave the model before testing is completed) or mandatory (i.e., eligible providers are required to participate in the model and do not have an

[4]The Innovation Center was established by section 1115A of the Social Security Act, as added by section 3021 of Patient Protection and Affordable Care Act. See Pub. L. No. 111-148, §§ 3021, 10306, 124 Stat. 119, 389, 939 (2010) (codified at 42 U.S.C. § 1315a). The Innovation Center also tests and evaluates payment and service delivery models to reduce spending and improve quality of care for Medicaid and Children's Health Insurance Program beneficiaries.

[5]See 42 U.S.C. § 1315a(c). Federal law requires the Secretary of HHS and the Chief Actuary of CMS to make certain determinations before expanding models regarding the expected effects of such expansion, such as quality of care, net program expenditures, and coverage for applicable individuals.

[6]For more information on the Innovation Center and other types of models it has tested, see GAO, *CMS Innovation Center: Model Implementation and Center Performance*, GAO-18-302 (Washington, D.C.: March 26, 2018).

option to leave the model before testing is completed).The majority of models have been voluntary. In 2016, CMS implemented its only mandatory episode-based payment model to date. In the final rule establishing the model, CMS indicated that the mandatory participation was intended to test the payment model across a wide range of hospitals, including some that would not otherwise participate. However, in 2017, CMS issued guiding principles for the Innovation Center, which indicated the agency's intent to focus on voluntary models. That year CMS issued a final rule making participation in the one mandatory model voluntary for certain providers in approximately half of the geographic areas where the model was being tested.[7] According to CMS, the change to voluntary participation provides hospitals and CMS with greater flexibility to voluntarily test alternative approaches for paying for and delivering health care services. In 2018, the Secretary of Health and Human Services (HHS) said the Department was exploring new mandatory and voluntary episode-based payment models.

You asked us to provide information on voluntary and mandatory episode-based payment models in Medicare, including the characteristics of participating providers. This report

1. describes the characteristics of the providers that participated in Medicare episode-based payment models as of February 2018, including the factors that influenced their decision to participate; and
2. compares the relative advantages of voluntary versus mandatory episode-based payment models, as identified by stakeholders.

To describe the characteristics of the providers that participated in Medicare episode-based payment models, we analyzed CMS data and reviewed model evaluation reports published by the Innovation Center. Our review focused on the six episode-based payment models implemented by the Innovation Center as of February 2018—Bundled Payments for Care Improvement (BPCI) models 1, 2, 3, and 4; the Comprehensive Care for Joint Replacement (CJR) model; and the Oncology Care Model (OCM).[8] To identify participant characteristics and

[7]In this rule, CMS also announced it was cancelling three additional mandatory episode-based payment models that it had established earlier in 2017. Medicare Program, 82 Fed. Reg. 57,066 (Dec. 1, 2017).

[8]In October 2018, the Innovation Center began testing a new episode-based payment model—BPCI Advanced.

compare these characteristics to those of all providers nationally that participated in traditional Medicare and were eligible for the model, we analyzed the most current CMS data available at the time of our review, including the following: model participation files, which list those providers that participated in the BPCI and CJR models; Provider of Service and Inpatient Prospective Payment Impact files, which contain information on certain characteristics of Medicare hospitals; and available model evaluation reports, which contain information on summary characteristics of participants in certain models. To assess the reliability of CMS data on BPCI and CJR participants, we reviewed relevant documentation, interviewed knowledgeable agency officials, compared results to published reports, and performed electronic data tests. To assess the reliability of hospital-level CMS data, we reviewed relevant documentation and performed electronic data tests. On the basis of these steps, we determined that all the data we used were sufficiently reliable for the purposes of our report. See appendix I table 4 for a summary of the specific data sources we analyzed for each model.

To identify factors that influenced participants' decisions to participate in voluntary episode-based payment models, we reviewed information from available model evaluation reports and interviewed stakeholders, including CMS officials from the Office of the Actuary and the Innovation Center, officials from five provider organizations representing provider types that participate in Medicare episode-based payment models, nine Medicare payment experts, and representatives from five hospitals that participated in the CJR model. We selected the Medicare experts based on their published research on episode-based payment models and Medicare payment policy, as well as through recommendations from other stakeholders. We selected the representatives from the five hospitals to obtain additional viewpoints on mandatory and voluntary models; these hospitals varied in terms of size and whether their participation in the model was voluntary or mandatory.[9] Because we used a nonprobability sample in selecting participating hospitals, our interviews are not generalizable.

To compare the relative advantages of voluntary and mandatory episode-based payment models, we interviewed the same individuals as described above as well as the three third-party contractors conducting

[9]CJR participation was mandatory for hospitals in 67 randomly selected metropolitan statistical areas for the first two performance years and became voluntary for some hospitals in the third performance year.

episode-based payment model evaluations for CMS. We also reviewed publicly available evaluation reports from the Innovation Center to obtain information on the methods used to assess participant performance in each model.

We were also asked to examine the effect, if any, of mandatory episode-based payment models on physicians' ability to participate in the Advanced Alternative Payment Models (APM) track of the Quality Payment Program (QPP)—Medicare's program for tying certain physician payments to quality of care and the value of that care. See appendix II for information on this topic and our methodology for collecting this information.

We conducted this performance audit from November 2017 to December 2018 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings based on our audit objectives.

Background

Episode-Based Payment Models

The Innovation Center's six episode-based payment models test different approaches for paying providers for their services during an episode of care. These approaches are designed to create incentives for providers to improve the quality and efficiency of the care they deliver to Medicare beneficiaries. The models differ in various ways—such as the types of services, clinical conditions, and providers targeted by the model as well as the specific payment methodologies. See table 1 for information on the six episode-based payment models initiated by the Innovation Center.

Table 1: Information on Center for Medicare and Medicaid Innovation Episode-Based Payment Models Tested as of February 2018

Model and description	Participating providers	Participation type	Time period
Bundled Payments for Care Improvement (BPCI) Model 1 Retrospective Acute Care Hospital Stay Only—Hospitals received discounted payments for Medicare services provided during an inpatient hospital stay and were held financially responsible for any Medicare spending on services provided 30 days after discharge that exceeded historical trends.	Hospitals	Voluntary	April 2013 – December 2016
BPCI Model 2, Retrospective Acute & Post- Acute Care Episode—Hospitals and physician group practices received additional payments or made recoupment payments if the total spending for Medicare services provided during an episode of care—inpatient stay and up to 90 days after discharge—was over or under a target price. Participants could select from up to 48 clinical conditions included in the model.	Hospitals, physician group practices	Voluntary	October 2013 – September 2018
BPCI Model 3, Retrospective Post-Acute Care Only—Post-acute care providers received payments or made recoupment payments if total spending for Medicare services were over or under a target price. Episodes of care began with post-acute care services and included all services up to 90 days after initiation of post-acute care services with a participating post-acute care provider. Participants could select from up to 48 clinical conditions included in the model.	Skilled nursing facilities, home health agencies, inpatient rehab facilities, long-term care hospitals, physician group practices	Voluntary	October 2013 – September 2018
BPCI Model 4, Prospective Acute Care Hospital Stay Only—Tested a payment arrangement with a single advance payment for all Medicare services furnished by providers during an inpatient stay in an acute care hospital and related readmissions for 30 days after hospital discharge. Physicians and other practitioners submitted "no-pay" claims to Medicare and were paid by the hospital out of the advance, bundled payment. Participants could select from up to 48 clinical conditions included in the model.	Hospitals	Voluntary	October 2013 – September 2018
Comprehensive Care for Joint Replacement (CJR) —Hospitals retrospectively receive additional payments or make recoupment payments if the total spending for Medicare services provided during an episode of care—inpatient stay and 90 days after discharge for hip or knee replacement surgery—is over or under a target price and if care meets certain quality performance thresholds.	Hospitals	Mandatory (years 1 and 2) Mandatory and Voluntary (years 3, 4, 5)[a]	April 2016 – December 2020
Oncology Care Model (OCM)—Physician group practices receive a monthly payment for each Medicare beneficiary during a 6-month episode of care following the administration of chemotherapy. Providers can earn additional performance-based payments if the total costs for Medicare services provided during the episode are under a target price. Starting in 2017, practices could receive higher performance-based payments by taking on financial risk for spending that exceeds the target price.	Physician group practices, payers	Voluntary	July 2016 – June 2021

Source: Centers for Medicare & Medicaid Services. | GAO-19-156

Notes:

[a]CJR participation was mandatory for hospitals in 67 randomly selected metropolitan statistical areas for the first two performance years, 2016 and 2017. On December 1, 2017, a final rule was issued making provider participation voluntary for 33 of the 67 geographic areas and for hospitals designated as rural or low-volume, effective January 1, 2018. Participation remained mandatory for hospitals that were not designated as rural or low-volume in the remaining 34 geographic areas.

These models may include both upside risk and downside risk for participating providers. In models with only upside risk, providers are rewarded financially for keeping spending below the models' target price and providing quality care. If providers fail to lower costs or provide quality care, they may not earn these rewards. In contrast, in models that include downside risk, participants may be penalized with reduced payments or by other means for any expenditures that exceed the model's target price or if the care provided does not meet quality goals. The type and level of risk can also vary over the course of the model. Some models begin with no risk or only upside risk and add or increase the extent of downside risk participants face over the course of model testing.

The example below shows the difference between the traditional Medicare payment approach and the CJR model, one of the six episode-based payment models. Under traditional Medicare, CMS pays providers separately for the various services associated with a patient's hip or knee replacement surgery. The providers whose services may be involved could include:

- the hospital that provides services, such as bed and board and nursing care, during the patient's inpatient stay;
- the physician who performs the surgery;
- the post-acute care provider who treats the patient after discharge from the hospital; and
- any other providers who treat the patient for complications related to the surgery.

In contrast, under the CJR model, CMS establishes a single amount—known as the target price—to account for any services the beneficiary receives during the surgical episode, which generally includes the

inpatient stay and 90 days after discharge.[10] The CJR model holds the hospital where the surgery occurred accountable for the cost and quality of services provided during the entire episode. Operationally, providers submit claims to CMS for each service provided to beneficiaries during this episode, and Medicare initially pays for each as a separate claim under traditional Medicare. At the end of the year, CMS compares what Medicare spent paying all the traditional Medicare claims for the CJR episode to the target price—a process known as retrospective reconciliation.

The CJR model includes both upside and downside financial risks for the participating hospitals. Therefore, if total episode spending was below the target price and the participating hospital met certain quality requirements, the hospital may be rewarded with an additional Medicare payment. However, if the total episode spending was higher than the target price, the participating hospital may have to repay Medicare for some or all of the amount of episode spending above the target price. CJR's reconciliation payment methodology encourages participating hospitals to coordinate with other providers involved in delivering care during the episode and reduce the amount Medicare spends on the health care services associated with the episode.[11]

Model Evaluation and Certification for Expansion

The Innovation Center evaluates each model to assess its impact on quality of care and Medicare spending.[12] Each evaluation is performed by a third-party contractor that compares spending and outcome data for the model's participating providers and their patients to a matched comparison group of providers and patients with similar characteristics. If

[10]CMS sets prospective CJR episode target prices for each hospital each year based on a mix of the hospital's historical episode payments and regional average historic episode payments. CMS then applies a payment discount of up to 3 percent of the hospital's target price based on the hospital's performance on certain quality measures—such as measures of the rate of knee or hip replacement complications. The better the hospital's quality score, the lower the discount, thus incentivizing good performance on the measures. Target prices are set differently for other episode-based payment models.

[11]To encourage accountability by other providers involved in the episode, participating hospitals are permitted to share their Medicare payments with partnering providers.

[12]As of October 2018, the Innovation Center had published a final evaluation report for BPCI model 1; five annual evaluation reports for BPCI models 2-4; one evaluation report for CJR, including results from the first fully mandatory year of participation; and a baseline report for OCM with data for participants prior to the start of the program.

the Innovation Center determines that there is enough evidence from the evaluation results to demonstrate that the model reduces Medicare spending while maintaining or improving quality, the Center may formally request that CMS's Office of the Actuary analyze the financial impact of a potential expansion.[13] As of March 2018, the Innovation Center had not formally requested that the CMS's Office of the Actuary review any episode-based payment models for expansion, though it had made requests for two other types of value-based payment models.

[13]The Secretary of HHS may, through rulemaking, expand (including implementation on a nationwide basis) the duration and scope of a model if (1) the CMS Chief Actuary certifies that expansion would reduce or not result in any increase in net program spending, (2) the Secretary determines that expansion is expected to reduce spending without reducing the quality of care or improve the quality of patient care without increasing spending, and (3) the Secretary determines that expansion would not deny or limit the coverage or provision of benefits. See 42 U.S.C. § 1315a(c).

Episode-Based Payment Model Participants Had More Beds or Larger Practices, on Average, than Providers Nationally, and Voluntary Participation Was Often Driven by Perceived Financial Opportunity

In General, Participants in Voluntary and Mandatory Episode-Based Payment Models Had More Beds or Larger Practices and Higher Episode Volume than Providers Nationally

CMS evaluation reports and our analysis of CMS data show that for the five voluntary and one partially mandatory episode-based payment models implemented as of February 2018, participants were typically larger in size—measured in terms of the mean number of beds in a facility or the mean number of clinicians in the provider's practice—had higher episode volume, and had other characteristics that differed when compared with other providers of the same type that participated in traditional Medicare and were eligible for the model nationally (see table 2).[14]

[14]CJR is the one model with mandatory participation. Our analysis examined characteristics of CMS participants at the end of the second performance year—December 2017—when participation was mandatory for hospitals in 67 selected metropolitan statistical areas (MSA).

Table 2: Selected Episode-Based Payment Model Participant Characteristics Relative to Characteristics of Medicare Providers Nationally

Model	Provider type[a]	Cumulative number of participating providers	Larger size[b]	Higher episode volume[c]	Higher episode spending[d]	Urban location[e]	Teaching status
Bundled Payments for Care Improvement (BPCI) Model 1	hospital	24	●	no data	no data	●	●
BPCI Model 2	hospital	423	●	●	●	●	●
BPCI Model 3	skilled nursing facility	873	●	●	●	●	N/A
	home health agency	116	●	●	●	○	N/A
BPCI Model 4	hospital	23	●	●	○	●	●
Oncology Care Model (OCM)	physician group practice	190	●	●	●	no data	●
Comprehensive Care for Joint Replacement (CJR)[f]	hospital	800	●	no data	no data	●	●

Legend

● = model participants more often had this characteristic relative to providers nationally

○ = model participants less often had or were not different for this characteristic relative to providers nationally

no data = comparative data were not available for this characteristic

N/A = characteristic is not applicable for model participant provider type

Source: GAO analysis of Centers for Medicare & Medicaid Services (CMS) model evaluation reports and data. | GAO-19-156

Notes: Characteristics compared for most models reflect participants and data from the most recent evaluation report for each model as of October 2018 or from our analysis of CMS data as of September 2017.

[a]Physician group practices can also participate in BPCI models 2 and 3 and inpatient rehabilitation facilities and long-term care hospitals can participate in BPCI model 3. We excluded these provider types from our analysis because CMS has not published information on characteristics of these providers relative to non-participants.

[b]For hospitals and skilled nursing facilities, size is measured as the mean number of beds in the facility; for home health agencies, size is measured as the mean number of employed nurses; and for physician group practices, size is measured as the mean number of physicians per practice. The table compares mean values for the size of model participants to mean values for size across Medicare providers eligible to participate in each model nationally.

[c]Episode volume refers to the mean number of episodes (for relevant clinical conditions) for which the provider billed Medicare during a set period of time before the model was implemented. Table compares mean values for episode volume of model participants to mean episode volume across Medicare providers eligible to participate in each model nationally.

[d]Episode spending refers to the mean amount of Medicare payments the provider received for services related to relevant episodes during a set period of time before the model was implemented. For BPCI, the table compares mean values for episode spending of participants to mean spending across non-participants eligible to participate in each model. For OCM, the table compares mean

values for episode spending of model participants to mean spending across Medicare providers eligible to participate in OCM nationally.

[e]According to the United States Census Bureau, an urban area is defined as having a population of at least 2,500, representing densely developed territory, and encompassing residential, commercial, and other nonresidential urban land uses. Table compares mean values for urban location of model participants to mean values for urban location across Medicare providers eligible to participate in each model nationally.

[f]Our analysis examines characteristics of CJR participants when participation was mandatory for hospitals in 67 metropolitan statistical areas.

- **Larger Size:** Providers participating in all six models were, on average, larger than providers of the same type nationally. For example, CMS's model evaluation reports and our analysis of CMS data found that as of 2018, hospital participants in BPCI models 1, 2, and 4 and CJR had a mean number of beds that were at least 25 percent greater than hospitals nationally. Likewise, physician group practices in OCM as of 2017 were considerably larger in terms of mean number of physicians per practice than practices nationally (42 and 14 physicians, respectively), according to CMS's first OCM evaluation report.
- **Higher episode volume:** Participants in BPCI models 2, 3, 4, and OCM—the four models for which we had evaluation report data for participants and non-participants—had a higher volume of relevant episodes, on average, than did providers of the same type nationally during the baseline period.[15] For example, the first OCM evaluation report indicated that physician group practices in OCM had, on average, nearly four times as many attributed cancer episodes per practice from 2014 through June 2015 as did practices nationally.
- **Higher episode spending:** For providers in three of the four models for which data were available from evaluation reports, baseline spending for relevant episodes was, on average, also higher relative to providers of the same type that did not

[15]The baseline period refers to a specified period of time before a model is implemented, during which CMS collects data on various measures of Medicare utilization and spending among participating providers and non-participants in order to detect volume and spending changes before and after model implementation. Baseline episode volume refers to the mean number of episodes (for relevant clinical conditions) for which the provider billed Medicare during a set period of time before the model was implemented. Summary data on baseline episode volume and episode spending were available from CMS evaluation reports for BPCI models 2-4 and OCM. As of October 2018, baseline episode volume and spending data were available for CJR participants, but not for all hospitals nationally.

participate in the model.[16] For example, the most recent BPCI model 2 evaluation report noted that during the 2011 baseline period and across all clinical episodes, participating hospitals had an average of $1,159—or 6 percent—more Medicare Part A spending per episode than did non-participating hospitals.

- **Urban location:** Five of the six models implemented as of February 2018 had participants disproportionately located in urban areas, compared with providers of the same type nationally.[17] For example, our analysis of CMS data showed that more than 90 percent of hospitals in BPCI models 1, 2, and 4 were located in urban areas, compared to 75 percent of hospitals nationally.
- **Teaching status:** Model participants were more often teaching hospitals or affiliated with teaching hospitals than providers nationally. Specifically, 57 percent of BPCI model 1 hospitals, 37 percent of BPCI model 2 hospitals, and 36 percent of BPCI model 4 hospitals had accredited teaching programs compared with 23 percent of hospitals nationally, according to our analysis of CMS data. In addition, CMS's first OCM evaluation report indicated that 16 percent of physician group practices participating in OCM were affiliated with academic medical centers, compared with 6 percent of practices nationally. (See appendix III for additional information on characteristics of model participants and appendix IV for additional information on characteristics of CJR participants specifically.)

[16]Baseline episode spending refers to the mean amount of Medicare payments the provider received for services related to relevant episodes during a set period of time before the model was implemented. Episode spending for BPCI models 2 and 4 is defined as mean standardized Medicare Part A allowed payments in 2011 for an inpatient stay plus relevant services received during a 90-day post-discharge period. Episode spending for BCPI model 3 is defined as the mean standardized Medicare Part A payments in 2011 for the 90 days after admission to a post-acute care facility. For OCM, episode spending is defined as the mean total standardized payments from 2014 through June 2015 for Part A, B, and D costs for patients who received a chemotherapy service.

[17]According to the United States Census Bureau, an urban area is defined as having a population of at least 2,500, representing densely developed territory, and encompassing residential, commercial, and other nonresidential urban land uses.

Providers Participated in Voluntary Models Primarily Based on Perceived Financial Gain, According to Stakeholders

According to stakeholders we interviewed—providers, provider groups, and Medicare experts—and providers that CMS's evaluation contractor interviewed for BPCI evaluation reports, a primary factor providers considered when deciding to participate in a voluntary episode-based payment model was their potential opportunity for financial gain under the model.[18] In addition, stakeholders noted that gaining access to CMS data and the opportunity to gain experience with episode-based payment models were other reasons some providers chose to participate in the models.

Opportunity for financial gain

Stakeholders explained that providers decided to participate in voluntary episode-based payment models primarily after examining the financial opportunities the models presented relative to the extent of financial risk the models required them to assume. For example, according to CMS's BPCI evaluation reports, the most common reason providers said they chose to participate in BPCI model 2 was because the model included services delivered after a hospitalization, such as post-acute care services, and the providers thought they would most likely be able to deliver these services for less than the target price and thereby receive additional payment from CMS.[19] In addition, several providers and other stakeholders said that in general providers decide to participate in models when they determine they have or can acquire sufficient technical and staffing resources, infrastructure, and relationships with other providers in the care continuum that they need to cut spending below target prices and meet quality metrics.

Some providers discontinued their participation in a model after reassessing their potential for financial gain. In many cases, this occurs when participating providers enter the phase of the model in which they face downside risk—financial penalties if they do not meet certain quality

[18]For models with mandatory participation, providers did not have to decide whether or not they would participate, and the types of providers who did participate were a function of CMS's criteria for selecting participants.

[19]See The Lewin Group, *CMS Bundled Payments for Care Improvement Initiative Models 2-4: Year 3 Evaluation and Monitoring Annual Report*, a report prepared for the Centers for Medicare & Medicaid Services (Falls Church, Va., October 2017).

metrics or spending targets.[20] For example, a group representing oncology providers told us that many physician practices were willing to participate in OCM when they only faced the possibility of losing bonus payments (i.e. "upside risk"), but they said providers might not continue to participate when the model required them to bear financial responsibility for episodes and face the prospect of financial penalties (i.e., "downside risk"). According to several providers we interviewed and those interviewed for BPCI evaluations, providers also reassessed their participation based on their current performance in the model (i.e., whether they were able to keep the amount they bill Medicare for their services below the model's target price and avoid penalties) and on how much it cost them to implement the model (e.g., investments in staffing or technology). These perspectives are consistent with our analysis of the BPCI participation data, which shows that approximately 39 percent of hospitals that participated in BPCI model 2 during the preparation phase (when no downside risk was required), went on to continue participating after the model transitioned to the phase in which providers faced downside risk.[21] Furthermore, providers continued to drop out during the downside risk phase, with more than 100 hospitals having withdrawn from the model as of March 2018, our analysis shows.[22]

Access to CMS data

Officials from one provider group told us that many physician group practices that signed up for OCM did so to gain access to robust claims data from CMS. During OCM implementation, CMS is providing

[20]Several of the episode-based payment models phased-in financial penalties in later stages of the model, with limited downside financial risk required for participation in the early years. For example, OCM participants could enter the model in 2016 under an upside only risk arrangement and select, starting in 2017, to transition into the downside risk arrangement. OCM participants are required to transition to downside risk or end their participation in the model if they have not qualified for a performance-based incentive payment by the time of the initial reconciliation of the fourth six-month performance period (estimated summer 2019).

[21]Models 1, 3, and 4 also had significant drop-out of participants during the downside risk phase.

[22]Other research has also examined the characteristics of hospitals that dropped out of BPCI model 2. See The Lewin Group, *CMS Bundled Payments for Care Improvement Initiative Models 2-4: Year 5 Evaluation and Monitoring Annual Report*, a report prepared for the Centers for Medicare & Medicaid Services (Falls Church, Va., October 2018); K.E. Joynt Maddox, E. J. Orav, J. Zheng, and A. M. Epstein, "Participation and Dropout in the Bundled Payments for Care Improvement Initiative." *Journal of the American Medical Association*, vol. 319, no. 2 (2018); and D. Kahvecioglu, C. Ogbue, and R. Talati, "Bundled Payments Initiative Participation and Retention." *Journal of the American Medical Association*, vol. 319, no. 20 (2018).

participating providers with claims information on their beneficiaries, as well as feedback on their performance. The officials explained that these data were often the most comprehensive and real-time data oncology practices had ever received, because the data included claims for all services received by their patients in all care settings (e.g., end of life care and emergency room visits), not just those for cancer-related visits. According to CMS, access to comprehensive claims data allows participating providers to understand what services their patients utilize outside of their oncology practices, which helps the providers better manage care for their patients.

Providers and other stakeholders indicated that having access to CMS claims data also informed participants' understanding of how successful they could be in a model. For example, BPCI providers interviewed by evaluation contractors noted that they used the data provided by CMS when determining which BPCI episodes to join.[23] Specifically, BPCI providers used the CMS data to compare their historical data to national or regional benchmarks to identify the services for which they had lower spending or were more efficient compared to other providers in their markets and thus had the greatest financial opportunity.

Experience in value-based payment models

Several stakeholders also reported that providers chose to participate in episode-based payment models to gain experience with value-based payments. They said providers anticipate that these types of payments are likely to become the standard form of Medicare payment in future years. For example, approximately half of the BPCI model 2 hospitals that contractors interviewed for the model's second annual evaluation said that they participated in a BPCI model because it provided an opportunity to learn about bundled payments and to experiment with new payment models.

[23]BPCI models 2, 3, and 4 permitted potential participants to join episodes for up to 48 clinical conditions, such as stroke or hip and knee replacement. For providers that participated in the preparatory phase of these models, CMS provided historical Medicare claims data on services provided by various providers in the participant's geographic region.

According to Stakeholders, Voluntary Models Largely Benefit Providers, While Mandatory Models Are More Likely to Give CMS Generalizable Evaluation Results

Model evaluation reports published by CMS and our interviews with stakeholders—CMS officials, evaluation contractors, experts, and provider organizations—identified different benefits when testing voluntary and mandatory episode-based payment models. In general, stakeholders reported that voluntary models largely benefit providers by offering more favorable terms to encourage participation, while mandatory models are more likely to give CMS and its evaluation contractors generalizable evaluation results (see table 3).

Table 3: Relative Advantages of Voluntary versus Mandatory Episode-Based Payment Models, as Identified by Stakeholders

Voluntary Participation	Mandatory Participation
Participants often have more favorable terms of participation (e.g., types of model incentives and degrees of risk required), as CMS has an incentive to make the model attractive enough for providers to willingly participate.	CMS and its evaluation contractors are able to evaluate the performance of participants that are more representative of different types of providers, and as such, the model's evaluation results are more generalizable.
Participants have the ability to self-select models and episodes where they have identified opportunities to successfully implement care redesign and earn performance bonuses.	CMS can test models with greater financial risks and penalties because providers are required to participate.
CMS and its evaluation contractors are able to test novel concepts in care redesign with early adopters that are interested in performing well under the model. This allows CMS to assess the feasibility of a model before more extensive testing and evaluation.	CMS can encourage transition from traditional Medicare to value-based care models among providers that may be reluctant to make the change on their own.

Source: GAO analysis of Centers for Medicare & Medicaid Services (CMS) model evaluation reports and interviews with stakeholders. | GAO-19-156

Notes: GAO interviewed officials from the Innovation Center, CMS's Office of the Actuary, the three third-party contractors conducting episode-based payment model evaluations for CMS, nine Medicare payment experts, representatives from five provider organizations, and five participants in the Comprehensive Care for Joint Replacement model.

Stakeholders we interviewed explained that the advantages associated with voluntary episode-based payment models largely benefit providers. For example, several model participants and experts told us that when participation is voluntary, providers can choose to join only those models, and select specific episodes of care within those models, for which they

have a high likelihood of keeping the amount they bill Medicare below the model's episode target price. Stakeholders also said participants in voluntary models can choose to end their participation in the model or in specific episodes of care if they are not performing well, thereby avoiding any financial penalties levied under the model. In comparison, participants in mandatory models are limited in their ability to end participation if they cannot meet model requirements, which, some stakeholders suggested, can adversely affect patient care and the financial viability of some providers. See appendix IV for more information on the advantages of testing the CJR model with both voluntary and mandatory participation.

Stakeholders also identified the relative advantages associated with mandatory episode-based payment models as advantages largely for CMS and its evaluation contractors. Specifically, CMS officials and other stakeholders told us that a principal advantage of mandatory models is that they generally have larger and more diverse participant populations and likely include providers that may not have otherwise participated if the model were voluntary.[24] According to CMS officials, an evaluation contractor, and several experts we interviewed, larger, more diverse patient populations give CMS and third-party contractors access to more generalizable data to evaluate the effects of the models. This in turn allows CMS to determine whether a model is likely to reduce costs and improve care quality among all types of providers, not just participants that elected to join voluntary models. In addition, stakeholders told us that mandatory participation helps ensure that model participants remain in a model, making it easier to evaluate the effects of the model on cost and quality.

In contrast, voluntary models suffer from participant drop outs, as shown in our analyses and the evaluations of BPCI models—for example 13 of 24 participants dropped out of BPCI model 1 by the second performance year. Evaluation contractors told us that in order to mitigate the influence of these dropouts, the evaluators may have to adjust the methodology they use to compare participants to non-participants, and at times, they must aggregate episodes to increase sample sizes, both of which affect the ability to generalize the evaluation's findings.

[24]Research has also examined data obtained from episode-based payments model with mandatory and voluntary participation. See, A. S. Navathe, et.al. "Comparison of Hospitals Participating In Medicare's Voluntary and Mandatory Orthopedic Bundle Programs." *Health Affairs,* vol.37, no.6 (2018).

Because voluntary and mandatory episode-based payment models each have their own distinct advantages, their utility may depend on CMS's needs. In general, voluntary models attract smaller groups of motivated providers—which may be ideal for CMS when testing a more novel concept in care redesign before attempting more extensive testing. In the case of mandatory models, these may be particularly useful for testing models of care delivery and payment that have already shown some potential for reducing costs and improving quality—that is, models that CMS is considering for broader implementation.

Stakeholders also identified other factors CMS should consider when designing and evaluating both voluntary and mandatory models. Specifically, several experts and provider organizations emphasized the importance of effectively risk-adjusting the target prices providers receive under the models to account for the varying costs of providing health care services to patient populations with relatively sicker patients.[25] Otherwise, stakeholders explained, model participants may have an incentive to treat only relatively healthy patients in order to meet the target price and receive any bonus payments for doing so.

Stakeholders also noted that evaluations of voluntary and mandatory episode-based payment models should account for changes in the characteristics of patients treated by providers and in the volume of services delivered by providers. These changes, according to stakeholders, could indicate that participants are reducing episode spending through means other than efficiency improvements—such as treating only healthier patients that they know will require fewer services during the episode—or increasing the number of procedures performed. According to stakeholders, these responses have implications for the ability of the model to reduce Medicare spending and improve care if the model were more widely implemented. While model evaluations to date include some steps to examine changes in patient mix, evaluation

[25]Risk adjustment is the process by which Medicare adjusts its payments to account for differences in patient characteristics that can lead to differences in spending amounts. The method for adjusting for patient differences may depend on the model and its participants.

contractors told us that they intend to take additional steps to examine changes to patient mix and volume in future evaluations.[26]

Agency Comments

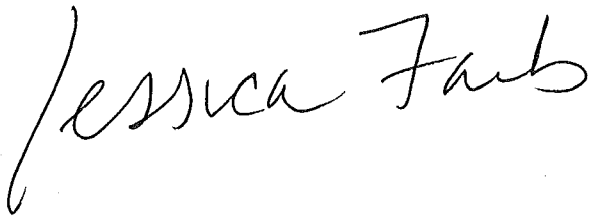
We provided a draft of this report to HHS for comment. The Department provided technical comments, which we incorporated as appropriate.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the appropriate congressional committees, relevant agencies, and other interested parties.

In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions about this report, please contact Jessica Farb at (202) 512-7114 or farbj@gao.gov. Contact points for our Office of Congressional Relations and Office of Public Affairs can be found on the last page of this report. Other major contributors to this report are listed in appendix V.

Sincerely yours,



Jessica Farb
Director, Health Care

[26]Research has also examined changes in patient volume before and after BPCI testing as well as changes in hospital-level case mix based on demographic, socioeconomic, clinical, and utilization factors. See A.S. Navathe, et.al., "Association of Hospital Participation in a Medicare Bundled Payment Program With Volume and Case Mix of Lower Extremity Joint Replacement Episodes." *JAMA*, vol. 320, no. 9 (2018).

Appendix I: Data Sources for Analysis of Episode-Based Payment Model Participant Characteristics

Table 4 summarizes the data sources we analyzed to determine characteristics of episode-based payment model participants and providers nationally that participated in traditional Medicare and were eligible for the model.

Table 4: Data Sources for Analysis of Episode-Based Payment Model Participant Characteristics

	Sources (time periods reflected)	
Model	**Number of model participants**	**Participant and non-participant characteristics**
Bundled Payments for Care Improvement (BPCI) Model 1	BPCI participant files (April 2013 – December 2016); BPCI Model 1 Year 2 Evaluation Report	Hospital-level Provider of Service and Inpatient Prospective Payment Impact files (as of September 2017)
BPCI Model 2	BPCI participant files (October 2013 – March 2018); BPCI Models 2-4 Year 5 Evaluation Report	Hospital-level Provider of Service and Inpatient Prospective Payment Impact files (as of September 2017); BPCI Models 2-4 Year 5 Evaluation Report (2011 and 2013 for providers as of December 2016)
BPCI Model 3	BPCI participant files (October 2013 – March 2018); BPCI Models 2-4 Year 5 Evaluation Report	BPCI Models 2-4 Year 5 Evaluation Report (2011 and 2013 for providers as of December 2016)
BPCI Model 4	BPCI participant files (October 2013 – March 2018); BPCI Models 2-4 Year 5 Evaluation Report	Hospital-level Provider of Service and Inpatient Prospective Payment Impact files (as of September 2017); BPCI Models 2-4 Year 3 Evaluation Report (2011 and 2013 for providers as of September 2015)
Comprehensive Care for Joint Replacement (CJR)	CJR participant files (February 2018)	Hospital-level Provider of Service and Inpatient Prospective Payment Impact files (as of September 2017)
Oncology Care Model (OCM)	OCM Evaluation Report (January 2017)	OCM Evaluation Report (2014-June 2015)

Source: GAO | GAO-19-156

Appendix II: Effect of Mandatory Episode-Based Payment Models on Advanced Alternative Payment Model Participation

We were asked to examine the effect, if any, that participating in mandatory episode-based payment models, such as the Comprehensive Care for Joint Replacement (CJR) model, has on physicians' ability to participate in the Advanced Alternative Payment Models (APM) track of the Quality Payment Program (QPP). QPP is a Medicare quality payment incentive program created to implement the Medicare Access and CHIP Reauthorization Act of 2015.[1] QPP is mandatory for certain physicians participating in Medicare and includes two tracks or options for participation, one of which is participating through the Advanced APM track.[2] Physicians that meet certain thresholds of participation, measured by payment or patients in an Advanced APM, are eligible for an APM incentive payment.[3] Advanced APMs are payment models that require the participating provider to take on financial risk and meet other requirements established by law. As of October 2018, the Center for Medicare and Medicaid Innovation (Innovation Center) was testing three episode-based payment models that qualify as Advanced APMs: the CJR model; the Oncology Care Model (OCM); and the Bundled Payments for Care Improvement (BPCI) Advanced model.[4] Of these, CJR model participation is mandatory for some hospitals and, in turn, the physicians performing total knee replacement or total hip replacement episodes at those hospitals. Model participation in both OCM and BPCI Advanced are voluntary.

[1]CMS implemented QPP in response to the Medicare Access and CHIP Reauthorization Act of 2015, which changed the way Medicare Part B incorporates quality measurement into payments for certain physicians and clinicians, whom we refer to collectively as physicians for purposes of this report. Pub. L. No. 114-10, 129 Stat. 87 (2015).

[2]The other QPP track is the Merit-based Incentive Payment System. Under the Merit-based Incentive Payment System, physicians are assessed and scored on their performance in four categories: quality, cost, improvement activities, and promoting interoperability. Depending on their score, physicians may receive a positive, negative, or no adjustment to their payments under the traditional Medicare program.

[3]In 2018, Physicians who received 25 percent of their Medicare payments through an Advanced APM and who saw 20 percent of their Medicare patients through an Advanced APM qualified for a lump sum incentive payment on top of any bonus payments they may have earned through the model. CMS identifies physicians potentially eligible for an incentive payment using the Advanced APM's provider participation or affiliated practitioner list. CMS assesses physicians on these lists to determine whether they meet the applicable threshold to qualify for an incentive payment. This threshold varies by year. See 42 U.S.C. § 1395l(z)(2).

[4]Specifically, a two-sided risk track of OCM and the certified electronic health record technology track of CJR are Advanced APMs for the purposes of QPP. CMS announced BPCI Advanced in January 2018 and the first episodes began in October 2018.

To identify stakeholder views on the effect of mandatory episode payment models on providers' ability to participate in Advanced APMs, we reviewed relevant laws and regulations and interviewed stakeholders—CMS officials, select hospitals that participated in CJR, provider organizations representing provider types that participate in Medicare episode-based payment models, and Medicare experts. We selected CJR hospitals that varied in size and based on whether their participation was voluntary or mandatory. We selected Medicare experts based on related published research and recommendations from other stakeholders. Because we used nonprobability sampling, our interviews are not generalizable.

Provider organizations and experts we interviewed said that the one mandatory episode-based payment model to date—CJR—provided opportunities for physicians in the selected metropolitan statistical areas (MSA) to participate in the Advanced APM track of QPP when they might not otherwise have had such opportunities. Specifically, physicians not located in the CJR model MSAs and specialists who treat conditions beyond primary care have limited opportunities to participate in Advanced APMs, according to stakeholders we interviewed. For example, one provider organization noted that, in their experience, many physicians would like to participate in Advanced APMs, but there aren't models available for the patients or conditions they treat. In addition, because hospitals in mandatory CJR MSAs are required to participate in an Advanced APM, the opportunities for physicians to partner with those hospitals to meet volume thresholds increases.

We also heard from some stakeholders that mandatory participation in an Advanced APM may preclude some physicians from voluntarily participating in other Advanced APMs in which they could potentially be more successful. Stakeholders provided the example of a group of physicians that began participation in total knee or hip replacement episodes through BPCI models 1, 2, or 4 as part of a participating hospital that was also located in mandatory areas under the CJR model. The participating hospitals received an exemption from mandatory participation in the CJR model until September 2018.[5] A provider organization that we interviewed told us that the transition into mandatory CJR model participation for these hospitals would preclude physicians

[5]BPCI model 1 – 4 episodes have precedence for payment and participation over CJR episodes and CJR episodes have precedence over BPCI Advanced episodes.

that practiced in these hospitals from leveraging their early BPCI experience in BPCI Advanced, including those physicians that did well in the earlier BPCI models. According to the CJR evaluation contractor, roughly 30 hospitals were affected by this restriction.

Appendix III: Characteristics of Episode-Based Payment Model Participants

Tables 5 through 12 provide information on select characteristics of providers participating in the six episode-based payment models implemented by the Center for Medicare and Medicaid Innovation (Innovation Center). The information is based on our analyses of Centers for Medicare & Medicaid Services (CMS) model participation files and hospital-level data, and model evaluation reports published by the Innovation Center.

Bundled Payments for Care Improvement Models 1, 2, 3, and 4

The Innovation Center tested four Bundled Payments for Care Improvement (BPCI) models between 2013 and 2018 that tested distinct voluntary episode-based payment approaches for paying various types of providers for various clinical episodes. BPCI models 1, 2, and 4 targeted hospitals.[1] Tables 5 through 7 provide information on hospitals that participated in these models compared with all hospitals nationally that were eligible to participate. BPCI model 3 targeted post-acute care providers. Tables 8 provides information on skilled nursing facilities (SNF), and table 9 provides information on home health agencies (HHA) that participated in model 3 as of 2016 compared with all relevant providers nationally that were eligible to participate.[2]

[1]In addition to hospitals, physician group practices could also participate in BPCI model 2; however, we excluded them from our analysis because provider-level characteristics data are unavailable and CMS had published only limited information on participant physician group practices relative to non-participants. Specifically, the BPCI Models 2-4: Year 5 Evaluation and Monitoring Report included limited information on the distribution of physician specialties in BPCI-participating practices and on the average number of quarterly hip and knee replacement discharges for orthopedic surgeons at BPCI-participating practices versus all Medicare-billing orthopedic surgeons nationwide. According to the report, the median number of hip or knee replacement discharges for orthopedic surgeons at BPCI-participating physician group practices per quarter ranged between 8 and 10, compared to 4 to 5 discharges per quarter across all orthopedic surgeons.

[2]In addition to SNFs and HHAs, long-term care hospitals, inpatient rehabilitation facilities, and physician group practices could also participate in BPCI model 3; however, we excluded them from our analysis because CMS had not published information on characteristics of these providers relative to providers nationally at the time of our review.

Table 5: Select Characteristics of Bundled Payments for Care Improvement (BPCI) Model 1, Model 2, and Model 4 Participating Hospitals and Hospitals Nationally, 2018

	BPCI Model			
Characteristic	**Model 1 hospitals** (N=21)[a]	**Model 2 hospitals** (N=421)[b]	**Model 4 hospitals** (N=22)[c]	**All hospitals eligible** (N=3,326)[d]
Number of beds, mean	339	375	515	240
Resident-to-bed ratio, mean[e]	0.15	0.13	0.13	0.07
Disproportionate share percentage, mean[f]	0.24	0.30	0.32	0.30
Medicare days percent, mean[g]	0.40	0.36	0.29	0.38
Bed size (#, %)				
Small (<82 beds)	1 (5%)	29 (7%)	1 (5%)	828 (25%)
Medium (82-319 beds)	9 (43%)	196 (47%)	7 (32%)	1,653 (50%)
Large (>319 beds)	11 (52%)	196 (47%)	14 (64%)	845 (25%)
Teaching hospital (#, %)[e]				
Yes	12 (57%)	155 (37%)	8 (36%)	747 (23%)
No	9 (43%)	266 (63%)	14 (64%)	2,579 (78%)
Safety-net hospital (#, %)[f]				
Yes	0 (0%)	41 (10%)	2 (9%)	356 (11%)
No	21 (100%)	380 (90%)	20 (91%)	2,970 (89%)
Urban/ rural location (#, %)				
Urban	21 (100%)	396 (94%)	22 (100%)	2,501 (75%)
Rural	0 (0%)	25 (6%)	0 (0%)	825 (25%)
Ownership type (#, %)[h]				
For profit	3 (14%)	77 (18%)	5 (23%)	793 (24%)
Nonprofit	17 (81%)	274 (65%)	13 (59%)	1,651 (50%)
Government	0 (0%)	22 (5%)	1 (5%)	529 (16%)
Other	1 (5%)	48 (11%)	3 (14%)	353 (11%)

Source: GAO analysis of Centers for Medicare & Medicaid Services (CMS) data. | GAO-19-156

Notes: Table examines hospitals that participated in at least one downside risk episode of BPCI models 1, 2, and 4 for at least one quarter as identified in quarterly BPCI analytic files as of March 2018 available from www.cms.innovation.gov. Characteristics are derived from CMS's Provider of Service and Inpatient Prospective Payment System Impact files for 2018.

[a]Characteristic data were available for 21 of the 24 total hospitals that had participated in BPCI model 1 for at least one quarter between April 2013 and December 2016, when model testing ended.

[b]Characteristic data were available for 421 hospitals that had, according to CMS data, participated in at least one BPCI model 2 downside risk episode for at least one quarter between October 2013 and March 2018.

[c]Characteristic data were available for 22 of the 23 total hospitals that had, according to CMS data, participated in at least one BPCI model 4 downside risk episode for at least one quarter between October 2013 and March 2018.

[d]All hospitals eligible to participate include acute care hospitals paid under the Medicare Inpatient Prospective Payment System, excluding hospitals located in Maryland. We further limited to hospitals

that were in both the 2018 Provider of Service and 2018 Inpatient Prospective Payment System Impact files.

[e]We defined teaching hospitals as those with an affiliated allopathic or osteopathic physician residency program. Resident-to-bed ratio is another measure of teaching hospital status that reflects the ratio of the number of physician residents to hospital beds; a higher ratio reflects a larger teaching program.

[f]Disproportionate share percentage refers to the Disproportionate Share Hospital Patient Percentage, which CMS uses to identify hospitals that serve large numbers of low-income patients and determine eligibility for certain Medicare payment adjustments. We defined safety-net hospitals as those with disproportionate share percentage in the top quartile for all hospitals in 2018.

[g]Medicare percentage reflects the percentage of the hospital's total inpatient days due to Medicare beneficiaries in 2018.

[h]Government ownership includes hospitals owned or operated by the federal government or by a state or local government. Other includes tribal hospitals and those with unspecified ownership.

Table 6: Select Characteristics of Bundled Payments for Care Improvement (BPCI) Model 2 Participating Hospitals and Non-Participating Hospitals Nationally, 2016

Characteristics	Model 2 hospitals	Non-participating hospitals[a]
Number of admissions for all BPCI episodes, 2011, mean	3,004 (N=419)	1,598 (N=2,774)
Baseline spending for 32 of 48 episodes, 2011, mean[b]	$23,067 (N varies)	$21,690 (N varies)

Source: The Lewin Group, *CMS Bundled Payments for Care Improvement Initiative Models 2-4: Year 5 Evaluation and Monitoring Annual Report*, a report prepared for the Centers for Medicare & Medicaid Services (Falls Church, Va., October 2018).| GAO-19-156

Notes: Table reflects 2011 episode data for hospitals that initiated BPCI episodes from October 2013 through December 2016.

[a]Non-participating hospitals are any hospitals not participating in any BPCI initiative between October 2013 and December 2016 that were not from Maryland and that had available 2011 claims and 2013 Provider of Service data available for select characteristics.

[b]Baseline spending is defined as the mean standardized Medicare Part A allowed payments in 2011 for an inpatient stay plus relevant services provided during a 90-day post-discharge period. Figures are based on 2011 Medicare claims for 32 of the possible 48 BPCI model 2 clinical episodes. Analysis is limited to average payments for the 32 clinical episodes that had enough sample size to conduct a difference in difference analysis. Mean baseline payments for model 2 participating hospitals were higher than non-participants for 30 of the 32 episodes, but the differences varied by episode. The number of participating and non-participating hospitals varied by episode.

Table 7: Select Characteristics of Bundled Payments for Care Improvement (BPCI) Model 4 Participating Hospitals and Non-Participating Hospitals Nationally, 2015

Characteristics	Model 4 hospitals	Non-participating hospitals[a]
Number of admissions for all BPCI episodes, 2011, mean	3,460 (N=23)	1,598 (N=2,971)
Baseline spending for 2 of 48 episodes, 2011, mean[b]	$30,745 (N varies)	$30,221 (N varies)

Source: The Lewin Group, *CMS Bundled Payments for Care Improvement Initiative Models 2-4: Year 3 Evaluation and Monitoring Annual Report*, a report prepared for the Centers for Medicare & Medicaid Services (Falls Church, Va., October 2017).| GAO-19-156

Notes: Table reflects 2011 episode data for hospitals that initiated BPCI episodes from October 2013 through September 2015.

[a]Non-participating hospitals are any hospitals not participating in any BPCI initiative between October 2013 and September 2015 that were not from Maryland and that had available 2011 claims and 2013 Provider of Service data available for select characteristics.

[b]Baseline spending is defined as the mean standardized Medicare Part A allowed payments in 2011 for an inpatient stay plus relevant services provided during a 90-day post-discharge period. Figures are based on 2011 Medicare claims for 2 of the possible 48 BPCI model 4 clinical episodes. Analysis is limited to average payments for the 2 episodes that had enough sample size to conduct a difference in difference analysis. Mean baseline payments for model 4 participating hospitals were higher than non-participants for one of the model 4 episodes and lower for the other. The number of participating and non-participating hospitals varied by episode.

Table 8: Select Characteristics of Bundled Payments for Care Improvement (BPCI) Model 3 Participating Skilled Nursing Facilities (SNF) and SNFs Nationally, 2016

Characteristics	BPCI Model 3 SNFs (N=864)	All SNFs[a] (N=14,166)
Number of beds, mean	122	113
Part of a chain (#, %)	216 (52%)	3,162 (22%)
Urban/Rural (#, %)		
Urban	724 (84%)	10,088 (71%)
Rural	140 (16%)	4,078 (29%)
Ownership (#, %)		
For profit	740 (86%)	10,114 (71%)
Non-Profit	121 (14%)	3,432 (24%)
Government	3 (0%)	620 (4%)
Number of admissions for all BPCI episodes, 2011, mean	136	97
Episode spending	**BPCI Model 3 SNFs** (N varies)	**Non-participating SNFs[b]** (N varies)
Baseline spending for 11 of 48 episodes, 2011, mean[c]	$26,742	$25,706

Source: The Lewin Group, *CMS Bundled Payments for Care Improvement Initiative Models 2-4: Year 5 Evaluation and Monitoring Annual Report*, a report prepared for the Centers for Medicare & Medicaid Services (Falls Church, Va., October 2018).| GAO-19-156

Notes: Table reflects 2011 episode data for SNFs that initiated BPCI episodes from October 2013 through December 2016.

[a]All SNFs include SNFs that participated in BPCI episodes from October 2013 through December 2016 and all other SNFs not participating in a BPCI initiative during that time, that were not from Maryland, and that had available 2011 claims and 2013 Provider of Service data available for select characteristics. We calculated values for all SNFs by weighting data for non-participating SNFs reported in the BPCI Models 2-4: Year 5 Evaluation and Monitoring Report.

[b]Non-participating SNFs are any SNFs not participating in any BPCI initiative between October 2013 and December 2016 that were not from Maryland and that had available 2011 claims and 2013 Provider of Service data available for select characteristics.

[c]Baseline spending is defined as the mean standardized Medicare Part A allowed payments in 2011 for an inpatient stay plus relevant services provided during a 90-day post-discharge period. Figures are based on 2011 Medicare claims for 11 of the possible 48 BPCI model 3 clinical episodes. Analysis is limited to average payments for the 11 clinical episodes that had enough sample size to conduct a difference in difference analysis. Mean baseline payments for model 3 participating SNFs were higher than non-participants for all 11 episodes, but the differences varied by episode. The number of participating and non-participating SNFs varied by episode.

Table 9: Select Characteristics of Bundled Payments for Care Improvement (BPCI) Model 3 Participating Home Health Agencies (HHA) and HHAs Nationally, 2016

Characteristics	**BPCI Model 3 HHAs** (N=116)	**All HHAs[a]** (N=9,885)
Number of employed nurses in HHA, mean	29	9
Part of a chain (#, %)	85 (73%)	3,195 (32%)
Urban/Rural (#, %)		
Urban	91 (78%)	7,974 (81%)
Rural	25 (22%)	1911 (19%)
Ownership (#, %)		
For profit	94 (81%)	7,552 (76%)
Non-Profit	22 (19%)	1,721 (17%)
Government	0 (0%)	612 (6%)
Number of admissions for BPCI episodes, 2011, mean	374	104
Episode spending	**BPCI Model 3 HHAs** (N varies)	**Non-participating HHAs[b]** (N varies)
Baseline spending for 3 of 48 episodes, 2011, mean[c]	$8,739	$8,531

Source: The Lewin Group, *CMS Bundled Payments for Care Improvement Initiative Models 2-4: Year 5 Evaluation and Monitoring Annual Report*, a report prepared for the Centers for Medicare & Medicaid Services (Falls Church, Va., October 2018).| GAO-19-156

Notes: Table reflects 2011 episode data for HHAs that initiated BPCI episodes from October 2013 through December 2016.

[a]All HHAs include HHAs that participated in BPCI episodes from October 2013 through December 2016 and all other HHAs not participating in a BPCI initiative during that time, that were not from Maryland, and that had available 2011 claims and 2013 Provider of Service data available for select characteristics. We calculated values for all SNFs by weighting data for non-participating HHAs reported in the BPCI Models 2-4: Year 5 Evaluation and Monitoring Report.

[b]Non-participating HHAs are any HHAs not participating in any BPCI initiative between October 2013 and December 2016 that were not from Maryland and that had available 2011 claims and 2013 Provider of Service data available for select characteristics.

[c]Baseline spending is defined as the mean standardized Medicare Part A allowed payments in 2011 for an inpatient stay plus relevant services provided during a 90-day post-discharge period. Figures are based on 2011 Medicare claims for 3 of the possible 48 BPCI model 3 clinical episodes. Analysis is limited to average payments for the 3 clinical episodes that had enough sample size to conduct a difference in difference analysis. Mean baseline payments for model 3 participating HHAs were higher than non-participants for 2 of the 3 episodes, but the differences varied by episode. The number of participating and non-participating HHAs varied by episode.

Oncology Care Model

In 2016, the Innovation Center began the Oncology Care Model (OCM) to test a voluntary episode-based payment approach for paying physician group practices for chemotherapy episodes. Table 10 provides information on physician group practices that participated in OCM and all practices nationally that were eligible to participate.

Table 10: Select Characteristics of Oncology Care Model (OCM) Participating Physician Group Practices and Practices Nationally, 2017

Characteristic	OCM practices (N=190)	All eligible practices[a] (N=2,148)
Number of physicians per practice (all specialties), mean	42	14
Number of oncology specialists per practice, mean	20	6
Percentage of practices affiliated with an academic medical center	16%	6%
Percentage of episodes for beneficiaries eligible for both Medicare and Medicaid, mean	12%	14%
Practice located in urban market	Nearly all	No data
Episode volume per practice, mean	1,629	424
Total spending per episode, mean[b]	$27,386	$25,897
Practice market share, mean[c]	39%	24%

Source: Abt Associates, *First Annual Evaluation of the Oncology Care Model: Baseline Period*, a report prepared for the Centers for Medicare & Medicaid Services, Feb. 1, 2018. | GAO-19-156

Notes: Most characteristics reflect data for January 2014 – June 2015 for physician practices participating in OCM and the national universe of OCM eligible practices as of 2017. The percentage with an academic affiliation reflects data for only 2015. Additional information on OCM participating physician group practices and the universe of practices are available from the source evaluation report.

[a]The national universe includes physician practices that were eligible for OCM based on program participation rules and that were not substantially dissimilar from OCM practices. The source evaluation report identified groups of physicians eligible to participate in OCM based on tax identifiable billing units, which may not map perfectly to an entire physician group practice. We use the term “physician group practice” for ease of reporting.

[b]Total spending per episode includes mean Medicare Part A, Part B, and Part D payments for episodes in the baseline period.

[c]Market share is based on the total proportion of cancer related claims billed by the practice within the geographic market in which it is located. Market share is a measure of competition.

Comprehensive Care for Joint Replacement Model

In 2016, the Innovation Center began the Comprehensive Care for Joint Replacement (CJR) model to test a retrospective episode-based payment approach for paying hospitals for hip and knee replacement. CJR participation was mandatory for hospitals in 67 metropolitan statistical areas for the first two performance years, 2016 and 2017. Starting in performance year 3—2018—the Innovation Center made participation voluntary for hospitals in 33 of the 67 areas and for hospitals in mandatory areas designated as rural or low-volume. Table 11 provides information on hospitals that participated in CJR at the end of performance year two (when participation was entirely mandatory), hospitals at the beginning of performance year three (when participation became voluntary for some hospitals), and all hospitals nationally that were eligible to participate. Table 12 examines characteristics of the approximately 424 hospitals (of the approximately 800 total participating hospitals) for whom participation became voluntary in year three, by whether they opted to remain in CJR or drop-out of the model.

Table 11: Select Characteristics of Comprehensive Care for Joint Replacement (CJR) Model Participating Hospitals Before Participation Change, CJR Participants After Participation Change, and Hospitals Nationally, 2018

	CJR hospitals		
Characteristic	**Original CJR hospitals, end of year 2** (N=790)[a]	**CJR hospitals after participation change, beginning of year 3** (N=463)[b]	**All hospitals** (N=3,253)[c]
Number of beds, mean	302	330	243
Resident-to-bed ratio, mean[d]	0.10	0.12	0.06
Disproportionate share percentage, mean[e]	0.33	0.33	0.30
Medicare days percent, mean[f]	0.33	0.34	0.37
Bed size (#, %)			
Small (<82 beds)	129 (16%)	45 (10%)	783 (24%)
Medium (82-319 beds)	364 (46%)	215 (46%)	1,630 (50%)
Large (>319 beds)	297 (38%)	203 (44%)	840 (26%)
Teaching hospital (#, %)[d]			
Yes	228 (29%)	142 (31%)	741 (23%)
No	562 (71%)	321 (69%)	2,512 (77%)
Safety-net hospital (#, %)[e]			
Yes	136 (17%)	75 (16%)	351 (11%)
No	654 (83%)	388 (84%)	2,902 (89%)
Urban/ rural location (#, %)			
Urban	790 (100%)	463 (100%)	2,453 (75%)
Rural	0 (0%)	0 (0%)	800 (25%)
Ownership type (#, %)[g]			
For profit	173 (22%)	115 (25%)	699 (22%)
Nonprofit	409 (52%)	249 (54%)	1,623 (50%)
Government	116 (15%)	49 (11%)	522 (16%)
Other	92 (12%)	50 (11%)	409(13%)

Source: GAO analysis of Centers for Medicare & Medicaid Services (CMS) data. | GAO-19-156

Notes: CJR participation was mandatory for hospitals in 67 randomly selected metropolitan statistical areas for the first two performance years 2016 and 2017. This table presents hospitals that participated in CJR at the end of the second performance year, beginning of the third performance year, and eligible hospitals nationally in 2018. Characteristics are derived from CMS's Provider of Service and Inpatient Prospective Payment System Impact files for 2018.

[a]Approximately 800 total hospitals were participating in CJR at the end of year 2. Characteristic data were available for 790 hospitals.

[b]Approximately 465 total hospitals were participating in CJR at the beginning of year 3, according to CMS data. Characteristic data were available for 463 hospitals.

[c]All hospitals eligible to participate include acute care hospitals paid under the Medicare Inpatient Prospective Payment System, excluding hospitals located in Maryland. We further limited to hospitals that were in both the 2018 Provider of Service and 2018 Inpatient Prospective Payment System Impact files.

[d]We defined teaching hospitals as those with an affiliated allopathic or osteopathic physician residency program. Resident-to-bed ratio is another measure of teaching hospital status that reflects the ratio of the number of physician residents to hospital beds; a higher ratio reflects a larger teaching program.

[e]Disproportionate share percentage refers to the Disproportionate Share Hospital Patient Percentage, which CMS uses to identify hospitals that serve large numbers of low-income patients and determine eligibility for certain Medicare payment adjustments. We defined safety-net hospitals as those with disproportionate share percentage in the top quartile for all hospitals in 2018.

[f]Medicare percentage reflects the percentage of the hospital's total inpatient days due to Medicare beneficiaries in 2018.

[g]Government ownership includes hospitals owned or operated by the federal government or by a state or local government.. Other includes tribal hospitals and those with unspecified ownership.

Table 12: Select Characteristics of Comprehensive Care for Joint Replacement (CJR) Model Hospitals After Participation Change, by Participation Status, 2018

Characteristic	Mandatory CJR hospitals at beginning of year 3 (N=377)[a]	CJR hospitals that could voluntarily opt-in for year 3 (N=411)[b]	
		Hospitals that opted-in (N=86)	Hospitals that dropped-out (N=325)
Number of beds, mean	341	285	257
Resident-to-bed ratio, mean[c]	0.12	0.06	0.09
Disproportionate share percentage, mean[d]	0.34	0.25	0.34
Medicare days percent, mean[e]	0.34	0.34	0.33
Bed size (#, %)			
Small (<82 beds)	28 (7%)	17 (20%)	84 (26%)
Medium (82-319 beds)	176 (47%)	39 (45%)	149 (46%)
Large (>319 beds)	173 (46%)	30 (35%)	92 (29%)
Teaching hospital (#, %)[c]			
Yes	118 (31%)	24 (28%)	84 (26%)
No	259 (69%)	62 (72%)	241 (74%)
Safety-net hospital (#, %)[d]			
Yes	73 (19%)	2 (2%)	60 (19%)
No	304 (81%)	84 (98%)	265 (81%)
Urban/ rural location (#, %)			
Urban	377 (100%)	86 (100%)	325 (100%)
Rural	0 (0%)	0 (0%)	0 (0%)
Ownership type (#, %)[f]			
For profit	103 (27%)	12 (14%)	58 (18%)
Nonprofit	195 (52%)	54 (63%)	159 (49%)
Government	40 (11%)	9 (11%)	67 (21%)
Other	39 (10%)	11 (13%)	41 (13%)

Source: GAO analysis of Centers for Medicare & Medicaid Services (CMS) data. | GAO-19-156

Notes: CJR participation was mandatory for hospitals in 67 randomly selected metropolitan statistical areas (MSA) for the first two performance years 2016 and 2017. Effective January 1, 2018, a final rule was issued making provider participation voluntary at the beginning of the third performance year for 33 of the 67 MSAs and for hospitals designated as rural or low-volume. 82 Fed. Reg. 57,066 (Dec. 1, 2017). Participation remained mandatory for hospitals in the remaining 34 MSAs that were not designated as rural or low-volume. This table presents CJR participating hospitals as of February 2018 after participation changed in the third performance year. Characteristics are derived from CMS's Provider of Service and Inpatient Prospective Payment System Impact files for 2018.

[a]Mandatory CJR hospitals are those in the 34 MSAs that were not designated as rural or low-volume. Characteristic data were available for 377 of 378 mandatory hospitals.

[b]Voluntary CJR hospitals include hospitals for which participation became voluntary, including hospitals in the 33 voluntary MSAs and those in mandatory MSAs designated as rural or low-volume. Voluntary hospitals had a one-time opportunity to opt-in to continue participation in CJR for the

remaining performance years. Opt-in hospitals are those that elected to remain in the model. Drop-out hospitals are those that did not opt to remain in the model. Characteristic data were available for 411 of approximately 424 voluntary hospitals.

[c]We defined teaching hospitals as those with an affiliated allopathic or osteopathic physician residency program. Resident-to-bed ratio is another measure of teaching hospital status that reflects the ratio of the number of physician residents to hospital beds; a higher ratio reflects a larger teaching program.

[d]Disproportionate share percentage refers to the Disproportionate Share Hospital Patient Percentage, which CMS uses to identify hospitals that serve large numbers of low-income patients and determine eligibility for certain Medicare payment adjustments. We defined safety-net hospitals as those with disproportionate share percentage in the top quartile for all hospitals in 2018.

[e]Medicare percentage reflects the percentage of the hospital's total inpatient days due to Medicare beneficiaries in 2018.

[f]Government ownership includes hospitals owned or operated by the federal government or by a state or local government. Other includes tribal hospitals and those with unspecified ownership.

Appendix IV: Example of a Model Tested Under Both Mandatory and Voluntary Participation Requirements

This appendix provides additional information on the characteristics of Comprehensive Care for Joint Replacement (CJR) model participants and stakeholder perspectives. For its first two performance years, CJR model participation was mandatory for hospitals in 67 metropolitan statistical areas, but participation became voluntary for half of those areas starting in the third performance year. Therefore, the CJR model can be used to highlight some of the advantages of both approaches to participation.

According to officials at the Center for Medicare and Medicaid Innovation Center (Innovation Center) and the third-party contractor responsible for evaluating the model, the CJR model's mandatory participation provided a more diverse and representative group of participant hospitals than would have been possible with a voluntary model. The third-party contractor noted that this allowed it to observe the results of CJR implementation in a wide variety of hospitals and markets.[1] Our analysis of CJR participant characteristics also shows variation among participant hospitals. For example, 136 of the original CJR participants, or 17 percent, were safety-net hospitals—hospitals that care for a large share of low-income patients—compared to 11 percent of hospitals nationally. It is useful for CMS to be able to evaluate how the model affects safety-net hospitals, as a November 2016 Mathematica study noted that safety-net hospitals faced a number of challenges when transitioning to value-based care. Specifically, many patients at safety-net hospitals have complex clinical and social needs that require greater coordination with medical and other social services, which makes it difficult for safety-net providers to perform well on measures of quality of care that are a component of episode-based care models.[2] The Innovation Center can get a sense of how safety-net hospitals are affected before making the determination of whether the model should be recommended for expansion.

The CJR model participants may still not be representative of all hospitals due to selection bias that resulted from the Innovation Center's choice to test the model in larger markets with higher-than-average historical spending. We found that the initial participant hospitals during the two

[1]The Lewin Group, *CMS Comprehensive Care for Joint Replacement Model: Performance year 1 Evaluation Report*, a report prepared for the Centers for Medicare & Medicaid Services (Falls Church, Va.: August 2018).

[2]L. Felland, P. Cunningham, A. Doubeday, C. Warren, *Final Report: Effects of the Affordable Care Act on Safety Net Hospitals*, a report prepared at the request of the Department of Health and Human Services (Washington, D.C.: Mathematica Policy Research, November 2016).

mandatory performance years were larger and more often located in urban areas compared to hospitals nationally. As such, evaluation findings are likely to only be generalizable to other similarly-sized larger markets.

When CJR became voluntary for all hospitals in 33 of the 67 metropolitan statistical areas, as well as rural and low-volume hospitals in the other 34 metropolitan statistical areas, there was a corresponding change in the characteristics of model participants.[3] Of the approximately 424 hospitals eligible for voluntary participation, 86 voluntarily continued their participation in the remaining performance years. Our analysis shows that these hospitals were larger than those hospitals that dropped-out (mean bed size of 285 vs. 257, respectively) and became less diverse. For example, of the 62 safety-net hospitals eligible for voluntary participation, only 2 voluntarily remained in the model. This suggests that smaller hospitals and safety-net hospitals, when given flexibility to determine whether they can meet the model's requirements, will not voluntarily choose to participate or will end participation if they are able to do so.

Innovation Center and evaluation contractor officials said that they will need to adapt their methods for evaluating the cost and quality impacts of CJR in future performance years to account for some providers having voluntary participation. According to these officials, the evaluation of voluntary CJR participants will be similar to methods used when evaluating other voluntary models, such as the Bundled Payments for Care Improvement models. According to stakeholders, evaluation results from later years that include both the mandatory and voluntary participants will be less generalizable than results from the first two years due to sample changes and selection biases.

[3]Of the 67 MSAs that previously had mandatory participation, CMS selected the 34 MSAs with the highest average historical spending to continue to have mandatory participation (except for low-volume and rural hospitals). 82 Fed. Reg. 57,066, 57,073 (Dec. 1, 2017).

Appendix V: GAO Contact and Staff Acknowledgments

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Staff Acknowledgments

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