



September 2018

MEDICARE ADVANTAGE

Benefits and Challenges of Payment Adjustments Based on Beneficiaries' Ability to Perform Daily Tasks

Accessible Version

GAO Highlights

Highlights of [GAO-18-588](#), a report to congressional committees

Why GAO Did This Study

Accurate risk adjustment avoids the creation of a financial advantage or disadvantage for plans solely on the basis of the health status of enrolled beneficiaries. The 21st Century Cures Act contains a provision for GAO to report on issues related to incorporating functional status into MA risk adjustment.

Among other reporting objectives, this report examines (1) the accuracy of the current CMS risk adjustment model for beneficiaries with functional limitations and the potential benefits of accounting for functional status in MA risk adjustment; and (2) the potential challenges of accounting for functional status in risk adjustment. GAO analyzed 2014 data on diagnoses and survey data on functional status for a sample of community-residing FFS beneficiaries to estimate 2015 spending based on CMS's current risk adjustment model. GAO compared those estimates to actual 2015 total health care spending—the most recent year for which summarized data on beneficiary spending were available at the time of GAO's analysis. While the survey was designed to be representative of all FFS beneficiaries, the sample GAO analyzed may not be representative of FFS beneficiaries who reside in the community in part because it was restricted to those who provided complete functional status survey information. GAO also reviewed CMS guidance documents and interviewed stakeholders, industry experts, and CMS officials. The Department of Health and Human Services provided technical comments on a draft of this report, which GAO incorporated as appropriate.

View [GAO-18-588](#). For more information, contact James Cosgrove at (202) 512-7114 or cosgrovej@gao.gov.

September 2018

Medicare Advantage

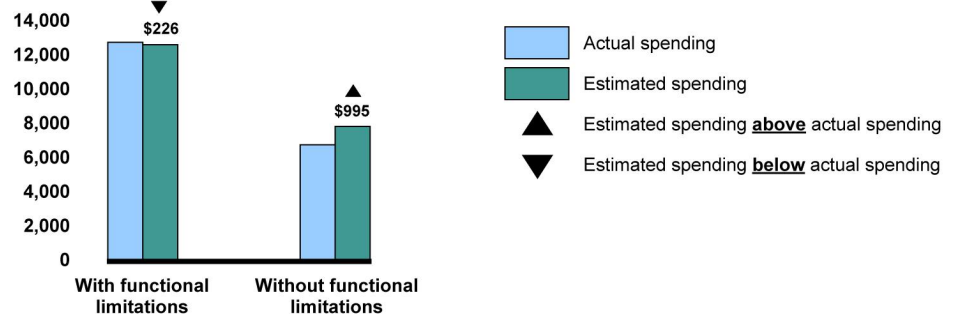
Benefits and Challenges of Payment Adjustments Based on Beneficiaries' Ability to Perform Daily Tasks

What GAO Found

The Centers for Medicare & Medicaid Services (CMS) pays Medicare Advantage (MA) plans a monthly capitated amount to provide coverage for enrolled beneficiaries. This amount is adjusted to reflect beneficiary health status, a process known as risk adjustment. Beneficiaries in poorer health are generally expected to use more health care services than beneficiaries in better health; thus, risk adjustment pays more to MA plans for beneficiaries in poorer health to compensate. CMS's risk adjustment model estimates health care spending based on beneficiary demographic characteristics and clinical diagnoses. However, this model does not account for functional status—the ability to perform routine daily activities such as bathing or dressing. GAO estimated that about 4 in 10 beneficiaries had functional limitations in 2016.

GAO found that for the sample of beneficiaries analyzed, the MA risk adjustment model underestimated spending for those with functional limitations and overestimated spending for those without such limitations. These findings suggest that risk adjustment accuracy could be improved by accounting for functional status, which could in turn reduce any financial disadvantages plans may experience by enrolling beneficiaries with functional limitations.

Average Actual and Estimated Medicare Spending for a Sample of Beneficiaries under CMS's Current Risk Adjustment Model, by Functional Status, 2015
Medicare spending per beneficiary (dollars)



Source: GAO analysis of 2014-15 data from the Centers for Medicare & Medicaid Services (CMS). | GAO-18-588

GAO also found that CMS and other stakeholders could face substantial challenges if the risk adjustment model were revised to account for beneficiary functional status, in part because this information is not readily available. For example, about three-fourths of beneficiaries do not receive health care in settings where functional status information is routinely collected. Stakeholders told GAO that expanding the collection of such information could be resource intensive for CMS, plans and health care providers, and an imposition for some beneficiaries. In addition, the potential for higher payments may give MA plans a financial incentive to identify beneficiaries with functional limitations. If this incentive causes MA plans to identify functional limitations more completely than providers in fee-for-service (FFS) Medicare, the risk adjustment process would need to account for this to avoid inappropriately high payments to plans because the risk adjustment model is estimated based on FFS data.

Contents

Letter		1
	Background	5
	CMS Collects Functional Status Information Mainly from Beneficiaries in Post-Acute Care and Therapy Settings; Collection Methods Vary Depending on Setting	8
	Risk Adjustment Model Underestimated Spending for Beneficiaries with Functional Limitations; Accounting for Functional Status Could Improve Plan Financial Incentives	11
	Accounting for Functional Status in MA Risk Adjustment Could Pose Challenges Related to Expanded Data Collection, Methodological Issues, and Financial Incentives	15
	Agency Comments	20
<hr/>		
Appendix I: Scope and Methodology		22
Appendix II: GAO Contact and Staff Acknowledgments		26
	GAO Contact	26
	Staff Acknowledgments	26
<hr/>		
Appendix III: Accessible Data		27
	Data Table	27
<hr/>		
Table		
	Table 1: Sources and Methods of Collecting Functional Status Information Used by the Centers for Medicare & Medicare Services (CMS)	10
	Data Table for Figure 3: Percentage of Enrollees with One or More Functional Limitations by Contract Type, 2016	27
<hr/>		
Figures		
	Figure 1: Average Actual and Estimated Medicare Spending for a Sample of Beneficiaries under CMS's Current Risk Adjustment Model, by Functional Status, 2015	12

Figure 2: Average Actual and Estimated Medicare Spending for a Sample of Beneficiaries under CMS’s Current Risk Adjustment Model, by Number of Functional Limitations, 2015	13
Figure 3: Percentage of Enrollees with One or More Functional Limitations by Contract Type, 2016	14

Abbreviations

ADL	activities of daily living
CAHPS	Consumer Assessment of Healthcare Providers and Systems
CMS	Centers for Medicare & Medicaid Services
FFS	fee-for-service
FIDE-SNP	Fully Integrated Dual Eligible Special Needs Plan
HHS	Department of Health and Human Services
HOS	Health Outcomes Survey
HOS-M	Health Outcomes Survey-Modified
IADL	instrumental activities of daily living
MA	Medicare Advantage
MBSF	Master Beneficiary Summary File
MCBS	Medicare Current Beneficiary Survey
PAC	post-acute care
PACE	Program for All-Inclusive Care for the Elderly
SNP	Special Needs Plan

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September 10, 2018

The Honorable Orrin G. Hatch
Chairman
The Honorable Ron Wyden
Ranking Member
Committee on Finance
United States Senate

The Honorable Greg Walden
Chairman
The Honorable Frank Pallone
Ranking Member
Committee on Energy and Commerce
House of Representatives

The Honorable Kevin Brady
Chairman
The Honorable Richard Neal
Ranking Member
Committee on Ways and Means
House of Representatives

In 2017, the federal government spent about \$210 billion on the Medicare Advantage (MA) program, a private plan alternative to the original Medicare fee-for-service (FFS) program that covers about one-third of all Medicare beneficiaries. The Centers for Medicare & Medicaid Services (CMS) pays MA plans a monthly amount per beneficiary that is adjusted to reflect beneficiary health status—a process known as risk adjustment. Beneficiaries in poorer health are generally expected to use more health care services relative to beneficiaries in better health. Therefore, CMS's risk adjustment process pays more to MA plans for beneficiaries in poorer health to compensate for the higher estimated health care spending by those plans, and pays less to plans for beneficiaries in better health due to lower expected spending. Accurate risk adjustment helps ensure that MA plans have the same financial incentive to enroll and care for beneficiaries regardless of their health status, and avoids the creation of a

financial advantage or disadvantage for plans solely on the basis of the health status of enrolled beneficiaries.¹

The risk-adjustment process that CMS uses to adjust payments for most MA plans does not account for the functional status of beneficiaries—that is, an individual’s ability to perform routine activities associated with daily life such as bathing and dressing. Individuals with functional limitations—those who have difficulty with these routine activities—may be more costly to treat. Some research has indicated that previous CMS risk adjustment models underestimated health care spending for beneficiaries with functional limitations and overestimated spending for those without functional limitations.² CMS makes an additional payment adjustment—known as the frailty adjustment—for a small number of plans in which functional limitations are more common than in other plans to account for the higher average spending for beneficiaries with such limitations.

The 21st Century Cures Act contains a provision for us to report on issues related to incorporating functional status into MA risk adjustment. This report examines

1. the extent to which CMS collects information on the functional status of Medicare beneficiaries;
2. the accuracy of the current CMS risk adjustment model for beneficiaries with functional limitations and any benefits associated with potentially improving accuracy by accounting for functional status in MA risk adjustment; and
3. the potential challenges of accounting for functional status in MA risk adjustment.

To assess the extent to which CMS collects information on the functional status of Medicare beneficiaries, we reviewed agency documentation, such as functional assessment tool training documentation and manuals, related to how functional status information is collected for Medicare beneficiaries. We also interviewed relevant CMS officials and representatives of stakeholder groups, such as groups that represent

¹MA plans are required to enroll any eligible beneficiary who elects coverage. However, research has found that the design of some MA plan benefits can attract or retain healthier enrollee populations. See J. Newhouse et al., “How Much Favorable Selection is Left in Medicare Advantage?” *NBER Working Paper*, no. 20012 (March 2014).

²See, for example, J. Kautter et al., “Medicare Risk Adjustment for the Frail Elderly,” *Health Care Financing Review*, vol. 30, no.2 (2008): 83–93.

health plans, health care providers, and beneficiaries. Last, we interviewed experts in the field of functional status assessment on the various methods of obtaining functional status information.

To assess the accuracy of the current CMS risk adjustment model for beneficiaries with functional limitations and the potential benefits of accounting for functional status in risk adjustment, we first estimated spending in 2015 for a sample of beneficiaries using the current risk adjustment model and data for the previous year (2014) on diagnoses and demographic characteristics.³ This sample consisted of Medicare FFS beneficiaries that responded to the 2014 FFS Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey because functional status information from 2014 would correspond with the year of diagnostic information used to estimate 2015 spending.⁴ Although the CAHPS survey is designed to be a representative sample of Medicare FFS beneficiaries, the sample of beneficiaries we analyzed from the survey may not be representative of all FFS beneficiaries who reside in the community, in part because we excluded beneficiaries who did not respond to all survey questions related to functional status.⁵ We then calculated actual spending in 2015 for this same sample of beneficiaries using the Master Beneficiary Summary File (MBSF), and compared estimated to actual spending.⁶ To provide context for our findings, we compared the prevalence of beneficiaries with functional limitations across MA plans and between the FFS and MA programs. We estimated the prevalence of functional limitations in 2016 using

³Our sample consisted only of beneficiaries who reside in the community. The vast majority of Medicare beneficiaries reside in the community, as opposed to institutions. For example, according to an analysis of survey data from the United States Census Bureau, only about 3 percent of individuals aged 65 and older lived in institutions in 2016. See U.S. Department of Health and Human Services, Administration for Community Living, Administration on Aging, *2017 Profile of Older Americans* (Washington, D.C.: April 2018).

⁴We defined beneficiaries with functional status limitations as those who self-identified as having difficulty with or being unable to conduct activities of daily living (ADL)—basic, personal everyday activities, such as bathing, dressing, and eating.

⁵We made additional exclusions to the sample, such as (1) beneficiaries who had any hospice costs because MA plans do not cover hospice care; and (2) beneficiaries with end-stage renal disease or who resided in an institution such as a long-term care facility for at least 3 months in 2015 because CMS uses separate risk adjustment models for these beneficiaries.

⁶The MBSF for 2015 was the most recent year available at the time of our analysis. CMS implemented the current risk adjustment model beginning in 2017; we used CMS software to calculate what the current model would have predicted in 2015.

information collected through the FFS CAHPS, Medicare Health Outcomes Survey (HOS), and HOS-modified (HOS-M) survey.⁷ For all three of these surveys, we calculated the percentage of beneficiaries with at least one functional limitation. We assessed the reliability of each of the data sets we used for these analyses by interviewing CMS officials, reviewing related documentation, and performing data checks. On the basis of these steps, we concluded that the data were sufficiently reliable for the purposes of our reporting objective. For more information on our methodology for assessing the accuracy of risk adjustment and for calculating the prevalence of functional limitations, see appendix I. We also reviewed previous studies related to accounting for functional status in risk adjustment.⁸

To assess the potential challenges of accounting for functional status information, we reviewed agency documentation, including guidance documents for MA plans that address changes to the risk adjustment model and other aspects of the MA program. In addition, we reviewed relevant statutory provisions related to MA plan payments. We also interviewed CMS officials, the stakeholder groups described above, and experts in functional status assessment to solicit their input on challenges related to accounting for functional status in MA risk adjustment.⁹

We conducted this performance audit from June 2017 to September 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

⁷The HOS survey is administered to a sample of enrollees in each MA contract, and the HOS-M is administered to a sample of enrollees in Programs for All-Inclusive Care for the Elderly—known as PACE organizations. PACE organizations administer plans that provide community-based care for Medicare and Medicaid beneficiaries. The HOS-M survey can also be administered to a small number of special needs plans (SNP). SNPs exclusively serve Medicare beneficiaries in one of three classes of special needs: (1) beneficiaries dually eligible for Medicare and Medicaid; (2) beneficiaries with severe or chronic conditions; or (3) institutionalized beneficiaries.

⁸To identify relevant articles, we searched research databases, including AgeLine, MEDLINE, and Scopus, using search terms related to functional status, such as “frailty” and “functional ability.”

⁹Specifically, we interviewed 10 stakeholder groups representing health plans, providers, and beneficiaries. We also interviewed 7 experts, including individuals who have published research in the area of functional assessment and risk adjustment. We identified stakeholder groups and experts through articles relevant to functional assessment and risk adjustment, as well as by asking interviewees for suggested groups and experts.

findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Functional Status

Although functional status is commonly measured in medical settings, it has no universally accepted definition or measure. Providers often measure patient functional status in order to facilitate care planning and track patient progress, particularly in settings associated with rehabilitative care. Definitions of functional status can comprise several domains of functioning, including self-care, mobility, and cognition. There is also no universal assessment tool used for measuring an individual's functional status. An individual's functional status is commonly measured by concepts known as activities of daily living (ADL)—basic, personal everyday activities, such as bathing, dressing, and eating—and instrumental activities of daily living (IADL)—which enable individuals to live independently in a community, such as preparing meals or managing finances. Some assessments are designed to be applied to the general population. For example, the 36-Item Short Form Survey is a set of generic quality of life measures used for routine monitoring and assessment of care outcomes in adult patients. Other types of functional assessments include those designed for patients with a specific disease or who receive treatment in a specific setting. For instance, the Arthritis Impact Measurement Scale is a disease-specific assessment measuring the physical, social and emotional well-being of patients with arthritis.

Medicare Payment to MA Plans

CMS determines the amount paid to MA plans for each beneficiary based in part on bids submitted by MA plans for what they expect Medicare-covered services for their enrollee population will cost, on average.¹⁰ CMS then sets the plan's base payment rate—that is, the payment rate for a beneficiary of average health status—based on how the bid compares

¹⁰This description refers to medical services such as those provided by hospitals and physicians and does not include drugs covered under Medicare's Part D prescription drug benefit.

with a pre-established benchmark. This benchmark—based on average FFS spending—is set at the county level and represents the most a plan would be paid for a beneficiary of average health status.¹¹ If the plan’s bid is below the benchmark for that year, the bid becomes the base rate at which the plan is paid per beneficiary and the plan receives a portion of the difference through a rebate. MA plans are required to use rebates to provide supplemental benefits, such as dental or vision services that are not covered under Medicare FFS; reduce cost-sharing; reduce premiums; or some combination of the three.¹² If the plan’s bid is above the benchmark, the base rate becomes the benchmark and the remainder of the bid is added as an enrollee premium for that plan.

Risk Adjustment

To account for beneficiary health status, CMS risk adjusts payments to MA plans by first calculating a risk score for every Medicare beneficiary, including those in MA plans and the FFS program. A beneficiary’s risk score is the ratio of estimated health care spending for that beneficiary under Medicare FFS relative to the spending of the average FFS beneficiary. CMS uses its risk adjustment model to estimate health care spending based on beneficiary risk factors such as age, sex, Medicaid enrollment status, and clinical diagnoses.¹³ The model does not account for a beneficiary’s functional status.¹⁴ The risk scores generated from the risk adjustment model are then used to adjust payments to MA plans. For

¹¹The benchmark for a given plan also depends in part on the plan’s quality ratings.

¹²CMS requires supplemental benefits to be “primarily health related”—that is, items or services for which the primary purpose is to prevent, cure, or diminish an illness or injury. Beginning in 2019, CMS is expanding its definition of “primarily health related” to include items or services used to compensate for physical impairments or improve the functional impact of injuries or health conditions. As a result, MA plans will be allowed to offer, for example, some items and services appropriate for beneficiaries who need assistance with ADLs and IADLs, such as home and bathroom safety devices and modifications. See CMS, “Reinterpretation of ‘Primarily Health Related’ for Supplemental Benefits,” (Baltimore, Md.: Apr. 27, 2018).

¹³CMS has distinct risk adjustment models for beneficiaries with different patterns of health care spending: those who reside in the community, those who reside in institutions, and those who have end-stage renal disease. CMS also has a distinct risk adjustment model for beneficiaries who are new to Medicare because the agency does not have enough diagnostic information on those beneficiaries to be able to estimate costs as they do in the other models.

¹⁴Some of the costs associated with functional limitations may be captured by the diseases and conditions included in the risk adjustment model.

example, payments to MA plans are twice as much for beneficiaries whose Medicare spending is estimated to be twice as high as average FFS spending. CMS implemented the most recent version of its risk adjustment model in 2017. In 2019 and 2020, CMS plans to revise the risk adjustment model to (1) account for additional diagnoses, such as those related to chronic kidney disease and mental health; and (2) account for the number of a beneficiary's diagnosed conditions.¹⁵

Frailty Adjustment

While CMS does not account for functional status directly in the risk adjustment model, it does make an additional payment adjustment, known as the frailty adjustment, for plans that disproportionately enroll beneficiaries with functional limitations—specifically, Program for All-Inclusive Care for the Elderly (PACE) organizations and certain types of special needs plans (SNP).¹⁶ To implement this adjustment, CMS adds a fixed amount to the risk score of each community-residing beneficiary 55 and older in a given plan to reflect the higher average costs of caring for beneficiaries with functional limitations.¹⁷ To calculate this adjustment, CMS first estimates frailty adjustment factors based on functional status information for Medicare FFS beneficiaries from the CAHPS survey and

¹⁵The 21st Century Cures Act required the Secretary of the Department of Health and Human Services (HHS) to evaluate the impact of including the severity of chronic kidney disease and additional diagnoses related to mental health and substance use disorders into the risk adjustment model. The Act also required the Secretary to incorporate the total number of disease or conditions of an individual enrolled in an MA plan into the risk adjustment model starting in 2019 with a 3-year phase in period. Pub. L. No. 114-225, § 17006(f)(1), 133 Stat. 1033, 1336 (2016) (codified at 42 U.S.C. § 1395w-23(a)(1)(i)).

¹⁶These plans accounted for less than 1 percent of enrollees in MA and other private plans in 2017. Programs for All-Inclusive Care for the Elderly—otherwise known as PACE organizations—are plans that provide community-based care for Medicare and Medicaid beneficiaries. Because enrollees in PACE organizations must require a nursing home-level of care, enrollees in these plans typically have more functional limitations than those in MA plans. SNPs exclusively serve Medicare beneficiaries in one of three classes of special needs: (1) beneficiaries dually eligible for Medicare and Medicaid; (2) beneficiaries with severe or chronic conditions; or (3) institutionalized beneficiaries. CMS also provides frailty adjustments to Fully-Integrated Dual Eligible Special Needs Plans (FIDE-SNP) in which the prevalence of functionally limited enrollees is at or above that of PACE organizations. FIDE-SNPs integrate and coordinate Medicare and Medicaid benefits for dual eligible beneficiaries.

¹⁷This fixed amount added to a beneficiary's risk score reflects the prevalence of beneficiaries with functional limitations in a given plan.

then applies these factors to a given plan based on functional status information from HOS or HOS-M.

CMS Collects Functional Status Information Mainly from Beneficiaries in Post-Acute Care and Therapy Settings; Collection Methods Vary Depending on Setting

Although CMS does not use functional status in its current risk adjustment model, we found that CMS did collect functional status information for up to 13.4 million (about 24 percent) Medicare beneficiaries from the following sources in 2015:¹⁸

- **Post-acute care (PAC) settings.** CMS collected information from about 7.0 million (13 percent) beneficiaries through assessments in PAC settings, which include skilled nursing facilities, inpatient rehabilitation facilities, long-term care hospitals, and home health agencies.¹⁹ The information collected from PAC assessments is mainly used for care planning, quality measurement, and payment adjustments.
- **Outpatient therapy settings.** As required by CMS, providers who furnished physical, occupational, or speech therapy in the FFS

¹⁸Percentages for the three sources of functional status information do not sum to the total of 24 percent due to rounding. 2015 was the most recently available data for all sources. Beneficiaries were counted more than once if they received care in multiple settings described in the subsequent bullets in 2015.

¹⁹According to CMS officials, CMS collects information on MA enrollee assessments in three of the PAC settings (home health, inpatient rehabilitation facilities, and long-term care hospitals), but does not collect assessment information on MA enrollees in skilled nursing facilities. CMS officials noted that estimates for home health are based in part on MA data and are preliminary. CMS officials also noted that estimates for inpatient rehabilitation may be underreported by facilities.

CMS has undertaken efforts to standardize the collection of functional status information across PAC settings. For example, in 2012, CMS developed the Continuity Assessment Record and Evaluation item set, which led to the standardization of functional status sections across PAC setting assessments. Currently, the Improving Medicare Post-Acute Care Transformation Act of 2014 (IMPACT Act) requires further standardization of patient assessment data across PAC settings and submission of those data for specific quality measures. Pub. L. No. 113-185, § 2(a), 128 Stat. 1952, 1955 (2014) (codified at 42 U.S.C. § 1395III). This work is in progress, with anticipated completion in late 2018.

outpatient setting assessed and reported functional status information for about 5.9 million (11 percent) beneficiaries in order to track patient progress and outcomes.²⁰

- **Surveys.** CMS also collected functional status information through surveys administered to samples of Medicare beneficiaries, which totaled about 0.5 million Medicare beneficiaries (less than 1 percent). The surveys are used to gather data on outcomes and experiences with care, and the data are used for research purposes and measuring quality.

The methods CMS uses to collect functional status information differ by mode of administration, type of information collected, and frequency of information collection. (See table 1.)

- **Mode of administration.** Providers administer PAC and outpatient therapy assessments when beneficiaries receive care in these settings, while the Medicare surveys are administered via mail and telephone, with information ultimately self-reported by the beneficiaries. According to experts and stakeholders we interviewed, because the measurement of functional status can be subjective, provider-administered assessments can help to mitigate this subjectivity and improve accuracy of the information, though they carry trade-offs with regard to administrative burden. For example, providers who administer PAC assessments receive detailed guidance and undergo training to improve their inter-rater reliability. However, the assessments can be resource-intensive for the provider due to this guidance and training, as well as time-consuming to administer. In contrast, self-reported information from surveys may be more subjective, meaning that beneficiaries may over- or under-state their health condition. On the other hand, surveys can be less resource-intensive for the beneficiary as there are fewer questions.
- **Type of functional status information collected.** PAC assessments cover more domains of functional status than surveys do, including

²⁰This is a requirement for FFS beneficiaries only; the 5.9 million does not include any MA beneficiaries. All outpatient providers billing under Medicare Part B must report this functional status information on the claim they submit to CMS to receive reimbursement for their services; however, this information does not affect the Medicare payment amount. CMS has proposed to discontinue the functional status reporting requirements for outpatient therapy services furnished on or after January 1, 2019. See CMS, "Medicare Program; Revisions to Payment Policies under the Physician Fee Schedule and Other Revisions to Part B for CY 2019; Medicare Shared Savings Program Requirements; Quality Payment Program; and Medicaid Promoting Interoperability Program," (Baltimore, Md.: Jul. 27, 2018).

hearing, speech, and vision, cognitive patterns, and bladder and bowel function. In addition, PAC assessments collect more detailed information about ADL limitations; for example, a PAC assessment question goes beyond asking if a beneficiary has difficulty dressing themselves, and asks detailed information about dressing the upper body, lower body, and putting on footwear. PAC assessments also account for whether and how much assistance a beneficiary needs from a caretaker or device, such as a wheel chair. Conversely, therapy assessments and surveys collect less functional status information, both in terms of detail and quantity, and generally do not address the need for assistance.

- **Frequency of collection.** Beneficiaries in PAC settings and outpatient therapy settings are assessed at admission and discharge of their care, and may be assessed at other points depending on the setting. This contrasts with Medicare surveys, which are administered annually.

Table 1: Sources and Methods of Collecting Functional Status Information Used by the Centers for Medicare & Medicare Services (CMS)

Source	Methods of information collection		
	Mode of administration	Type of functional status information	Frequency of collection
Post-acute care (PAC) assessments ^a	Provider administered	Information on multiple domains (cognition, self-care, mobility). Detailed information on activities of daily living (ADL) and whether assistance is needed with those ADLs. ^c	At admission and at discharge, and other times as required.
Outpatient therapy assessments	Provider administered	Degree of impairment of the specific ADL being addressed through therapy services. ^c	At the onset of therapy, at discharge, and other times as required.
Medicare surveys ^b	Self-reported	General information on ADLs and instrumental activities of daily living (IADL). ^c	Annually. ^d

Source: GAO analysis of CMS information. | GAO-18-588.

^aCMS uses four PAC assessments—the Long-Term Care Hospital Continuity Assessment Record and Evaluation, the Minimum Data Set (nursing homes and skilled nursing facilities), the Outcome and Assessment Information Set (home health agencies), and the Inpatient Rehabilitation Facility Patient Assessment Instrument.

^bCMS uses three surveys—the Health Outcomes Survey (HOS) and HOS-Modified (HOS-M), the Consumer Assessment of Healthcare Providers & Systems surveys (CAHPS), and the Medicare Current Beneficiary Survey (MCBS) (for both FFS beneficiaries and Medicare Advantage enrollees).

^cADLs are basic, personal, everyday activities such as bathing, dressing, and eating. Instrumental ADLs are other activities that enable individuals to live independently in the community, such as preparing meals or managing finances.

^dBeneficiaries sampled through the HOS are surveyed again 2 years later. HOS-M does not have a follow-up component. In the MCBS each sampled beneficiary is interviewed up to three times per year for 4 years. About one quarter of the existing sample is retired each year.

Risk Adjustment Model Underestimated Spending for Beneficiaries with Functional Limitations; Accounting for Functional Status Could Improve Plan Financial Incentives

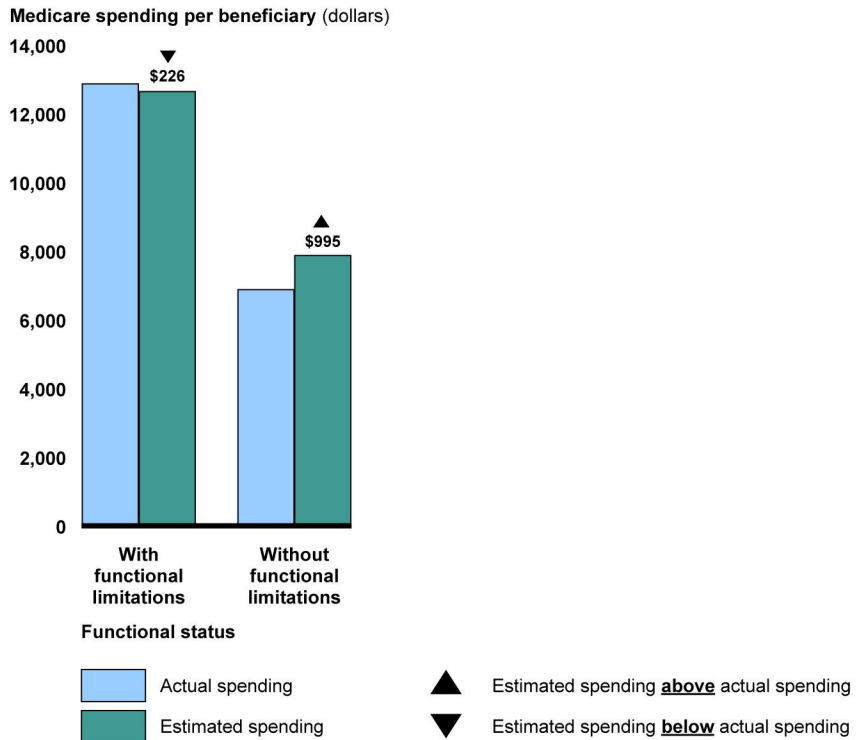
Model Underestimated Spending for Beneficiaries with Functional Limitations and Overestimated Spending for Those without Such Limitations

We found that the current risk adjustment model for community-residing beneficiaries underestimated annual FFS spending for our sample of beneficiaries with functional limitations by about \$226 (2 percent), on average per beneficiary, and overestimated spending for those without functional limitations in our sample by about \$995 (14 percent).²¹ (See fig. 1.) As a result, MA plans may be at a financial disadvantage when they enroll and care for beneficiaries with functional limitations. The sample of beneficiaries we analyzed differs from the broader community-residing FFS population due to the exclusions we made to the CAHPS sample for our analysis.²² For example, we excluded beneficiaries who did not respond to all functional status questions on the CAHPS survey. (See app. I for more detail.)

²¹The frailty adjustment factors that CMS calculated when it developed the current risk adjustment model indicate that the model underestimated spending for beneficiaries with functional limitations and overestimated spending for beneficiaries without those limitations.

²²The risk adjustment model overestimates spending, on average, for the full sample of beneficiaries in our analysis in part because this sample is not representative of all community-residing FFS beneficiaries. In addition, some over- or under-estimation in the aggregate is expected because the years of data we used for our analysis differ from the years of data used to develop the current risk adjustment model.

Figure 1: Average Actual and Estimated Medicare Spending for a Sample of Beneficiaries under CMS’s Current Risk Adjustment Model, by Functional Status, 2015



Source: GAO analysis of 2014-15 data from the Centers for Medicare & Medicaid Services. | GAO-18-588

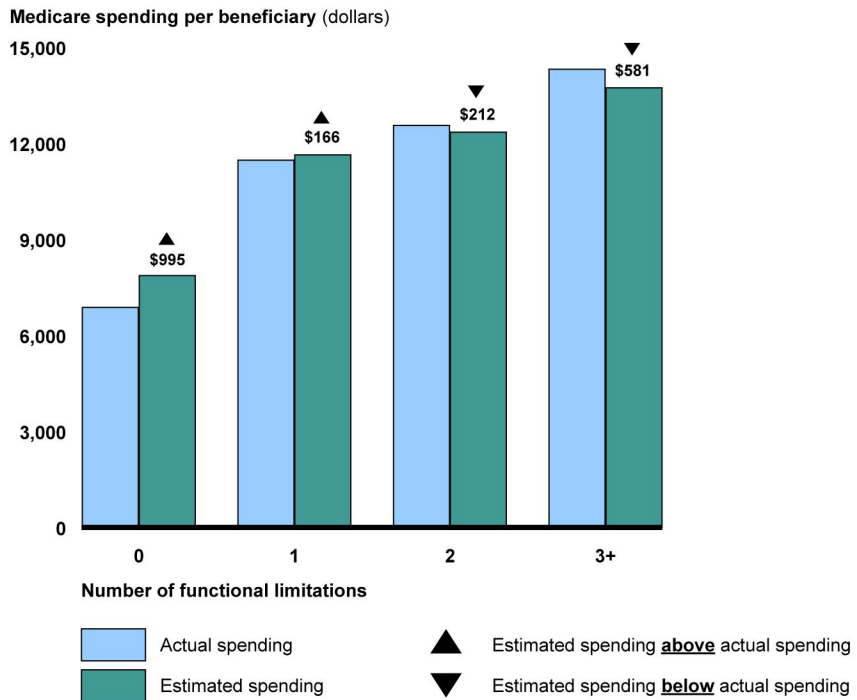
Note: Our analysis is based on 2015 spending information for community-residing fee-for-service (FFS) beneficiaries using the risk adjustment model implemented for 2017 and 2018 payments—the most current model at the time of our analysis. The Medicare FFS beneficiaries included in our analysis sample (72,632) are those that responded to all activity of daily living questions on the 2014 Medicare Consumer Assessment of Healthcare Providers and Systems survey. The results above on the accuracy of the risk adjustment model do not translate directly into payments made to Medicare Advantage plans because these payments are based in part on each plan’s bid for what it expects Medicare-covered services for its enrollee population will cost, on average.

The extent to which CMS’s risk adjustment model accurately estimates actual spending varies depending on how subgroups of beneficiaries with functional limitations are identified.²³ For example, we found that the risk adjustment model was less accurate for beneficiaries with three or more limitations than for beneficiaries with a single limitation. (See fig. 2.) Other ways of identifying groups of beneficiaries with functional limitations may

²³As noted earlier, the accuracy of payment estimates varies when looking at risk adjustment by sub-groups of Medicare beneficiaries. When CMS makes changes to the model, its aim is to improve overall payment accuracy across all beneficiaries.

yield different results, as well. For example, risk adjustment accuracy may differ for beneficiaries who are unable to walk compared to beneficiaries who are unable to use the toilet. Similarly, the accuracy of risk adjustment may differ for beneficiaries who have difficulty with a given activity as compared with those who are unable to perform that activity.

Figure 2: Average Actual and Estimated Medicare Spending for a Sample of Beneficiaries under CMS's Current Risk Adjustment Model, by Number of Functional Limitations, 2015



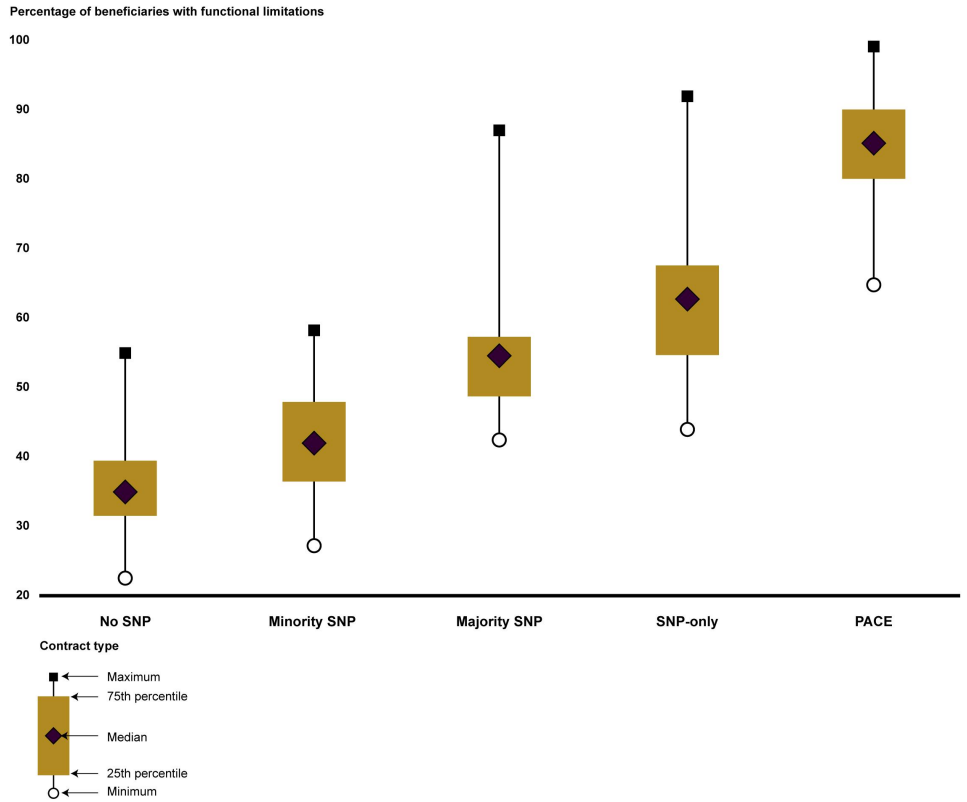
Source: GAO analysis of 2014-15 data from the Centers for Medicare & Medicaid Services. | GAO-18-588

Note: Our analysis is based on 2015 spending information for community-residing fee-for-service (FFS) beneficiaries using the risk adjustment model implemented for 2017 and 2018 payments—the most current model at the time of our analysis. The Medicare FFS beneficiaries included in our analysis sample (72,632) are those that responded to all activity of daily living questions on the 2014 Medicare Consumer Assessment of Healthcare Providers and Systems survey. The results above on the accuracy of the risk adjustment model do not translate directly into payments made to Medicare Advantage plans because these payments are based in part on each plan's bid for what it expects Medicare-covered services for its enrollee population will cost, on average.

Accounting for functional status in risk adjustment could redistribute payments across MA plans based on the percentage of their enrolled beneficiaries who have such limitations, but is unlikely to substantially change the overall amount paid to MA plans in the aggregate. Figure 3 describes the variation in the percentage of beneficiaries with functional limitations across MA contracts—which can contain multiple plans—

according to the types of plans under each contract. This percentage ranged from 21 to 93 percent in 2016 and was generally higher for SNPs, which serve beneficiaries with certain special needs such as having severe or disabling chronic conditions. Functional limitations are most common among beneficiaries in PACE organizations, which enroll beneficiaries who require a level of care normally provided in a nursing home. We also found that the percentage of beneficiaries in MA and FFS with functional limitations was generally similar—the estimated percentage of beneficiaries with functional limitations in 2016 was 37 percent in FFS and 40 percent in MA. This suggests that while accounting for functional status in risk adjustment may result in different payments to individual plans, it would not likely result in substantial changes to overall payments to MA plans in the aggregate.

Figure 3: Percentage of Enrollees with One or More Functional Limitations by Contract Type, 2016



Source: GAO analysis of 2016 data from the Centers for Medicare & Medicaid Services. | GAO-18-588

Note: The beneficiaries included in our analysis are those that responded to all activities of daily living questions on the 2016 Medicare Health Outcomes (HOS) and HOS-Modified surveys. A contract can consist of multiple health plans; each of the categories of contracts above denotes whether any plans

under the contract are special needs plans (SNP). The final category of contracts consists of Program for All-Inclusive Care for the Elderly (PACE) organizations, which are not Medicare Advantage plans but provide community-based care for Medicare and Medicaid beneficiaries and are eligible to receive a payment adjustment based on functional status.

Accounting for Functional Status Has Potential to Reduce Financial Disadvantages Associated with Enrolling and Caring for Beneficiaries with Functional Limitations

Our findings above on the accuracy of CMS's risk adjustment model suggest that risk adjustment accuracy could be improved by accounting for functional status, thereby reducing financial disadvantages that may exist for MA plans that enroll and care for beneficiaries with functional limitations. However, the extent of improvement that could result from accounting for functional status would depend on factors such as how functional status is measured, as well as how data are collected and incorporated into the model. Our findings are generally consistent with prior research, which also suggests a potential for improvement from accounting for functional status.²⁴

Accounting for Functional Status in MA Risk Adjustment Could Pose Challenges Related to Expanded Data Collection, Methodological Issues, and Financial Incentives

Expanding Collection of Information Needed to Account for Functional Status in Risk Adjustment Would Be Resource Intensive for CMS and Other Stakeholders

The collection of functional status information would need to be expanded significantly for CMS to account for functional status in the MA risk

²⁴See, for example, J.A. Fleishman and J.W. Cohen, "Using Information on Clinical Conditions to Predict High-Cost Patients," *Health Services Research*, vol. 45, no. 2 (2010), 532-52; R. Fuller et al. , "Adjusting Population Risk for Functional Health Status," *Population Health Management* vol. 19, no. 2 (2016), 136-44; J. Kautter, M. Ingber, and G.C. Pope, "Medicare Risk Adjustment for the Frail Elderly," *Health Care Financing Review*, vol. 30, no. 2 (2008), 83-93; and K. Noyes, H. Liu, and H. Temkin-Greener, "Medicare Capitation Model, Functional Status, and Multiple Comorbidities: Model Accuracy," *The American Journal of Managed Care*, vol. 14, no. 10 (2008), 679-690.

adjustment model. To implement the risk adjustment process, CMS currently uses data on demographic characteristics and clinical diagnoses, which are collected as a routine part of the process of providing care for all beneficiaries in the FFS and MA programs. Adapting this process to incorporate functional status information would require a significant expansion of its efforts to collect this information because CMS does not routinely collect this information from all beneficiaries as it does for the diagnostic and demographic information used in the risk adjustment model. As noted, CMS does not collect functional status information for most (about 76 percent of) Medicare beneficiaries. We found that the collection of functional status information would require substantial resources from CMS, plans, and providers, and would potentially raise concerns for beneficiaries, as discussed below.

CMS

According to agency officials and several other stakeholders, the expanded information collection needed to account for functional status in MA risk adjustment would be resource intensive for CMS in terms of infrastructure and consensus-building. For example, CMS officials told us that any efforts that rely on administratively collected information—such as collecting functional status information through the claims payment process—would require a multi-year project to create the necessary infrastructure.²⁵ In addition, according to several experts and stakeholders, establishing consensus about the best way to measure functional status for risk adjustment could be challenging.²⁶ This is due, in part, to each care setting having different goals and associated informational needs. For instance, one expert explained that the clinical goal for measuring function in the outpatient setting—such as to

²⁵In another example, drawing from parallel experiences, one expert who was also a CMS contractor shared that substantial work was undertaken to update CMS information technology systems for the development of the Continuity Assessment Record and Evaluation item set through the Post-Acute Care (PAC) Payment Reform Demonstration—a CMS effort to develop a uniform, standardized assessment to collect information on patients being discharged from hospitals to PAC settings.

²⁶For example, the consensus building activities CMS has had to undertake as part of its efforts to standardize patient assessment data, a requirement under the IMPACT Act, have taken several years thus far and are still underway. Each measure specified by the Secretary of HHS to achieve standardization of patient assessment data across PAC settings must be endorsed by the consensus-based entity contracted with HHS to improve health care performance measurement. Pub. L. No. 113-185, § 2(a), 128 Stat. 1952, 1958 (2014) (codified at 42 U.S.C. § 1395III(e)(2)).

understand the difficulty a patient has with a given task and determine how to make it easier to complete the task as independently as possible—can be different from the goal in the inpatient setting, which may be to identify the degree of clinical support a patient needs within that setting.

Providers and MA plans

Depending on how the information is collected, this effort could also be resource intensive for providers and MA plans. The provider and plan groups we spoke with generally expressed concern about any data collection efforts that would go beyond what CMS currently requires, and provider groups stated that they already may conduct one or more assessments of a given beneficiary. CMS has taken steps to standardize the functional status information collected from beneficiaries in PAC settings, but one group noted that it could be difficult to achieve buy-in from providers in other settings to expand those efforts given their resource-intensive nature. In another example, representatives of some MA plans stated that it is common for the health risk assessments they conduct to address functional status, but the way in which they do this is not always uniform across vendors. Aligning the way that functional status information is collected and expanding the collection of this information would require a resource investment from MA plans.

Beneficiaries

Expanding the collection of functional status information might also be an imposition on beneficiaries or cause confusion. According to some stakeholders we spoke with, beneficiaries from whom functional status information is already collected may experience “assessment fatigue,” to the extent that this effort involves additional information collection. Moreover, according to one beneficiary advocacy group, beneficiaries for whom this information is not already collected may not understand why they are being asked about functional limitations, particularly if the information is not used for a clinical purpose such as care planning. In addition, one expert mentioned that, given the sensitive nature of functional limitations, some beneficiaries may consider collection of this information to be an invasion of privacy.

CMS Identified Methodological Challenges Associated with Expanding Existing Frailty Adjustment

Another option for incorporating functional status into the risk adjustment process could involve expanding the frailty adjustment to all MA plans. This option would be less intensive from a data collection standpoint than collecting functional status information from all beneficiaries because the frailty adjustment involves using self-reported survey data for a sample of beneficiaries in each plan to adjust beneficiaries' risk scores. However, CMS has previously identified several methodological challenges associated with expanding the frailty adjustment to all MA plans when considering doing so in the past, and these challenges include the following:²⁷

- **Limits to existing level of survey data collection.** CMS does not collect survey data at the plan level, including data on functional status that would be required to expand the frailty adjustment to all MA plans. Instead, CMS collects survey data for MA contracts, which may contain multiple MA plans.
- **Limits to survey data accuracy.** The accuracy of the survey data CMS collects on functional status is limited by low response rates and the subjective nature of self-reported data on functional status. The survey CMS uses to collect functional status information from MA contracts had a response rate of 48 percent, on average, in 2016, and contract-specific response rates ranged from 5 to 70 percent. In addition, because the functional status information collected through the surveys is self-reported, the information may be less accurate than, for example, the more detailed information collected by trained providers for PAC assessments.

²⁷For example, in considering expanding its frailty adjustment to all MA plans in the past, CMS cited these methodological concerns as reasons it chose not to move forward. See CMS and RTI International, *Evaluation of the CMS-HCC Risk Adjustment Model* (Baltimore, Md.: March 2011), 18-19; and J. Kautter, M. Ingber, and G.C. Pope, "Medicare Risk Adjustment for the Frail Elderly," *Health Care Financing Review*, vol. 30, no. 2 (2008), 92.

CMS is generally required to apply adjustments uniformly to all MA plans, with the exception of certain SNP plans with high concentrations of frail individuals and MA Religious Fraternal Benefit Plans. Therefore, if CMS expanded its frailty adjustment, it would be required to do so for all MA plans—not just select MA plans. See 42 U.S.C. § 1395w-23(a)(3)(D) and 42 C.F.R. § 422.308(c)(3) (2017).

-
- **Updating benchmarks.** Part of CMS's process for setting MA payment rates involves comparing an MA plan's bid to a benchmark that reflects the spending of a Medicare FFS beneficiary with average health status. To expand the frailty adjustment, CMS stated that these county-level benchmarks would need to be updated to reflect the functional status of beneficiaries in each county, which are data that CMS does not currently collect.
 - **Timing of bid submission.** MA plans are required to submit their bids in June of the base year, which is the year prior to the payment year. Because plans field surveys of MA beneficiaries later in the year, plans would need to submit their bids for the next year without knowing what their frailty adjustment would be for that year. However, according to two experts we spoke with, plans could use other information to estimate the extent to which their enrolled beneficiaries have functional limitations, including using historical data. Plans also routinely submit bids without fully knowing what the health status of their enrollee population will be in the payment year.

Financial Incentive to Identify Functional Limitations Could Pose Additional Payment Challenge

Accounting for functional status in MA risk adjustment could give plans a financial incentive to identify functional limitations, which could pose a challenge related to overpayment. Such improvements in the identification of MA beneficiaries with functional limitations could result in these beneficiaries having higher risk scores—and appearing sicker—than beneficiaries in Medicare FFS with the same limitations, health conditions, and other characteristics. Because the risk adjustment model is estimated based on FFS data, higher MA risk scores due to such improvements would result in MA plan payments that are inappropriately high. We have previously reported that MA plans have a financial incentive to identify clinical diagnoses more completely than FFS providers and that MA plan payments were inappropriately high as a

result.²⁸ CMS currently adjusts MA payments in an effort to account for these differences, and a similar adjustment could be made to account for differences in the identification of functional limitations. In addition, the impact of a financial incentive to identify functional limitations more completely could depend in part on how these data are collected. For example, two experts that we spoke with said that this incentive could be mitigated by requiring that the assessment be done by a third party without a financial interest in the outcome rather than the MA plans themselves.²⁹

Agency Comments

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

We are sending copies of this report to the Secretary of the Department of Health and Human Services. In addition, this report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staffs have any questions about this report, please contact me at (202) 512-7114 or cosgrovej@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix II.

²⁸We found that in 2010, differences between diagnostic coding between FFS and MA accounted for between \$3.9 billion and \$5.8 billion in excess payments to MA plans. Since 2010, CMS has implemented an adjustment to mitigate the effects of these diagnostic coding differences. In our report, we estimated diagnostic coding differences between MA plans and Medicare FFS that were greater than those estimated by CMS. We recommended that CMS improve the accuracy of its risk score adjustments by using more current data and incorporating the trend of the impact on coding differences on risk scores, among other things. Our recommendation remains unimplemented as of June 2018. See GAO, *Medicare Advantage: CMS Should Improve the Accuracy of Risk Score Adjustments for Diagnostic Coding Practices*, [GAO-12-51](#) (Washington, D.C.: Jan. 12, 2012).

²⁹This is similar to findings from a recent GAO report on home- and community-based services, which found that conflicts of interest can arise when Medicaid managed care plans conduct functional assessments due to the financial interest in the outcome of those assessments. See GAO, *Medicaid: CMS Should Take Additional Steps to Improve Assessments of Individuals' Needs for Home- and Community-Based Services*, [GAO-18-103](#) (Washington, D.C.: Dec. 14, 2017).

A handwritten signature in black ink, appearing to read 'James Cosgrove', with a large, stylized initial 'J'.

James Cosgrove
Director, Health Care

Appendix I: Scope and Methodology

This appendix describes the scope and methodology we used to address two key aspects of our second objective: to (1) assess the accuracy of the current Centers for Medicare & Medicaid (CMS) risk adjustment model for those with functional limitations and (2) estimate the prevalence of beneficiaries with functional limitations. This appendix also describes the steps we took to assess the reliability of the data we used.

Assessing the Accuracy of the Current Community Model

To assess the accuracy of the current CMS risk adjustment model for those with functional limitations, we estimated spending in 2015 using the current risk adjustment model and then compared these spending estimates to actual spending in the same year. We made this comparison for a sample of Medicare fee-for-service (FFS) beneficiaries that responded to the 2014 FFS Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey.¹ To calculate estimated spending in 2015, we used CMS's current risk adjustment model for beneficiaries residing in the community.² To do so, we used CMS model software to calculate what the risk scores would have been in 2015 if the current model were in use at that time and converted those risk scores into estimated spending.³ To calculate actual spending in 2015—the most recent year with complete spending information at the time of our analysis—we used the Master Beneficiary Summary File (MBSF). The costs that were used to calculate actual spending were limited to Medicare program costs, which exclude beneficiary cost-sharing and hospice costs, in order to align with the costs included in the risk-adjustment process.

¹The functional status information taken from the 2014 CAHPS corresponds with the year of diagnostic information that is used to estimate 2015 spending under the risk adjustment process.

²Our analysis is based on the model that was implemented in 2017.

³We used 2014 diagnostic and demographic information as inputs for the 2017 model software. This is consistent with how CMS calculates risk scores for a given payment year: using diagnostic and demographic information from the previous (base) year.

Our sample population consisted of community-residing FFS beneficiaries who responded to all six functional status questions through the CAHPS survey. Beneficiaries were then grouped according to functional status. We defined beneficiaries with functional limitations as those who self-identified as having difficulty with or who were unable to conduct activities of daily living (ADL)—basic, personal everyday activities, including bathing, dressing, walking, transferring, toileting, and eating. Additionally, we excluded from our sample beneficiaries who were new to Medicare, resided in an institution for more than 90 days, or had end-stage renal disease because CMS uses a different risk adjustment model to estimate costs for those beneficiaries.⁴ We excluded beneficiaries with unequal months of Part A and Part B coverage, beneficiaries with any months of health maintenance organization coverage, beneficiaries with any months where Medicare is a secondary payer, and beneficiaries with any months of hospice coverage. These exclusions were necessary for calculating estimated spending because beneficiaries under these conditions have months where spending is unknown or not attributable to the Medicare program. Lastly, we excluded beneficiaries that were not in all of our source files, and beneficiaries that died in 2014. Before exclusions, the number of FFS beneficiaries in the CAHPS file was 93,317, and after our exclusions were applied, the sample size was reduced to 72,632. Because of our exclusions, our sample of beneficiaries may not be representative of all community-residing FFS beneficiaries; therefore, for this analysis, we did not use the CAHPS post-stratification weight, which is designed to make the results representative of the broader FFS population. The risk adjustment model overestimates spending, on average, for the full sample of beneficiaries in our analysis in part because this sample is not representative of all community-residing FFS beneficiaries. In addition, some over- or under-estimation in the aggregate is expected because the years we used for our analysis (that is, 2014 and 2015) differ from the years of data used to develop the model (that is, 2013 and 2014).

⁴CMS uses separate risk adjustment models for beneficiaries who (1) reside in an institution; (2) have end-stage renal disease; or (3) have been enrolled in Medicare for fewer than 12 months.

Estimating the Prevalence of Functional Status

To provide context for our findings, we compared the prevalence of beneficiaries with functional limitations across Medicare Advantage (MA) plans and between the FFS and MA programs. We estimated the prevalence of beneficiaries with functional limitations in 2016 using information collected through the FFS CAHPS, Medicare Health Outcomes Survey (HOS), and HOS-modified (HOS-M) survey. We used the FFS CAHPS survey to estimate prevalence for FFS beneficiaries, and applied a post-stratification weight to make the results representative of the broader FFS population. The HOS survey is administered to a sample of enrollees in each MA contract, and the HOS-M is administered to a sample of enrollees in PACE organizations—together, these two surveys provide the MA prevalence of functional limitations.⁵ We used 2016 survey data as this was the most recent year available at the time of our review. For all three of the surveys, we excluded beneficiaries who did not respond to all survey questions related to functional status. We defined beneficiaries with functional status limitations as those who self-identified as having difficulty with or inability to conduct ADLs. We also excluded 1876 Cost plans, demonstration plans, and Medicare Savings Account plans due to the differences in the way these plans operate or are paid. To calculate prevalence statistics for the MA population, we weighted each contract by its enrollment size, but this was not applied to the contract level prevalence information. To estimate prevalence by contract type, we classified contracts by the degree of Special Needs Plan (SNP) enrollment.

- MA contracts that were comprised of 100 percent SNP enrollees were designated as “SNP-Only;”
- those contracts comprised of more than 50 percent SNP enrollees were designated as “Majority SNP;”
- those less than 50 percent were designated as “Minority SNP;” and
- those contracts without any SNP beneficiaries were designated as “No SNP.”

One limitation with the prevalence data presented in this report is the low response for HOS and HOS-M surveys. More specifically, for MA contracts, the average response rate was 48 percent in 2016. The

⁵The HOS-M survey is also administered to a small number of special needs plans (SNP).

contract-specific response rates for the MA contracts in our analysis ranged from 5 to 70 percent, though 75 percent of contracts had response rates of at least 43 percent. In addition, our estimates of the percentage of MA beneficiaries with functional limitations were not sensitive to the exclusion of contracts with the lowest response rates.

Assessing Data Reliability

We assessed the reliability of these data by interviewing CMS officials knowledgeable about the data sources; reviewing related documentation, such as CMS documentation on the risk adjustment model software and data dictionaries; and performing data checks. On the basis of these steps, we concluded that the data were sufficiently reliable for the purposes of our reporting objective.

Appendix II: GAO Contact and Staff Acknowledgments

GAO Contact

James Cosgrove, (202) 512-7114 or cosgrovej@gao.gov

Staff Acknowledgments

In addition to the contact named above, contributions to this report included William Black (Assistant Director), Kate Nast Jones (Analyst-in-Charge), Alison Binkowski, Michelle Duren, Daniel Lee, Richard Lipinski, Elizabeth T. Morrison, Samantha Pawlak, and Eric Wedum. Also contributing were Jessica Broadus, Muriel Brown, Kaitlin Farquharson, and Sandra George.

Appendix III: Accessible Data

Data Table

Data Table for Figure 3: Percentage of Enrollees with One or More Functional Limitations by Contract Type, 2016

Contract Type	Percentile	Percent of Enrollees with One or More Functional Limitations
NO SNP	Minimum [0th Percentile]	20.93%
	25th Percentile	31.33%
	Median [50th Percentile]	34.85%
	75th Percentile	39.43%
	Maximum [100th Percentile]	55.84%
Minority SNP	Minimum [0th Percentile]	26.51%
	25th Percentile	36.22%
	Median [50th Percentile]	41.81%
	75th Percentile	47.79%
	Maximum [100th Percentile]	58.97%
Majority SNP	Minimum [0th Percentile]	40.59%
	25th Percentile	48.50%
	Median [50th Percentile]	54.24%
	75th Percentile	57.02%
	Maximum [100th Percentile]	87.86%
SNP-ONLY	Minimum [0th Percentile]	43.71%
	25th Percentile	55.03%
	Median [50th Percentile]	62.50%
	75th Percentile	67.48%
	Maximum [100th Percentile]	92.79%
PACE	Minimum [0th Percentile]	63.83%
	25th Percentile	80.16%
	Median [50th Percentile]	85.34%
	75th Percentile	89.90%
	Maximum [100th Percentile]	100.00%

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