



USING ENCOUNTER DATA IN MEDICARE ADVANTAGE RISK ADJUSTMENT



AMERICAN ACTION

FORUM

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Executive Summary

The Centers for Medicare & Medicaid Services (CMS) has been collecting encounter data from Medicare Advantage (MA) plans since 2012, and has previously announced plans to use that data to re-estimate (recalibrate) the MA risk adjustment model.¹ Currently, the MA risk adjustment model is estimated using traditional Medicare data, meaning risk scores in MA reflect the treatment patterns and costs for conditions in traditional Medicare. Recalibrating the model with MA encounter data would make risk scores more accurately reflect the relative costs of providing care for patients with particular conditions in MA, but it is unclear how such an approach would affect the broader MA system.

There is currently no specific proposal from CMS to recalibrate the MA risk adjustment model with MA encounter data, nor a publicly available timeline for such a change. However, this undertaking would require CMS to address many policy, technical, and operational issues prior to implementation. Therefore, the Urban Institute and the American Action Forum (AAF) convened a one-day roundtable summit with 21 experts to discuss implications of calibrating the risk adjustment model using encounter data.

The key themes that emerged from the summit are as follows:

- The MA risk adjustment system balances the goals of payment accuracy and creating appropriate incentives for plans to compete by offering value, rather than by avoiding risk. Policy choices that could improve payment accuracy, such as recalibrating the risk adjustment model with MA encounter data, could also negatively affect the incentives for MA plans to enroll a broad array of risks according to some experts, placing these two key risk adjustment goals in conflict.
- Recalibrating the risk adjustment model with MA encounter data does not, by itself, solve most of the problems stakeholders identified with the current risk adjustment system, including transparency and adequate payment for new enrollees and new plans. However, recalibrating the risk adjustment model with encounter data would likely remove the coding intensity adjustment applied to MA risk scores under the Affordable Care Act.
- Recalibration could create new problems in the risk adjustment system, including payment instability during the transition and changes to the viability of special needs plans (SNPs) focused on particular chronic conditions. Finally, risk adjustment is only one piece of the MA payment and policy system, and recalibrating the risk adjustment model with encounter data could have ripple effects. For example, policymakers should consider whether MA payment benchmarks should continue to be based on traditional (fee-for-service) Medicare costs once the risk adjustments to those payments are based entirely on MA data.

The primary consensus recommendation that emerged from the summit focused on transparency. Experts said that CMS should provide more data on the current risk adjustment system and approach recalibration of the risk adjustment model with MA encounter data in a deliberative, open way that allows for stakeholder input and clearly lays out policy goals,

potential effects on payment, and alternatives considered.

Introduction

The Medicare Advantage (MA) program allows Medicare beneficiaries to receive their Part A and B benefits through private plans. These plans are paid a capitated, per-enrollee amount by the Centers for Medicare & Medicaid Services (CMS) based on their county-level bids to provide benefits to an average-risk enrollee.² These payments are then risk adjusted to reflect the expected risk of enrollees who selected each plan, based on a prospective model, which predicts enrollee risk based on diagnoses present in the prior year. The current risk adjustment model used in the MA program, called the CMS Hierarchical Condition Category (CMS-HCC) model, was implemented between 2004 and 2007.³ The model calculates a risk score for each MA enrollee based on their demographic characteristics (e.g., age and gender) and diagnoses across 83 HCCs.⁴ The model is based on traditional Medicare cost and utilization data, with traditional Medicare beneficiaries' demographic characteristics and HCCs used to predict traditional Medicare costs. The resulting coefficients are then used to calculate MA enrollee risk scores based on MA enrollees' demographic and HCC data. This approach means that MA enrollee risk scores are assigned based on treatment patterns in traditional Medicare.

Between 2004 and 2014, risk scores were calculated based only on diagnosis data submitted by MA plans to CMS via the Risk Adjustment Processing System (RAPS), which was limited to the minimum data elements necessary to conduct risk adjustment.⁵ Since 2012, however, CMS has also been collecting far more comprehensive encounter data⁶—which covers all services provided to MA beneficiaries—from MA plans for use in calculating risk scores.⁷ This data was first used in the risk adjustment system in 2015. For the 2019 plan year, risk scores calculated based on a blend of 25 percent encounter data and 75 percent RAPS data.⁸ CMS expects to begin calculating risk scores based solely on encounter data in 2022.⁹

In the past, CMS has signaled interest in also using MA encounter data to estimate (recalibrate) the CMS-HCC risk adjustment model.¹⁰ This would mean recalculating the coefficients for demographic characteristics and HCCs based on MA encounters rather than traditional Medicare claims, which would likely change the risk scores of certain populations in MA to more closely reflect MA costs and treatment patterns.¹¹ The MA encounter data is far more detailed than the RAPS data, and is roughly equivalent to claims data, including information on diagnoses, services, and treatments received for all MA beneficiaries.

CMS has not released a specific proposal to recalibrate the MA risk adjustment model with MA encounter data, nor a timeline for such a proposal. However, this undertaking would require CMS to address many policy, technical, and operational issues prior to implementation. Therefore, the Urban Institute and the American Action Forum (AAF) convened a one-day roundtable summit with experts on MA, risk adjustment, and related areas to discuss implications of calibrating the model using encounter data, including introductory discussions on the goals of risk adjustment and current problems in the risk adjustment system to frame our discussion. Attendees included 21 experts from a variety of sectors including the insurance industry, pharmaceutical industry, academia, consultants,

actuaries, and former CMS officials:

- Jonathan Blum, Health Management Associates
- Kristina Cournoyer, Anthem
- Sean Creighton, Avalere
- Errin Crowell, Aetna
- Frank Cunningham, Eli Lilly & Company
- Randall Ellis, Boston University
- Doug Fearington, Anthem
- Michael Geruso, University of Texas at Austin
- Gretchen Jacobson, Kaiser Family Foundation
- Lisa Joldersma, Pharmaceutical Research and Manufacturers of America (PhRMA)
- Tom Kornfield, America's Health Insurance Plans (AHIP)
- Julia Lambert, Wakely Consulting Group
- David Lipschutz, Center for Medicare Advocacy
- Thomas McGuire, Harvard University
- Mark Miller, Laura and John Arnold Foundation
- Rob Pipich, Milliman
- Marc Russo, Anthem
- Valinda Rutledge, America's Physician Groups (APG)
- Doug Stoss, Humana
- Cori Uccello, American Academy of Actuaries
- Jonathan Weiner, Johns Hopkins University

This paper summarizes the key themes from the summit, with a focus on the benefits and drawbacks of using MA encounter data to calibrate the MA risk adjustment model. It expresses the views of multiple experts who attended the summit, rather than the authors' views. First, we explore the goals of risk adjustment in MA and why those goals may be in conflict with regard to calibrating the CMS-HCC risk adjustment model with encounter data. We consider potential short-term uses of encounter data and how research using that data could support risk adjustment policy changes. We also explore current problems identified with the MA risk adjustment system and whether calibrating the risk adjustment model with encounter data would solve those problems or create new problems. We then discuss methodological concerns about recalibrating the risk adjustment model with encounter data. Finally, we discuss risk adjustment's place in the broader MA payment and policy context.

The MA risk adjustment system has several goals, some of which could be in conflict as CMS works to recalibrate the MA risk adjustment model with encounter data.

The MA risk adjustment system attempts to satisfy a variety of goals,¹² which broadly fall into two categories: payment accuracy and incentivizing plan behavior consistent with Medicare's broader goals. First, MA risk adjustment should pay plans appropriately for the health status of the beneficiaries that enroll in the plans and distribute payment fairly among plans. Second, risk adjustment in MA should discourage risk selection by plans, incentivize plans to control costs, encourage the most efficient plans to offer coverage, and encourage

beneficiaries to choose the highest-value option for their needs. Payment accuracy goals must be balanced with plan behavior goals to develop an effective risk adjustment system that is accurate but also creates the right incentives for plans and beneficiaries.

As CMS considers calibrating the risk adjustment model with encounter data, balancing payment accuracy goals and plan behavior goals will be important to ensure that a new risk adjustment model does not unnecessarily disrupt the MA system. The weight given to each of these sets of goals may also drive experts and stakeholders to have different views about the value of recalibrating the risk adjustment model with encounter data and the specific approaches that should be used. For example, payment accuracy (i.e., the degree of correspondence between payments and costs) would almost certainly be improved by recalibrating the risk adjustment model with encounter data because plans would be paid in relation to the average cost and utilization for a particular diagnosis group within MA, rather than traditional Medicare's average cost and utilization for that diagnosis group.

However, calibrating the risk adjustment model with encounter data could alter incentives for risk selection as it improves payment accuracy. For example, if MA plans are, on average, more efficient at treating diabetes than traditional Medicare, the relative risk of beneficiaries with diabetes would likely be lower in a risk adjustment model calibrated with MA encounter data than in the current model. Lowering the risk score for diabetes could affect MA plans' incentives to coordinate care, control costs, and risk-select.¹³ However, if plans are more efficient because of care coordination programs—the costs of which aren't reflected in encounter data—then the new risk scores will be artificially low and payment accuracy will be compromised. Lower payments could limit plans' ability to finance better care coordination or efforts to help enrollees manage their condition, limiting plans' ability to control costs.

In addition, if payments get too low, some experts noted that selection against enrollees with diabetes could occur, or more costs could be shifted onto beneficiaries. Risk adjustment reduced the extent of risk selection in the MA program.¹⁴ However, under significant payment pressure, both selection and cost control could be accomplished by relatively straightforward benefit design changes, like narrowing provider networks for specialists or increasing cost sharing for insulin, though expert views were mixed on the feasibility of condition-specific risk selection. A significant reduction in relative payment for diabetes could also meaningfully alter the market for chronic condition special needs plans (SNPs) focused on diabetes, perhaps resulting in plan exits from that market.

It is likely that recalibrating the risk adjustment model with encounter data would shift incentives within the MA system by significantly altering risk scores for some beneficiaries compared to the current system.¹⁵ In this context, expert opinion varied over whether more accurate payment was reason enough to change the risk adjustment system, particularly in the absence of specific, detailed information about how HCC coefficients would change and which MA plans, geographic areas, and beneficiaries might be disproportionately affected by those changes.

How should encounter data be used in the short term?

Before making major changes, CMS could use MA encounter data it already has on hand to conduct and disseminate research to inform a deliberative, public process for eventual recalibration. For example, analyses exploring how MA plans provide care, how the provision of care in MA differs from traditional Medicare, and how outcomes differ between MA and traditional Medicare could help both CMS and stakeholders more fully understand the implications of recalibrating the risk adjustment model with encounter data. Similarly, analyses with encounter data could help quantify the variation in cost and utilization between MA and traditional Medicare for particular conditions or within particular HCCs and identify areas where incentives to limit care could be created by setting payments too low. CMS could also use encounter data to assess the validity of the current coding intensity adjustment and quantify the variation in coding intensity across plans. All of these approaches would be most useful if accompanied by an open discussion with stakeholders about the goals of risk adjustment, forthcoming policy changes, and timelines.

Finally, as CMS considers moving to a risk adjustment model calibrated with MA encounter data, stakeholder conversations will be important to create buy-in and assuage fears about negative effects on the MA system. CMS should communicate the following with stakeholders if and when it plans to move forward with recalibrating the risk adjustment model with encounter data:

- The policy goals CMS expects to achieve by recalibrating the risk adjustment model with encounter data, and how progress toward those goals will be measured;
- The process and timeline for recalibrating the risk adjustment model with encounter data;
- Sensitivity analyses that will be conducted as part of model recalibration, and results of those sensitivity analyses; and
- Analyses describing the likely effects on insurers by plan type and geography, as well as effects on market incentives and beneficiaries.

Would recalibrating the risk adjustment model with encounter data solve any current problems with the risk adjustment system?

Experts consistently expressed concerns about the transparency of the current risk adjustment system and of CMS' policymaking on risk adjustment. CMS does not hold regular, ongoing discussions with stakeholders about potential changes to the risk adjustment system, or how those changes would further CMS' policy goals. Experts said it takes approximately eight to 24 months for CMS staff to develop a new risk adjustment model,¹⁶ and by the time public discussions start taking place, stakeholders feel it is too late to change CMS' policy direction. It is also difficult for stakeholders to comment on ongoing policy changes because CMS generally does not publicly release or discuss sensitivity analyses, show the distributional effects of policy choices, or discuss policy changes that were dismissed within the agency.

This current transparency challenge presents both an opportunity and a risk as CMS

considers recalibrating the risk adjustment model with MA encounter data. While CMS has an opportunity to re-engage stakeholders and smooth the transition to a new model, if this policy change is undertaken without increased transparency, it could disrupt the MA system by reducing confidence in risk adjustment. The early development of the current risk adjustment model was fairly transparent,¹⁷ including, critically, open code for estimating the risk adjustment model.¹⁸ A similar approach will be important for risk adjustment changes and related policymaking in the future.

In addition to concerns about transparency, a large body of literature documents persistent issues with coding intensity in the MA risk adjustment program relative to traditional Medicare.¹⁹ MA plans have an incentive to code all applicable diagnoses, while traditional Medicare providers lack incentives to fully capture all diagnoses in every year. As a result, MA risk scores generally look higher than those in traditional Medicare, yielding higher risk adjustment payments.²⁰

Reducing the effects of coding intensity on MA payment relative to traditional Medicare costs is part of the rationale for calibrating the risk adjustment model with encounter data. In fact, under the Affordable Care Act, CMS must apply a coding intensity adjustment to all MA plans' risk scores to blunt the effect of coding intensity on risk adjustment spending, and this adjustment can only be removed once the risk adjustment model is calibrated based on encounter data.²¹

However, some experts are skeptical that calibrating the risk adjustment model with encounter data would fully solve the coding intensity problem. First, coding intensity differences between plans would still exist and would disadvantage plans that spend less time and effort on gathering diagnoses, perpetuating incentives for all plans to code as completely as possible. Second, as is current practice, calculating the MA payment benchmarks requires that traditional Medicare data be run through the risk adjustment model to produce an average traditional Medicare risk score, but it is unclear whether or how that process might need to be modified if the risk adjustment model is calibrated to an MA population.

Some experts were concerned that the current risk adjustment system may also incentivize within-HCC risk selection since it calculates the average additional cost of a beneficiary with a particular HCC.²² But in highly variable conditions, like behavioral health, costs for any individual patient could be quite far from the average for that condition.²³ Some of this variation may be predictable based on enrollee medication or provider use, so prescription drug formularies or networks could be designed to avoid the highest-cost beneficiaries within an HCC. Some experts noted that plans have limited knowledge of whether any potential enrollee will have costs at, above, or below average for a particular condition so as to engage in this sort of risk selection, and marketing rules prohibit such activities. Nevertheless, this issue is unlikely to be addressed by recalibrating the model with encounter data, since MA plans likely also face varying costs for patients within HCCs.

Finally, experts continue to debate two policy choices that are fully separable from the question of whether to recalibrate the risk adjustment system with MA encounter data:

whether the model should be prospective or concurrent and whether additional data on functional status or the social determinants of health should be included in risk adjustment. Some argue that MA's prospective risk adjustment system, combined with inadequate new enrollee risk adjustment, makes it difficult for new plans, including provider-led plans, to enter the market. This is especially true for plans and provider organizations that focus on a sicker subset of beneficiaries, as they do not receive additional risk adjustment payments for those beneficiaries until several years of encounter data have been collected. Prospective payment may also fall behind the pace of innovation, particularly with respect to pharmaceuticals, yielding inaccurate payment.²⁴

While concurrent risk adjustment may be statistically more accurate,²⁵ prospective risk adjustment does a better job of encouraging plan efficiency, which is a critical goal of the MA risk adjustment program. In addition, prospective risk adjustment is relatively good at predicting costs for enrollees with chronic conditions, who make up most of the Medicare population.²⁶ Finally, some experts argue for adding functional status, frailty, social determinants, or other data from electronic health records to risk adjustment to support more accurate payments, regardless of model recalibration.²⁷

What new problems might result from recalibrating the risk adjustment model with encounter data?

Similar to insurers in other markets,²⁸ MA plans are interested in a predictable, stable MA policy and payment environment. Recalibrating the risk adjustment model with encounter data could create big payment changes, temporarily destabilizing markets if the transition proceeds too quickly. These changes could disproportionately affect plans that enroll many beneficiaries with particular conditions, including chronic condition SNPs, whose payments could significantly decrease if coefficients for enrollees' chronic conditions are substantially lower. While larger plans may be better equipped to absorb the effects of swings in payment under a new risk adjustment model, the longer-term implications of such payment changes are unclear. If MA payments fell substantially overall, plans could reduce or eliminate supplemental benefits, reduce provider payments or network breadth, or exit markets. The uncertainty created by recalibrating the risk adjustment model with encounter data could be at least partially addressed by conducting and disseminating the analyses described above.

Recalibrating the risk adjustment model with encounter data could also perpetuate potentially undesirable approaches to care into the MA payment system. For example, if some MA plans were systematically limiting services for certain conditions, recalibrating the model with encounter data would result in lower coefficients for those conditions, lowering risk adjustment payments for beneficiaries with those conditions, and increasing incentives to restrict services. However, lower utilization and cost for care for certain conditions could reflect better or more coordinated care in MA rather than restrictions, and reducing risk adjustment for those conditions could eliminate plans' ability to fund care coordination. Similarly, the current MA risk adjustment system cements potentially undesirable approaches to care from the traditional Medicare system, like overreliance on inpatient hospitalizations and emergency room visits, into payment. Neither encounter data nor traditional Medicare

data are perfect, so the data source chosen to calibrate the risk adjustment system should reflect the approach that best fits the goals and objectives of risk adjustment. In addition, CMS could use the encounter data it has already collected to investigate differences in cost, care intensity, and outcomes for specific conditions between MA and traditional Medicare prior to making major changes to the risk adjustment system.

Recalibrating the risk adjustment model with encounter data presents methodological concerns.

If CMS goes forward with recalibrating the risk adjustment model with encounter data, several methodological concerns will need to be addressed. First, it is unclear if encounter data will provide sufficient sample sizes to calculate stable coefficients for some of the model segments currently used by CMS (e.g. duals, institutional, end stage renal disease). Second, encounters not currently included in the risk adjustment system, like post-acute care, may not be completely represented in encounter data.²⁹ Finally, encounter data does not necessarily provide comparable, accurate costs across the MA system, particularly for vertically integrated plans or plans with sub-capitated arrangements with provider groups. Yet because MA plans largely base their provider reimbursements on traditional Medicare prices,³⁰ a traditional Medicare pricing tool could be used to price MA encounters, rather than relying on plan-submitted costs. While this approach could fix potential problems with encounter data prices, sub-capitated payment arrangements between providers and plans may not yield comprehensive utilization data. For example, sub-capitated primary care physician groups generally do not submit encounter data for every visit and service to the insurer, as payment is not dependent on service volume. Therefore, MA utilization could be undercounted, particularly in areas with large staff-model Health Maintenance Organizations or sub-capitated independent practice associations like southern California.

Risk adjustment policy changes should be considered in the broader context of the whole MA system.

Risk adjustment is one piece of the MA system, and it operates in concert with many other aspects of MA policy. Calibrating the risk adjustment model with encounter data could have ripple effects outside of the risk adjustment system that CMS will need to consider, and could also necessitate other policy changes across the MA program to rationalize the system.

For instance, if the risk adjustment model is recalibrated with MA encounter data, risk scores would be entirely based on MA data, but benchmarks would continue to be calculated based on traditional Medicare spending, perhaps leading to a disconnect between the utilization patterns reflected in benchmarks and those reflected in risk adjustment payments. Some experts indicated that tying MA payment to traditional Medicare costs through the benchmarking process may cease to be a rational approach if MA risk adjustment is calibrated on MA data.

Even under the current risk adjustment system, there are counties with very high MA penetration where traditional Medicare benchmarks may not accurately reflect the cost of the average beneficiary.³¹ This mismatch between traditional Medicare benchmarks and

MA could become particularly problematic if traditional Medicare is primarily populated by wealthier retirees with comprehensive supplemental coverage who do not want network restrictions, as the patterns of care might be quite different.³² However, maintaining a link between MA and traditional Medicare through the benchmarking process would allow for continued comparisons of costs across the two systems and help to prevent MA payments from growing unchecked.³³ Also, if CMS shares the Medicare Payment Advisory Commission's goal of achieving financial neutrality between MA and traditional Medicare, meaning that total payments for given types of beneficiaries would be equivalent between MA and traditional Medicare, such a result would be more difficult to achieve under a system that completely decouples MA payment from traditional Medicare costs.³⁴

Risk adjustment cannot pay plans perfectly, and any risk adjustment system is unlikely to eliminate entirely incentives for risk selection.³⁵ As a result, such incentives are also managed outside of the risk adjustment system, including through regulations governing marketing, network adequacy, benefit design features like prescription drug formularies,³⁶ and bonuses to encourage improvements in MA plan quality scores. These approaches may need to be adjusted or expanded to address new selection incentives if the risk adjustment model is recalibrated with encounter data. Risk adjustment also does not address the appropriateness of managed care for particular individuals. Other tools, like the Medicare Plan Finder, and marketing rules, can help ensure that beneficiaries can make an informed choice between managed care and traditional Medicare, and among MA plans. If a new risk adjustment model recalibrated with encounter data is implemented, monitoring will be necessary to determine whether any of these rules need to be adjusted to respond to plan and beneficiary behavior.

Conclusion

CMS first indicated its intention to recalibrate the MA risk adjustment model with MA encounter data in 2011, but it remains unclear if CMS is still committed to this policy change, or what the timeline might be for model recalibration. Experts were united in calling for additional transparency and engagement from CMS on the risk adjustment system in general, and on any plans to recalibrate the model with encounter data in particular.

In considering the merits of such a move, experts were mixed on whether recalibrating the risk adjustment model with encounter data would be net positive or not, and whether it solves any of the identified problems in the current risk adjustment system. These differences of opinion rested both on differing priorities as to the goals of risk adjustment and uncertainty around the likely magnitude and direction of changes in payments and plan incentives under a recalibrated risk adjustment model. While recalibration with encounter data would almost certainly improve payment accuracy, it could also alter incentives in the MA program in ways that may have adverse effects on beneficiaries, small plans, or SNPs. CMS could resolve some of the anxiety around changes to incentives through an open, deliberative research and policymaking process that explores in detail the likely effects of any changes to the risk adjustment system on payment, insurer incentives, beneficiary populations, and particular plan types.

Regardless of plans to move forward with recalibration of the risk adjustment model, research using the MA encounter data could provide a more thorough understanding of differences in treatment patterns, cost, and outcomes between MA and traditional Medicare overall and for particular conditions. Such research could support future policymaking on risk adjustment and the broader MA and traditional Medicare payment systems.

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For more information on the Urban Institute's funding principles, go to
<http://www.urban.org/about/funding-and-annual-reports>

Endnotes

- ¹ Centers for Medicare & Medicaid Services, "Announcement of Calendar Year (CY) 2011 Medicare Advantage Capitation Rates and Medicare Advantage and Part D Payment Policies and Final Call Letter," April 5, 2010, <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/downloads/Announcement2011.pdf>.
- ² Medicare Payment Advisory Commission, "Medicare Advantage Program Payment System," October 2018, http://medpac.gov/docs/default-source/payment-basics/medpac_payment_basics_18_ma_final_sec.pdf?sfvrsn=0.
- ³ Centers for Medicare & Medicaid Services, "Medicare Managed Care Manual: Chapter 7 – Risk Adjustment (Rev. 118)," September 19, 2014, <https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/mc86c07.pdf>.
- ⁴ Centers for Medicare & Medicaid Services, "Advance Notice of Methodological Changes for Calendar Year (CY) 2019 for the Medicare Advantage (MA) CMS-HCC Risk Adjustment Model," December 27, 2017, <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/Advance2019Part1.pdf>.
- ⁵ Centers for Medicare & Medicaid Services Customer Service and Support Center, "2013 National Technical Assistance: Risk Adjustment 101 Participant Guide," July 23, 2013, [https://www.csscooperations.com/Internet/Cssc3.Nsf/files/2013_RA101ParticipantGuide_5CR_081513.pdf/\\$File/2013_RA101ParticipantGuide_5CR_081513.pdf](https://www.csscooperations.com/Internet/Cssc3.Nsf/files/2013_RA101ParticipantGuide_5CR_081513.pdf/$File/2013_RA101ParticipantGuide_5CR_081513.pdf).
- ⁶ Centers for Medicare & Medicaid Services Customer Service and Support Center, "Encounter Data Submission and Processing Guide. Version 1.0," May 2018, [https://www.csscooperations.com/Internet/cssc4.nsf/files/ED_Submission_Processing_Guide.pdf/\\$File/ED_Submission_Processing_Guide.pdf](https://www.csscooperations.com/Internet/cssc4.nsf/files/ED_Submission_Processing_Guide.pdf/$File/ED_Submission_Processing_Guide.pdf).
- ⁷ Centers for Medicare & Medicaid Services, "Announcement of Calendar Year (CY) 2012 Medicare Advantage Capitation Rates and Medicare Advantage and Part D Payment Policies and Final Call Letter," April 4, 2011, <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/Hospice/Downloads/CY2012-Hospice-Rates-FinalCallLetter.pdf>.
- ⁸ Centers for Medicare & Medicaid Services, "Announcement of Calendar Year (CY) 2019 Medicare Advantage Capitation Rates and Medicare Advantage and Part D Payment Policies and Final Call Letter," April 2, 2018, <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/Announcement2019.pdf>.
- ⁹ Centers for Medicare & Medicaid Services, "Advance Notice of Methodological Changes for Calendar Year (CY) 2020 for the Medicare Advantage CMS-HCC Risk Adjustment Model," December 20, 2018, <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/Advance2020Part1.pdf>.
- ¹⁰ Medicare Payment Advisory Commission, "Medicare Advantage Program Payment System," October 2018, http://medpac.gov/docs/default-source/payment-basics/medpac_payment_basics_18_ma_final_sec.pdf?sfvrsn=0.
- ¹¹ Joseph P. Newhouse, Jie Huang, Richard J. Brand, Vicki Fung, and John Hsu, "The Structure of Risk Adjustment for Private Plans in Medicare," *American Journal of Managed Care* 17 (6): 231-40, 2011, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3246270/>.
- ¹² Gregory C. Pope, John Kautter, Randall P. Ellis, Arlene S. Ash, John Z. Ayanian, Lisa I. Iezzoni, Melvin J. Ingber, Jesse M. Levy, and John Robst, "Risk Adjustment of Medicare Capitation Payments Using the CMS-HCC Model," *Health Care Financing Review* 25 (4): 119-41, 2014, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194896/>.
- ¹³ Karen N. Eggleston, Randall P. Ellis, and Mingshan Lu, "Risk Adjustment and Prevention," *Canadian Journal of Economics* 45 (4): 1586-1607, January 4, 2011, <https://www.bu.edu/econ/files/2012/11/dp201.pdf>.
- ¹⁴ Joseph P. Newhouse and Thomas McGuire, "How Successful is Medicare Advantage?" *Milbank Quarterly* 92(2):351-94, 2014, <https://www.ncbi.nlm.nih.gov/pubmed/24890251>.
- ¹⁵ Joseph P. Newhouse, Jie Huang, Richard J. Brand, Vicki Fung, and John Hsu, "The Structure of Risk Adjustment for Private Plans in Medicare," *American Journal of Managed Care* 17 (6): 231-40, June 1, 2011, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3246270/>.
- ¹⁶ Shruti Rajan and Monica Reed-Asante, "Encounter Data: Medicare Advantage Payment Topics – A Year in Review," May 9, 2018, https://www.cms.gov/Outreach-and-Education/Training/CTEO/Event_Archives.html#h2sjm1b7qzciacyw1hqr02hj6mx81.
- ¹⁷ Gregory C. Pope, John Kautter, Randall P. Ellis, Arlene S. Ash, John Z. Ayanian, Lisa I. Iezzoni, Melvin

J. Ingber, Jesse M. Levy, and John Robst, "Risk Adjustment of Medicare Capitation Payments Using the CMS-HCC Model," *Health Care Financing Review* 25 (4): 119-41, 2014, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4194896/>.

¹⁸ Centers for Medicare & Medicaid Services, "Medicare risk adjustment information, including: Evaluation of the CMS-HCC Risk Adjustment Model, Model diagnosis codes, Risk Adjustment model software (HCC, RxHCC, ESRD), Information on customer support for risk adjustment," accessed November 26, 2018, <https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors.html>.

¹⁹ Geruso, Michael and Timothy Layton, "Upcoding: Evidence from Medicare on Squishy Risk Adjustment," working paper series, National Bureau of Economic Research, April 2018, <http://www.nber.org/papers/w21222.pdf>; Medicare Payment Advisory Commission, "The Medicare Advantage Program: Status Report," in "Report to the Congress: Medicare payment policy," March 2017, http://www.medpac.gov/docs/default-source/reports/mar17_entirereport.pdf; Richard Kronick and Welch, W. Pete, "Measuring Coding Intensity in the Medicare Advantage Program," *Medicare & Medicaid Research Review* 4 (2), 2014, https://www.cms.gov/mmrr/Downloads/MMRR2014_004_02_a06.pdf.

²⁰ Richard Kronick, "Projected Coding Intensity in Medicare Advantage Could Increase Medicare Spending by \$200 Billion over Ten Years," *Health Affairs* 36 (2): 808-18, February 2017, <https://www.healthaffairs.org/doi/10.1377/hlthaff.2016.0768>.

²¹ Office of the Legislative Counsel, "Compilation of Patient Protection and Affordable Care Act," June 9, 2010, <http://housedocs.house.gov/energycommerce/ppacacon.pdf>.

²² Medicare Payment Advisory Commission, "Issues for Risk Adjustment in Medicare Advantage" in "Report to the Congress: Medicare Payment Policy," June 2012, <http://www.medpac.gov/docs/default-source/reports/june-2012-report-chapter-4-issues-for-risk-adjustment-in-medicare-advantage.pdf?sfvrsn=0>; Washington, DC: MedPAC.; Jason Brown, Mark Duggan, Ilyana Kuziemko, and William Woolston, "How Does Risk Selection Respond to Risk Adjustment? New Evidence from the Medicare Advantage Program." *The American Economic Review* 104 (10): 3335-64, October 2014, https://www.jstor.org/stable/43495322?seq=1#metadata_info_tab_contents.

²³ Jason Brown, Mark Duggan, Ilyana Kuziemko, and William Woolston, "How Does Risk Selection Respond to Risk Adjustment? New Evidence from the Medicare Advantage Program," *The American Economic Review* 104 (10): 3335-64, October 2014, https://www.jstor.org/stable/43495322?seq=1#metadata_info_tab_contents.

²⁴ Colleen Carey, "Technological Change and Risk Adjustment: Benefit Design Incentives in Medicare Part D," *American Economic Journal: Economic Policy* 9 (1): 38-73, February 2017, <https://www.aeaweb.org/articles?id=10.1257/pol.20140171>.

²⁵ Society of Actuaries, "Accuracy of Claims-Based Risk Scoring Models," October 2016, <https://www.soa.org/Files/Research/research-2016-accuracy-claims-based-risk-scoring-models.pdf>.

²⁶ Centers for Medicare & Medicaid Services) Center for Consumer Information & Insurance Oversight, "March 31, 2016 HHS-Operated Risk Adjustment Methodology Meeting Discussion Paper," March 31, 2016, <https://www.cms.gov/CCIIO/Resources/Forms-Reports-and-Other-Resources/Downloads/RA-March-31-White-Paper-032416.pdf>; John Bertko, "What Risk Adjustment Does – The Perspective of a Health Insurance Actuary who Relies on It," *Health Affairs Blog* March 29, 2016, <https://www.healthaffairs.org/doi/10.1377/hblog20160329.054175/full/>.

²⁷ Syen Muzayan Mehmud, "Nontraditional Variables in Healthcare Risk Adjustment," *Society of Actuaries*, July 2013, <https://www.soa.org/Files/Research/Projects/research-2013-nontrad-var-health-risk.pdf>.

²⁸ Michael E. Chernew and Christopher Barbey, "Supporting the Individual Health Insurance Marketplace," *Health Affairs Blog*, August 7, 2017, <https://www.healthaffairs.org/doi/10.1377/hblog20170807.061419/full/>.

²⁹ <http://www.medpac.gov/docs/default-source/default-document-library/ma-encounter-data-nov.pdf?sfvrsn=0>

³⁰ Berenson, Robert A., Jonathan H. Sunshine, David Helms, and Emily Lawton. 2015. "Why Medicare Advantage Plans Pay Hospitals Traditional Medicare Prices." *Health Affairs* 34 (8): 1289–95; Trish, Erin, Paul Ginsburg, Laura Gascue, and Geoffrey Joyce. 2017. "Physician Reimbursement in Medicare Advantage Compared with Traditional Medicare and Commercial Health Insurance." *JAMA Internal Medicine* 177 (9): 1287–95; Pelech, Daria. 2018. "An Analysis of Private-Sector Prices for Physicians' Services." Working Paper 2018-01. Washington, DC: Congressional Budget Office.

³¹ MA enrollment exceeds 50% of all Medicare beneficiaries in 135 counties. See <https://www.kff.org/>

[medicare/issue-brief/a-dozen-facts-about-medicare-advantage/](#).

³² In 2012, for example, 76 percent of Medicare beneficiaries with incomes over 400 percent of the federal poverty level had employer or MediGap supplemental coverage. See <https://www.commonwealthfund.org/publications/issue-briefs/2018/sep/medicare-low-income-beneficiaries>.

³³ Andy Johnson and Dan Zabinski "Using Encounter Data for Risk Adjustment in Medicare Advantage," meeting presentation from April 2016 Medicare Payment Advisory Commission, <http://www.medpac.gov/docs/default-source/meeting-materials/april-2016-meeting-presentation-using-encounter-data-for-risk-adjustment-in-medicare-advantage.pdf?sfvrsn=0>.

³⁴ Andy Johnson and Dan Zabinski "Using Encounter Data for Risk Adjustment in Medicare Advantage," meeting presentation from April 2016 Medicare Payment Advisory Commission, <http://www.medpac.gov/docs/default-source/meeting-materials/april-2016-meeting-presentation-using-encounter-data-for-risk-adjustment-in-medicare-advantage.pdf?sfvrsn=0>.

³⁵ Medicare Payment Advisory Commission, "Issues for Risk Adjustment in Medicare Advantage" in "Report to the Congress: Medicare Payment Policy," June 2012, <http://www.medpac.gov/docs/default-source/reports/june-2012-report-chapter-4-issues-for-risk-adjustment-in-medicare-advantage.pdf?sfvrsn=0>; Washington, DC: MedPAC.; Jason Brown, Mark Duggan, Ilyana Kuziemko, and William Woolston, "How Does Risk Selection Respond to Risk Adjustment? New Evidence from the Medicare Advantage Program." *The American Economic Review* 104 (10): 3335-64, October 2014, https://www.jstor.org/stable/43495322?seq=1#metadata_info_tab_contents.

³⁶ Centers for Medicare & Medicaid Services, "Medicare Advantage Network Adequacy Criteria Guidance," January 10, 2017, https://www.cms.gov/Medicare/Medicare-Advantage/MedicareAdvantageApps/Downloads/MA_Network_Adequacy_Criteria_Guidance_Document_1-10-17.pdf; "Medicare Marketing Guidelines," Centers for Medicare & Medicaid Services, accessed November 26, 2018, <https://www.cms.gov/Medicare/Health-Plans/ManagedCareMarketing/FinalPartCMarketingGuidelines.html>; "Formulary Guidance," Centers for Medicare & Medicaid Services, accessed November 26, 2018, https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovContra/RxContracting_FormularyGuidance.html.