

# The Future of Risk Adjustment:

*Supporting Equitable, Comprehensive Health Care*



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## Executive Summary

Risk adjustment in alternative payment models for accountable care has been designed to:

- Provide financial incentives for plans and providers to attract and retain individuals with high levels of need (thereby avoiding adverse selection),
- Support fair benchmarks for assessing performance across providers and plans accountable for differing populations, and
- Ensure that accountable organizations have appropriate resources to deliver high-quality and effective care for the populations they serve.

However, current risk adjustment methods based on fee-for-service claims data face multiple limitations:

- The incentives in current methods encourage more complete health risk reporting, but the resulting additional payments are not clearly linked to better care for patients.
- Risk adjustment based on data from fee-for-service care may be decreasingly relevant and reliable for assessing financial risk differences for value-based care models.
- Current models take limited account of a person's functional status or socioeconomic characteristics, even though these can be strong predictors of health spending and need.

Considerable interest exists in incorporating social factors into risk adjustment, given substantial evidence linking social risk factors to unmet health needs.

- However, incorporating social factors into risk adjustment based solely on historical associations with spending (the approach generally used for other risk adjusters) could reinforce existing structural inequities in access and care despite similar health needs.
- Social risk adjustment can alternatively impute higher payments to help address structural barriers to needed care, but this creates tradeoffs if risk adjustment increases must be offset for overall financial neutrality – for instance, more resources for payments to people who live in high area deprivation index (ADI) areas may mean lower payments for someone who is lower income or has multiple chronic conditions in a lower-ADI area.
- More evidence and complementary policies are needed to enable risk adjustment to be used effectively to improve care for traditionally underserved populations.

To address these issues, we have identified a set of guiding principles for risk adjustment reform, building on the traditional core goals of risk adjustment:

- Support advanced accountable care relationships for beneficiaries with diverse medical, behavioral, social and other needs, particularly those at greater risk of adverse outcomes.
- Enable resources to shift from traditional medical services to innovative care models and valuable services that are traditionally not reimbursed well, to improve outcomes, reduce costs, and increase equity.
- Encourage data collection for risk adjustment to rely on data used for tracking disease prevalence and implementing steps to reduce risk of disease incidence, progression, and costly complications (i.e., limit the need for administrative activities focused only on risk coding).
- Include reliable data on key markers of health (e.g., functional status) that provide a more complete and accurate assessment of health status and risk than diagnoses alone.

- Reflect the association between social factors (e.g., socioeconomic status, race, ethnicity, and language) and health, while recognizing that risk adjustment based on spending will not address the financial implications of inequitable access to and use of medical services that are reflected in current Traditional Medicare utilization.
- To advance accountability for outcomes and provider capabilities to achieve health equity goals, pair risk adjustment policies with complementary payment and regulatory incentives (e.g., advance or supplemental payments to plans and providers caring for traditionally underserved populations, payments linked to improvements in social drivers of health or equity).

Building a more modernized risk adjustment system described by our guiding principles will require a combination of short- and long-term actions. Short-term actions could be implemented within the next one to two years to address current challenges to build better risk adjusters and begin laying the groundwork for longer-term reforms. Potential short-term actions include:

- Refining the Medicare Advantage coding intensity factor adjustment,
- Building a foundation for risk adjustment mechanisms that go beyond reliance on administrative claims from Traditional Medicare beneficiaries,
- Reducing payments adjustments that induce changes in reporting but not in care improvement,
- Assessing viability of using risk adjusters that better capture social factors,
- Identifying additional high-priority risk adjusters capturing key dimensions of health,
- Implementing complementary payment reforms to address structural barriers to coordinated care for traditionally underserved communities, and
- Implementing steps to address under-diagnosis and advance care management in Traditional Medicare.

Potential long-term actions include:

- Linking population health management and risk adjustment through better integrated systems to adjust payments for risk and quality of care,
- Implementing risk adjustment mechanisms that rely on automated collection from data sources used for care improvement and population health management,
- Developing alternatives to measuring utilizations and resource use based on fee-for-service, Traditional Medicare claims,
- Aligning risk adjustment incentives and models, and
- Implementing an evidence-driven strategy for risk adjustment to improve equity.

Risk adjustment of payments for Medicare Advantage (MA) health plans and for providers in Medicare's alternative payment models (APMs) is a critical element of accountable or "value-based" care, which shifts to person-level payments from service-based payments to give accountable health care providers and health plans more flexibility and accountability to improve outcomes and increase equity while avoiding unnecessary costs. Risk adjustment adjusts spending and quality

benchmarks based on the reported characteristics of individuals in the accountable population to accomplish multiple goals: (1) providing financial incentives for plans and providers to attract and retain individuals with high levels of need (thereby avoiding adverse selection), (2) fairly assessing providers caring for different populations, and (3) aligning financial resources for plans and providers with the care needs of the population they serve. This paper focuses on financial risk adjustment,



although the innovations in methods and common data have implications for improving risk adjustment for quality measures as well.

Risk adjustment can lead to substantial adjustments in payments based on these reported characteristics, particularly in more “advanced” accountable-care models (those that rely primarily on person-level not fee-for-service payments). For example, the Centers for Medicare and Medicaid Services (CMS) predicts that a 74 year old man who lives in the community and has no coded conditions would have annual expenditures of \$2,885 (under the CMS-HCC v24 risk adjustment model), but that same man with coded diagnoses of diabetes with chronic complications, congestive heart failure, and heart attack would have annual expenditures of \$11,772. Similarly, a 74 year old man with full benefit dual-eligible status who lives in the community with no coded conditions would have annual expenditures of approximately \$5,619, but that same man with coded diagnoses of diabetes with chronic complications, congestive heart failure, and heart attack would have annual expenditures of \$17,607. *(This analysis builds off an example in the [CMS report to Congress on risk adjustment](#), leveraging the [HCC relative risk factors in the CY 2020 MA announcement and final call letter](#) and a [CareJourney risk adjustment analysis](#).)*

CMS’ recent [strategic refresh](#) aims for all Medicare beneficiaries and the vast majority of Medicaid beneficiaries to be in accountable, coordinated care relationships by 2030, and aims to support similar growth among commercially insured populations. As more providers shift to accountable care models with links to quality and outcomes, and as more health plans are accountable for risk-adjusted total spending and quality of care, risk adjustment will be an increasingly influential policy lever.

As more payments shift into such models, the limitations of current risk adjustment methods become increasingly prominent – and costly. First, health care organizations devote substantial resources to sophisticated methods to collect and review complete, defensible data on diagnoses that matter for risk adjustment. These efforts lead to more favorable performance benchmarks, higher payments, and higher Medicare spending overall, as well as substantial administrative and monitoring costs. Second, the risk adjustment methodology,

largely based on fee-for-service (FFS) claims data, may also fail to accurately reflect differences in expected spending, especially as more care becomes value-based. Finally, important predictors of health needs, such as socioeconomic status, are not well reflected in current risk adjustment models, potentially leading to unintended adverse consequences for addressing unmet needs for many traditionally underserved beneficiaries.

This report outlines steps to address these fundamental challenges, focusing on financial risk adjustment in Medicare Advantage and population-based payment models operated by the Center for Medicare (CM) or Center for Medicare & Medicaid Innovation (CMMI). The report also has relevance for Medicaid programs, private payers, and others. Drawing on a literature review, interviews, and expert convenings, we describe a strategy to address current design and implementation challenges in risk adjustment by:

1. Summarizing ways in which risk adjustment today may not adequately support key policy goals;
2. Reviewing how the inclusion of social risk factors into risk adjustment methodologies could affect value-based models and how to manage challenges in achieving the intended goals of social risk adjustment without unintended consequences;
3. Presenting a vision for an updated risk adjustment program for all CMS value-based programs, including accountable health plans in Medicare Advantage and accountable provider groups in Traditional Medicare, thereby creating a more level playing field, coordinating policies supporting risk adjustment and quality improvement, and aligning incentives and data systems for tracking risk adjustment factors and improving care; and
4. Identifying both short- and long-term strategies that CMS can take to implement to achieve this new vision.

## Barriers to an Effective Risk Adjustment Program

As risk adjustment has grown in importance, a range of technical challenges have been identified that limit the ability of current risk adjustment methods to achieve the goals of encouraging efficient, high-quality care for all beneficiaries.

**Variation in Risk Adjustment Models:** Most CMS accountable care programs, whether for plans or providers, use the [Hierarchical Condition Category \(HCC\) model](#) for risk adjustment. There is considerable support for the HCC foundation for risk adjustment, both due to extensive experience in refining it and years of investments in administrative systems to implement it. However, [regulatory and legislative changes](#) over time have led to notable differences in what HCC model is applied to different CMS programs ([Table 1](#)). For example, some programs calculate the HCC score using prior year data (prospective) while others use current year data (concurrent). Variation in risk adjustment methods may be warranted if particular value-based payment models (VBP) have different goals – such as if

the VBP program is aimed at a special population – but differences in risk adjustment can be challenging for models with similar goals.

Programs also differ in their approach to limiting overall risk score growth, as we show in Table 1. Medicare Advantage's use of the coding intensity factor (CIF) to account for differential coding behavior between MA and Traditional Medicare allows relative annual increases in MA risk scores and payments compared to Traditional Medicare, while accountable care programs for providers in Traditional Medicare cap annual risk score growth more tightly. These differences can create compounding incentives that favor Medicare Advantage. In particular, as we note below, Medicare Advantage benchmarks are growing significantly faster than Accountable Care Organization (ACO) benchmarks, due to coding intensity growth that exceeds the 3 percent, five-year cap on Traditional Medicare ACO risk score growth (for the Medicare Shared Savings Program).

**TABLE 1: Summary of Risk Adjustment Method for Different CMS Plan and Provider Focused Programs**

Model	Risk Adjustment Approach	Concurrent vs. Prospective	Method of Addressing Risk Score Growth
<a href="#">MA</a>	CMS-HCC (v24)	Prospective	Coding Intensity Factor (CIF) adjustment; <a href="#">5.90%</a> for PY 2023.
<a href="#">MSSP</a>	CMS-HCC (v24)	Prospective	Risk score increases capped at <a href="#">3%</a> based on difference between BY3 and any PY in the 5-year agreement period.
<a href="#">NGACO</a>	CMS-HCC	Prospective	Risk score increases capped at <a href="#">3%</a> based on difference between BY and PY.
<a href="#">ACO REACH</a>	Standard & Net Entrant ACOs: CMS-HCC (v24)  High Needs Population ACOs: CMMI-HCC Concurrent Risk Adjustment	Standard & New Entrant ACOs: Prospective  High Needs Population ACOs: Concurrent	For PY 2023, <a href="#">multi-pronged approach</a> : (1) cap risk score growth of each participant at +/- 3% to ACO's average risk score which will later be based on a static reference year for remainder of model performance starting PY 2024, (2) normalization factor, and (3) model level CIF.
<a href="#">Independence at Home</a>	CMS-HCC and CMS ESRD (v2113.87, includes frailty adjuster)	Prospective	Once a beneficiary enters IAH, their risk score is updated only for certain changes (age, Medicaid status, transition into ESRD) but not updated for any changes in diagnoses.

**Technical Limitations to Risk Adjustment Algorithms:**

Risk adjustment in the HCC model is based on a multivariate empirical analysis of the association between beneficiary spending and specific diagnoses reported in Traditional Medicare claims, with further adjustments based on factors such as age, sex, living status (community vs. skilled nursing facility), and dual-eligibility for Medicare and Medicaid. The resulting payment adjustments significantly reduce incentives to design benefits or programs that only favor healthier, lower-risk patients.

However, [recent research](#) highlights that risk adjustment algorithms do not capture all of the identifiable factors that affect health care utilization, meaning that a plan's or provider's financial performance may still reflect significant differences in patient risk. This is partly because most current risk adjustment methods, including Medicare's HCC models, use health care administrative claims or encounter data to calculate risk, which misses critical predictors of spending like functional status. As such, current risk adjustment may underestimate health care need and utilization for many beneficiaries, such as [people with serious illness](#) and [homebound individuals](#). Further, as we describe below, few widely available risk adjustment data sources (and standardized screening tools) capture socioeconomic factors that influence both health needs and spending.

**Substantial Financial Incentives to Focus on Coding for Risk Adjustment versus Care Management:**

Medicare's current risk adjustment methods create strong financial [incentives](#) for at-risk plans and providers to report any applicable diagnoses to increase total payments, even if such reporting is not linked to increased efforts to improve outcomes. For example, a Health and Human Services' (HHS) Office of Inspector General (OIG) [investigation](#) of one health plan found that most of the high-risk diagnoses OIG examined, such as acute stroke and heart attack, were not supported in the medical record, resulting in substantial overpayments. Another [OIG investigation](#) found that chart reviews and health risk assessments were used to find conditions not recorded elsewhere in the person's medical history, with diagnoses like vascular disease, behavioral health disorders, diabetes, morbid obesity, and congestive heart failure more heavily reported to increase risk-adjusted payments.

Additionally, interviewed stakeholders reported that risk adjustment can lead to greater utilization of diagnostic tests to provide supporting evidence of diagnoses, without corresponding improvements in care management for the diagnosed condition.

**Current Risk Adjustment Methods Are Increasing Medicare Spending:**

The coding incentives referenced above are leading to higher risk scores and spending. MedPAC found 2020 MA risk scores were [9.5 percent higher](#) than FFS risk scores, suggesting \$12 billion in higher payments to plans in 2020, with the differential increasing over time. Rising costs have not only affected plan payments, but how plans make investment decisions. There are substantial resources and workforce effort spent on coding all potential diagnoses for risk adjustment purposes, increasing administrative complexity and staff costs. With more sophisticated methods to increase risk adjustment factors and rising spending on risk adjustment, CMS has continued to refine its compliance guidance, and HHS and the Department of Justice have devoted increased efforts to enforcement, also contributing to administrative, compliance, and audit costs.

**Limitations of Traditional Medicare Claims Data for Risk Adjustment Methods:**

Currently, CMS uses data from Traditional Medicare to calculate risk adjustments for plans, such as MA, and provider-focused accountable care models. However, Traditional Medicare provides fewer incentives for coding all diagnoses for a given person. Research has confirmed that FFS providers [under-code diagnoses for their established patients](#), with secondary diagnoses [omitted](#) for 38 percent of diagnoses treated by ambulatory clinicians. As long as data from Traditional Medicare are used to build the risk adjustment models for MA, under-coding in Traditional Medicare will lead to inaccurate risk adjustment for MA.

Further, a FFS claims-based risk adjustment model also is becoming less representative of the way providers approach care delivery. Medicare Advantage beneficiary enrollment continues to [rise](#), comprising 42 percent of the Medicare population in 2021 and projected by [The Commonwealth Fund](#) to surpass total Traditional Medicare enrollment (including Part A only beneficiaries) by 2025. Additionally, a growing share of Traditional

Medicare payments – 40 percent in 2020, with policy initiatives aiming to increase it substantially – is occurring through value-based payment models that aim to change the way in which care is delivered. These models also depend on accurate risk adjustment for their success.

## Key Takeaway

- Current risk adjustment models face technical challenges in their accuracy, create substantial financial incentives to focus on coding (as opposed to on improving care overall), and may be decreasingly representative of expected spending in accountable care models due to being derived from FFS claims data in Traditional Medicare (given fewer incentives for coding in Traditional Medicare and the changing payment and care delivery landscape).

## Opportunities and Challenges in Introducing Social Factors into Risk Adjustment

Social factors can substantially impact health needs and health outcomes, and [many experts recommend their addition to risk adjustment models](#). However, “social” risk adjustment presents challenging issues, as we illustrate in more detail in the Appendix. In particular, while social factors are important predictors of health needs, inclusion of social risk adjusters based on empirical models of past utilization and spending could potentially underpay relative to the needs of patients with the highest social risks, complicating efforts to improve access and address health disparities, particularly for patients at high social risk who are less likely to have access to primary care and care coordination services.

Alternatively, risk adjustment models could directly assign higher risk scores and thus payment resources to plans or providers that engage individuals with higher social risk measures (such as through constrained regression techniques or other methods that go beyond historical empirical relationships between social risk factors and health care expenditures). Medicare already uses an individual level proxy for social risk – Medicare/Medicaid dual eligibility status – and has proposed collecting other individual measures of social risk, such

as food and housing insecurity. In lieu of reliable and widely available individual-level measures or to address social risk factors related to traditionally underserved communities, geographic level risk measures (e.g., socioeconomic status or race or ethnicity composition associated with beneficiary Census tract) also could be used. This is the approach taken by the ACO REACH model through its [health equity benchmark](#), which provides an additional benchmark adjustment for ACOs based on a [composite risk score](#) composed of the Area Deprivation Index (ADI) scores for where people live (a local geographic measure) and whether people are dually eligible for Medicare and Medicaid (an individual-level proxy measure related to social need). In short, this benchmark will provide greater resources for ACOs that serve higher numbers of people living in high-ADI areas.

However, there are challenges in the direct assignment of higher benchmarks based on social risk measures. First, determining the magnitude of social risk adjustment is difficult, due to limitations of data on social needs and on the magnitude of additional expenditures needed to correct inequities in access. For example, some individuals served by the ACO REACH program could have



social barriers to care, but their provider will not receive additional payments if they do not live in a high-ADI neighborhood. More extensive measures of social risk will help, but further evidence will still be needed on the association of these measures with costly unmet needs.

Second, risk adjustment is normally implemented in a financially neutral manner, so that greater resources directed toward one population means fewer resources directed toward another. This leads to tradeoffs, such as how to balance increased resources for people living in higher social needs areas against fewer resources for a person with high clinical risk who lives in a lower social needs area. The magnitude of this tradeoff is unknown. A key empirical question is the extent to which higher benchmarks for social needs increase participation in value-based care by providers who serve large populations in neighborhoods with higher social needs, versus reducing services available to other beneficiaries with significant medical needs.

Thus, it is important to conduct empirical assessments of such policies, including the ACO REACH health equity benchmark. This can include monitoring participation by providers reaching traditionally underserved populations,

with a goal of increasing participation of safety net providers and providers in high need areas. A related area for empirical evaluation is access and quality of care for beneficiaries with high clinical risk. If large direct social risk adjustment is needed to improve access, it may not be feasible to provide additional resources through risk adjustment without adverse consequences for high clinical-risk beneficiaries.

Alternatively, some policy analysts have proposed using other payment incentives alongside risk adjustment to address these access inequities. For example, CMMI has the authority to pilot models with additional up-front payments to providers or plans who implement accountable care models in underserved areas, if such models have the potential to improve outcomes, lower costs, or both. This approach could be used to determine whether such payments lead to more participation and to changes in utilization patterns like increased care coordination and fewer hospitalizations with avoidable complications. CMMI could also pilot incentive payments for improvements in measures of health equity. Such payment adjustments could be implemented alongside refined risk adjustment methods.

## Key Takeaway

- Considerable interest exists in incorporating social factors into risk adjustment, given substantial evidence linking social risk factors to unmet health needs.
- However, incorporating social factors into risk adjustment based solely on historical associations with spending (the approach generally used for other risk adjusters) could reinforce existing structural inequities in access and care despite similar health needs.
- Social risk adjustment can alternatively impute higher payments to help address structural barriers to needed care, but this creates tradeoffs if risk adjustment increases must be offset for overall financial neutrality – for instance, more payments to people who live in high-ADI areas may mean lower payments for someone who is lower income or has multiple chronic conditions in a lower-ADI area.
- More evidence and complementary payment policies are needed to enable risk adjustment to be used effectively to improve care for traditionally underserved populations.

## Principles for Reforming Risk Adjustment

With the assistance of an expert advisory group, we identified a set of guiding principles for how risk adjustment could be more effective in encouraging high-value care delivery models while avoiding administrative costs and additional spending associated with risk

coding, through feasible modifications in the data and methods used in Medicare’s risk adjustment systems. We summarize this vision in guiding principles for more effective risk adjustment in [Table 2](#).

**TABLE 2: Guiding Principles for Effective Risk Adjustment**

Guiding Principles for Effective Risk Adjustment	
<b>Principle #1:</b>	Support advanced accountable care relationships for beneficiaries with diverse medical, behavioral, social and support needs, particularly those at greater risk of adverse outcomes.
<b>Principle #2:</b>	Enable resources to shift from traditional medical services to innovative care models and valuable services that are traditionally not reimbursed well, to improve outcomes, reduce costs, and increase equity.
<b>Principle #3:</b>	Encourage data collection for risk adjustment to rely on data used for tracking disease prevalence and implementing steps to reduce risk of disease incidence, progression, and costly complications (i.e., limit need for administrative activities focused only on risk coding).
<b>Principle #4:</b>	Include reliable data on key markers of health (e.g., functional status) that provide a more complete and accurate assessment of health status and risk than diagnoses alone.
<b>Principle #5:</b>	Reflect the association between social factors (e.g., socioeconomic status, race, ethnicity, and language) and health, while recognizing that risk adjustment based on spending will not address the financial implications of inequitable access to and use of medical services that are reflected in current Traditional Medicare utilization.
<b>Principle #6:</b>	To advance accountability for outcomes and provider capabilities to achieve health equity goals, pair risk adjustment policies with complementary payment and regulatory incentives (e.g., advance or supplemental payments to plans and providers caring for traditionally underserved populations, payments linked to improvements in social drivers of health or equity).

Principles #1 and #2 reaffirm the importance of risk adjustment, as more Medicare payments are occurring through alternative payment models and capitated systems with accountability for quality, outcomes, and total spending, and for improving equity. Such reforms are critical for enabling more personalized, coordinated care, including services not reimbursed well in FFS systems. However, larger shifts away from FFS also create more opportunities for misaligned incentives and inefficient spending if risk adjustment methods are not accurate and well designed.

Principle #3 recognizes the growing opportunities available to capture reliable data on risk factors – clinical and social – from the systems actually used by accountable health care organizations for care management. ACOs and accountable health plans have generally implemented care management and coordination services based on patient assessments, registries, and tools for capturing data from electronic medical records and other sources. In most organizations, these care improvement functions are distinct from the “Risk Adjustment Factor” compliance programs

used to improve risk scores. The result is additional administrative costs for providers and plans, additional compliance and oversight costs for the government, and additional Medicare spending that may not be closely linked to care improvement activities. By implementing policies that encourage use of electronic data from care improvement systems for risk adjustment, CMS could reduce administrative costs and encourage greater investment in care management tools. This shift also would help ensure that risk adjustment methods reflect care practices and utilization in value-based care models, which are becoming increasingly prevalent.

Principle #4 recognizes the limitations of risk adjustment methods that rely only on clinical diagnoses and demographic factors. In particular, functional status is not only a strong predictor of medical need; it is also a very important outcome for patients.

Principles #5-#6 address challenges related to accounting for social risk factors, which are associated with many unmet needs and structural barriers to access to care. The principles recognize that financial risk adjustment based on actual utilization and spending should be implemented with caution, that more evidence is needed on social risk adjustment that augments benchmarks and payments to help assure that intended effects on improving access to accountable care in underserved communities are not offset by increased selection pressures facing beneficiaries with clinical risk factors, and that other payment reforms could complement risk adjustment to more effectively address unmet needs.

## Short-Term Recommendations

Building a modernized risk adjustment system that reflects our guiding principles will require a combination of short- and long-term actions. Short-term actions could be implemented within the next one to two years to address current risk adjustment challenges and begin laying the groundwork for longer-term reforms. Given the growing importance of risk adjustment as advanced accountable care models expand, including the CMS strategic goal of widespread uptake of such systems by 2030, and the billions of dollars in additional spending and administrative and enforcement costs associated with risk adjustment, a strategic effort on updating risk adjustment should start now.

In the short-term, CMS should take incremental steps to build better adjusters into both Medicare Advantage and across Medicare alternative payment models to address the challenges that we have identified.

- **Refine the Coding Intensity Factor (CIF) Adjustment:** While increasing the CIF offers a straightforward way to address short-term risk adjustment issues, the CIF is a blunt tool, punishing all health plans equally, regardless of the intensity of their coding practices.

Indeed, a larger CIF still favors organizations that are already more vigilant about reporting risk data and does not address the coding “arms race” that current risk adjustment methods induce.

Instead, efforts should aim to equalize and align incentives in the short term between value-based models in both Traditional Medicare and Medicare Advantage. Regulatory and (if needed) legislative changes should align Medicare Advantage CIF methods with limits on coding intensity growth at the plan level while identifying factors (demographics, some diagnoses) that are likely to reflect true changes in risk profiles of enrolled beneficiaries. Savings could be used to support care improvement goals, such as stronger supports for addressing unmet social and behavioral health needs.

- **Build a Foundation for Risk Adjustment Mechanisms That Go Beyond Reliance on Administrative Claims from Traditional Medicare Beneficiaries:** CMS should begin collaborating with a range of accountable health care providers, plans, and experts to improve understanding of the most critical clinical and social

factors for optimizing care management, especially those associated with significant differences in resource use. Many accountable practices are implementing electronic registries and other tools for care management that capture disease prevalence, severity, and interventions, which could be evaluated for feasibility as a basis for risk adjustment. Overall, these registries would offer more reliable, valid sources of key data than traditional reporting methods. The goal should be to develop a predictable “glide path” for organizations to build and begin relying on automated electronic reporting systems for at least some risk adjustment data, providing an alternative to FFS payment for determining the magnitude of risk adjusters.

- ***Reduce Payment Adjustments That Induce Changes in Reporting, But Not in Care Improvement:*** Just because an adjuster raises payment does not mean it will have an equal impact on supporting care delivery improvements that improve health. That is, an organization may get a higher risk adjustment payment for reporting a particular condition even though there is not a need for additional care or the extra funding does not lead to better patient outcomes. For example, studies of cerebrovascular disease have found that [differential use of carotid artery ultrasounds](#) for asymptomatic patients may lead to large variation in diagnosis rates without corresponding changes in stroke risk management or outcomes. Further studies focusing on generating evidence like this can help prioritize risk adjusters that support better care coordination and management in accountable care systems.
- ***Assess Viability of Using Risk Adjusters That Better Capture Social Factors:*** Current adjusters for social risk factors are generally based on demographics (e.g., age, sex), program eligibility (e.g., Medicare-Medicaid dual eligibility), and residential status (e.g., living in community or institutionalized). CMS should expand the parameters of these adjusters by piloting use of neighborhood geographic data (such as the Social Vulnerability Index, Area Deprivation Index, Childhood Opportunity Index, and the Neighborhood Atlas), as is underway now in the ACO REACH model.

An accompanying evaluation should assess whether incremental increases in benchmarks associated with these factors lead to improvements in access to accountable care providers in underserved areas, without significant adverse impacts for higher-risk clinical groups. CMS also should pilot individual-level risk adjusters, building on validated measures like housing or food insecurity that are clearly associated with higher spending, and that can be reported through existing [Z-codes](#) in health care claims. Recent [CMS proposed payment rules](#) include such data collection and provide a foundation for their use in risk adjustment, and should be combined with a strategy to use meeting social needs as a performance measure.

- ***Identify Additional High-Priority Risk Adjusters Capturing Key Dimensions of Health:*** Patient functional status is strongly associated with health needs and medical spending, and functional status improvement is an important priority for beneficiaries, but functional status does not play a significant role in Medicare risk adjustment. [Medicare’s post-acute payment system](#) includes adjustment for a measure of significant functional impairment, and such a measure could be adapted for use in risk adjustment. CMS could pilot such data collection soon, given its importance for both risk adjustment and performance improvement.

Inclusion of functional status in risk adjustment should be combined with a strategy to use functional status improvement as a performance measure, so that health care organizations will have financial support for investments in both assessing it and taking steps to improve it. Functional status reporting for performance measurement and risk adjustment could potentially be managed through patient surveys, similar to Consumer Assessment of Healthcare Providers and Systems (CAHPS) reporting or patient-reported outcome measure reporting.

- ***Implement Complementary Payment Reforms to Address Structural Barriers to Coordinated Care for Traditionally Underserved Communities:*** Risk adjustment alone cannot address unmet needs



related to social risk factors and other inequities in health care. CMS should complement any steps on social risk adjustment with a more complete array of tools to address the magnitude of the challenge of care improvement in underserved communities. Upfront payments, targeted regional infrastructure investments, technical assistance and training on how to collect data, payment incentives linked to measurable improvements in equity, and other initiatives to directly address social risk factors that are associated with unmet medical needs will be more effective than social risk adjustment alone, with fewer unintended consequences.

- ***Implement Steps to Address Under-Diagnosis and Advance Care Management in Traditional Medicare:***

If CMS achieves its strategic goals, risk adjustment will need a data foundation reflective of the majority of beneficiaries in advanced accountable care relationships in Traditional Medicare and Medicare Advantage. Claims data from FFS beneficiaries in Traditional Medicare provide inaccurate, often underreported diagnostic information, and reflect care models that would not meet CMS' threshold for an accountable care relationship. Additional care

management payments for more complex patients in Traditional Medicare could help encourage more comprehensive diagnoses. Adopting additional Merit-based Incentive Payment System (MIPS) performance measures that augment claims data with key clinical and social risk data – such as measures of severity or functional status associated with common conditions – will improve the accuracy of current claims-based methods for calculating risk scores and encourage needed investments.

In conjunction with these steps, CMS should continue to implement feasible refinements that improve the accuracy of its HCC models. For example, reflecting the limitations of current diagnosis coding to fully capture disease severity, MedPAC has recommended modifications to HCC model parameters based on a modified regression model that redistributes 2 percent of costs from beneficiaries with the largest overpredictions to those with the largest underpredictions, to [make payments more accurate on average despite outlier cases](#). As MedPAC notes, such incremental refinements are not an alternative to more substantial needed improvements in risk adjustment methods.

## Longer-Term Goals and Actions

- ***Link Population Health Management and Risk Adjustment Through Better Integrated Systems to Adjust Payments for Risk and Quality of Care:***

Overall, risk adjustment should not just lead to more funding for organizations caring for high-risk patients, but also should reinforce competitive incentives to invest that funding in meaningful population health and care improvements. Today, financial incentives directly encourage providers and plans to prioritize coding diagnoses versus closing care gaps. A more sustainable long-term risk adjustment strategy, focusing on “risk adjustment for risk reduction,” should aim to strengthen the connection between risk factor identification and accountability for care improvement.

One approach is to incent accountable providers and plans to implement clinically relevant plans and tools for their patients with particular reported diagnoses, such that this process does not become another administrative documentation exercise. CMS could describe a plan for refining its performance measurement and improvement strategy with the aim of ensuring that all risk factors significantly impacting payment map onto accountability measures. While linking every meaningful risk factor to a performance improvement opportunity may seem burdensome, multiple conditions may lend themselves to the same measures (e.g., smoking cessation, cardiometabolic risk factor management). This explicit CMS strategy also would fit with our next long-term recommendation:

moving to automate Risk Adjustment Factor (RAF) documentation that is aligned with the shift to automated reporting of meaningful performance measures.

Through this approach, CMS can strengthen incentives to adopt integrated electronic clinical management systems by health care organizations, and send a clear strategic signal that risk adjustment is not only about accounting for financial risk, but also ensuring that providers have a longitudinal view of their patients' health and take actions to address health needs. This approach could encourage concurrent investments by CMS and health care organizations to develop easier-to-collect, meaningful measures in areas where critical gaps exist today, utilizing the kinds of digital tools and analytic capabilities that organizations use now to help achieve higher payment rates. Part of this effort should specifically focus on reliable measurement of key dimensions of patient functional status, building on our short-term proposals. Such measures are highly relevant to patients with a range of clinical conditions, especially as a way of documenting health improvement, and would better align patient and provider goals. Integrating population health and risk adjustment goals will best ensure in the long-run that organizations are supported and rewarded for building systems and care models that are equally effective at identifying risk, closing care gaps, and improving outcomes.

- ***Implement Risk Adjustment Mechanisms That Rely on Automated Collection from Data Sources Used for Care Improvement and Population Health Management:*** Achieving population health goals also will require a strategy for streamlining the capture and sharing (such as through Fast Health Interoperability Resources [FHIR] standards) of both patient risk and quality data. Streamlining data capture will leverage CMS's strategy for increased utilization of electronic clinical quality measures (eCQMs) to reduce burden, improve reliability, and produce outcome and performance measurements using data sources beyond administrative claims. Transitioning to eCQMs is costly, but health care organizations generally remain supportive because

of longer-term administrative savings and the benefits of direct reporting and data integration to support care improvement. Given the level of clinician burnout and administrative burden, it is critical to adopt more automated systems. Such investments also would provide more long-term benefits than continuing spending to ramp up the risk adjustment coding race.

CMS should combine its eCQM transition efforts with a similar phased transition for risk adjustment reporting, by developing a transition path for "electronic clinical risk measure" (eCRM) implementation in parallel to eCQM implementation. The aim is to create a pathway for organizations to use the same electronic system for identifying patient risks and for care improvement. Current CMS regulations will require health care organizations to report eCQMs through the Alternative Payment Model Performance Pathway (APP), using data from electronic medical records or electronic patient registries. These include performance measures related to common conditions such as diabetes, hypertension, cholesterol, depression, and tobacco use, as well as (risk-adjusted) unplanned admission rates. These measures require valid and comparable methods for calculating denominator rates of the underlying conditions. Thus, integrating eCQMs and eCRMs would align the definitions and reporting expectations for clinical and social risk factors with the denominator definitions and adjusters used in performance measurement, and map both to the same underlying data systems. Over time, this transition will support more aligned and thus more impactful and efficient investments by health care organizations in systems that track and improve care for beneficiaries.

- ***Develop Alternatives to Measuring Utilization and Resource Use Based on FFS, Traditional Medicare Claims:*** Many of the short-term steps referenced above can provide foundational elements for an HCC risk adjustment system based intrinsically on electronic data systems that support accountable care. But CMS also needs a clear longer-term strategy for reliably calculating spending adjustments as more and more care transitions away from FFS. One approach is to calculate HCC risk adjustment factors

using data sampled from beneficiaries in the Medicare Shared Savings Program, where providers continue to submit Medicare FFS claims but participate in an accountable care model. CMS also could sample claims from MA providers in upside-only or partial downside risk APMs, which still have relatively comprehensive claims submissions. (CMS might need to adopt a reference payment amount to standardize prices across plans.) Using these data to calculate risk adjusters would enable those risk adjusters to more accurately reflect resource use differentials in actual value-based care models, providing a more representative, sustainable method for risk adjustment aligned with CMS' long-term vision for transitioning to accountable care models.

- ***Align Risk Adjustment Incentives and Models:***

The differing risk adjustment models currently in use, with MA models allowing for continued risk score growth and MSSP-related models capping annual risk scores, can make the MA program more financially appealing than the APMs in Medicare and CMMI. Along with steps to align models, a common approach to risk score growth or caps would provide a level playing field between programs. Long-term alignment approaches could also focus

on incorporating regional trends in RAF intensity or leveraging additional relatively objective data about population characteristics, such as data on functional status.

- ***Implement an Evidence-Driven Strategy for Risk Adjustment to Improve Equity:***

As social risk adjustment is relatively nascent, more evidence is needed to assess its impact, especially to gauge unintended consequences. These unintended consequences could include impact on disparities if the risk adjusters reflect lower costs from unmet health needs, and/or if imputed risk adjusters redistribute significant resources away from beneficiaries who may be high-risk or underserved but whose risk status is not adequately captured in the new measures and adjustments. CMS should develop a clearer strategy for a comprehensive and feasible approach to assessing the impact of social risk adjustment methods on health care inequities. This evaluation strategy would refine how social risk adjusters are implemented, both to produce meaningful care improvements on their own and to integrate with complementary payment reforms to improve equity.

## Conclusion

Current risk adjustment models are critical for advancing accountability for better access to needed care, leading to better outcomes, greater equity, and higher-value care. But current methods based on FFS care and administrative data have multiple limitations in the accuracy of their predictions and in the incentives they create, leading to undesirable consequences such as encouraging investment in more complete coding rather than meeting a person's health care needs and potentially reinforcing structural barriers to access to needed care. With long-term trends and policy goals aiming to increase adoption of value-based payment and care models, these undesirable consequences will have growing implications for costs and investments in improving care delivery. Based on existing evidence and opportunities for modernizing risk adjustment methods, we have described a vision and principles for future risk adjustment that addresses these concerns, linked to a set of short- and longer-term steps to achieve these increasingly urgent reforms. Given the level of funding moved by risk adjustment and the unintended consequences from its current design, meaningful action on risk adjustment is needed now.

## Appendix: Social Risk Modeling

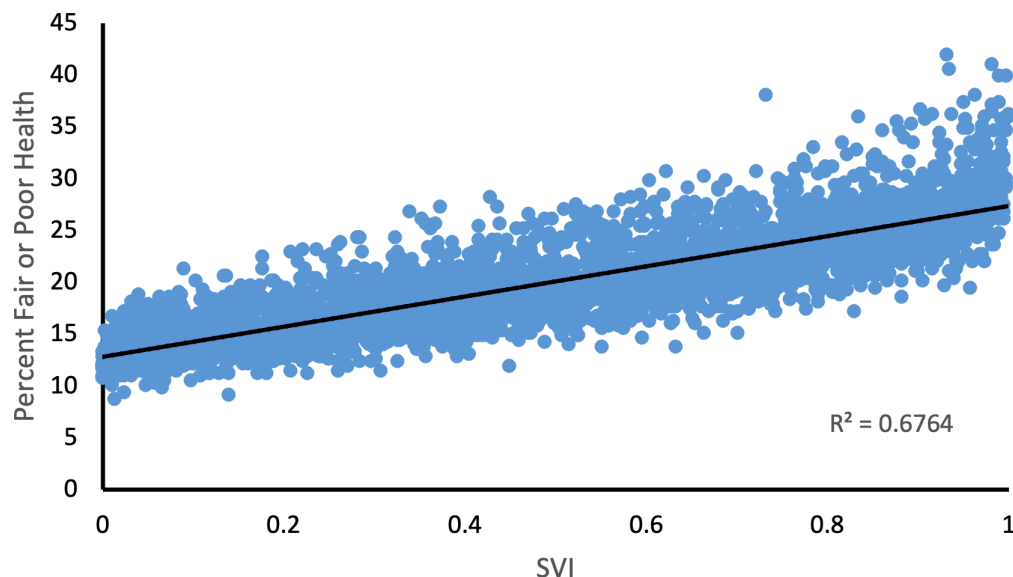
The analysis reported in the section on social risk adjustment drew on the following data sources:

- [County Health Rankings](#) data, specifically the question on fair or poor health (which is pulled from the Behavioral Risk Factor Surveillance System)
- [Centers for Disease Control and Prevention Social Vulnerability Index](#)
- [Medicare Geographic Variation by National, State, and County data](#), specifically per capita standardized Medicare payment, ED visit rate, percent of standardized spend on evaluation & management services.

All data were accessed at the county level and joined together via Federal Information Processing Standard (FIPS) code. Least-square linear regression models were also run on the county-level data. Resulting associations were plotted as scatter plots with the linear regressions (with  $R^2$  displayed to show strength of fit).

**Figure 1** shows how people living in a more socially vulnerable county (as measured by the social vulnerability index [SVI]) are much more likely to report being in fair or poor health.

**FIGURE 1**



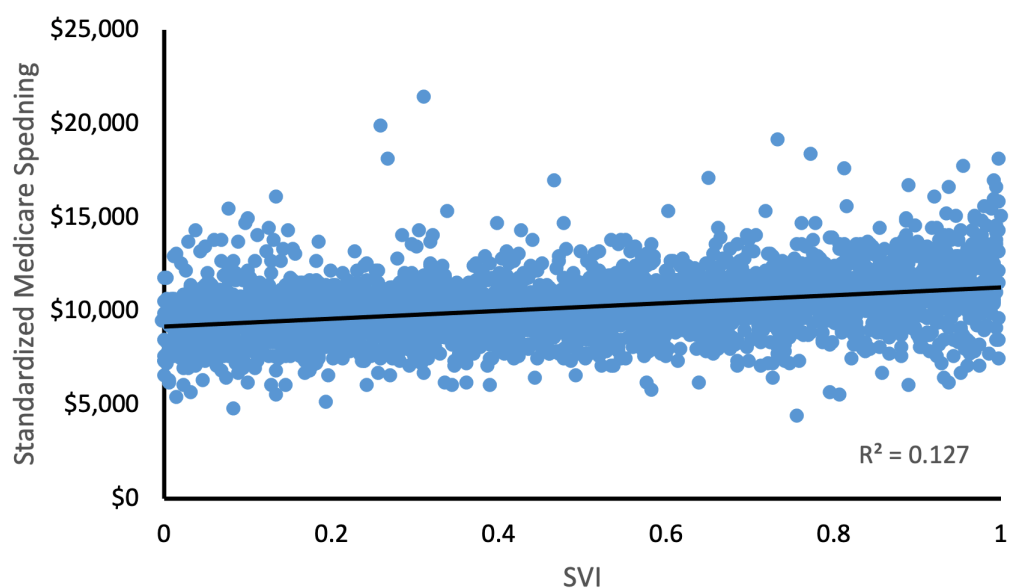
Percent of people reporting being in fair or poor health in a given county versus the social vulnerability index for that county. Data: County Health Rankings/Behavioral Risk Factor Surveillance System combined with Centers for Disease Control and Prevention Social Vulnerability Index at the county level.



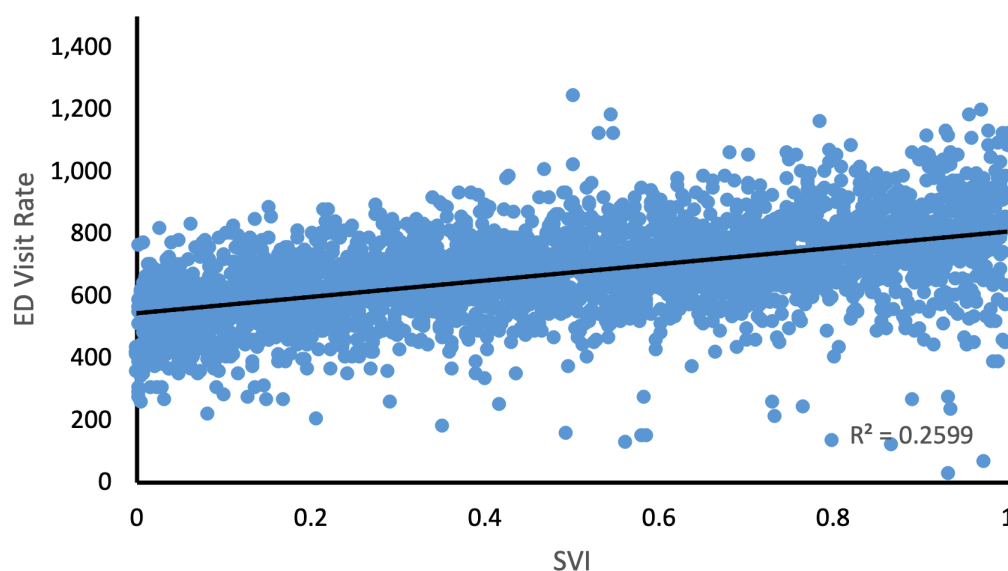
But while neighborhood SVI may be strongly associated with health need, it is less associated with health care expenditures, likely a reflection of inequities in access to and provision of care. **Figure 2** illustrates the association between social vulnerability index and overall health care spending at the county level. It shows how little average per capita Medicare spending changes between high SVI and low SVI counties, as well as how little SVI explains geographic variation in overall Medicare spending.

Access to care might be one reason for the lack of spending differences. The 2019 [Medical Expenditure Panel Survey \(MEPS\)](#) found almost one-third of people (~32%) with incomes below the federal poverty line did not have a usual source of care, compared to just 24% of people at higher income. Additionally, even when people have health care access, it may be more likely to be through high-cost emergency departments rather than outpatient services that have different implications for utilization and costs. This is corroborated with our findings in **Figures 3 and 4**. People in higher SVI areas tend to visit the ED more, but there is only a minor relationship between SVI and evaluation and management spending (e.g., services provided by clinicians including diagnosis, review of patient histories, managing of conditions, creating care plans, and coordinating care services). Using a risk adjuster based on a socioeconomic factor (such as SVI) may consequently reinforce differences in access associated with social risk factors.

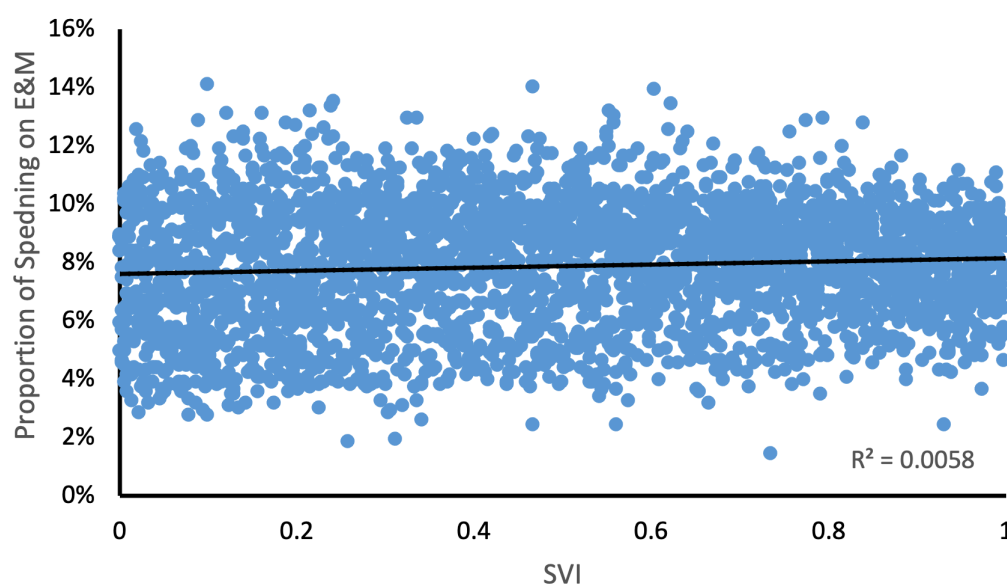
**FIGURE 2**



Medicare spending per capita, standardized for geographic differences in Medicare prices, versus the social vulnerability index for that county. Data: Medicare geographic variation data set combined with Centers for Disease Control and Prevention Social Vulnerability Index at the county level.

**FIGURE 3**

Emergency department visit rate in a county versus the social vulnerability index for that county. Data: County Health Rankings/Behavioral Risk Factor Surveillance System combined with Centers for Disease Control and Prevention Social Vulnerability Index at the county level.

**FIGURE 4**

Percent of spending on evaluation and management in a given county versus the social vulnerability index for that county. Data: County Health Rankings/Behavioral Risk Factor Surveillance System combined with Centers for Disease Control and Prevention Social Vulnerability Index at the county level.

While there can be limited fit between some measures of social risk and utilization, [some specific measures](#) of social risk have stronger association with medical utilization. These include [food insecurity](#) (especially for people with diabetes, hypertension, and heart disease), housing insecurity (which can be associated with [greater emergency department visit rates](#) or [high rates of hospitalizations](#)), and [interpersonal violence](#) (which is associated with greater use of physical and mental health services).