



ACAP
Association for Community
Affiliated Plans

Improving Risk Adjustment in Health Insurance Exchanges to Ensure Fair Payment

Prepared by
Tony Dreyfus and Ellen Breslin Davidson, BD Group
for the Association for Community Affiliated Plans

November 28, 2012



Acknowledgements

The authors thank those who contributed their understanding through interviews granted to us: Chad Abrams and Jonathan Weiner of Johns Hopkins Bloomberg School of Public Health; Duane Glossner of the Hilltop Institute; Patrick Holland of Wakely Consulting Group; Sandi Hunt of PriceWaterhouseCoopers; Dave Knutson of the University of Minnesota School of Public Health; Mita Lodh of Optumas; Margaret Leonard of Hudson Health Plan; Edwin Park of the Center on Budget and Policy Priorities; and Benjamin Sommers of the Harvard School of Public Health.

Thanks also to Beth Waldman of Bailit Health Purchasing and Rosemarie Day of Day Health Strategies, who provided guidance and review as consultants on this project; Jenny Babcock, Deborah Kilstein, Meg Murray and Joe Person at ACAP; and ACAP-member plans for their guidance and support.

About BD Group

This report was prepared by Ellen Breslin Davidson and Tony Dreyfus of BD Group. BD Group provides analysis of health care and human services to public agencies, providers and consumer groups. Its principals are Ellen Breslin Davidson and Tony Dreyfus.

Ellen Breslin Davidson was a principal analyst at the Congressional Budget Office, and served at MassHealth as director of managed care reimbursement and analysis, and as deputy assistant commissioner.

Tony Dreyfus was the lead analyst for the development of the Chronic Illness and Disability Payment System (CDPS), a diagnosis-based risk adjustment system used by many state Medicaid programs.

To contact BD Group, write to ellenbdavidson@comcast.net or tdreyfus-omega@comcast.net.



Table of Contents

Executive Summary.....	i
I. The Affordable Care Act and Federal Risk Adjustment	1
II. Assuring Adequate Payment to Medicaid-Focused Plans	4
III. Strengthening Diagnostic Risk Adjustment with Socio-Economic Variables	9
IV. Policy Recommendations.....	13



Executive Summary

Millions of low-income individuals in the United States will soon gain health insurance through subsidized insurance offered in the new Affordable Insurance Exchanges. Medicaid-focused health plans will serve many of these low-income individuals new to commercial health insurance.

The federal government will use several important measures to stabilize the insurance markets and keep health plan revenues in line with the risk of their members. These measures include risk corridors, reinsurance and risk adjustment.

Risk adjustment is designed to help distribute payments to health plans in accordance with the health needs of their enrolled members. It will be particularly important for Medicaid-focused health plans that the government implement effective risk adjustment. The federal government has proposed using a modified version of the risk adjustment model already implemented for the Medicare Advantage program.

In this paper, we discuss the potential effects of the proposed federal risk adjustment model to compensate Medicaid-focused health plans for adverse selection, and present recommendations for policy measures to improve risk adjustment in the Exchanges. To this end, we address the following questions:

- How does the expansion of health insurance create challenges for effective risk adjustment?
- Are Medicaid-focused health plans, including Safety Net Health Plans, likely to face uncompensated adverse selection?
- Could inclusion of socio-economic variables in risk adjustment models improve the effectiveness of risk adjustment in the Exchanges?

The Challenges of Newly Insured Individuals and Eligibility Churn

Medicaid-focused health plans have an established role in serving high-need people in low-income areas, and are more likely than other plans in the Exchanges to attract many newly insured individuals. But newly insured individuals lack the diagnostic records needed for effective risk adjustment. As a result, Medicaid-focused health plans will not be compensated adequately if they disproportionately attract the more costly individuals among the newly insured population.

Plans that specialize in serving low-income populations may also enroll a disproportionate share of new enrollees who “churn,” or move between sources of insurance coverage due to changes in eligibility. People with low incomes will experience much eligibility churn as a result of changes in income, employment status, family status or health. As many as 30 million people each year will shift between Medicaid, the Exchanges, employer-sponsored insurance and no insurance.

Similarly, churn will also limit the availability of diagnoses needed for risk adjustment. As a result, plans may receive payments that are unadjusted for risk for millions of individuals who are moving into the Exchanges. The movement of many individuals among sources of coverage will also pose challenges to plan administration and care management.

The challenges of the newly insured and churn will be mitigated by the temporary use of reinsurance and risk corridors. But in 2017 when these supports are discontinued, risk adjustment alone will bear more fully the burden of getting the rates right. As a result, plans and public officials should devote time and resources to improving the risk adjustment system to ensure accurate payments to plans with disproportionate shares of high-need enrollees.

If plans experience many newly insured enrollees and much churn, with a disproportionate share of high-cost members, they will face a higher level of uncompensated adverse selection than other plans. Medicaid-focused health plans may be hit harder than most plans, because of the special role that they have in serving low-income communities.

The Argument for Socio-Economic Factors and Income

Socio-economic characteristics related to health status could also vary by plan, and plans well-established in low-income communities might find that diagnostic risk scores alone are not sufficient to produce accurate payments. Although adjusting payments with diagnoses has many advantages, some portion of variation in risk not currently predicted by diagnoses might be better addressed through the inclusion of new variables in the risk adjustment systems. Variables describing income or social circumstances might well improve predictions.

The question of how risk adjustment could be improved, however, is far from settled. Diagnoses have received most attention as predictive variables, with good reason. But future progress in risk adjustment may derive from incorporation of functional and socio-economic variables.

The effect of socio-economic circumstances on health status is possibly strong enough that the right specification of socio-economic variables will show meaningful relationships with health need, even controlling for diagnoses. But health need will have to be measured by data sources that reflect appropriate access. Until such work is done, we think that immediate experimentation with the use of income proxies might prove valuable for improving risk adjustment in the Exchanges.

Policy Recommendations

We offer the following recommendations to improve risk adjustment in the Affordable Insurance Exchanges. Our recommendations are made for national consideration and would need refinement to reflect conditions in individual states that opt to run their own risk adjustment programs.

In the short term:

1. Respond as soon as possible with improvements to the risk adjustment system to better account for the risk of the newly insured, for those with the greatest needs, and for those with poor health status linked to low income.

In the medium term:

2. Perform careful analysis of the newly insured over the first few years of the Exchanges to see whether adjustment for them could be improved. This analysis could examine whether variables for prior insurance status could be used to complement diagnoses and whether temporary adjustments should be made to compensate for initial adverse selection from early enrollees.
3. Evaluate inclusion of income-related variables or additions to risk scores to improve accuracy for plans serving low-income areas. Zip code, census tract, or eligibility information for premium tax credits and cost-sharing reductions could also be used as a proxy for income.
4. Gather additional health data, including clinical measures, for defined high-risk groups with lower health status to facilitate better care management, identification and analysis of best care practices, and improved risk adjustment.

In the long term:

5. Develop systems for transferring individual diagnostic and treatment information to create a longer-term individual health history for enrollees who change plans or sources of coverage.
6. Examine the longer-term need to adjust payment methods for differences in socio-economic circumstances that increase needs for health care and care management.
7. Consider extending a stronger risk mitigation program including reinsurance beyond the first three years of the Exchanges if risk adjustment proves insufficient for payment accuracy. Risk corridors might also prove useful.

I. The Affordable Care Act and Federal Risk Adjustment

Tens of millions of low-income individuals in the United States will soon have the advantages of health insurance and more consistent access to health care. Millions will gain insurance under the Affordable Care Act (ACA) through expansion of the state Medicaid programs, while others will gain insurance through subsidized insurance under the new Affordable Insurance Exchanges. Medicaid-focused health plans will serve many of these low-income individuals new to commercial health insurance.

With so many people gaining insurance, the federal government will use several important measures to stabilize the insurance markets and keep health plan revenues in line with the risk of their members. It will be particularly important for Medicaid-focused health plans that the government implement effective risk adjustment – a system for adjusting payments to plans to reflect the differing health needs of plan members.

This paper focuses on the policy question of whether risk adjustment will do an adequate job of making accurate payments to plans serving low-income people when there are many individuals newly insured or experiencing changes in eligibility, or “eligibility churn.” We also present recommendations for policy measures that could lead to improved risk adjustment in the Exchanges.

A. Federal Measures to Create Fair Payment in the Exchanges

Risk adjustment is designed to help distribute payments to health plans in accordance with the health needs of their enrolled members. Both federal and state governments are experienced in implementing risk adjustment, for Medicare Advantage and for Medicaid programs, using diagnostic risk adjustment systems that adjust payments through the numbers and types of diagnoses made for plan members.

The federal effort to create stable and fair payment in the Exchanges includes a permanent program of risk adjustment in the individual and small group market and two other measures that apply to plans participating in the Exchanges – reinsurance and risk corridors.¹ Both reinsurance and risk corridors are temporary measures that end after three years. Together, risk adjustment, reinsurance and risk corridors are intended to stabilize premiums, which otherwise might vary sharply from year to year as plans struggle to adapt their premiums to the less predictable risk of a new market and its expanding enrollment. Risk adjustment will also level the playing field between the individual and small group plans that are inside and outside the Exchanges, an important step to ensure participation in the Exchanges.² The combination of these three measures should protect health plans from large losses that could result from adverse selection.

But the temporary nature of the risk corridors and reinsurance means that the burden of protecting plans from uncompensated adverse selection will eventually be placed fully on the risk adjustment system. As a result, health plans and public officials should be very concerned about how the risk adjustment system can be improved so that accurate payments are made even to plans that enroll large shares of people with greater-than-average needs.

¹ States that operate their own Health Insurance Exchanges have the option of adopting the federal model or developing their own risk adjustment program.

² The authors reviewed the May 2012 series of presentations by the federal Center for Consumer Information and Insurance Oversight (CCIO).

The CMS-HCC Model with Concurrent Adjustment

The federal government plans to adapt the CMS-HCC model that it has used in adjusting payments to Medicare Advantage plans for use in the Exchanges.³ Instead of the prospective adjustment used in Medicare Advantage, which counts diagnoses from one year to predict costs in a subsequent year, the federal government will use concurrent adjustment, which uses diagnoses from the current year to adjust payments in the current year. This concurrent approach should serve health plans better than the prospective approach.⁴ A concurrent approach will somewhat improve the ability to produce more accurate risk scores for plans enrolling newly insured members and those who churn, who may have pent-up demand for health care and lack established diagnostic records.

Another expected improvement is that the HCC model for the Exchanges should include an expanded set of diagnoses compared with the model used for Medicare Advantage, making the new system more sensitive to differences in burden of illness.

Will Risk Adjustment be Adequate?

Under the ACA, risk adjustment for the individual and small group market will lead to transfers of money from plans that enroll people with less-than-average needs to plans that enroll people with greater-than-average needs. Effective risk adjustment can encourage some plans to take on the challenge of meeting the needs of people with high levels of need and can discourage plans from efforts to avoid the sick. Risk adjustment alleviates the financial effects of adverse selection and encourages plans to focus on quality and efficiency.

Risk adjustment must be not only accurate enough to discourage plans from focusing on risk selection but also accurate enough to make payments roughly equivalent to plan health care costs. While no risk adjustment system will consistently make very accurate predictions for the very highest-cost individuals in a large heterogeneous population, the risk adjustment system should be good enough to avoid systematic underpayments to plans that focus on serving high-need individuals. Experience should soon indicate whether the federal risk adjustment system is adequate for the Exchanges and guide efforts to improve risk adjustment as soon as possible.

B. Two Key Challenges for Risk Adjustment: the Newly Insured and Churn

An effective risk adjustment system would provide accurate payment to plans even if they enroll large shares of people with greater-than-average needs. Missing or incomplete diagnostic information will make it difficult to achieve accurate risk scores. This is precisely the challenge that health plans will face as a result of a system with many newly insured individuals and much churn among multiple sources of coverage.⁵ The implications for some health plans could be serious, because of the scale of the newly insured and churn.

As many as 24 million people will move into the Exchanges and up to 30 million people each year will experience “eligibility churn.” Both the newly insured and people who churn will reduce the effectiveness of risk adjustment, making it more likely that Medicaid-focused health plans will not be adequately

³ CMS-HCC stands for the Hierarchical Condition Category model of the Centers for Medicare and Medicaid Services.

⁴ Some plans that sub-capitate providers may face difficulty in collecting data on a timely basis.

⁵ Several analyses have recently examined the issue of eligibility churn. We found most useful: Matthew Buettgens, Austin Nichols, and Stan Dorn, “Churning Under the ACA and State Policy Options for Mitigation,” *Timely Analysis of Immediate Health Policy Issues*, Urban Institute, June 2012; Benjamin D. Sommers and Sara Rosenbaum, “Issues In Health Reform: How Changes In Eligibility May Move Millions Back And Forth Between Medicaid And Insurance Exchanges,” *Health Affairs*, vol. 30, no. 2, pp. 228-236, February 2011.

compensated for the health risk of their members. If more higher-cost newly insured enroll in Medicaid-focused health plans, these plans will face even more serious consequences.

The extent to which plans will experience churn may vary from state to state. Churn into and out of the Exchange, for example, will be somewhat less frequent among those subsidy-eligible individuals in states that introduce the Basic Health Program,⁶ but most states are not moving forward to do so.⁷ The Basic Health Program will help to reduce the number of people losing insurance altogether and will reduce churn somewhat.

C. Improving Risk Adjustment for Plans Facing Uncompensated Adverse Selection

In addition to the challenges to risk adjustment from the newly insured and churning enrollees, it is quite possible that Medicaid-focused health plans including Safety Net Health Plans will experience adverse selection uncompensated for by diagnostic risk adjustment. Uncompensated adverse selection would occur if the individuals enrolled in a plan have greater risk than is predicted by their diagnoses because of other factors that increase their costs. For example, individuals enrolling in a particular plan might be sicker than average enrollees with the same diagnoses.

Such differences in selection could arise because of a plan's reputation, its network of specialists or the location of its clinics, which could draw in enrollees who are sicker than average for their diagnostic profile. Socio-economic characteristics related to health status could also vary by plan, and Medicaid-focused health plans well-established in low-income neighborhoods might find that diagnostic risk scores alone are not sufficient to produce accurate payments.

State and federal governments over the past 20 years have relied primarily on diagnoses to achieve effective risk adjustment for health plan payments in Medicaid and Medicare. The diagnoses recorded in doctors' offices and in hospitals have served as input for large diagnostic statistical models to predict individuals' needs for health care. Though much attention is needed to improve the accuracy, completeness and consistency of diagnostic data, diagnoses are good predictors of health risk and are readily available in insurance claims or other encounter data.

The diagnostic approach, like others, faces inherent limits to its accuracy. The best risk adjustment systems inevitably under-predict the costs of the most expensive individuals and over-predict the costs of the least expensive. Some of the under-prediction is because a large proportion of health risk is random, unpredictable by any means. Indeed, the basic function of health plans – to insure against catastrophic need by aggregating risk across many individuals – protects against this unpredictable portion of risk. But some portion of variation in risk not currently predicted by diagnoses might be better addressed by adding new types of variables to the risk adjustment systems. For example, variables describing functional status, income or social circumstances might improve predictions somewhat.

Section II of this paper focuses on risk adjustment and churn, with an eye toward implications for policy that could help assure adequate payments to Medicaid-focused health plans including Safety Net Health Plans. Section III explores the question of how risk adjustment could be improved by the addition of supplemental variables that might better track the needs of some of the low-income, high-need individuals who will be attracted to Medicaid-focused health plans including Safety Net Health Plans. Section IV provides policy recommendations.

⁶ Buettgens, Nichols, and Dorn, see *supra* note 5.

⁷ Interview with Patrick Holland, September 2012.

II. Assuring Adequate Payment to Medicaid-Focused Plans

Medicaid-focused health plans may face uncompensated adverse selection from having many newly-insured enrollees and large numbers of enrollees who enter and leave the plan due to changes in eligibility for insurance coverage. The accuracy of risk adjustment will be reduced because disproportionate shares of the newly insured and enrollees who churn may have high costs and limited diagnostic records.

A. The Challenges of the Newly Insured

Plans will face challenges in receiving sufficient compensation for adverse selection from new enrollees, since the data will be limited for risk adjustment and risk adjustment does not compensate plans adequately for high-cost individuals. As many as 24 million individuals are expected to enroll in qualified health plans that participate in the Exchanges under health reform.⁸ While this major expansion of health insurance represents a significant new opportunity for plans, adequate compensation is critical to meeting the health needs of the newly insured and to maintaining plan stability.

Above-Average Costs in the Short Run

In the short term, health care costs for the newly insured are expected to be above average, because this population includes some with pent-up demand for care and some with costly pre-existing conditions.

Many newly insured will have a pent-up demand for health care, a significant concern in the first year. Such pent-up demand may be driven by the new enrollees themselves or their providers who identify these needs. Many newly insured enrollees have missed adequate preventive care or treatment of chronic conditions. And some individuals with behavioral health conditions may not have received needed treatment because of cognitive or emotional barriers. For many, the inability to pay for care may have been the most significant barrier. When faced with the decision to pay for routine medical care or for immediate household needs, many low-income individuals must choose the latter.

Pent-up demand may be highest among the initial wave of enrollees with the lowest incomes, where affording health care is most difficult. Lower-income individuals may be attracted to Medicaid-focused health plans, with which they are most familiar. Many newly insured eligible for federal subsidies will be drawn to the Exchanges for health insurance coverage. The Exchanges will offer subsidies to individuals between 133 percent and 400 percent of the federal poverty level. Individuals with incomes below 250 percent of the federal poverty level will face the strongest incentives to enroll, because subsidies are greatest for this group. This makes it likely that the initial wave of new enrollees will include many individuals with the lowest incomes.⁹

Finally, the newly insured will include persons who are high-cost because of pre-existing chronic illnesses and disabilities. Some significant share will have behavioral health conditions accompanied by a broader set of challenging life circumstances, such as unemployment. The lack of any prior insurance may make caring for high-cost members even more challenging.

⁸ Congressional Budget Office, “Estimates for the Insurance Coverage Provisions of the Affordable Care Act Updated for the Recent Supreme Court Decision,” July 24, 2012.

⁹ Interview with Beth Waldman, September 2012.

Uncertain Costs in the Long Run

As health plans gain experience in serving the newly insured and individuals (including high-cost ones) have routine access to health care, costs may decline from their initial above-average levels during the first years of implementation.¹⁰ Such a decline in costs could happen in the second or third year of ACA implementation, as pent-up demand is met, but the degree and timing of this decline is uncertain. Plans should closely monitor risk scores, particularly since reinsurance and risk corridors fall away after three years. In addition, federal and state administrators might consider continuing the temporary risk mitigation measures beyond the first three years of the Exchanges. Such an extension of reinsurance and risk corridors would require either changes in the ACA or new action by states.

B. The Challenges of Churn

Individuals gain and lose Medicaid eligibility for many reasons, including age, health and disability status. Change in income is one of the major reasons why people gain and lose Medicaid eligibility. Churn creates many challenges for health plans, in their efforts to manage health care costs and to improve health outcomes.

The broadening of health insurance coverage under the ACA will increase the level of churn that plans will face in the future. From one year to the next, as many as 30 million individuals are expected to change their source of coverage under the ACA, including individuals who will move between Medicaid and the Exchanges.¹¹ This estimate suggests that nearly one-third of individuals covered either under Medicaid or through subsidized insurance in the Exchanges will experience changes in their eligibility each year.

Higher levels of churn result from expansion of coverage to individuals with incomes that are low and fluctuating. Such fluctuations in income may occur due to changes in employment, hourly wages, seasonal employment, family status, and other circumstances. Many newly insured will be employed part time, which makes income changes more likely to occur.¹² Some people may gain or lose eligibility for Medicaid, others for federal subsidies. Those who lose eligibility for either Medicaid or subsidies may shift into the pool of the uninsured rather than move into another type of coverage.

The unfortunate effects of eligibility churn may include temporary loss of coverage; reduced access to care; delayed care; loss of established relationships with care providers; and extra administrative work by individuals, payers, and providers. Such interruptions of coverage may contribute to increased hospitalizations or use of emergency department services. Various policies to reduce churn and its ill effects on coverage and care have been proposed.¹³ But even if many of these measures are adopted, eligibility churn will continue to affect many millions of people each year.

Plans may experience some level of uncompensated adverse selection as a result of churn. Individuals who churn experience breaks in eligibility, which results in an incomplete risk profile for the individual. For individuals lacking diagnostic information, age and gender could be used to calculate risk scores. Age

¹⁰ Interviews with Sandi Hunt, Patrick Holland, and Mita Lodh, September 2012.

¹¹ Buettgens, Nichols and Dorn, “Churning Under the ACA and State Policy Options for Mitigation,” *Timely Analysis of Immediate Health Policy Issues*, Urban Institute, June 2012.

¹² “Health Insurance Exchanges: Long on options, short on time,” *Health Research Institute of PricewaterhouseCoopers*, October 2012.

¹³ Sara Rosenbaum, “Improving Medicaid Continuity and Quality of Care,” *ACAP*, 2009.

and gender, however, will serve as a poor substitute for diagnostic information, especially for those enrollees with the highest costs.

Shortening the window of time required for diagnostic information to be used in risk adjustment for new members could alleviate this problem. Proponents of concurrent risk adjustment might suggest a window as short as three months. One way to form a longer diagnostic profile for individuals would be to link data from different sources of coverage. Electronic medical record linkages between the Exchange and Medicaid, for example, could be created, but this is not likely to occur at least in the early years of health reform because of the lack of established data across multiple sources for the newly insured.

C. The Special Position of Medicaid-Focused and Safety Net Health Plans

Newly insured individuals with low income may be more attracted to Medicaid-focused health plans than to health plans that have traditionally served the commercial health insurance market. Many uninsured individuals currently turn to safety-net providers for their care. Furthermore, it has been estimated that 40 percent of the people eligible for Exchange subsidies will be former Medicaid or other public-program beneficiaries, so that many will be familiar with Medicaid-focused plans.¹⁴

Safety Net Health Plans, a subset of Medicaid-focused plans that are nonprofit, mission-focused and often affiliated with safety-net providers, may be even more likely to cover a high need population in the Exchanges because of their close connections with community health centers and public hospitals. In addition, Safety Net Health Plans have substantial capacity and clinical expertise to meet the needs of low-income populations.

For these reasons, we expect Medicaid-focused health plans and Safety Net Health Plans to experience the greatest levels of adverse selection and highest levels of churn. The valued strengths of these plans put them at risk of uncompensated adverse selection. Accordingly, these plans will need an effective system of risk adjustment system to be adequately compensated for these new enrollees.

D. Expectations for Adverse Selection Uncompensated by Diagnostic Risk Adjustment

Diagnostic risk adjustment can serve as an effective means to protect health plans that attract a disproportionate share of individuals with poor health risks. But it is not perfect. Risk adjustment does a poor job of adequately compensating for a plan's highest-cost enrollees, which may not be distributed across plans in accordance with plan risk scores. In the early years, the ACA accommodates this limitation of risk adjustment by making reinsurance a key component of its risk mitigation program for high cost members. Beyond 2016, however, risk adjustment must stand on its own. It is quite possible that Medicaid-focused health plans will attract a higher-than-average share of high-cost members because of their established relationships, clinical capacity and reputation. Should that prove true, Medicaid-focused health plans will be at greater risk of uncompensated adverse selection than other health plans.

¹⁴ Lewin Group's Health Benefits Simulation Model, cited in Anne Winter and Holly Michaels Fisher, "Health Benefit Exchange Design Options for Safety Net Plans," Ingenix Consulting for ACAP, October 2010.

E. Demands to Promptly Gather and Use Diagnostic Information for New Eligibles

Concurrent Risk Adjustment and the Federal Distributed Data Strategy

A key decision in implementing risk adjustment by the federal government is to use concurrent risk adjustment, which means that this year's diagnoses lead to changes in this year's payments. Compared with prospective adjustment, concurrent adjustment should improve accuracy when plans enroll many newly insured due to program start-up and ongoing churn. The concurrent adjustment approach offers the advantage of shortening the period of enrollment required for risk adjustment based on diagnoses to perhaps as little as 3 or 4 months. This should help bring more accurate payments quickly to health plans that experience many new members and high levels of churn. Without diagnostic information, risk adjustment for new and churning members would default to far less accurate payments based on age and gender.

The federal government will need to establish a minimum length of enrollment required for an enrollee before diagnostic information can be considered sufficient for risk adjustment. The shortest window possible would be best, provided that this window produces valid risk estimates. A window as short as three months might be possible, offering health plans the benefit of compensation for more members on the basis of diagnosis.¹⁵ The short window will also allow better adjustment for the surge in utilization by the first newly eligible enrollees.

A second element of the federal approach, distributed data collection, will have plans submit diagnostic data summarized from providers for calculating risk scores. The plans will not have to submit full encounter data with enrollee identification, relieving them of the responsibility to submit large data sets. This approach also eases concerns about privacy since comprehensive information on diagnoses and treatment will not be transferred routinely to the federal or state governments. A disadvantage of this approach is that it will limit opportunities for monitoring and research on patterns of use and quality of care among low-income and minority members.

Demands on Providers and Plans to Make and Gather Diagnoses

Gathering the diagnoses needed for risk adjustment will challenge some plans, particularly those with less advanced information systems or with less experience gathering diagnoses because they have sub-capitated much of their provider network. For plans, getting paid with diagnostic adjustment makes gathering diagnoses – thoroughly and efficiently – a key to success. Advocates of risk adjustment have long argued that focusing on members' diagnoses, especially chronic diagnoses, is an excellent support for the move to more meaningful care management.¹⁶

Updating Health Data for Improved Risk Adjustment and Care Continuity

Looking further ahead to future developments in collection of health data, one can hope that health information will soon follow individuals easily even as they shift coverage, plans or providers. If diagnostic and treatment data could form part of a cumulative, transferable electronic medical record, then both risk adjustment and continuity of care management would be improved. For example, two, three or more years of diagnostic data might be used for risk adjustment, not just the one year that is currently used in most systems. With an extended window of time, chronic conditions would be more likely to

¹⁵ Sandi Hunt and David Knutson, interviews, September 2012.

¹⁶ Tony Dreyfus and Richard Kronick, "Paying Plans to Care for People with Chronic Illness," in Kronick and de Beyer, editors, *Medicare HMOs; Making Them Work for the Chronically Ill*, Health Administration Press, 1999, pp. 27-65.

appear in the record and would help make better predictions of individual health needs.¹⁷ In addition, a standardized format for storing and transferring individual electronic medical records would allow useful information, even from many years back, to support improved diagnosis and care management.

¹⁷ MedPAC, “Issues for risk adjustment in Medicare Advantage,” Chapter 4 in *Report to the Congress: Medicare and the Health Care Delivery System*, June 2012.

III. Strengthening Diagnostic Risk Adjustment with Socio-Economic and Other Variables

A. How Improved Risk Adjustment Would Create Better Choice, Quality and Stability

Following the arguments long given in favor of risk adjustment, one would expect that improved risk adjustment could lead to better results in the Exchanges. Effective risk adjustment encourages plans to take on the challenge of designing systems for people with greater needs rather than avoiding them because they are bad risks.¹⁸ A more accurate system would do an even better job of creating the right incentives.

The question of how risk adjustment could be improved, however, is far from settled. In the long development of risk adjustment systems implemented by large payers, the developers of models such as the HCCs, the ACGs and CDPS focused mostly on diagnoses, with much less emphasis on other predictors such as functional status or socio-economic variables.¹⁹ For reasons discussed below, the focus on diagnoses was probably appropriate for those payers.

B. Evidence for Socio-Economic Variables as Useful Adjusters

Future progress in risk adjustment may derive from incorporation of functional and socio-economic variables. The inclusion of such variables in risk adjustment could be very useful in situations where these variables would be related to the kinds of services and members served. The use of long term support services for people with disabilities, for example, would be better predicted using indicators of functional impairment. And socio-economic variables may help adjust payments when some plans enroll disproportionate shares of people with significant needs related to low income or other socio-economic disadvantage. We see many sound supports for this argument, some clinical and some statistical.

Clinical Experience

Clinicians and care managers often report that important extra challenges and costs come with some patients: for example, those with multiple conditions including mental illness and substance use, those who are isolated by limited English or those who are homeless.²⁰ It is likely that people affected by behavioral health problems, homelessness, unemployment or poverty – conditions that make it more difficult to access resources – will have greater burdens of illness than others. Evidence suggests that significant mental illness may hinder patients’ participation in medical examination and prescribed care and can also affect clinicians’ judgment and willingness to diagnose and treat patients.²¹ Mental illness

¹⁸ Tony Dreyfus and Richard Kronick, “Paying Plans to Care for People with Chronic Illness,” in Kronick and de Beyer, editors, *Medicare HMOs; Making Them Work for the Chronically Ill*, Health Administration Press, 1999, p. 27.

¹⁹ Tony Dreyfus and Ellen Breslin Davidson, “Risk Adjustment for Dual Eligibles: Breaking New Ground in Massachusetts,” Massachusetts Medicaid Policy Institute, January 2012, p. 10. The models referred to are the Hierarchical Condition Category model, the Adjusted Clinical Groups, and the Chronic Illness and Disability Payment System.

²⁰ James J. O’Connell, Sarah C. Oppenheimer, Christine M. Judge, Robert L. Taube, Bonnie B. Blanchfield, Stacy E. Swain, and Howard K. Koh, “The Boston Health Care for the Homeless Program: A Public Health Framework,” *American Journal of Public Health*, Vol. 100, No. 8, August 2010.

²¹ B.G. Druss, and D.W. Bradford, “Mental disorders and use of cardiovascular procedures after myocardial infarction,” *Journal of the American Medical Association*, vol. 283, no. 4, p. 506, 2000; B. Felker, J.J. Yazel, and D. Short, “Mortality and medical comorbidity among psychiatric patients: A review,” *Psychiatric Services*, vol. 47, no. 12, pp. 1356-1363, 1996; A.M. Kilbourne,

and substance use likely make it more difficult for patients to access health care or to build a relationship with a health system unless extra effort is made for outreach, for care management, and for relationship-building during treatment.

Statistical Evidence

Statistical evidence has also long supported the idea that variables that measure limited resources, exclusion or marginal status are strongly associated with greater burden of illness or health care need. Because poverty, unemployment, limited education and homelessness are all possible predictors of increased illness, they might be usefully included as variables in a risk adjustment system.

Efforts to analyze the links between socio-economic status and health status indicate that the relationship is multi-faceted. Limited education, workplace conditions, stress, the physical environment of poor neighborhoods and housing play roles in reducing health status. Racial and ethnic characteristics also show important statistical relationships with morbidity and mortality. Without resolving this complexity, we can make some reliable observations about the relationship between income and health: much evidence confirms that among lower-income people, many diseases are more prevalent, progress more quickly and bring more complications and poorer survival. This higher prevalence and higher comorbidity result in cumulative effects that lead over time to poorer health and earlier death.²²

C. The Challenges of Moving Beyond Diagnoses

Nonetheless, adding socio-economic or other variables beyond diagnoses will not come easily. One of the most important reasons is that diagnoses can do a fairly good job of tracking health care need, because most health care is in response to diagnoses. If a payer were implementing risk adjustment without having diagnoses available, then socio-economic variables would help predict expenditures. When diagnoses are available, however, socio-economic variables are not likely to increase accuracy very much, because the diagnoses are already predicting much of the variation in cost.²³

Consider the example of two individuals, both with a chronic condition such as diabetes: one with a very low income and the other with a middle income. If the first person's very low income in fact exacerbates health status, then additional diagnoses that are complications of diabetes are likely to occur such as skin, kidney or eye problems. These additional diagnoses will cause the person to be identified as having high-cost diabetes with complications and to be assigned a higher risk score. Thus, the effect of low income on health status has been partially identified and predicted via diagnoses. Similarly, other diminishment of health status because of social or economic circumstances may be captured to some degree by increased counts in other diagnostic categories, for example a person with heart disease being counted as also having chronic obstructive pulmonary disease or a person with paraplegia also having a substance use disorder.

J.F. McCarthy, D. Welsh, and F. Blow, "Recognition of co-occurring medical conditions among patients with serious mental illness," *The Journal of Nervous and Mental Disease*, vol. 194, no. 8, pp. 598-602, 2006.

²² George A. Kaplan, *The Poor Pay More – Poverty's High Cost to Health*, September 2009. See also the GAO report, *Poverty In America; Economic Research Shows Adverse Impacts on Health Status and Other Social Conditions as well as the Economic Growth Rate*, January 2007. See also the useful discussion in Michael Marmot, *The Influence of Income on Health: Views of an Epidemiologist*, *Health Affairs*, vol. 21, no. 2, pp. 31-46, March 2002.

²³ More formally, the correlation between diagnoses and health care costs is greater than the correlation between socio-economic status and health care costs. As a result, adding socio-economic status variables to the independent variables will not much improve cost predictions.

The argument for inclusion of socio-economic variables does not rest on the simple observation that people with social and economic disadvantage are simply sicker, since counts of diagnoses can capture some of this greater burden of illness. Rather, the argument for supplementing diagnoses with socio-economic variables rests on the hypothesis that diagnoses alone capture the burden of illness for people who are disadvantaged less well than they do for people who are not so disadvantaged. We hypothesize that even for two individuals with identical diagnostic descriptions – for example, two people both with high-cost diabetes but no other significant chronic condition – costs of care, outreach and effective care management in an ideal system may well be higher for the person with very low income.

In practice, our health care system has often distributed resources in ways that reinforce disparities, giving more to those who already enjoy superior resources. This history of disparity impedes statistical efforts to demonstrate the greater needs of people with fewer resources. The diverse groups who would benefit from better adjustment – people with serious mental illness, people who are very poor, people who have been homeless, people with trouble accessing care for linguistic reasons – often have a history of under-service.

As a result, when these characteristics are used in statistical analyses with currently available data, including diagnoses and the social variables may not be associated with higher costs, a counterintuitive result.²⁴ In this way, the data do not support changes to risk adjustment methods that may be needed to bring more care to those with greater needs. One solution to this problem would be for administrators to increase payments – as a public policy choice – to those serving people who have long been under-served. A final reason that makes inclusion of socioeconomic variables difficult is that some of them may be hard to define, so that their collection, consistency and reliability would be problematic. For example, while diagnoses like serious mental illnesses are well-enough defined to be included in risk adjustment, characteristics such as living in a poor neighborhood or being homeless pose problems of definition.

It seems reasonable to suspect that the effect of socio-economic circumstances on health status is strong enough that the right specification of socio-economic variables, even controlling for diagnoses, will show meaningful relationships with health need – provided that need is measured by less biased sources than data on historical patterns of care. The strong interest in socio-economic status in the public health community makes it likely that the necessary studies will be done over the next decade as many new low-income people gain access to health insurance. It should then be possible to settle whether socio-economic variables can play a significant predictive role beyond diagnoses.

Until more work is done, we think it quite possible that immediate experimentation with the use of income proxies might prove valuable for improving risk adjustment in the Exchanges. Geographical variables such as zip code or census tract should be very easy to use and might help lift predictive accuracy to the benefit of health plans that enroll disproportionate shares of the people living in low-income communities. Zip codes or census tracts might match fairly closely with income variation by neighborhood and help make better predictions of health care need because of the strong association between income and health burden. More direct measures of income could be found in administrative data used to determine eligibility for cost-sharing reductions and premium tax credits.

²⁴ A recent example of statistical analysis suggesting that variables such as income and race do not improve predictions can be found in MedPAC, “Issues for risk adjustment in Medicare Advantage,” Chapter 4 in *Report to the Congress: Medicare and the Health Care Delivery System*, June 2012.

D. Focusing Improved Risk Adjustment on High-Cost Individuals

One remaining concern is that no currently existing risk adjustment system is likely to do a very good job of predicting costs for high-cost individuals, or the most expensive tenth of a large heterogeneous group. Studies of risk adjustment systems generally show that they systematically over-predict costs for the least expensive individuals and under-predict costs for the most expensive.²⁵ These predictive errors are to be expected in part because the extremes of the cost distribution reflect the large role of unpredictable, random risk in health need, which the insurance function of plans is designed to address. Among three patients with identical diagnostic profiles, few could guess with any accuracy which one will improve dramatically, which one will remain stable, and which one may deteriorate badly or suffer a serious accident.

As supporters of risk adjusted payment believe, the adjustment system cannot, by definition, predict the unpredictable component of variation in need; instead it should account for enough of the predictable variation in need to prevent plans from focusing their efforts on risk selection rather than care improvement. Yet plans fully focused on care improvement are understandably concerned about any systematic biases in risk that might cause ongoing financial losses. What appears good enough for the general policy purposes of risk adjustment may not be adequate to maintain diversity of the plans in the Exchange.

One possible path to improvement in accuracy for the most costly individuals is to gather more information about them, such as more detailed functional or socio-economic data and create a complementary module to the general risk adjustment system.²⁶ This approach would limit the expense of additional data gathering and analysis to the small proportion of individuals who could benefit substantially from improved rate accuracy. This focus on those with the greatest needs could also contribute to better care management and identification of best practices where they count the most.

²⁵ R. Winkelman and S. Mehmud, *A Comparative Analysis of Claims-Based Tools For Health Risk Assessment*, Society of Actuaries, 2007, shows predictive ratios by cost groups for different risk adjustment systems.

²⁶ David Knutson of the University of Minnesota brought this idea to our attention.

IV. Policy Recommendations

We conclude with seven policy recommendations for the federal government. These recommendations apply to the federal risk adjustment model being proposed for the Exchanges. States that are operating their own Exchanges and opt to develop their own risk adjustment programs may also find these useful.

The federal approach to address risk in the Exchanges is good, particularly in the first three years when risk adjustment is complemented by reinsurance and risk corridors. Yet some uncompensated adverse selection is still quite possible and could be particularly difficult for some Medicaid-focused health plans, for whom the mission to serve low-income communities is strongest. This uncompensated adverse selection results from the limitations of risk adjustment.

As a result, CMS and the states should take special care to examine the emerging risk of the newly insured and those with shifting eligibility and to refine its methods to better predict risk of the newly insured and individuals who churn. While incorporation of a wide range of socio-economic variables may not be so practical or helpful (especially given currently available data), use of income-related variables appears very doable and could help improve payment to Medicaid-focused health plans. CMS can use this time as an opportunity to explore ways to improve risk adjustment.

The recommendations for improving risk adjustment to produce more accurate payments to Medicaid-focused plans address short-term, medium-term and long-term concerns.

In the short run – the first year or so – our greatest concern is that some plans may receive many newly insured with high needs for whom risk adjustment based on age and gender alone will produce inadequate risk scores. These inadequate risk scores will lead to uncompensated adverse selection. The federal government could alleviate this problem for health plans with some prompt action.

In the medium term, the first two to three years, our greatest concern is about uncompensated adverse selection among the many members who are switching eligibility, especially switching from Medicaid into the Exchanges.

And in the long term, three years in and beyond, we are concerned as risk corridors and reinsurance are discontinued that risk adjustment will need improvement to assure payment accuracy. Even with improvements, it is not certain that risk adjustment alone will ever be accurate enough to assure adequate payments for plans that cover a large proportion of high-need individuals.

Short-Term Recommendation

The federal and state governments should anticipate the possibility of risk selection not accounted for by diagnostic adjustment and collect data to measure the extent to which community-affiliated plans receive uncompensated adverse selection. The volume of the newly insured will be large enough, both at first and on an ongoing basis, so that close attention will be needed to assure payment accuracy.

Particularly in the first years of implementing the key provisions of the Affordable Care Act, it is likely that predictions of health care needs will in some cases differ from the initial experience. Those individuals who promptly purchase coverage as soon as they are eligible may differ systematically from those who delay coverage. It is hard to predict how important such effects may be. As a result, those administering the risk adjustment process should monitor plan experience closely to determine the effects of new entrants and increase (or decrease) payment rates promptly to reflect the new experience.

In the short term, we advocate that the federal government and states implementing their own Exchanges should play the role of an active overseer of the payment process. This means that Exchange managers should not wait for twelve months or more to judge developments but act immediately, collecting data on the experience of plans to see if there is uncompensated adverse selection. The large numbers of newly insured entering the Exchanges behooves the government to monitor and adjust systems as needed.

We suggest three groups for the focus of immediate analysis: the newly insured; those with the greatest health needs; and those with combinations of poor health and low income. With newly insured enrollees for whom diagnostic information is not available, income proxies might be a useful adjuster. Prior insurance status may also prove a valuable adjustment factor – quite probably when diagnostic information is not available and perhaps even when it is.

Our short-term recommendation in brief:

1. Respond as soon as possible with improvements to the risk adjustment system to better account for the risk of the newly insured, for those with the greatest needs, and for those with poor health status linked to low income.

Medium-Term Recommendations

Adverse selection uncompensated by risk adjustment among both newly insured and existing enrollees in plans appears likely, and the cost implications may be large enough to threaten the viability of plans with limited financial resources.

The volume of the newly insured will be large even when the program has matured because of churn, so careful analysis of new enrollees will be needed in the medium term as well. One concrete question to settle will be whether the payment weights used for people with considerable length of eligibility in the Exchange are accurate in calculating risk scores for newly insured. Are alternate weights needed? A second question is whether adjustment for new enrollees can be improved by using their prior insurance status as a variable. For example, prior eligibility for Medicaid might be a useful variable that could lead to an increase in an individual's risk score.

Adding variables for income or geographical proxies for income could improve risk adjustment particularly in the absence of diagnostic information on new eligibles. Economic variables and even social variables might become useful supplemental variables to diagnostic data as improved full-service data become available over time. Efforts to improve risk adjustment with diagnostic, functional and socio-economic variables should yield greater result with greater efficiency when focused on the most expensive individuals. The gathering of additional health-related data for defined high-risk groups with lower health status could also be used to facilitate better care management and development of best care practices. For example, clinical measures of physical health and of cognitive function might contribute to improved risk adjustment and care management for some groups.

The medium-term recommendations in brief:

2. Perform careful analysis of the newly insured to see whether:
 - the same payment weights used for others are accurate for the calculation of risk scores or whether alternate weights for new eligibles are needed;
 - variables for prior insurance status could be used to complement diagnoses;

- temporary adjustments should be made to compensate for initial adverse selection from early enrollees.
3. Evaluate inclusion of income-related variables or additions to risk scores to improve accuracy for plans serving low-income areas. Eligibility information for premium tax credits and cost-sharing reductions, zip code or census tract could be used as a proxy for income.
 4. Gather additional health data, including clinical measures, for defined high-risk groups with lower health status to facilitate better care management, identification and analysis of best care practices, and improved risk adjustment.

Long-Term Recommendations

Risk adjustment can eventually be improved in the Exchanges by expanding the time period for which diagnoses are used to estimate risk. A longer period of time should yield more diagnoses and more accurate predictions, in part because many important diagnoses appear in the diagnostic record in much greater frequency with longer timeframes.

One way to accomplish these longer timeframes would be through the establishment of personal health histories that follow individuals as they move from one source of coverage to another. Such an extended personal health record could improve care management as well. While the extended record would introduce complicated administrative and confidentiality issues, it would also help address the challenge of estimating risk of future new enrollees, for whom only short periods of diagnostic collection are possible in the short term.

In addition, federal and state policymakers should study the extension of risk mitigation measures such as risk corridors and reinsurance beyond the three-year period envisioned in the ACA, if risk adjustment does not accomplish its goals. Such an extension would require federal legislative change or state action. If these measures are extended, they would relieve the risk adjustment system of the full burden of matching payments closely to need and assure Safety Net Health Plans more reliable financing.

The long-term recommendations in brief:

5. Develop systems for transferring diagnostic and treatment information to create a longer-term individual health history for enrollees who move between sources of coverage. Plans with a disproportionate share of enrollees who change sources of coverage will stand to benefit through improved risk adjustment.
6. Examine the need to adjust payment methods for differences in socio-economic circumstances that increase needs for health care and for care management.
7. Consider extending a stronger risk mitigation program including reinsurance beyond the first three years of the Exchanges if risk adjustment proves insufficient for payment accuracy. Risk corridors might also prove useful.