Public Summary

Minnesota Health Care Risk Adjustment Methodology Development and Testing

Prepared for: Minnesota Department of Human Services

Submitted by: The Lewin Group

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Consultant's Report

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Public Summary

A. Overview

The Minnesota Department of Human Services (DHS) received grant funding from the U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services (CMS) to pursue the testing, collection, and reporting of the Initial Core Set of Health Care Quality Measures for Medicaid-eligible Adults.[1] Within the scope of this funding opportunity, DHS sought to develop a risk adjustment methodology to enhance the use of these quality measures and enable more accurate comparison between managed care organizations (MCOs). DHS contracted with The Lewin Group to evaluate current health care risk adjustment methodologies and test usability by the Initial Core Set of Health Care Quality Measures for Medicaid-Eligible Adults. This report provides a brief overview of the project and summarizes the overall effectiveness of the risk adjustment methodology, lessons learned, and the impact on the State's Medicaid population.

The project started with an evaluation review that examined appropriate risk adjustment methods and yielded the recommendation for DHS to use the Adjusted Clinical Groups (ACG)[2] model and to account for member characteristics such as health and sociodemographic factors. The project then focused on testing and implementing the risk adjustment methods.

Table 1. Selected quality measures.

Category and Acronym	Description
Preventive Women's Health	
BCS-AD	Breast cancer screening
CCS-AD	Cervical cancer screening
CHL-AD	Chlamydia screening in women
Chronic	
MPM-AD-R1	Annual monitoring for enrollees on angiotensin converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB)
MPM-AD-R2	Annual monitoring for enrollees on digoxin
MPM-AD-R3	Annual monitoring for enrollees on diuretics
MPM-AD-R4	Annual monitoring for enrollees on anticonvulsants
HA1C-AD	Comprehensive diabetes care: Hemoglobin A1c testing
Mental Health	
FUH-AD-7	Follow-up after hospitalization for mental illness (7-day)
FUH-AD-30	Follow-up after hospitalization for mental illness (30-day)
SAA-AD	Adherence to antipsychotics for individuals with schizophrenia
AMM-AD_acute	Antidepressant medication management (acute phase)
AMM-AD_cont	Antidepressant medication management (continuation phase)
Behavioral	
IET-AD-14	Initiation and engagement of alcohol and drug dependence treatment (14-day)
IET-AD-30	Initiation and engagement of alcohol and drug dependence treatment (30-day)
Chronic Hospitalization	
PQI01-AD	Diabetes short-term complications admission rate
PQI05-AD	Chronic obstructive pulmonary disease (COPD) or asthma in older adults admission rate
PQI08-AD	Heart failure admission rate
Treatment	
PPC-AD	Postpartum care rate

Table 1 summarizes the subset of quality measures selected for examination in this project. Almost all of these quality measures were suitable for risk adjustment; outcomes on these measures were related to patient characteristics that differed across MCOs. Table 2 summarizes the patient characteristics included in the risk adjustment. The risk adjustment models included six clinical and six sociodemographic characteristics. The clinical factors encompassed a member's overall health risk, whether the member had a developmental disability, was enrolled in Medicaid due to a disability, was frail, had a mental health condition, or was identified as having a substance abuse issue. The sociodemographic characteristics encompassed a member's age, gender, education, language, race and ethnicity, and whether the member lived in a metropolitan county. These characteristics are beyond the control of the MCOs and the distributions of these characteristics commonly differed across MCOs. Thus, risk adjustment is suitable to account for these patient-related attributes and to facilitate more equitable comparisons across MCOs with different mixes of patients.

Table 2. Summary of variables used in risk adjustment.

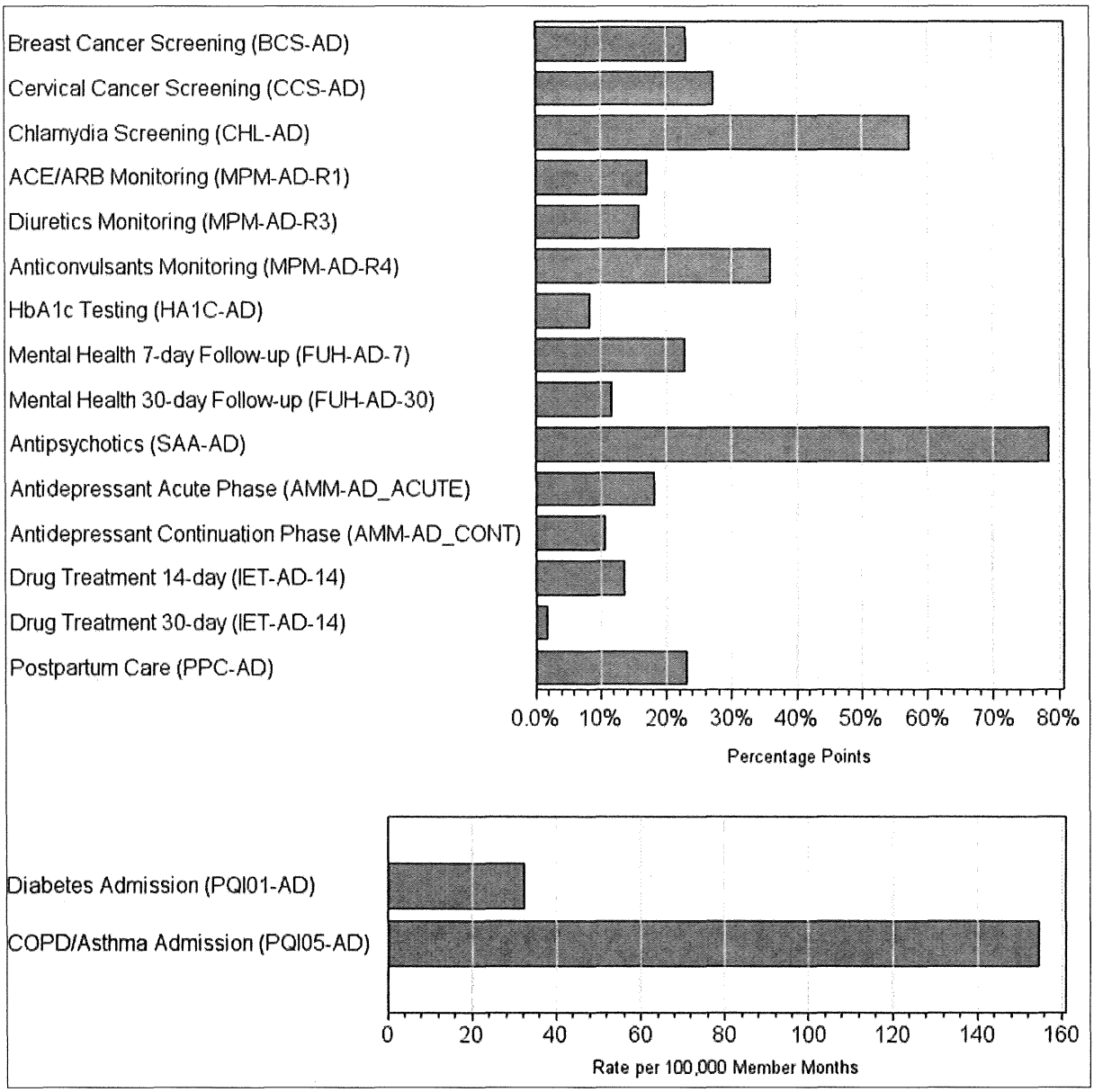
Variables
Clinical Characteristics
Developmental Disability
Disability
Frailty
Mental Health
Resource Utilization Bands (RUB) (i.e., Health Risk)
Substance Abuse
Sociodemographic Characteristics
Age
Education
Gender
Language
Metropolitan County
Race / Ethnicity

Health risk and age were consistently influential factors. The remaining clinical and sociodemographic characteristics had mixed results and showed a general pattern of smaller influence relative to health risk and age. Although, sociodemographic characteristics and health status can be correlated and prior adjustment for health could lessen the observable impact of these characteristics. Even so, a sociodemographic characteristic sometimes had larger influence on a select quality measure; this suggests sociodemographic characteristics should be considered when exploring risk adjustment of quality measures. The results also suggest targeted clinical characteristics that might not be fully captured in a health risk measure could also be considered when exploring risk adjustment.

Overall, the influence of risk adjustment on the quality measures was mixed with some MCO adjusted performance trending upward from its unadjusted figure while other MCOs experienced a reduction in their performance estimate after applying risk adjustment to the respective quality measures. Figure 1 illustrates the extent risk adjustment impacted the rates for each quality measure. The values are the absolute value of the difference between the unadjusted and adjusted rates, summed across the MCOs. For example, among the non-PQI measures, if the change from the unadjusted rate to the adjusted rate was 40% to 45% (i.e., 5% difference) for one MCO and 65% to 62% (i.e., -3% difference and absolute value of 3%) for a second MCO, the summed aggregate impact for these two MCOs would be 8% (i.e.,

5% + 3%). The calculation was the same for the PQI measures. For example, if the change was 10/100,000 member months to 6/100,000 members months for an MCO, the absolute value of the change in the rate is 4/100,000 member months. Among the non-PQI measures, the antipsychotic measure related to adherence among individuals with schizophrenia had the largest aggregate change in rates. The 30-day drug treatment measure had the smallest change. Among the PQI measures, the COPD/asthma admissions measure had a larger change. Even so, the impact of risk adjustment is based on factors such as the characteristics included in the risk adjustment models, the relationships between those characteristics and each measure, and the patient mix of each MCO. Therefore, as these factors change over time (e.g., patient mix), the relative impact of risk adjustment on each measure can also change.

Figure 1. Aggregate impact of risk adjustment across MCOs, by quality measure.



Note: These values are the absolute value of the difference between the adjusted and unadjusted rates summed across the MCOs.

In summary, these analyses empirically demonstrate the influence of an array of clinical and sociodemographic characteristics on adherence rates among the Initial Core Set of Health Care Quality Measures for Medicaid-Eligible Adults. This is important because (1) MCOs commonly have different mixes of patients across the characteristics we found to influence these quality measures and (2) these patient-related attributes are beyond the control of MCOs. Consequently, not accounting for these patient-related differences could result in imperfect comparisons when contrasting groups such as MCOs. Ultimately, these analyses exhibit the need and appropriateness of risk adjusting quality measures when aiming to compare subgroups such as MCOs. Given the demonstrated relationships of the patient-related characteristics with the quality measures and that these characteristics differed across MCOs, this risk adjustment approach is recommended for Minnesota DHS to allow more accurate comparisons of MCOs. This approach is applicable to, and recommended for, other states with similar aims of comparing quality measure results across groups such as MCOs.

B. Project Effectiveness

The initial goals of the project were to make accurate comparisons of the quality of care provided by each managed care plan, to account for differences in the health status of the members enrolled in each plan, and select meaningful quality measures that account for the complex characteristics of the Medicaid population. DHS and Lewin identified appropriate/available variables on which to adjust by exploring factors such as sociodemographic characteristics, policy implications, and stakeholder buy-in. DHS provided guidance on certain variables in which their stakeholders would be most interested in seeing the impact; Lewin included some variables that statistics suggested were not impactful. This had no negative analytic repercussions, but is likely to improve policy and stakeholder buy-in.

Risk adjustment analyses were successfully conducted. Through the lifetime of the project Lewin risk adjusted 17 measures. This far exceeded the initial goal of the project, which was to develop, test, and implement one or more risk adjustment methodologies with five to seven of the Initial Core Set of Health Care Quality Measures for Medicaid-Eligible Adults. Lewin worked with DHS to understand the initial goal of examining sociodemographic characteristics and further explored a number of other utilization and clinical characteristics.

C. Lessons Learned

Lewin found that the risk adjustment process was easily replicable. Lewin developed a risk adjustment process that will allow Minnesota DHS to more efficiently risk adjust the Medicaid Adult Core Set measures in the future. Competing priorities and resource shortages at DHS created challenges to the project that at times were difficult to overcome. These issues caused some confusion as to what was expected. For example, Lewin had initially used sociodemographic variables and did not realize DHS wanted to explore utilization and clinical variables, causing Lewin to re-run part of the analysis. As a result, Lewin and DHS made more regular and complete communication a priority to avoid future miscommunications.

D. Impact on Medicaid population

One of DHS's goals was to identify patient characteristics that influence outcomes, and how the distribution of those characteristics differed across MCOs. To conduct these analyses, DHS needed to employ a robust risk adjustment methodology that would accurately evaluate the patient mix of managed care enrollees. Risk adjustment alleviates certain issues associated with health care delivery, access to care, and performance measurement across the entire healthcare spectrum.

Patients and consumers

Risk adjustment may improve access to quality health care for more beneficiaries. Risk adjustment accounts for patient characteristics that influence outcomes when different groups of people have different characteristics (e.g., patient mix). For example, people with greater risk factors might select plans that offer specific benefits that meet their needs, which could result in biased risk pools. Patients and their families will benefit from a clearer, apples-to-apples comparison of providers' performance, which could enhance decision-making and create a more informed patient base.

MCOs and providers

Risk adjustment allows MCOs to enroll, or providers to treat, complex patients without fear of being "penalized" when certain performance metrics are compared to those who enroll or treat relatively healthier patients. In the context of performance-based incentive programs, such as pay-for-performance, risk adjustment provides a way to accurately account for inherent differences in patient panels, allowing for an unbiased comparison of provider performance.

Additionally, risk adjustment is essential in helping MCOs and providers with internal quality improvement initiatives and performance measurement activities by allowing them to compare results with peer entities. Comparison of results that are not risk adjusted may be misleading. Risk adjustment also helps internal quality improvement efforts by tracking quality outcomes over time and establishing a baseline adjusted for patient characteristics and risk factors of any given time frame.[3]

State Medicaid Agencies

Increasingly, state Medicaid agencies are implementing initiatives focused on comparing provider performance, and those performance measures can be used to inform pay-for performance programs. Risk adjustment supports equitable comparison of clinics, medical groups, MCOs and hospital performance. Risk adjustment of quality measures increases accountability for performance and public awareness for differences in the quality of care provided by different entities. It has the potential to improve the comparability of quality metrics both across providers and over time. It is instrumental for incentive-based performance incentive programs and provides an accurate baseline for assessing quality of care provided within states and in comparison to other states.

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[1] The Centers for Medicare & Medicaid Services. Adult Health Care Quality Measures – Initial Core Set of Adult Health Care Quality Measures for Medicaid-Eligible Adults. Available from < http://www.medicaid.gov/medicaid-chip-program-information/by-topics/quality-of-care/adult-health-care-quality-measures.html>.

[2] The Johns Hopkins ACG® System. <http://acg.jhsph.org/>

[3] Department of Veterans Affairs: Management Decision and Research Center; Washington, DC: VA Health Services Research and Development Service in collaboration with Association for Health Services Research, 1997. Risk adjustment: a tool for leveling the playing field. Available from: < http://www.hsrd.research.va.gov/publications/internal/riskadj.pdf>