

NOVEMBER 2021

# CONSIDERATIONS FOR REFLECTING THE IMPACT OF COVID-19 IN MEDICAID MANAGED CARE PLAN RATE SETTING

American Academy of Actuaries



AMERICAN ACADEMY *of* ACTUARIES

*Objective. Independent. Effective.™*

**ACTUARY.ORG**

The Medicaid Committee, which authored this issue paper, includes Julia Lerche, MAAA, FSA—*Chairperson*; Russell Ackerman, MAAA, FCA, ASA; Maria Aguayo, MAAA, ASA; Christine Bach, MAAA, ASA; Yolanda Banderas, MAAA, ASA; Manoj Bista, MAAA, FSA; Mark Blessinger, MAAA, FSA; Yekaterina Bogush, MAAA, FSA; Jill Bruckert, MAAA, FSA; April Choi, MAAA, FSA; Michael Cook, MAAA, FSA; Nicholas Crifasi, MAAA, ASA; Robert Damler, MAAA, FSA; Peter Davidson, MAAA, FSA; Bradley Dirks, MAAA, ASA; Kevin Donnelly, MAAA, FCAS; Mathieu Doucet, MAAA, FSA; Sterling Felsted, MAAA, ASA; Timothy Fitzpatrick, MAAA, ASA; Jennifer Gerstorff, MAAA, FSA; Kevin Geurtsen, MAAA, FSA; Sabrina Gibson, MAAA, FSA; Robert Hastings, MAAA, ASA; Clay Holman, MAAA, FSA; Marlene Howard, MAAA, FSA; Shereen Jensen, MAAA, FSA; Craig Keizur, MAAA, FSA; Don Killian, MAAA, FSA; Joshua Kuai, MAAA, FSA; Jinn-Feng Lin, MAAA, FSA, FCA; Ryan Link, MAAA, FSA; Han Lu, MAAA, ASA; Benjamin Lynam, MAAA, FSA; Annie Man, MAAA, FSA; Richard Marko, MAAA, FSA; Ian McCulla, MAAA, FSA; Marilyn McGaffin, MAAA, ASA; John Meerschaert, MAAA, FSA; Erica Mitchell, MAAA, FSA; Christine Mytelka, MAAA, FSA; Donna Novak, MAAA, FCA, ASA; F Ronald Ogborne, MAAA, FSA; Nathan Ordansky, MAAA, ASA; Rebecca Owen, MAAA, FSA, FCA; Jeremy Palmer, MAAA, FSA; Chieh Pan, MAAA, ASA; Susan Pantely, MAAA, FSA; Jack Pierce, MAAA, FSA; Taylor Pruisner, MAAA, FSA; David Quinn, MAAA, FSA; F. Kevin Russell, MAAA, FSA; Sujata Sanghvi, MAAA, FSA; Colby Schaeffer, MAAA, ASA; Adam Schlecht, MAAA, FSA; Jared Simons, MAAA, ASA; Gabriel Smith, MAAA, ASA; Yixuan Song, MAAA, FSA; Martin Staehlin, MAAA, FSA; Kathleen Tottle, MAAA, FSA; Jianbin Xu, MAAA, FSA; Jeff Yang, MAAA, FSA.

The committee wishes to especially recognize the contributions of Christine Mytelka, who was the primary drafter of this paper.

The American Academy of Actuaries is a 19,500-member professional association whose mission is to serve the public and the U.S. actuarial profession. For more than 50 years, the Academy has assisted public policymakers on all levels by providing leadership, objective expertise, and actuarial advice on risk and financial security issues. The Academy also sets qualification, practice, and professionalism standards for actuaries in the United States.



---

AMERICAN ACADEMY of ACTUARIES

*Objective. Independent. Effective.*

AMERICAN ACADEMY OF ACTUARIES  
1850 M STREET NW, SUITE 300, WASHINGTON, D.C. 20036  
202-223-8196 | WWW.ACTUARY.ORG

© 2021 American Academy of Actuaries. All rights reserved.

# Contents

Introduction .....	1
Data .....	3
Data Considerations .....	3
Use of Mid-COVID or Post-COVID Data to Adjust Pre-COVID Base Period Data.....	6
Assumptions and Related Adjustments.....	7
Claim Cost Assumptions .....	7
Interaction of Assumptions .....	9
Non-Benefit Expense .....	11
Non-Benefit Expense Considerations.....	11
The Impact of Enrollment Changes on PMPM Non-Benefit Expense.....	12
Other Considerations .....	13
Risk and Acuity Adjustment .....	14
Current Practice.....	14
Application of Risk and Acuity Adjustments to Pandemic Experience ....	14
Consideration of Adjustments to Risk Models .....	15
Long-Term Services and Supports.....	18
Going Forward, Post-Pandemic.....	18
Risk Mitigation.....	19
Prospective Implementation Under the Final Rule .....	19
“Standard” Risk Mitigation Tools That May Be Used to Mitigate Pandemic Risk .....	19
State Policy Considerations Impacting Risk.....	21
Risk Margin .....	21
Communication .....	22
Social and Physical Determinants of Health.....	23
Closing Thoughts .....	24
Resources.....	25
Appendix 1: Citations from Relevant Authoritative Guidance .....	27
Data .....	27
Assumptions/Adjustments.....	30
Non-Benefit Expense.....	33
Risk and Acuity Adjustment .....	35
Risk Mitigation .....	36
Communication .....	37



# Introduction

The COVID-19 pandemic created unprecedented changes in healthcare policy and in the utilization and delivery of healthcare services in the entire healthcare system, including the Medicaid program. These changes generated a challenging environment for actuaries to establish prospective Medicaid managed care plan capitation rates.

Key changes and uncertainties have included:

- The duration of the public health emergency, which impacts the timing of state eligibility redeterminations, temporary policy changes made by states in response to the pandemic, and increased federal funding in response to the pandemic.
- The economic consequences associated with the pandemic on Medicaid programs: the size, population mix, and acuity of the Medicaid population.
- The timing, cost, availability, and expected utilization of COVID-19 vaccines, testing and treatments.
- The expected cost and utilization of COVID-19 related services, particularly inpatient admissions and post discharge costs, and the extent of ongoing complications experienced by COVID-19 patients.
- The expected utilization of non-COVID-19 related services including curtailment of services in reaction to the pandemic, future pent-up demand of services that were curtailed, and the extent to which non-COVID-19 conditions were exacerbated due to the stress of the pandemic or foregone needed care.

The sections of this issue paper explore key components of rate setting, including data, assumptions and adjustments, risk mitigation, and communication. Each section addresses issues that actuaries might consider in their development of actuarially sound capitation rates during or shortly after the COVID-19 pandemic. Although this paper is focused on capitation rate setting, the same concepts apply to projecting Medicaid costs in budget forecasting scenarios.

This paper does not provide advice or guidance on the appropriateness of specific rate setting methodologies or assumptions but does outline applicable actuarial standards of practice (ASOPs) for ease of reference to actuaries dealing with the unique circumstances of

the pandemic. Actuaries rely on guidance from ASOPs to ensure they use generally accepted actuarial principles and practices so that work products meet federal guidelines.

For convenience throughout this document, time periods with respect to the pandemic are defined as follows:

- Pre-COVID: time period before the onset of the pandemic, February 2020 and prior.
- Early COVID: the beginning months of the pandemic (approximately March 2020 through May 2020, may vary by service and geography) where stay at home orders and shutdowns significantly impacted utilization, primarily a reduction in healthcare service utilization.
- Mid-COVID: Periods after June 2020 during which one or more surges in COVID cases may impact utilization and availability of services.
- Post-COVID: After the community has achieved partial resistance, either due to vaccine adoption or widespread exposure and access and utilization of healthcare services has stabilized.

In each of the sections to follow, this paper considers key COVID-affected elements of Medicaid capitation rates: data, assumptions/adjustments, non-benefit expense, risk and acuity adjustment, risk mitigation mechanisms, and communication. The paper includes separate sections on Resources and citations from Authoritative Guidance, providing links to key resources and relevant excerpts from the ASOPs and federal regulations for easy reference.

# Data

Identification of an appropriate base data period is an important early decision in the rate development process. Data in this context refers to claims, encounters, enrollment, and other information used as the basis for developing rates.

Regulations in [42 CFR 438.5\(c\)](#) allow the use of data from the three most recent and complete years prior to the rating period. Thus, actuaries can currently choose data from pre-COVID periods or from periods impacted by COVID-19; however, by around 2023, actuaries may no longer be able to use pre-COVID data without an approved exception by the Centers for Medicare and Medicaid Services (CMS) as allowed by §438.5(c)(3). Post-COVID experience available in 2023 may have stabilized and be fully appropriate for use as base data.

Whether selecting a base data period that is either exclusively pre-COVID or includes experience impacted by COVID-19, further challenges remain. If an actuary is using pre-COVID data, adjustments to reflect the pandemic's impact on the projection period may be indicated. If an actuary uses data that includes experience impacted by COVID-19, careful attention to abnormal utilization patterns and the timing of the pandemic's impact on the base data could help the actuary sufficiently address the assumptions and adjustments required to project the pandemic's impact on the projection period.

## Data Considerations

Actuaries might make the following considerations before using base data from time periods impacted by COVID-19.

- Delayed or avoided services may have resulted in reduced utilization of health care services during the early COVID period, which may not be representative of future health care utilization for some populations and services.
- The change in the mix of services may have resulted in average unit costs in the base period that are not representative of the unit costs going forward.
- New or existing members may not have used services sufficiently to create risk profiles as measured through a risk adjustment tool and related diagnosis or prescription drug codes.

- Data may be present for members who would no longer have been eligible without the Public Health Emergency (PHE) maintenance of effort (MOE) requirement on eligibility continuations, potentially changing the average risk profile or the portion of members with third-party coverage.
- Use of lower level providers, such as telehealth nurse lines could have caused lower coding intensity.
- Reduced specialist utilization may have decreased specific diagnostic coding on more complicated conditions.
- Delayed and foregone screening and preventive care could have postponed the identification and treatment of chronic and acute conditions, resulting in gaps in cost and utilization, as well as risk measurement.
- Social distancing measures that mitigated the spread of COVID-19 may also have mitigated the spread of other acute illnesses such as colds, flu, and other viral infections. Additional government actions along with social distancing prevented many sporting and recreational activities resulting in reductions in injuries. Claims for these acute conditions that would normally be in the data are not present.
- Changes in behavioral health utilization and treatment patterns may or may not be sustained in the future.
- Costs in the base period for COVID-19 specific claims, such as claims due to COVID-19 infections and COVID-19 testing, may or may not mirror COVID-19 specific claims in the rating period.

Further complicating the use of time periods impacted by COVID-19, the impact may not be consistent by population, geography, service category, or across months. Actuaries may consider analyzing the impact of the following:

- The timing and magnitude of treatment patterns can change over time in a way that makes summarization of the data problematic.
- States may have directed health plans to implement special payment arrangements with certain providers during early and mid-COVID periods.

- Health plans and states may have agreed on suspension of medical management practices with certain providers during early and mid-COVID periods. This information may be documented and included as supplemental data to accompany rate developments, if needed.
- State policies on disenrollment and member redetermination can vary by population, along with the dates they were effective and the speed at which they were implemented. In addition to members remaining enrolled in Medicaid longer, members might not have moved between rating groups (e.g., Medicaid to the Children's Health Insurance Program (CHIP)) in a manner consistent with the periods before or after the PHE.
- Treatment and service patterns influenced by local executive orders, ordinances, and provider decisions may have created differences in treatment patterns. An actuary would typically seek to ascertain the timing and nature of COVID-19 public health interventions to adequately understand where adjustments are needed. This includes information on closure orders, the suspension of elective procedures, school openings or closings, and business and unemployment support activities. Information on COVID-19 restrictions could be a new characteristic useful to develop local and regional adjustments.
- COVID-19 could have impacted various populations differently; an actuary might typically analyze the data by demographic levels that are different than in previous years.
- The size of the provider practice impacted access during COVID-19. Some smaller provider practices may have been more challenged to institute or maintain COVID-19 protocols or implement telehealth services in the same fashion as larger, more sophisticated providers.
- Claims payment patterns might not be consistent across all providers. Facility staff furloughs may have slowed billing processes. Reduced utilization at certain providers may have increased claim billing speed.
- Areas with provider stress, particularly with facility providers, could mean that care was diverted to facilities that would not normally be used for certain services. An actuary might typically consider information about provider capacity and the extent of diversion when analyzing data. This includes long-term services and supports (LTSS)/nursing-care facilities as well as acute-care facilities.

Other uses of data may be impacted by practice patterns during the pandemic. Data used to support quality withholds and bonuses may have similar issues and complexities that might be considered when evaluating the performance of plans and providers.

## Use of Mid-COVID or Post-COVID Data to Adjust Pre-COVID Base Period Data

While utilizing base period data from the early or mid-COVID period may present challenges, mid COVID or post-COVID data may be critical in developing prospective adjustments in rate setting. Any use of pre-COVID base data for rate setting may require the study of data following the onset of COVID-19 and an understanding of how that data may inform projections, including sustained changes to the health of the population, utilization patterns, and the health care system as a whole.

# Assumptions and Related Adjustments

Once the base data is determined and summarized, actuaries develop appropriate assumptions and adjustments to apply to that base data in the development of rates.

## Claim Cost Assumptions

The application of appropriate base data adjustments, claim cost trends, and managed care adjustments to prospective Medicaid managed care capitation rates may be challenging and important in a pandemic and post-pandemic environment. Specific considerations and questions as well as existing professional guidance and examples of their potential applicability to claim cost assumptions are provided here to inform the process of what goes into the development of actuarially sound rates during and after a pandemic.

Below are some areas that actuaries might address when developing capitation rates following the onset of COVID-19 as well as some sources of authoritative guidance actuaries might access to assist with their work:

- Base period adjustments: To the extent that the base period data differs from future projections, adjustments may be appropriate. Please refer to the previous section for a detailed list of considerations.
- Forecast Modeling: Historical models used to develop assumptions may need to be modified or replaced as they may not be appropriate for the new data patterns.
- Pandemic-specific assumptions: Many of these assumptions, including the examples below, may be sourced from outside subject matter experts. Note that ASOP No. 23 and ASOP No. 41 may be reviewed by any actuary relying on assumptions obtained from others.
  - Timing of the end of the PHE including when the MOE will be discontinued and how long it will take for a state to move members through the redetermination process.
  - Timing, frequency, and severity of future COVID-19 infection waves.

- Member and provider behavior in response to pandemic or pandemic-related actions, such as stay-at-home orders or continued social distancing recommendations, on medical utilization.
  - Timing, availability, member uptake, and cost of therapeutics to treat COVID-19 infections and COVID-19 vaccines. Note: the CMS has stated that the federal government will pay for vaccine costs, at least initially. Vaccine administration costs are eligible for a 100% Federal Medical Assistance Percentage (FMAP) through one year after the end of the PHE,<sup>1</sup> and CMS has stated that, to the extent managed care organizations are responsible for covering those administration costs, they may be included in Medicaid managed care capitation rates as with other covered benefits in the managed care plan contract.<sup>2</sup>
  - Frequency and cost of COVID-19 lab testing.
  - Inpatient admissions due to the pandemic and the associated cost per admission. Potential changes to average costs of admissions.
  - Impact of pandemic by demography—age, income, race, region, comorbidities.
  - Impact of the pandemic on economy and, thus, enrollment in Medicaid.
  - Potential endemic status of the COVID-19 virus, like the flu.
  - Impact of the end of the PHE, vaccines, member and government actions on other assumptions.
- Member acuity assumptions:
    - Impact of changes to Medicaid eligibility processes and/or unemployment on member acuity between base period and rating period. Adjusting for acuity changes is also discussed in the risk adjustment section of this paper.
    - Enrollment projections, including changes in the mix of members within a rate cell.
    - Impact of the pandemic on use and mix of nursing facility services and Home and Community Based Services (HCBS).
    - Impact of delayed or avoided services on utilization and future member health.

<sup>1</sup> [American Rescue Plan Act](#), Section 9821(b), 2021.

<sup>2</sup> CMS, "[Coverage and Reimbursement of COVID-19 Vaccines, Vaccine Administration, and Cost-Sharing under Medicaid, the Children's Health Insurance Program, and Basic Health Program](#)," May 5, 2021.

- Claim cost trends:
  - Pandemic impact on trend pattern of utilization and unit cost by service type. Examples: Telehealth utilization, elective surgeries, lab tests.
  - Unit cost impact from projected utilization patterns, e.g., lower inpatient utilization may likely increase the cost per inpatient admission.
  - Impact of changes in lag patterns, for both provider submissions and encounter submissions, during the pandemic that may impact the development of base data and trend assumptions.
- Managed care adjustments: Consideration may be given to the feasibility of specific managed care adjustments in a pandemic environment.
- Third-party liability: Consideration may be given to changes to the portion of members with other health care coverage as a result of the MOE and economic impacts.
- Withhold: Consideration may be given to reviewing assumptions on the portion of the withhold that is reasonably achievable, taking into account pandemic-related operational requirements.

## Interaction of Assumptions

The pandemic has created multiple changes in health plan policies, directed payments, program changes, and demographic changes that impact the assumption development. Actuaries may document these changes and the time periods for which they are applicable, and consider how the assumptions being developed are impacted by each of these. Selection of the base data period could affect the selection of data used to develop projection assumptions, so actuaries would take care to produce assumptions that do not duplicate any changes that are captured in the base data. For example, projection assumptions applied to mid COVID period base data may be different from adjustments that would have been applied if pre-COVID data was selected as the base period.

The large number of potential adjustments can add to modeling complexity. Potential considerations include the following:

- Assumptions linked to the PHE, such as the end of the MOE requirements and the end of other disaster relief policies, should generally assume a consistent date for the end of the PHE.

- If modeling reflects changes in member acuity related to the MOE or the end of the MOE, the model might also be expected to reflect service utilization changes.
- Where assumptions may interact, the actuary may wish to evaluate the aggregate impact. For example, if the model assumes member acuity will decline and also that utilization is down due to treatment avoidance, the combined impact of these assumptions may be evaluated for reasonableness relative to emerging experience.

Many of the COVID-19 assumptions that actuaries use could be highly uncertain and might also have the potential to produce material bias. To confirm that the assumptions are consistent with the intended purpose of capitation rate setting, which is to produce capitation rates that provide for reasonable, appropriate, and attainable costs, actuaries might consider performing sensitivity testing in furthering their understanding of the impact of each assumption on the model results.

# Non-Benefit Expense

Non-benefit costs could be impacted by COVID-related changes in program, operations, policies, expected utilization, service mix, and demographic makeup of the membership. Historical expenses may need to be adjusted to reflect changes resulting from the pandemic, as well as any changes to contractual requirements and the managed care organization (MCO) operations environment.

As with the benefit cost, historical information may not be available. This can make it difficult for actuaries to understand how non-benefit expenses might have changed due to the pandemic.

## Non-Benefit Expense Considerations

Below are some considerations for actuaries as they develop non-benefit expense allowances during and after the pandemic:

- There could be changes to contractual requirements, from CMS or the state, that MCOs must fund, such as:
  - Communications to members and providers, including increased outreach
  - Additional care coordination needed for high-risk MCO members with or at risk of COVID-19
  - Additional reporting and accounting, such as for new reconciliations or risk corridors
  - New state directed payments and implementation of new fee schedules or other claim payment IT needs
  - Contractual changes to a state's 1135 waiver, such as changes to requirements for network adequacy, prior authorization, and care coordination metrics
  - Vaccine promotion and tracking
  - Additional initiatives, such as incentives for childhood vaccinations or waiving of cost sharing
  - Costs for purchases of personal protective equipment (PPE) and other COVID-19-related supplies for employees including retro-fitting offices to make workplaces COVID-19 safe
  - Additional costs to enable employees to work from home (equipment, IT support, reimbursement for internet or phone services, etc.)

- Waiver requirements due to emergency authorizations requested by the states. These waivers may result in temporary reductions to cost sharing collection, prior authorizations, monthly contribution collection, or other administrative actions waived during the PHE. Actuaries might discuss with the state and MCOs the possibility of reducing non-staffing costs such as mailings and, to the extent it is feasible, the ability to temporarily reassign staff who normally perform these functions, which may reduce some staffing costs. Actuaries might also consider the need for MCOs to retain staff sufficient to meet administrative requirements after the PHE.
- Travel expenses
- Lower power and water bills at MCO offices (if employees are working from home)

## The Impact of Enrollment Changes on PMPM Non-Benefit Expense

It is critical to consider changes in membership when developing per member per month (PMPM) non-benefit expense amounts. Most states are experiencing material enrollment growth during the pandemic due to MOE requirements. Any changes in projected MCO costs are spread over projected membership, which may grow during the MOE and decline after the requirement is lifted. Since a percentage of MCO costs are fixed costs that do not vary with membership, the enrollment growth may lead to lower non-benefit PMPM costs during peak enrollment, with the expectation that this would be reversed when enrollment returns to prior levels. Depending on the speed of member redetermination reviews following the PHE and the pace of economic recovery, it may take months or years for enrollment to fully return to pre-COVID levels. Another consideration is that enrollment changes may vary by MCO.

Reduced utilization may have a material impact on PMPM variable costs such as claims processing and prior authorizations. Although aggregate expenses for these services may be stable or even increasing, due to increasing membership, it might be appropriate to temporarily reflect lower variable costs on a PMPM basis, again with the expectation that this would be reversed when utilization returns to prior levels.

Determination of the best assumptions for changes in non-benefit expenses may involve difficult and complex enrollment projections, projections of future treatment patterns, and a timeline for the future course of the pandemic. As discussed in ASOP No. 56, *Modeling*, section 3.1.6(c), assumptions used to develop the non-benefit cost should be consistent with related assumptions in the claims cost projections.

## Other Considerations

In addition to considering how the pandemic may have changed MCO costs, and how enrollment changes may have affected costs on a PMPM basis, changes may not be uniform and may involve additional uncertainty:

- Some changes in expenses could be population or region specific.
- Changes in expenses could be one-time costs, temporary, or ongoing costs.
- Some changes in expenses are fixed for the entire rating period but some may change during the rating period.
- Investment income may be impacted by the pandemic environment.
- Underwriting gain may have been impacted by the COVID environment and contractual changes.
- The uncertainty surrounding COVID-19 may have impacted the risk inherent in capitation rates. Changes in risk would normally be considered in conjunction with the risk mitigation approach and are discussed further in the Risk Mitigation section.

# Risk and Acuity Adjustment

## Current Practice

In Medicaid managed care rate-setting, cost neutral risk adjustment is commonly used to better align the premiums paid to the MCOs with the morbidity of plan members and to mitigate adverse selection. Cost neutral risk adjustment is commonly applied prospectively, using morbidity in a base period to project expected risk in the rate effective period and thereby allocate the total prospectively determined premium among the MCOs. Cost neutral risk adjustment can also be done concurrently, using morbidity in the rate effective period to allocate the total prospectively determined premium among the MCOs, however concurrent risk adjustment can only be accomplished after the end of the rating period.

Acuity analysis is used to measure overall population morbidity changes over time.

Retroactive acuity adjustment is not necessarily cost neutral and less commonly employed in rate setting. However, acuity adjustment can be useful when:

- Population morbidity is expected to be volatile and uncertain.
- Rating period morbidity is likely to differ from that assumed in prospective rate setting (which is typically based on morbidity during the base period).

## Application of Risk and Acuity Adjustments to Pandemic Experience

COVID-19 simultaneously amplifies the need for risk and acuity adjustment while challenging the risk adjustment tool's accuracy. As an overall framework, risk or acuity adjustment can be helpful where there are material changes affecting plan selection, coverage policies, the morbidity of the covered population, condition prevalence, or changes in underlying social determinants of health (SDOH). Listed below are a few COVID-19-related population morbidity shifts that may draw the actuary's attention (not exhaustive):

- Between health plans, variations in COVID-19 prevalence or actual or perceived differences in ability to access COVID-19 testing and treatment, telemedicine, or vaccines could fuel adverse selection.

- CMS MOE requirements have eliminated “churn,” causing enrollment to grow steadily in most states. In many states the additional membership is expected to persist several months after the PHE ends and is likely to impact average acuity.
- Treatment deferred or foregone, especially during the early part of the pandemic, could cause existing conditions to worsen over the long term—including physical, behavioral, and substance use disorder.
- Job losses, evictions, interrupted schooling, isolation, and food insecurity have all exacerbated the toll of the pandemic and may shape future health care costs.

Risk and acuity adjustments, and retroactive acuity adjustments in particular, have the potential to inform and/or mitigate the impact of many of these opposing forces. As with all actuarial modeling, a decision to make no adjustment for a known COVID-19 factor has the same level of responsibility for analysis and documentation as for any non-zero adjustment.

## Consideration of Adjustments to Risk Models

The unprecedented pace of change that makes risk and acuity adjustment appropriate also requires the actuary to carefully consider appropriate application of risk adjustment models. Models available today were developed and calibrated using pre-pandemic condition categories, Medicaid populations, treatment patterns, payment timing, reimbursement, and other characteristics all of which may or may not change materially either during or after the pandemic. ASOP No. 45, *The Use of Health Status Based Risk Adjustment Methodologies*, repeatedly stresses the importance of consistency between the information used to develop the model and the situation to which the model is applied, including consistency between populations, program, claim run-out, and the accuracy and completeness of coding. In general, best practice is to consider the various inconsistencies that may have been introduced by the pandemic, perform analyses to determine materiality, and develop adjustments as appropriate. The remainder of this section considers a variety of pandemic-related inconsistencies actuaries may encounter.

Completeness of coding is an oft-stated concern in the context of the pandemic. Due to initial deferrals of elective treatments, followed by provider access issues and well-documented avoidance of treatment by individual choice, the claims data experience from the pandemic might be less robust than pre-pandemic. To the extent that members with chronic conditions avoided treatment, and did not generate claims with diagnoses for a

full year, it may reduce the percentage of members with chronic conditions the actuary is able to identify, or the relative severity of those conditions. The under-diagnosis may affect both new and continuing members. Actuaries might consider analysis to provide insight into an appropriate magnitude for this adjustment. For example, an actuary may compare the level of newly diagnosed chronic conditions with the prior year for reasonableness. An alternative analysis might be to develop an explicit quantitative “deferred treatment adjustment” that could be applied to all risk scores. One approach would first select members identified with a chronic condition such as diabetes in 2018, and calculate the percentage of those members, if still enrolled in 2019, who continued to be identified with diabetes in 2019. This would presumably be a fairly high percentage and form a baseline “normal” value. The same analysis could then be performed using pre-COVID and data impacted by COVID-19, such as with calendar years 2019 and 2020. To the extent that a higher percentage of continuously enrolled members with chronic conditions were *not* identified in 2020, this may provide a reasonable adjustment to apply to risk scores for completeness of coding. As a check, comparison of this adjustment with results from pharmacy-only risk adjustment tools may be utilized. This check may produce reasonable results to the extent that pharmacy utilization was not materially impacted by the pandemic over the near term and the pharmacy-only risk adjustment model used adequately reflects emerging pharmaceutical-based treatments.

Duration adjustment may also be appropriate, depending on whether there is a material duration difference between MCOs, in the case of cost neutral risk adjustment, or between the base period and rating period, for retrospective acuity adjustment. The pandemic may have generated an unusual number of new members, reducing duration, or, in contrast, an actuary might find that reducing “churn” has caused duration to increase.

Treatment changes that have occurred over the course of the pandemic have been well documented. Utilization of telehealth in Medicaid has increased several thousand percent,<sup>3</sup> is popular with patients, and CMS has taken steps to expand telemedicine use in Medicare and encourage its use in Medicaid.<sup>4</sup> Expansion of telehealth may reduce costs, by avoiding emergency department (ED) visits and non-emergency medical transportation (NEMT)

<sup>3</sup> CMS press release, “[Trump Administration Drives Telehealth Services in Medicaid and Medicare](#),” Oct. 14, 2020.

<sup>4</sup> CMS, “State Medicaid & CHIP Telehealth Toolkit: Policy Considerations for States Expanding Use of Telehealth, COVID-19 Version,” undated.

costs, but access may be lacking, especially in rural areas, and telemedicine savings may be offset by potential duplication of services and increased utilization. The pandemic has also accelerated a decades-long decline in hospitalizations, replacing some hospitalizations with home treatment, shifting infusions and testing to clinics, and increasing use of home care. The net impact on cost may vary by condition category, affecting the relative cost of various chronic conditions. After post-COVID data is available, a recalibration of model weights could be indicated. However, this leaves a gap in appropriate data available for recalibration in the short term.

Actuaries who commonly perform prospective cost neutral risk adjustment may consider moving to a concurrent risk adjustment approach, calculated retrospectively. For time periods during or shortly after the pandemic, this may help to account for the changes in the total and relative population acuity changes in addition to the MCO-specific acuity changes. A prospective risk adjustment methodology is only accurate if relative risk scores during the data period are consistent with relative risk scores during the rating period. Changes unleashed by this unprecedented pandemic may call the assumption of consistency into question. Examples of potential issues may include:

- Uneven enrollment growth between MCOs
- Adverse selection due to more generous COVID-19 testing policies for individual MCOs
- Varying MCO market shares in an area where the economy has been harder hit or where there is less social distancing
- Differences in prevalence of chronic conditions, such as diabetes, that may be disproportionately affected by the pandemic

## Long-Term Services and Supports

Most of the discussion on risk and acuity adjustment in general also applies to LTSS populations, with the caveat that the majority of this population's weights rely on LTSS-specific parameters. The picture can be complicated by members shifting from institutional to community-based services during the pandemic. This impact may vary by geographic area. Actuaries might use pre-pandemic base data, combined with more recent late-pandemic HCBS mix statistics to adjust for this risk. Actuaries might also ascertain whether the shift to or from community services resulted in changes in average acuity and cost. Further, there may be uncertainty over whether the shift to or from the community will be fully or partially sustained. These impacts may vary depending on state-specific conditions, such as whether there is adequate compensation for HCBS workers, meaningful supports for family caregivers, and strong safeguards on safety protocols for nursing homes.

## Going Forward, Post-Pandemic

To reflect changes in treatment patterns and resource use that may persist post-pandemic, such as increased acceptance of telehealth services or residual complications of COVID-19, it may be appropriate for researchers to analyze changes in costs for key condition categories over time. To the extent these changes are material and sustained, actuaries might consider recalibrating risk adjustment model weights using post-COVID and/or mid COVID experience. As experience unfolds through 2021, 2022, and later, actuaries may monitor experience—prevalence, acuity, treatment, reimbursement, and others—as changes may take an extended time to attain relative stability.

# Risk Mitigation

In previous sections, broader risk mitigation suggestions have been provided on topics such as working with inconsistent or non-representative data, non-benefit cost considerations, and utilizing retroactive acuity adjustment to mitigate acuity changes associated with enrollment growth. This section considers both standard risk mitigation tools and any other measures that can be taken to reduce risk for relevant parties.

## Prospective Implementation Under the Final Rule

As recently finalized under [42 CFR § 438.6\(b\)\(1\)](#), all risk sharing mechanisms to be applied during a rating period must be defined and documented in the contract and rate certification prospectively, and be developed using valid rate-setting principles.

Notwithstanding the above, other mechanisms discussed in this section may still be implemented retroactively under the final rule, such as rate adjustments to address policy and program changes. However, as a matter of transparency and partnership, it would be optimal to have collaboration between state and health plan actuaries, to the extent feasible, well before such changes are memorialized in a rate amendment. Ideally, the potential for such amendments would have been discussed with MCOs when initial rates were developed.

## ‘Standard’ Risk Mitigation Tools That May Be Used to Mitigate Pandemic Risk

The standard risk mitigation tools include risk corridors, reinsurance, stop loss limits, minimum medical loss ratio remittances, and other explicit risk sharing agreements. These tools can be used to mitigate the risk of under- or over-pricing resulting from the uncertainty related to the various pandemic impacts discussed in this paper. These mitigation tools are all subject to the final rule on prospective implementation and must be defined in advance of the rating year. Of these tools, minimum medical loss ratio remittances are limited to addressing the state’s risk of over-pricing, and do not mitigate risk to plans of underpricing. Reinsurance and stop loss limits are effective at reducing risk from individual large claims, but are not the ideal tools to deal with the new uncertainties of the pandemic, such as when vaccinations may be widely available, the magnitude of enrollment growth, and changes to acuity and treatment patterns.

Risk corridors and general risk sharing agreements have more potential to address the combination of pricing uncertainties introduced by the pandemic. These programs can be used to mitigate the risk of excessive gains or losses by the plans resulting from material differences in actual experience compared to rating assumptions. In designing these programs, actuaries might keep in mind that their impact depends on how they are implemented and their interaction with rate setting. Also, actuaries might pair a risk corridor with one or more mid-year updates, to improve projections when program, policy, or membership changes impact the original rating assumptions.

## State Policy Considerations Impacting Risk

State decisions can have a large impact on program cost and risk, for example by modifying program requirements or the rate setting process. Following are examples of state policy decisions unique to the current environment that may be considered by actuaries setting capitation rates:

- **Mid-year adjustments:** The ability to make mid-year adjustments may be affected by a state's openness to work with its actuaries to assess the need for prospective mid-year rate adjustments based on material variation of emerging experience from projected. Since there will inherently be deviation between actual and projected experience, it may be helpful to prospectively define situations in which capitation rates can be adjusted, for example, large changes in enrollment or utilization of services.
- **Vaccines and Testing:** States can decide whether MCOs will bear the full risk for COVID-19 related vaccination, testing, and treatment expenditures, or whether to carve-out or reimburse MCOs all or a portion of those expenditures through a non-risk arrangement. These decisions could be influenced by the availability of an enhanced federal match for certain services.
- **Risk corridor:** Application of a risk corridor program may mitigate the risk of uncertainty in rate setting assumptions. Actuaries might consider how a risk corridor intersects with minimum medical loss ratio or other similar requirements.
- **Directed payments:** Directed payment arrangements or other initiatives may be used to reimburse providers for increased COVID-19 related costs, stabilize safety net or other key providers, address health care disparities, or advance value-based purchasing programs.

- **Quality and withholds:** States and their actuaries may evaluate whether changes are needed so quality withhold or incentive programs reflect the pandemic environment. For example, changes in provider-to-patient contact requirements may impact the attainability of quality provisions in MCO contracts, especially for preventive measures.

## Risk Margin

The items above might be considered by actuaries in determining an appropriate risk margin to include in the prospective capitation rates. Some considerations include:

- Risk corridors or medical loss ratios (MLR) guarantees can affect program risk margin.
- Risk might have changed due to the uncertainty of assumptions such as infection rates, costs associated with COVID-19 infections, or changes in historical utilization of service categories.
- The claim projections in the rates could involve additional uncertainty, which can impact the risk margin needed in the rates. Historical models used to develop risk margin may no longer be appropriate or may require adjustment.
- The probability of achieving managed care adjustment assumptions in the rate development can be more or less than previous years, which may impact the risk margin modeling.

To provide full transparency, risk considerations should be summarized and communicated as part of risk margin development.

# Communication

Forecasting and rate development may involve actuaries having to work with incomplete data; necessitating them making actuarial judgments and developing assumptions sometimes without historical data to use as the basis. Additionally, the results of their work may be scrutinized more than in previous years given the uncertainty of the current situation.

Detailed documentation may be needed to support the soundness of the actuary's choices and assumptions. [ASOP No. 41](#), *Actuarial Communications*, provides overarching guidance for actuaries' communications on their work products. Section 4 of each ASOP described in previous sections of this paper contains communication requirements when issuing actuarial communications.

Each actuary certifying Medicaid capitation rates should recognize they are certifying both the result and the process to be reasonable. In other words, all supporting documents comprising the work-product and the main actuarial report should address all relevant sections of ASOP No. 49, *Medicaid Managed Care Capitation Rate Development and Certification*, ASOP No. 41 and related ASOPs.

Assumptions developed by the actuary in the current environment may carry a high level of risk or uncertainty due to the pandemic; therefore, the actuary may need to provide additional documentation to support these assumptions and provide clear descriptions of the reasoning used to develop the assumption. Actuaries could also consider providing descriptions of scenarios or ranges of assumptions considered as they performed their work.

# Social and Physical Determinants of Health

The pandemic has intensified the focus on the societal factors and physical conditions that impact people's health such as housing instability, food insecurity, employment, environmental factors, natural and other disasters, racial disparities, and addiction. Actuaries have not typically had access to credible data to add these factors to analyses, but this may be a window of opportunity to request and receive more data.

Although the international classification of diseases (ICD) code for homelessness, (ICD-10-CM Code, Z59.0), is not entered on claims and encounters as frequently as it could be, state Medicaid agencies generally have access to member address information over time, and actuaries could flag members with three or more addresses during the data period as having unstable housing. Similarly, state Medicaid agencies have access to race and ethnicity data. ZIP codes or census tracts have been used, with mixed success, as a proxy for economic status or social vulnerability. Addiction and serious mental illness indicators may be available in the claims data. Publicly available information on hurricanes, floods, pollutants, or particulate emissions during extreme forest fire events can be mapped using member address files. This is an opportunity for actuaries to perform targeted analyses to inform discussions with states on how best to use information on social and physical determinants of health in rate setting, in targeted incentive payments, and in policy.

# Closing Thoughts

Although most of the adjustments described in this paper are largely independent of one another, actuaries should take care to consider interaction or overlap, where it occurs. Also, if the actuary chooses to make a number of adjustments, reasonability is best considered both individually and in aggregate. As stated in Section 3.1.6.e of ASOP No. 56:

“While assumptions might appear to be reasonable individually, conservatism or optimism in multiple assumptions may result in unreasonable output.”

More than ever, program success requires partnership and open communication between actuaries working for states and MCOs. Difficult projections would benefit from multiple perspectives and access to the best data. Transparency and integrity will help actuaries fully comply with precept 1 of the Code of Professional Conduct, and our obligations “to fulfill the profession’s responsibility to the public and to uphold the reputation of the actuarial profession.”

Actuarial standards of practice are foundational to the integrity of the actuarial profession. In these unprecedented times, actuaries benefit from consulting and reviewing the ASOPs and consider them in respect to the considerations contained in this paper when establishing prospective Medicaid managed care capitation rates.

# Resources

Below are key resources for capitation rate setting. Sections that may provide considerations for reflecting the impact of COVID-19 have been noted.

## **Medicaid managed care regulations in 42 CFR 438. [42 CFR 438.5\(c\)](#)**

- §438.5 contains key definitions and guardrails around process, data, trend, the non-benefit component, adjustments, and risk adjustment
- §438.6(b) addresses the requirement for prospective documentation of risk sharing mechanisms, effective December 13, 2020

## **[CMS 2020-2021 Medicaid Managed Care Rate Development Guide For Rating Periods Starting between July 1, 2020 and June 30, 2021:](#)**

- Provides sub-regulatory amplification of 42 CFR 438, including additional details on data selection, trend, non-benefit expense

ASOP No., 12 [Risk Classification](#) (for All Practice Areas):

ASOP No., 23 [Data Quality](#):

- Section 3.4 addresses standards of practice when data is not accurate and complete
- Sections 3.5 and 3.6 provide guidance on reliance on data and other information supplied by others
- Section 4.1 addresses appropriate disclosures related to data quality

ASOP No. 41, [Actuarial Communications](#): Section 3.2 provides general guidance on documentation standards for actuarial communications

- Section 3.4 provides guidance on disclosures related to uncertainty or risk and to reliance on data or assumptions from others

ASOP No. 45, [The Use of Health Status Based Risk Adjustment Methodologies](#):

- Sections 3.1.4, 3.1.5, and 3.2 provide guidance on using consistent population, program, timing, claims run-out, and type of data used when performing risk or acuity adjustment
- Section 3.6 addresses considerations on recalibration of risk adjustment weights

ASOP No., 49 *Medicaid Managed Care Capitation Rate Development and Certification*:

- Section 3.2.4 provides guidance related to the selection of the base data
- Section 3.2.7 and 3.2.8 provide guidance related to base data adjustments
- Section 3.2.9 provides guidance on trend development
- Section 3.2.10 provides guidance on managed care adjustments
- Section 3.2.11 provides guidance on non-claim based medical expenditures
- Section 3.2.12 provides guidance on non-medical expenses

ASOP No. 56, *Modeling*

- Sections 3.1 and 3.2 provide guidance on considering the impact of data on modeling, reliance on data supplied by others
- Section 3.1.6 provide guidance on assumption development, using a range of assumptions, consistency between various assumptions used in the model, and on considering the reasonability of assumptions when taken in aggregate

# Appendix 1: Citations from Relevant Authoritative Guidance

This appendix cites authoritative guidance, primarily ASOPs or federal regulations, that may be helpful to an actuary working on the capitation rates during or after the COVID-19 pandemic. As in the main paper, this appendix is ordered by rate-setting topic.

## Data

### Base data selection

42 CFR [§438.5v\(c\)\(2\)](#) sets guardrails around the time period selected as base data,

“States and their actuaries must use the most appropriate data, with the basis of the data being no older than from the 3 most recent and complete years prior to the rating period, for setting capitation rates.”

And also states,

“Data must be in accordance with actuarial standards for data quality and an explanation of why that specific data is used must be provided in the rate certification.”

However, [§438.5\(c\)\(3\)](#) provides for an exception if data quality standards are not met,

“States that are unable to base their rates on data meeting the qualifications in paragraph (c)(2) of this section that the basis of the data be no older than from the 3 most recent and complete years prior to the rating period may request approval for an exception; the request must describe why an exception is necessary and describe the actions the state intends to take to come into compliance with those requirements.”

And should this exception not be granted, this is addressed in ASOP No. 23, Section 3.4:

“However, if the actuary is required by a regulator or other governmental authority to use data that the actuary considers unsuitable for use in the actuary’s analysis, the actuary may use the data subject to the disclosure requirements of section 4.”

## Data quality

Regardless of the data period used, the actuary may consider assessing whether the data is appropriate for the rate setting process. Section I.2.B.ii of the [CMS Medicaid Managed Care Rate Development Guide](#) provides a list of items to consider as the actuary uses a data set to develop the rates.

ii. The rate certification, as supported by the assurances from the state, must thoroughly describe the data used to develop the capitation rates, including:

(b) information related to the availability and the quality of the data used for rate development, including:

(i) the steps taken by the actuary or by others (e.g., State Medicaid Agency; health plans; external quality review organizations; financial auditors; etc.) to validate the data, including:

(A) completeness of the data.

(B) accuracy of the data.

(C) consistency of the data across data sources.

## Data adjustments

Actuaries may use base data from Pre-COVID periods or periods impacted by COVID-19, as long as the appropriate adjustments are made to project the data to the rating period. [ASOP No. 49](#), Section 3.2.7 provides guidance related to the three types of base period adjustments that may be considered: retroactive, interim, and prospective period adjustments.

“Base Data Period Adjustments—The actuary should consider base data period adjustments of the following three types:

a. Retroactive Period Adjustments—The retroactive period adjustments reflect changes that occurred during the base data period to standardize the data over the base data period.

b. Interim Period Adjustments—The interim period adjustments reflect changes that occurred between the base data period and the rating period.

c. Prospective Period Adjustments—The prospective period adjustments reflect changes that will occur in the rating period.”

ASOP No. 49 Section 3.2.8 provides further guidance on missing data adjustments, adjustments for population changes, and for program, benefit, or policy changes.

“Other Base Data Adjustments—The actuary should consider other base data adjustments, which may include the following:

a. Missing Data Adjustment—Circumstances that may cause data to be missing ...”

“c. Population Adjustment—The population adjustment modifies the base data to reflect differences between the population underlying the base period and the population expected to be covered during the rating period.”

“f. Program, Benefit, or Policy Adjustments—The program, benefit, or policy adjustments reflect differences in benefit or service delivery requirements between the base period and the rating period that impact the financial risk assumed by the MCO.”

And finally, [ASOP No. 23](#) Section 3.4c provides guidance on standards of practice when accurate and complete data is not available.

“c. judgmental adjustments or assumptions can be applied to the data that allow the actuary to perform the analysis. Any judgmental adjustments to data or assumptions should be disclosed in accordance with section 4.1(f). If the actuary judges that the use of the data, even with adjustments and assumptions applied, may cause the results to be highly uncertain or contain a significant bias, the actuary may choose to complete the assignment but should disclose the potential existence of the uncertainty or bias, and, if reasonably determinable, the nature and potential magnitude of such uncertainty or bias, in accordance with section 4.1(g). Alternatively, the actuary may compensate for the data deficiencies by adjusting the results, such as by increasing the range of reasonable estimates, and disclose the adjustments, in accordance with section 4.1(f);”

Correctly adjusting the data may require an understanding of how data impacted by COVID-19 differs from Pre-COVID data. Actuarial judgment, along with expert advice, may support projections on how future periods may be impacted by COVID-19.

## Data used in actuarial modeling

Actuaries may also consider how their historical models for developing capitation rates may be impacted by the base data used in the model. Historical models may need to be modified to reflect the data adjustments needed to produce reasonable projections. [ASOP No. 56](#) provides guidance on confirming that model data, assumptions, and other parameters are consistent with the intended purpose, and requires the actuary to understand the data used in the model and how that data may impact the final results of the model.

“3.1.3 Using the Model—When using the model, the actuary should make reasonable efforts to confirm that the model structure, data, assumptions, governance and controls, and model testing and output validation are consistent with the intended purpose.”

“3.2 Understanding the Model—When expressing an opinion on or communicating results of the model, the actuary should understand the following:

c. limitations of data or information, time constraints, or other practical considerations that could materially impact the model’s ability to meet its intended purpose.”

The actuary may try to develop an understanding of the outside forces that impacted the base data, the reasons for the changes in utilization and price patterns, and the new expected patterns of costs in order to validate the appropriateness of the base data used in the model.

## Assumptions/Adjustments

Much of the guidance referenced in the data section of this paper may also guide the actuary in developing data adjustments.

### Trend, adjustments, and other assumptions

Regulations in 42 CFR [§438.5\(d\)](#) address trend:

“Trend. Each trend must be reasonable and developed in accordance with generally accepted actuarial principles and practices. Trend must be developed primarily from actual experience of the Medicaid population or from a similar population.”

Section [438.5\(f\)](#) addresses trend:

“Adjustments. Each adjustment must reasonably support the development of an accurate base data set for purposes of rate setting, address appropriate programmatic changes, reflect the health status of the enrolled population, or reflect non-benefit costs, and be developed in accordance with generally accepted actuarial principles and practices.”

Both adjustments and trend are discussed in more detail in [CMS 2020-2021 Medicaid Managed Care Rate Development Guide](#). The guidance notes that assumptions should be reasonable and developed in accordance with generally accepted actuarial principles and practices.

“In accordance with 42 CFR § 438.5(d), each projected benefit cost trend assumption must be reasonable and developed in accordance with generally accepted actuarial principles and practices. Trend must be developed primarily from actual experience of the Medicaid population or from a similar population and include consideration of other factors that may affect projected benefit cost trends through the rating period.”

[ASOP No. 49](#), Section 3.2.9 contains guidance on elements to be taken into account when setting claim cost trends:

“The actuary should include appropriate adjustments for trend and may consider a number of elements in establishing trends in utilization, unit costs, or in total. Medicaid utilization trend rates may be particularly affected by changes in demographics and benefit levels, and by policy or program changes. Medicaid unit cost trends may be particularly affected by changes in state-mandated reimbursement schedules (if applicable), Medicaid fee-for-service fee schedules, and provider contracting performed by the MCOs. The trend assumption should not include adjustments captured elsewhere in the capitation rate development.”

Section 3.2.10 contains guidance on setting attainable managed care assumptions:

“The actuary may apply managed care adjustments based on the assumption that the program will move from the level of managed care underlying the base data to a different level of managed care during the rating period. The adjustments may be to utilization, unit cost, or both, and the impact of the adjustments may be either an increase or a decrease to the base data. If managed care adjustments are included, the changes reflected in the adjustments should be attainable in the rating period, in the actuary’s professional judgment.”

And Section 3.2.11 contains guidance on non-claim-based medical expenditures:

“The actuary should consider Medicaid-specific payments that are not included in the base data or that are included in the base data but for which the historical costs do not represent future costs. The actuary should determine whether these amounts will be an expense to the MCOs, and if so, how the amounts should be reflected. These types of payments include, but are not limited to, the following:

- a. disproportionate share hospital payments;
- b. federally qualified health centers or rural health clinics supplemental settlement payments;
- c. medical education payments;
- d. intergovernmental transfers; and
- e. pharmacy rebates anticipated to be collected by the MCO.”

### Modeling assumptions

In Section 3.1.6, [ASOP No. 56](#) provides guidance on setting model assumptions, confirming internal consistency of individual model assumptions, and considerations on how the assumptions may interact.

“For models that use assumptions as input, the actuary should use, or confirm use of, assumptions that are appropriate given the model’s intended purpose. The following guidance applies for models that use assumptions as input:

- a. Setting Assumptions—When setting assumptions for which the actuary is taking responsibility, the actuary should consider using the following data or information:
  1. actual experience properly modified to reflect the circumstances being modeled, to the extent actual experience is available, relevant, and sufficiently reliable;
  2. other relevant and sufficiently reliable experience, such as industry experience that is properly modified to reflect the circumstances being modeled, if actual experience is not available or relevant, or is not sufficiently reliable;
  3. future expectations or estimates, including those derived from market data, when available and appropriate; and
  4. other relevant sources of data or information.
- b. Range of Assumptions—The actuary may consider using a range of assumptions and, if so, whether the number of model runs analyzed reflects a set of conditions consistent with the intended purpose.
- c. Consistency—Where appropriate, the actuary should use, or confirm use of, assumptions for the model that are reasonably consistent with one another for a given model run.

If the actuary is aware of material inconsistencies among assumptions used by the actuary in the model, the actuary should disclose the inconsistencies and known reasons for the inconsistencies.

d. Appropriateness of Input in Current Model Run—Where practical and appropriate, the actuary reusing an existing model should evaluate whether input unchanged from a prior model run is still appropriate for use in the current model run.

e. Reasonable Model in the Aggregate—The actuary should assess the reasonability of the model output when determining whether the assumptions are reasonable in the aggregate. While assumptions might appear to be reasonable individually, conservatism or optimism in multiple assumptions may result in unreasonable output.”

Section 3.2 of ASOP No. 56 provides guidance on communicating modeling results:

When expressing an opinion on or communicating results of the model, the actuary should understand the following:

- a. important aspects of the model being used, including but not limited to, basic operations, important dependencies, and major sensitivities;
- b. known weaknesses in assumptions used as input, known weaknesses in methods or other known limitations of the model that have material implications; and
- c. limitations of data or information, time constraints, or other practical considerations that could materially impact the model’s ability to meet its intended purpose.

## Non-Benefit Expense

### General guidance on non-benefit expense

Overarching guidance on development of assumptions from CMS can be found in Federal Regulations under part 438.5 as follows:

CMS guidance from 42 CFR [§438.5\(e\)](#):

“Non-benefit component of the rate. The development of the non-benefit component of the rate must include reasonable, appropriate, and attainable expenses related to MCO... administration, taxes, licensing and regulatory

fees, contribution to reserves, risk margin, cost of capital and other operational costs associated with the provision of services identified in 438.3(c)(1)(ii) to the populations covered under the contract.”

Additionally, [CMS 2020-2021 Medicaid Managed Care Rate Development Guide](#) section I.5.A.i. states:

“In accordance with 42 CFR 438.5(d), the development of the non-benefit component of the rate must include reasonable, appropriate, and attainable expenses related to MCO, PIHP or PAHP administration, taxes, licensing and regulatory fees, contribution to reserves, risk margin, and cost of capital. In addition, the non-benefit component must include other operational costs associated with the provision of services under the contract, including those administrative costs for compliance with the mental health parity standard in 42 CFR 438.3, subpart K.”

### **Non-medical assumptions**

[ASOP No. 49](#), Section 3.2.12 provides guidance on non-medical assumptions:

“The actuary should include amounts for appropriate non-medical expenses in the development of the capitation rates. The non-medical expenses may vary by MCO.

- a. Administration—The actuary should include a provision for administrative expenses appropriate for the Medicaid managed care business in the state.
- b. Underwriting Gain—The actuary should include a provision for underwriting gain, which is typically expressed as a percentage of the premium rate, to provide for the cost of capital and a margin for risk or contingency. The underwriting gain provision provides compensation for the risks assumed by the MCO. These risks may include insurance, investment, inflation, and regulatory risks, as well as risks associated with social, economic, and legal environments. The actuary should consider the effect of any risk sharing arrangements discussed in section 3.2.14, and performance withholds and incentives discussed in section 3.2.15.

The methods used to develop the underwriting gain provision of the capitation rate should be appropriate to the level of capital required and the type and level of risk borne by the MCO. The actuary may reflect investment income in establishing the underwriting gain component of the capitation rate, although an explicit adjustment is not required. Elements of investment income that the actuary may reflect include investment income from insurance operations and investment income on capital and underlying cash flow patterns.”

Guidance discussed in the data and assumption sections of this paper from sections may also assist the actuary in developing non-benefit expense assumptions. In particular, ASOP 23 and ASOP 41 should be reviewed by any actuary relying on assumptions obtained from others, and sections 3.4 and 4.1(g) of ASOP 23 and sections 3.1.6 and 3.2 of ASOP 56 may also assist the actuary in developing reasonable, appropriate, and attainable non-benefit expense assumptions.

## Risk and Acuity Adjustment

### Consistency between model development and application

[ASOP No. 45](#), *The Use of Health Status Based Risk Adjustment Methodologies*, repeatedly stresses the importance of consistency between the information used to develop the model and the situation to which the model is applied, including consistency between populations, program, claim run-out, accuracy and completeness of coding.

Section 3.1.4—population and program:

“The actuary should consider if the population and program to which the model is being applied are reasonably consistent with those used to develop the model.”

Section 3.1.5—timing and claims run-out:

“The actuary should consider the impact of differences between the application of the model and its development with respect to timing issues such as the incurral period, estimation period, and claims run-out period.”

Section 3.2—type of data, including accuracy and completeness of coding:

“The type of input data that is used in the application of risk adjustment should be reasonably consistent with the type of data used to develop the model. Also, the type of input data should be reasonably consistent across organizations, populations, and time periods. If such consistency is not possible, the actuary should document why the combination of that data and the selected model was used, and any adjustments made to the data, model, or methodology to address limitations in the data. If sufficient information concerning the quality and type of input data used to develop or apply the model is not available, the actuary should consider whether use of the model is appropriate.

## Adjustments applied to the risk adjustment model

Where there are potential concerns, the actuary is asked to consider whether adjustments to the risk adjustment process are appropriate.

“...the actuary should consider how coding, incomplete data, and other data issues may be affecting the results and consider whether adjustments to the risk adjustment process are appropriate. Adjustments may include phase-in, the use of alternate models, and adjustment for changes in coding over time...”

## Recalibration

Section 3.6 of ASOP 45 also provides context for determining when to recalibrate risk adjustment models:

“The actuary should consider the necessity and advantages of recalibration in the context of available resources, materiality of expected changes in results, appropriateness of the unadjusted model risk weights, level of transparency afforded by the model, and limitations in the data available for recalibration.”

# Risk Mitigation

## Prospective application

As recently finalized under 42 CFR § 438.6(b)(1), all risk sharing mechanisms to be applied during a rating period must be defined and documented in the contract and rate certification prospectively and be developed using valid rate-setting principles.

“If used in the payment arrangement between the State and the MCO, PIHP, or PAHP, all applicable risk-sharing mechanisms, such as reinsurance, risk corridors, or stop-loss limits, must be documented in the contract and rate certification documents for the rating period prior to the start of the rating period, and must be developed in accordance with §438.4, the rate development standards in §438.5, and generally accepted actuarial principles and practices. Risk-sharing mechanisms may not be added or modified after the start of the rating period.”

## Communication

Given the challenges and uncertainties in setting near term rates following the COVID-19 pandemic, the following sections of ASOP No. 41 may be relevant:

### Conflict between ASOPs and laws or regulations

Section 1.2 provides guidance for actuaries who may depart for actuarial standards of practice in order to comply with applicable law:

“If the actuary departs from the guidance set forth in this standard in order to comply with applicable law (statutes, regulations, and other legally binding authority), or for any other reason, the actuary should refer to section 4 regarding deviation.”

### Actuarial work product

Section 3.2 clarifies that the work product includes all supporting documents:

“An actuarial report may comprise one or several documents.

In the actuarial report, the actuary should state the actuarial findings, and identify the methods, procedures, assumptions, and data used by the actuary with sufficient clarity that another actuary qualified in the same practice area could make an objective appraisal of the reasonableness of the actuary’s work as presented in the actuarial report.”

### Disclosures

Section 3.4.1 addresses disclosure of uncertainty or risk:

“The actuary should consider what cautions regarding possible uncertainty or risk in any results should be included in the actuarial report.”

Section 3.4.3 and 3.4.4 provide guidance for reliance on experts and others:

“An actuary who makes an actuarial communication assumes responsibility for it, except to the extent the actuary disclaims responsibility by stating reliance on other sources. Reliance on other sources for data and other information means making use of those sources without assuming responsibility for them. An actuarial communication making use of any such reliance should define the extent of reliance, for example by stating whether or not checks as to reasonableness have been applied. An actuary may rely upon other sources for information, except where limited or prohibited by applicable standards of practice or law or regulation. Further guidance on when such reliance is appropriate, and what the actuary’s responsibilities are when such reliance is stated, is found in ASOP No. 23, Data Quality.”

## Subsequent changes

As the COVID-19 landscape is changing quickly, Section 3.4.6. provides guidance on disclosure of subsequent events that may have a material impact on results. Section 3.5 provides guidance on disclosures when a later communication includes materially different results.

“The actuary should disclose any relevant event that meets the following conditions:

- a. it becomes known to the actuary after the latest information date described in section 3.4.5;
- b. it becomes known to the actuary before the report is issued;
- c. it may have a material effect on the actuarial findings if it were reflected in the actuarial findings; and
- d. it is impractical to revise the report before it is issued.

If the actuary learns of changes to data or other information (on or before the information date) after some findings have been communicated, but before the report is completed, the actuary should communicate those changes, and their implications, to any intended user to whom the actuary has communicated findings.”

Section 3.5—Explanation of Material Difference—states:

“If a later actuarial communication produced by the same actuary, which opines on the same issue, includes materially different results or expresses a different opinion from the former communication, then the later communication should make it clear that the earlier results or opinion are no longer valid and explain why they have changed. If the later communication is oral, the actuary should follow-up with a document that clarifies the reason(s) for the changes.”

ASOP No. 41 in its entirety provides needed guidance in unprecedented times such as these.





---

AMERICAN ACADEMY *of* ACTUARIES

*Objective. Independent. Effective.™*

AMERICAN ACADEMY OF ACTUARIES

1850 M STREET NW, SUITE 300, WASHINGTON, D.C. 20036

202-223-8196 | ACTUARY.ORG

© 2021 American Academy of Actuaries. All rights reserved.