

Health Equity from an Actuarial Perspective

Health Plan Pricing

The American Academy of Actuaries Health Practice Council created the Health Equity Work Group with a goal of contributing to efforts to reduce health disparities and improve health equity among racial and ethnic minority populations and other underserved or disadvantaged communities. The work group is examining actuarial practices and methods in the health area to assess the extent to which they may affect health disparities and recommend changes when appropriate, educate actuaries and other stakeholders on health equity issues, and apply an equity lens to the Academy's health policy work.

A [discussion brief](#) introduced the first phase of the work group's work—an identification of areas in which health actuaries are involved that may affect health equity and development of a list of questions and topics to explore further. This discussion brief is part of a follow-up series providing more context and details on these questions. This discussion brief focuses on questions related to pricing health insurance products. Other briefs will focus on questions related to health insurance benefit design, provider contracting and network development, and population health.

Taken together, the series forms the foundation for the next phase of the group's work—investigation and analysis to answer the questions. By sharing an actuarial perspective through this series, the work group hopes to actively engage not only the actuarial profession, but also policymakers and the health policy community, to help advance the public discourse on health equity solutions.

The Health Equity Work Group has found it instructive to refer to the following definitions in its work:

Health equity means that everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care.

Health disparities are differences in health or its key determinants that adversely affect marginalized or excluded groups. Disparities in health and in the key determinants of health are the metric for assessing progress toward health equity.

Social determinants of health are nonmedical factors such as employment, income, housing, transportation, child care, education, discrimination, and the quality of the places where people live, work, learn, and play that influence health.

Source: Braveman P, Arkin E, Orleans T, Proctor D, and Plough A. [What Is Health Equity? And What Difference Does a Definition Make?](#) Princeton, NJ: Robert Wood Johnson Foundation, 2017.



AMERICAN ACADEMY of ACTUARIES

Objective. Independent. Effective.™

Actuaries involved in the development of health insurance premium rates consider many factors, including the historical health care costs of the covered population, expected future changes in health care utilization and costs, enrollee demographics, and benefit coverage and plan design features. Actuaries also consider how to vary premiums by geographic area, enrollee demographics, or other factors. In addition, actuaries are involved with risk-sharing programs, such as risk adjustment, which can affect payments to plans. For some markets, there are rules regarding how premiums can be developed. For example, the Affordable Care Act includes many rules on rate setting in the individual and small group markets that aim to increase access and affordability, including among disadvantaged groups. In some other markets, fewer rules govern premium rate development. This discussion brief discusses in more detail the questions the work group is exploring regarding whether the methods of pricing plan benefits, developing premiums, and paying health plans contribute to health disparities among disadvantaged or underserved populations, such as communities of color, related to access to coverage, coverage affordability, and health outcomes, or whether they might be helping to mitigate disparities.

Does the use of experience data and methods for trending data forward to project future spending reflect true health care needs of underserved populations?

Health actuaries analyze historical medical and pharmacy claims experience to develop health plan premium rates and apply assumptions about cost changes over time (called “trend”) to make the historical data applicable to the time period for which the premiums are being developed. The process includes selecting historical experience data, determining how reliable the experience is, and selecting industry or external data to supplement the historical experience data when it is not complete or reliable. Trend assumptions can include components that reflect changes in cost, utilization, benefit, and/or demographic changes for the population being rated.

Health care utilization among disadvantaged populations may not reflect their true medical needs—barriers in accessing health care may depress utilization. If experience data are trended forward without adjustments, that underutilization can be embedded in premiums. Many related questions need to be considered, including: What are the implications for premiums, plan incentives to enroll underserved populations, and plan incentives to better meet their health care needs? Does the use of data for pricing that understate health needs of underserved populations create an incentive to ignore those needs? Are trend rates developed separately for different enrollee subgroups and if so, does this practice perpetuate, exacerbate, or mitigate health disparities?

Could health actuarial methods of pricing benefits foster inequity? How are offsetting cost reductions considered when rating additional benefits? Does using a one-year time frame limit the ability to consider longer-term cost reductions?

Health actuaries develop health plan premiums based on the benefit design of the plan and assumptions about the impact of the benefits on cost and utilization. To estimate future health spending, actuaries use historical experience and other external data in conjunction with models that project claim probability distributions. Aside from the potential for embedding any underutilization inherent in historical experience data, as described above, the premium development process may not reflect the value of benefits for different populations. By setting premiums based on the average value of the benefits, policyholders who have the most variation from the average may effectively experience richer or leaner benefits relative to the premium they pay. While pooling of risk is a fundamental aspect of health insurance, it is important to explore whether the underlying methodology and assumptions used to price benefits fosters or mitigates inequity.

Pricing new health benefits can be challenging. The selection of the external data source can have a significant effect, especially for benefits that cover services with low utilization or uncommon diseases. Another challenge relates to how spending for other services could decline when new benefits are added. When used for pricing benefits, many health actuarial models function so that any change in assumptions or inputs uses an “all else equal” standard to isolate the cost/impact of that particular assumption. In the case of adding a new benefit, this method results in an additional premium cost, without any offsets due to reductions in other costs. This serves as a conservative estimate and may not truly represent the net impact of additional benefits. Therefore, a particular question to consider is whether and how these methods affect plan decisions to offer new or enhanced benefits, especially those that are geared to better meeting the needs of underserved populations and reducing health disparities.

Additionally, most, if not all, health insurance policies renew on a one-year basis and do not incorporate expected future year medical costs or savings. Even though some benefits, such as preventive and maintenance care, could reduce health costs in future years, those savings are not used to offset the premium costs associated with providing that care. And changes in enrollment over time mean that future savings could accrue to different payers, creating a further barrier to using future savings to offset current spending. A question to consider is whether the one-year timeframe (and churn in enrollment) discourages the addition of benefits when any offsetting savings would not be realized until future years.

Can the methods used to develop geographic rating factors and other rating factors (e.g., industry factors) affect health disparities?

Health actuaries use rating factors, such as geographic factors and industry factors, to develop premiums that reflect the differences in cost attributed to these different cohorts. Relying on medical and pharmacy claims experience, health actuaries develop rating factors that are meant to consider the differences in claim costs for these cohorts after normalizing for the other factors used in rating. Often, laws and regulations impose certain restrictions on rating factors, and these restrictions can vary by insurance market. As an example, in the individual health insurance market, geographic factors cannot reflect any average health status differences among different rating areas, and the degree to which rates can vary by age is limited.

Health insurance involves some level of cross-subsidization between insured members. The choices of which rating factors to use—and to what degree—can be thought of as a choice of the degree of intentional cross-subsidization that will occur. This is a matter of public policy as well as actuarial and business practices. Public policy reflects societal views as to what degree and types of rate variation are acceptable. From an actuarial and business perspective, the choice is made with an understanding of the cross-subsidization that results from a set of rating variables and restrictions, as well as anticipation of any potential unintended consequences.

With health insurance, to the extent certain marginalized populations are clustered within the cohorts used to develop rating factors, the unintended result may be that disadvantaged groups are rated differently from other groups. For example, if the standard geographic rating areas used in individual and small group market pricing are set such that a racial or ethnic minority population in a state makes up the majority of a single rating area, the rating factor for that area will be reflective of the cost of delivery for providers serving the minority population. A similar impact could be seen in industry factors if marginalized populations are more likely to be employed in certain industries, or in the extreme case, if those industries are predominantly made up of marginalized populations. In these examples, even after normalization, experience data might be skewed by inequities and barriers to care, raising the question of whether and how rating factors affect premiums for different populations.

How does risk pooling affect cross-subsidization and the impacts of health plan pricing on disadvantaged populations?

Health actuaries analyze medical and pharmacy claims experience as part of their work in developing insurance premium rates for a pool of individuals or groups. The risk pool can be defined narrowly, so that premiums more closely reflect the expected experience of the pool. Or it can be defined broadly, so that the risks are spread over a more diverse population. The more broadly a risk pool is defined, the greater the potential cross-subsidy—premiums from the healthy help subsidize the premiums for those with higher health care needs. The Affordable Care Act's single risk pool requirement for individual and small group market plans is an example of a broad risk pool, intended to make insurance more available and affordable for those with higher health care needs. In addition, even large group plans can include an element of broad risk pooling.

If health care use or claims experience does not reflect health status, it is unclear whether the healthy are truly subsidizing the non-healthy or whether there are unintended cross-subsidies taking place. As noted above, disadvantaged populations may have barriers to health care and may underuse needed services. As a result, underserved populations, along with the healthy, may be subsidizing the non-healthy and those enrollees who have easy access to health care. Another cross-subsidy that may occur due to single risk pools is a cross-subsidization of provider price. Within the same geographic rating area, those enrollees that use high-priced providers are cross-subsidized by those enrollees who use lower-priced providers. Enrollees who use lower-priced providers could be disadvantaged populations. If otherwise similar enrollees are paying the same premium, the disadvantaged populations could be subsidizing health insurance premiums for those enrollees who utilize higher-priced providers. Therefore, a question to consider is whether and how risk pooling affects premiums for different populations.

How might risk adjustment program methodologies affect plan payments for disadvantaged populations, and thereby plan incentives to enroll these populations? How might access to coverage and care be affected?

When insurers are not allowed to reflect fully the factors affecting health spending (e.g., health status), plans could be at risk for large losses, which in turn gives them incentives to avoid enrolling people with higher-than-average costs. Some plans could end up with a disproportionate share of enrollees with higher health care costs. Risk adjustment, the primary mechanism to address this risk, is used in the individual and small group markets, as well as in Medicaid managed care and Medicare Advantage. In general, risk adjustment models assess a plan's risk profile relative to that of the market as a whole, based on the characteristics of the plan enrollees, and plan payments are adjusted accordingly. These adjustments are intended to make payments to competing plans more in line with the risks they bear and can reduce the incentives for competing plans to avoid enrollees with higher-than-average health care needs. (Other briefs in this series explore how risk adjustment models and related algorithms are used in other areas, such as provider payments.)

Risk adjustment models are a form of predictive model, and the simplest risk adjustment models assess relative risk based on age and gender. More complex risk adjustment models also incorporate health care diagnoses or social determinants of health. To the extent that risk adjustment models are created using data that reflect inequities in access to health care, there is a danger that they might inadvertently perpetuate those inequities. For example, underutilization of health care among underserved populations can lead to lower risk scores for these populations, even when they have the same or higher clinical needs than more advantaged populations.

It's important to understand how risk adjustment models that are intended to adjust payments to plans are structured and how the use of different variables related to demographic characteristics, medical conditions, and other drivers of utilization such as social determinants of health can affect risk scores. It's also important to understand how the outcome measure that is being predicted—e.g., health costs—may or may not reflect health care needs or the optimal level of care. Taken together, it is important to consider how the structure and components of a risk adjustment model and how they are applied affect payments to health plans with disadvantaged populations.

NEXT STEPS

The questions raised in this discussion brief provide a context and framework for considering the impact of health insurance pricing on health disparities. A thorough examination of these questions can help actuaries and others better understand whether current methods used to price health plans are inherently biased in ways that contribute to disparities or whether actuarial methods could be used to help reduce disparities. By taking a holistic approach to reviewing pricing practices, the aim is to comprehensively capture aspects of pricing that may directly or indirectly be increasing or reducing health disparities.

The work of the Health Equity Work Group involves a further investigation of many of these questions to analyze how actuarial practices may affect health disparities, either positively or negatively. Each of these questions is being considered independent of others, but the interactions of multiple factors will also be considered. If the analysis suggests that certain practices contribute to disparities, options for making changes and the potential for using actuarial principles to help reduce disparities will be explored.

Members of the Health Equity Work Group's Pricing Subgroup, which produced this discussion brief, include: Donna Novak, MAAA, ASA, FCA—Subgroup Leader; Barbara Klever, MAAA, FSA—Subgroup Leader; Bela Gorman, MAAA, FSA; Corryn Brown, MAAA, ASA; Enrique Schulz-Figueroa, MAAA, ASA, FCA; Johann Leida, MAAA, FSA; Mitchell Momanyi, MAAA, FSA; Anthony Pistilli, MAAA, FSA; Tim Murray, MAAA, FSA.

Members of the Health Equity Work Group include: Annette James, MAAA, FSA, FCA—Chairperson; Bela Gorman, MAAA, FSA—Vice Chairperson; Stacey Lampkin, MAAA, FSA—Vice Chairperson; Corryn Brown, MAAA, ASA; April Choi, MAAA, FSA; Andrea Christopherson, MAAA, FSA, FCA; Catherine Jo Erwin, MAAA, FSA; Audrey Halvorson, MAAA, FSA; Barbara Klever, MAAA, FSA; Johann Leida, MAAA, FSA; Julia Lerche, MAAA, FSA; Yi-Ling Lin, MAAA, FSA; Ian McCulla, MAAA, FSA; Mitchell Momanyi, MAAA, FSA; Tim Murray, MAAA, FSA; Donna Novak, MAAA, ASA, FCA; Ugo Okpewho, MAAA, FSA; George Omondi, MAAA, FCA, ASA; Rebecca Owen, MAAA, FSA, FCA; Susan Pantely, MAAA, FSA; Anthony Pistilli, MAAA, FSA; Daniel Pribe, MAAA, FSA; Erica Rode, MAAA, FSA; Christopher Schmidt, MAAA, FSA; Enrique Schulz-Figueroa, MAAA, ASA, FCA; Rebecca Sheppard, MAAA, FSA; Derek Skoog, MAAA, FSA; Yixuan Song, MAAA, FSA; Martin Staehlin, MAAA, FSA; Sara Teppema, MAAA, FSA; Michael Thompson, MAAA, FSA; Tammy Tomczyk, MAAA, FSA, FCA; Jim Toole, MAAA, FSA; Cori Uccello, MAAA, FSA, FCA.

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