

Memo

To: Jonathan Wolfson, *Chief Legal Officer and Policy Director*, Cicero Institute
and Josh Archambault, *Senior Fellow*, Cicero Institute

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Date: December 2023

Subject: Understanding How Insurers Would Estimate Actuarial Rate Changes Under the Patient's Right to Save Act

This memo was requested by Cicero Institute staff looking for an independent actuarial analysis.

Introduction

This memo aims to discuss the medical insurance actuarial rating considerations that are relevant to insurers due to the implementation of The Patient's Right to Save Act, referred to as the Act. In particular, this paper aims to inform policymakers how actuaries could approach premium calculation, as patient and provider behavioral changes in response to the Act will initially be uncertain.

The Patient's Right to Save Act Policy Summary¹

1. Cash price disclosure by providers
2. Deductible credit for a patient when they pay cash for a service that is less than the lowest negotiated price set by the insurer
3. Post-deductible, patients receive a savings incentive if they use a provider whose cash price is less than the lowest negotiated price set by the insurer

Discussion

The relevant aspects of premium calculation are similar between group and individual insurance. The discussion below applies equally well to premiums for large fully insured employer groups (which may set premiums based entirely on their own experience over multiple years), as well as to smaller fully insured groups and individual insurance (which base premiums on pooled data).²

The general objective of medical insurance premium calculation is for rating algorithms to produce premiums that are, in the aggregate, sufficient to cover claims that will be paid out in the following policy year, expenses (both fixed and variable), risk margin, and desired profit. Medical insurance premiums are typically set annually and are in effect for the next policy period, typically one year.

For this paper, we assume that a medical insurance plan is already in place, and the actuary must estimate changes to the current premiums that will result from the Act, a common activity for insurer-employed actuaries as they evaluate risk and uncertainty when setting premiums for the following year. Premiums are reviewed and adjusted periodically, typically annually, as part of a renewal process. Once the Act is implemented in a given state, the insurance company will incorporate premium adjustments due

to the Act for insurance plans in that state into other premium adjustments as part of the overall renewal process.

Estimated claim costs are the most crucial element in setting medical insurance premiums. To adjust existing premiums due to the implementation of the Act, the actuary needs to estimate how much the Act changes current estimates of claim costs.

It is helpful to decompose claim costs into the probability the service was provided (or “frequency”) and its cost (or “severity”). Actuaries study frequency and severity separately to develop more accurate rating algorithms. Frequency, or the probability a specific person has a specific medical service next year, will vary by the person’s age and sex and plan design elements such as cost-sharing provisions.

In general, the severity or cost of a medical service can be defined in different ways, depending on the purpose of the analysis. As we are interested in how premiums are set, we start with the “allowed amount,” which the insurance company considers to be the fair price for the specific medical service. For an in-network service, the allowed amount is the negotiated price. For an out-of-network service, the allowed amount is what the insurance company considers to be the usual, customary, and reasonable (UCR) price for the service in the specific geographic area. It’s important to note that the insured person is not responsible for any amount a provider bills above the negotiated price of an in-network service; the provider writes off any difference. However, the insured person is often expected to pay any amount the provider bills in excess of the UCR price for an out-of-network service.

The next step in setting premiums is to reflect the effects of cost-sharing provisions (such as deductibles, copays, and coinsurance) on the total “allowed” claim cost for next year’s plan enrollees. This yields the estimated total paid claim cost, which is the total claims the insurance company expects to pay out for the insured people for next year.

Total expected claim costs vary by a large number of factors, including age, sex, group characteristics such as industry (for employer group plans), plan design elements such as covered services, network elements (in-network providers and their negotiated prices), and cost-sharing provisions such as deductible and coinsurance levels. To arrive at the premium, insurers start with the expected total claim cost and add in amounts for expenses, risk margin, and profit.

High hidden prices for medical services are the focus of the Act, which will primarily affect claim severity rather than claim frequency. At a high level, the actuary needs to estimate the effect of the Act on next year’s expected total paid claim cost due to the reduced severity of claims resulting from patients shopping for lower prices.

Illustration and Questions Actuaries Would Consider

The following illustration shows how a pricing actuary could conceptualize the effects of the Act on claim severity. This illustration aims to provide insight into how actuaries generally approach situations in which experience is emerging and data that reflects a particular change or emerging dynamic is not yet available. Actuaries have various tools and methods for making predictions and setting premiums when uncertainty is high, when markets are in flux, and when information is incomplete or unavailable.

It is often helpful for actuaries to break down a new and complex phenomenon into components that can be studied or modeled separately. In the case of premium adjustment after the implementation of the Act, actuaries could conceptualize the Act's impacts in terms of the following questions:

- ***Are better deals available to patients?***

In other words, the actuary is interested in the probability a patient shops and receives a service at a price lower than the minimum negotiated in-network price, denoted $\text{Prob}(\text{shop})$ for this illustration.

- ***How much do prices vary?***

Put another way, the actuary is interested in the expected value of the difference between the discounted out-of-network cash price and the minimum negotiated in-network price, given that the patient shopped and received the service at a lower price, denoted $\text{Exp}(\text{difference}|\text{shop})$ for this illustration.

- ***Who will shop and for what services?***

The actuary is interested in how $\text{P}(\text{shop})$ and $\text{Exp}(\text{difference}|\text{shop})$ vary. $\text{Prob}(\text{shop})$ would vary by patient factors such as age, sex, type of service, and the likelihood that the patient has met their deductible. For example:

- Younger patients are probably more comfortable with price comparison apps than older patients and thus may be more likely to shop initially; however, older patients utilize more healthcare services on average, so they may be more motivated to shop over time as they become more comfortable with any available shopping tools.
- The willingness to shop may vary by sex.
- Patients may be more likely to shop for more expensive care (e.g., surgery) when they believe the potential price difference would be high or alternatively for less expensive common services that still have price differences but are more widely available so finding alternative providers is easy (e.g., x-ray or MRI).
- Patients with chronic conditions and high annual spending may be more likely to shop for care since they will have access to the shared savings incentives more quickly than healthy patients.
- Patients may be more likely to shop after their deductible has been met under the Act since it contains a new incentive payment for the patient.
- Patients may be more likely to shop over time as they have had more experience with shopping, particularly if their early experiences were positive.

The actuary would estimate probabilities of shopping and receiving a particular service at a lower price (that is, probabilities a patient takes advantage of the Act, denoted $\text{Prob}(\text{shop})$) for all types of patients using data and judgment. With little relevant data upon which to base variation in shopping behavior by age, sex, and type of service, the actuary may start with broad assumptions that can be refined once shopping behavior is observed and claims data is analyzed after the Act is implemented.

An example of a broad set of assumptions is:

1. In the first year, before the deductible is met, a modest portion of patients, say 50%, would shop for a service worth \$500 or more, using the average allowed amount last year as a proxy for the value of the service,
2. A smaller number of patients could be assumed to shop for less expensive services before the deductible is met,
3. Adult patients younger than 30 would be more likely, say, 50% more likely than patients over 60 years old to shop in the first year, grading linearly for ages in between and using the age of the parent(s) for minor children (as the parent(s) would be the decision maker(s)),
4. Shopping does not vary by sex, and
5. Probabilities of shopping after the deductible has been met are related to the corresponding probabilities before the deductible is met, say 10% higher.

This is not to imply that all actuaries would make these same specific assumptions; it is to illustrate how actuaries could approach developing reasonable initial assumptions based on a small number of available variables (age and sex of patient (or parent if the patient is a child), average prior year allowed amount of the service, and whether the deductible has been met).

Assumptions about when an individual would reach their deductible during the policy year could be informed by internal and external data about the average timing of when certain groups or pools of patients typically fulfill their deductible payment requirement each year. The actuary would test any assumptions of how patient behavior may differ in shopping before a deductible is met versus after the deductible is satisfied and whether shopping behavior varies for different services.

$\text{Exp}(\text{difference}|\text{shop})$ would vary by specific service, geographic location, and network factors, such as the number of in-network providers who perform the service and the variability in their minimum negotiated prices. The actuary would use network-negotiated prices and whatever additional information is available about discounted out-of-network cash prices to inform their view of the likely magnitude of $\text{Exp}(\text{difference}|\text{shop})$ for each service.

The impact of the savings incentive on total paid claims could be estimated by adding the 50% savings (the amount paid under the Act to the patient) to $\text{Exp}(\text{difference}|\text{shop})$ when the patient has made price-conscious decisions after the deductible is met. In that way, the savings incentive would be reflected in the expected paid claim amounts used to determine next year's premiums.

It is helpful for actuaries to have a conceptual framework, such as illustrated above, involving $\text{Prob}(\text{shop})$ and $\text{Exp}(\text{difference}|\text{shop})$ before rating algorithms are adjusted for the effects of the Act. Even though there would be little actual data at first, a conceptual framework would guide the capture and analysis of data once members are able to take advantage of the Act. Having an initial framework in mind would allow the actuary to make the best use of emerging data and adjust rating algorithms accordingly in a timely manner.

Impact Over Time: Barriers to Adoption or Factors that Create a More Competitive Market

The probabilities and expected values associated with the Act will likely change considerably over time. At implementation, adoption may be slow and concentrated primarily among certain services and certain types of employers and patients. As patients become more familiar with the shopping process and benefit from the Act, and as more patients tell each other about the shopping process and the benefits received, more patients would shop for services and take advantage of the Act. Adverse early experiences of shopping for services, finding affordable cash prices, seeking credit or reimbursement from insurers, or using shopping tools may dampen enthusiasm to shop for services in the future.

On the other hand, employer behavior, such as educating employees about the Act and providing shopping tools, may increase over time, contributing to the benefits of the Act increasing over time. Concerns of employee complaints about the shopping experience or the availability of affordable cash prices may cause some employers to avoid education and promotion activities until some time has passed to resolve any issues or for more consumer-friendly tools to be developed.

In addition to dynamics related to the learning curve of employers, members, and providers, dynamics related to subsets of providers responding to the changing competitive landscape are likely to emerge over time. In particular, some providers will view the implementation of the Act as an opportunity to grow their business and provide medical services to new patients by offering competitive cash prices and possibly amenities. Providers may expand or open new locations when the Act appears to have created enough opportunity to support expansion.

Additionally, provider networks may change their recruiting and reimbursement strategies over time in response to how the Act is received, how many patients are taking advantage of it for various types of services, and the price difference between network negotiated prices and the discounted cash prices that patients are paying for medical services. As benefit costs are usually the second or third largest business expense, many employers will be eager for the Act to lead to slower growth of medical insurance premiums and perhaps eventually lead to lower premiums.

The actuary will closely monitor how these dynamics change over time so that rating algorithms and premiums for the next period can be as accurate as possible.

Conclusion

The Act is likely to introduce many opportunities and challenges to patients, employers, providers, insurance companies, and other stakeholders, and new behaviors will be required of everyone. How and how quickly people and organizations respond to the implementation of the Act is uncertain. As experts in risk and uncertainty, actuaries have the professional skills and expertise to set medical insurance premiums when any changes occur in the market, including changes that result from legislation such as the Patient's Right to Save Act.

About the Author

Gayle Brekke, Ph.D., FSA, brings 20 years of experience in wide-ranging actuarial and leadership roles in health insurance. She is a sought-after resource for initiatives that require a deep understanding of the economics of insurance and healthcare services and the related complexities of human behavior. Gayle has participated in many committees and work groups of the Society of Actuaries, where she served as a fellow, and has been active at the American Academy of Actuaries.

Gayle was awarded a Ph.D. in Health Policy and Management from the University of Kansas Medical Center. Her company, Primary Care Mindset, has a mission to improve the results the U.S. gets in healthcare by changing financing and delivery at the beginning in primary care. The company launched a podcast and newsletter in 2022 to support their efforts. She is active on the board of directors of the Concerned Actuaries of the United States. She writes and speaks about healthcare and the need to apply actuarial and economic principles to healthcare financing and delivery; she can be reached at gayle@primarycaremindset.com.

¹ Josh Archambault and Jonathan Wolfson, "Patient's Right to Save: The Next Generation of Price Transparency," Cicero Institute, October 2022, available at: <https://ciceroinstitute.org/wp-content/uploads/2022/10/Right-to-Save-Whitepaper-Oct2022-1.pdf>

² Some aspects of premium calculation will be relatively unaffected by the Act and as such will not be a focus of this paper. Such aspects include credibility, expense allocation to specific lines of business, and premium adjustments done for reasons of competitiveness, among others.