Key Points

- Actuarial value can be used to compare different plan designs to determine the relative generosity of each plan.

- Under ACA, actuarial values potentially can be structured based on one of two approaches: plans with similar benefit designs would have similar actuarial values or actuarial values would correspond more directly with the expected share of spending paid by the plan.

- Because premiums incorporate factors that are not included in actuarial value calculations, premiums are not necessarily correlated with actuarial values. In addition, actuarial value calculations do not incorporate various plan characteristics that may be important to consumers including premiums, provider network adequacy and quality, care management programs, wellness programs, and customer service.

Additional Resource

Actuarial Equivalence http://www.actuary.org/pdf/health/equivalence_may09.pdf

Actuarial Value under the Affordable Care Act

The concept of actuarial value can be used for several different purposes. Actuarial values can be used, for example, to compare different plan designs to determine how overall cost sharing differs across plans with different cost-sharing provisions. Within the context of establishing qualified health plans under the Affordable Care Act (ACA), actuarial value is used to structure product tiers, which in turn will make it easier for consumers to compare and select health plans.[1] In conjunction with the essential health benefits definition, actuarial value is used to specify a minimum level of coverage by defining the lowest (bronze) product tier.[2] In addition, it defines the spread between product tiers as well as the cost-sharing subsidies for low-income individuals. As opposed to setting a specific plan design(s), the use of actuarial value to establish plan design requirements allows for plan flexibility and innovation.[3]

Using actuarial values to categorize plans by benefit tiers can offer consumers a gauge of the relative generosity of different plans. Aside from this high-level comparison, however, actuarial values are of limited use to individual consumers. Because actuarial value

[1]Qualified health plans offered inside an exchange, as well as non-grandfathered individual and small group qualified health plans offered outside an exchange, need to meet specified platinum (90 percent), gold (80 percent), silver (70 percent), or bronze (60 percent) actuarial value levels. Although not discussed in this issue brief, actuarial value-related concepts are included in other ACA provisions as well. For instance, to qualify as minimum essential coverage that meets the individual mandate requirement, employer-sponsored plans must provide minimum value, defined in terms of the plan's share of total costs.

[2]Catastrophic plans are also available for certain individuals.

[3]The ACA does not prohibit states from establishing standard plan designs.

calculations are done on an average basis for a given population, different plans may be more or less valuable to any particular individual, even when comparing plans in the same benefit tier. In addition, actuarial value calculations do not incorporate various plan characteristics that may be important to consumers, such as premium, provider network adequacy and quality, care management programs, wellness programs, and customer service.

This issue brief provides insight into calculating actuarial values as well as other actuarial value-related considerations. Although the ACA does not explicitly define actuarial value, the language in the law suggests that, for ACA purposes, the measure reflects the average share of medical spending paid by the plan, rather than paid out of pocket by the consumer. Actuarial values are required to reflect spending of a standard population, regardless of the population the plan actually covers. Other details of the actuarial value calculation, however, are not specified and must be addressed in regulation.

Calculating Actuarial Values

This section outlines the major issues that must be addressed in designing the methods and assumptions used in actuarial value calculations.

Identifying Potential Primary Goals

There is no uniform method of determining an actuarial value. The appropriate method will vary depending on the goal of the calculation. At the highest level, actuarial values under ACA can be structured along one of two approaches:

1) Two plans from different insurers with identical coverage and cost-sharing provisions should have the same actuarial values.

Under this approach, the only parameters that should vary when calculating actuarial values are the cost-sharing provisions and the benefits covered. Provider discounts and utilization patterns (e.g., higher generic drug utilization) of specific plans would not vary.

Actuarial value differences between plans would result solely due to plan-design differences. But actuarial values won't necessarily correspond to actual consumer out-of-pocket costs or the percentage of costs paid by the plan after factoring in other plan features (e.g., provider discounts, utilization management features), even on average. As a result, plans with the same actuarial values could have different average out-of-pocket dollar amounts. And as described in more detail below, the administrative complexities involved with implementing this approach, such as developing a common standardized dataset and/or standardizing provider payments, could be significant.

2) A plan's actuarial value should correspond more directly with the expected share of spending paid by the plan.

Under this approach, provider discounts and utilization patterns of specific plans would be incorporated into the actuarial value calculation. As a result, actuarial values would reflect the expected average share of allowed health spending that is paid for by the plan. Plans with the same benefits and cost-sharing requirements could have different actuarial values to the extent that they have different provider discounts and utilization management techniques. Plans with lower negotiated provider rates, for example, would have lower actuarial values than plans with higher provider rates, all else equal, because enrollees would be less likely to reach the deductible and out-of-pocket maximum thresholds.

This approach would better reflect the

average share of spending paid by the plan and potentially could be less burdensome for plans to calculate. Consumers could be confused, however, if plans with similar designs are in different benefit tiers. And as with the first approach, actuarial values won't necessarily correspond to actual out-of-pocket costs by consumers, even on average, although the average percentage out-of-pocket spending will be equal.

Note that neither approach provides guidance regarding the expected out-of-pocket dollar amounts for an average enrollee under one plan relative to another. Because the first approach does not factor in provider payment rate and utilization management differences between plans, the total allowed costs and, therefore, the cost-sharing requirements could be under- or over-stated. Even in the second approach, which incorporates information regarding provider discounts and utilization management, the resulting actuarial value expressed as a share of allowed costs paid by the plan will not necessarily be correlated with the dollar amount of out-of-pocket spending. In other words, plans with higher actuarial values potentially could have higher or lower average out-of-pocket dollar costs than plans with a lower actuarial value.[4]

Defining a Standard Population

The ACA requires that actuarial values be based on a standard population, but does not provide details on how a standard population is defined or what data are used. Potential data options include using a common standardized data set for all plans or allowing plans to use their own data, normalized to reflect a standard population.

1) Use a common standardized dataset for all plans.

Under this option, each plan would use the same dataset when performing actuarial value determinations. Potential datasets include those based on publicly available data, such as the Medical Expenditure Panel Survey (MEPS), data from Federal Employee Health Benefits (FEHB) program enrollees, proprietary data such as Thomson Reuters MarketScan® data, or aggregated exchange plan data after 2015. Depending on the dataset used, adjustments would be needed to make it better reflect a standard insured population. Spending data for uninsured individuals, for example, may need to be adjusted upward to reflect an increase in utilization associated with being insured. Spending data for the insured may need to be adjusted to reflect the richness of their benefit plans. (More detailed requirements for a standardized dataset are discussed on the following page.)

Using the same dataset for all plans would help facilitate a goal of achieving similar actuarial values for plans with similar plan designs. Indeed, this approach likely would be required if that is the goal. Even with the same dataset, however, different assumptions regarding how utilization changes under different cost-sharing designs could cause differences in actuarial values.

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[4] A couple of examples can help illustrate this issue. In both of these examples, Plan A and Plan B have identical coverage and cost-sharing provisions. Actuarial value is measured as the allowed health costs paid for by the plan divided by total allowed health costs and is calculated as in Approach 2.

Example 1: If Plan A has negotiated lower provider payment rates than Plan B, Plan A will have both lower costs paid for by the plan and lower total costs than Plan B. However, there would be a larger reduction in costs paid by the plan than in total costs, however, because the fixed-dollar deductible and out-of-pocket limits are less likely to be exceeded when provider payments are lower. In other words, consumers are more likely to pay a greater share of spending out of pocket in Plan A. As a result, the actuarial value would be lower in Plan A than Plan B. Since total health spending would be lower under Plan A, however, out-of-pocket dollar amounts could be lower as well, even if they comprise a higher share of total spending.

Example 2: If Plan A uses utilization management techniques that more successfully steer consumers to lower-cost treatment options that have lower out-of-pocket requirements, then Plan A's actuarial value could exceed Plan B's actuarial value. Average out-of-pocket dollars potentially could be lower under Plan A.

These examples illustrate that when actuarial values reflect the share of spending paid by the insurance plan, they offer only partial insights on how average out-of-pocket dollar amounts vary across plans. Basing actuarial values more directly on average dollar amounts spent by the plan or out of pocket could provide consumers better information about expected out-of-pocket dollar amounts. Using dollar amounts of average cost sharing, however, could introduce other complications (e.g., how to index dollar-amount thresholds) and does not appear to be an option allowed under the ACA.

Using the same dataset for all plans would make it more difficult for a plan to incorporate its own negotiated rates and utilization patterns. As a result, it would be less possible to achieve a goal of producing actuarial values that correspond more directly with the expected share of spending paid by each particular plan.

REQUIREMENTS FOR A COMMON STANDARDIZED DATASET

For a common dataset to be workable, it would need to meet a number of requirements:

- The data structure and definitions would have to be standardized and clearly documented. The data also would have to be detailed enough to support the calculation of actuarial values for the full range of benefit plans available in the market. CMS makes certain demographic and claims data available based on a 5 percent sample of Medicare beneficiaries. These files serve as a useful example of the appropriate level of standardization and detail.

- The underlying population should be representative of the non-elderly population likely to be covered by private plans in the post-reform market. It should not be based predominately on Medicaid enrollees, other low-income individuals, Medicare enrollees, or disabled or medically uninsurable populations.

- Provider payments in the dataset may need to be standardized to better reflect average commercial payment rates. One option would be to use a multiple of Medicare fee schedule rates. To ensure consistency between plans, any standardization of payment rates should be done by the entity compiling the dataset.

- The data sample should be large enough that the demographic and spending patterns are stable over time, so that actuarial values (and the plan designs allowable at each coverage tier in the exchanges) will be stable when the dataset is updated periodically. If the actuarial values are to reflect geographic differences in spending patterns, the underlying dataset has to be large enough and geographically diverse enough to provide a statistically reliable and stable basis for area-specific calculations.

- To be administratively practical, the underlying data must be available to a central administrative entity, either directly or because the data are submitted by the owners (on a voluntary or mandatory basis). Collecting the data and producing the standardized dataset likely would be a significant administrative effort. If the data are collected from multiple health plans or plan administrators, it will be necessary to address differences in the way plans collect their data, as well as differences in the way providers are compensated (e.g., discounted fee-for-service versus capitated payments).

The length of time necessary to identify, collect, and process the data to produce the final dataset could be substantial. The FEHB program has an enrollee population that may be appropriate for this population if adjusted to reflect a standard population. But using FEHB as a basis would require, at a minimum, obtaining enrollment and claim data from one or more of the largest FEHB plans.

2) Allow plans to use their own data, normalized with risk scores, to better reflect spending for a standard population.

Another option would be to allow plans to use their own data. Although a plan's data may not be representative of a standard population, plan data can be normalized using risk scores. In other words, if a plan's enrollee population is skewed toward either a low-cost or a high-cost population, risk scores would be used to adjust spending under the plan so that it better reflects that of a standard population. Average plan spending would better reflect average spending of a standard population, although the distributions of spending could still differ. This method is used, for example, when submitting Medicare Part D bids. Risk scores

might need to reflect only age and gender initially until more comprehensive risk adjustment is available.

Allowing plans to use their own data would facilitate a goal of producing actuarial values that correspond more directly with the expected share of spending paid by the plan. This method may be more feasible from an administrative standpoint, as data would be available more quickly and easily than if a data-collection effort is needed to create a common standardized dataset.

Allowing plans to use their own data would be less likely to support a goal of achieving similar actuarial values for plans with similar plan designs. This is because using plan data implicitly incorporates a plan's negotiated provider payment rates and utilization patterns into the actuarial value calculation. Provider rates potentially could be standardized (e.g., by using a multiple of Medicare fee schedule rates), although this would increase the administrative burden for plans. Such standardization, as well as standardization of utilization patterns, would be necessary to achieve this goal.

Defining Spending in the Numerator and Denominator

It would be appropriate to define the numerator (total medical spending for the population that is paid by the plan) and the denominator (total medical spending for the population) of the actuarial value measure in terms of the essential benefits package. That is, medical spending would be included if it is for a service that is covered by the essential benefits package.

The essential benefits package, once defined, likely will strike a balance between being specific and allowing for plan flexibility. To the extent that the essential benefits package is defined broadly rather than in detail, it becomes less clear what spending is included in the actuarial value calculation. For instance, if chiropractic services aren't explicitly included in the essential benefits package, is spending for those services included in the denominator (and numerator) for plans that cover these services? Similarly, formularies typically cover drugs in every class, but not necessarily every drug in every class. How are non-formulary drugs treated in the actuarial value calculation, and what is their likely utilization? Another benefit package issue relates to the definition of preventive services, which are prohibited from requiring any cost sharing. How various services are classified could affect claims and utilization. Value-based insurance design (VBID) plans, which lower cost-sharing requirements for high-value treatments, can pose additional complications, especially if cost-sharing requirements vary by the presence of certain underlying conditions, such as diabetes.

Even if the essential benefits package is defined in some detail, it might not include requirements with respect to the extent of coverage (e.g., maximum number of days for a hospitalization). Any inside limits that are not defined specifically in the essential benefits package presumably would be reflected in the numerator of an actuarial value calculation, but the allowed cost of the entire episode(s) would be included in the denominator.

In addition, benefits that are more clearly not part of the essential benefits package presumably would not be included in either the numerator or denominator. Special consideration may be needed for particular state-mandated benefits that are not included as part of the essential benefits package. States are required to pay for these benefits for beneficiaries in an exchange, not just for low-income individuals, but for everyone, regardless of income. This may argue for keeping those particular benefits out of the actuarial value calculation.

Other Considerations

Other issues also must be considered when designing a method for calculating actuarial values under the ACA.

Incorporating Behavioral Assumptions

When calculating actuarial values for different plan designs, insurers will need to make assumptions regarding how health care utilization varies under different cost-sharing requirements. Utilization is typically higher, for example, when cost-sharing requirements are

low. Unless standardized assumptions are developed for use in the actuarial value calculation process, insurers will need to rely on their experience and judgment when making such assumptions. Because different insurers likely will make different assumptions, actuarial values can differ among insurers, even if all other data and assumptions are the same.

Assumptions also would need to be made regarding how utilization differs under different types of plans (e.g., HMO, PPO). Whether individuals with Health Savings Account (HSA)-qualified plans contribute to an HSA can affect utilization, so assumptions also will need to be made regarding the share of HSA-qualified plan enrollees who contribute to HSAs and the amount of those contributions.

Actuarial value calculations typically assume that all services are received in-network. If instead out-of-network benefits are valued separately, then assumptions would need to be made regarding the share of services received out-of-network. Separately valuing in-network and out-of-network services would disadvantage plans that offer out-of-network services with higher cost-sharing requirements compared with plans that do not offer out-of-network coverage.

Low-Income Cost-Sharing Subsidies

The measure of actuarial value should make sense when applied to the low-income cost-sharing and premium subsidies. Individuals with incomes less than 250 percent of the federal poverty level (FPL) will receive cost-sharing subsidies based on the silver plan tier. In particular, the ACA directs plans to meet specified actuarial value targets by income level (Table 1). In addition, individuals with incomes less than 400 percent FPL will have their maximum out-of-pocket limits lowered. (It is worth noting that individuals with incomes between 250 and 400 percent of FPL have lowered out-of-pocket limits, but not increased actuarial values. The Secretary of Health and Human Services can adjust the out-of-pocket limits to ensure that actuarial value limits are not exceeded. If not, other cost-sharing requirements may need to be

increased.) As a result, up to six different silver plan options will be necessary.

Table 1. ACA Silver Tier Plan Requirements, by Income

Income Level	Actuarial Value	Maximum OOP Limit*
100-150% FPL	94%	2/3 reduction
150-200% FPL	87%	2/3 reduction
200-250% FPL	73%	1/2 reduction
250-300% FPL	70%	1/2 reduction
300-400% FPL	70%	1/3 reduction
400%+ FPL	70%	standard limit

*Standard maximum out-of-pocket limits are based on those for HSA-qualified health plans ($5,950 for individual coverage and $11,900 for family coverage in 2011).

Plans presumably will adjust cost-sharing components as necessary to achieve required actuarial value levels. As cost-sharing declines, utilization likely will increase, but perhaps at different rates than the currently insured population.

Insurers will receive payments from the federal government to compensate them for filling in some of the cost sharing. It is important that the method used to reimburse plans not discourage plans from enrolling low-income individuals. To this end, plan reimbursements should reflect not only the cost sharing, but also the impact on utilization.

Year-to-year Changes in Actuarial Values

A plan's actuarial value should not change from year to year simply due to changes in the risk mix of its enrollees. That is, a plan should not stand to gain or lose as the result of either favorable or adverse selection. The use of a standard population (as opposed to using a plan's enrollee population), as required by ACA, should address this issue.

Due to changes in health spending over time, plan actuarial values will change over time, unless plan design parameters also are changed. Although the ACA allows for de minimis variations in the actuarial values from the required target levels, plans will need to be able to change plan design parameters, through indexed cost-sharing for example, to maintain actuarial value targets.

Geographic Variations

Incorporating state-level or other geographic-level variations of health spending into the actuarial value calculation would result in actuarial values that better reflect local markets, but could make cross-area comparisons of plan designs more difficult. As noted above, actuarial values tend to increase when health spending increases, because both the deductible and out-of-pocket limits are more likely to be exceeded. As a result, plans in high-spending areas, due to either higher provider costs and/or higher utilization, will have higher actuarial values if cost-sharing requirements are held constant. If plans are allowed to use area-specific spending in the actuarial value calculations, then plans in high-spending areas would be able to meet actuarial value targets with less generous cost-sharing requirements compared to plans in lower spending areas. This could lead to even lower out-of-pocket costs on a dollar amount basis in low-spending areas relative to high-spending areas. Another effect is that premium differences by area could be reduced somewhat.

Limitations of Actuarial Value Measures

Actuarial value is one measure of plan value that can be used to provide consumers general information about a plan's benefit generosity. **But knowing a plan's actuarial value isn't necessarily useful to consumers choosing between plans in the same benefit tier.** This is because actuarial value calculations are done on an **average** basis for a given population; different plans may be more or less valuable to any particular individual, based on his or her particular health care needs (see the box below for an example of how out-of-pocket spending can differ among plans with the same actuarial value).

Hypothetical Actuarial Value Example

The hypothetical example below illustrates how individuals can fare differently under plans with different cost-sharing provisions, even if they have the same actuarial value. Overall, the plans have an actuarial value of 85 percent—the average plan share of health spending is 85 percent of total expected costs. For each person, however, the out-of-pocket payments differ by plan. Out-of-pocket payments for Person 1 are $2,000 under Plan 1, and $2,500 under Plan 2. In contrast, the other plan participants have lower out-of-pocket payments under Plan 2.

Plan 1
Deductible $500
Coinsurance   20%
OOP Max $2,000

Plan 2
Deductible $250
Coinsurance   30%
OOP Max $2,500

	Total Spend-ing	Plan 1 Patient Cost Sharing Ded	Coins	Total	Plan Share	Plan 2 Patient Cost Sharing Ded	Coins	Total	Plan Share
Person 1	25,000	500	1,500	2,000	23,000	250	2,250	2,500	22,500
Person 2	1,500	500	200	700	800	250	375	625	875
Person 3	800	500	60	560	240	250	165	415	385
Person 4	500	500	0	500	0	250	75	325	175
Person 5	400	400	0	400	0	250	45	295	105
Total	**28,200**	**2,400**	**1,760**	**4,160**	**24,040**	**1,250**	**2,910**	**4,160**	**24,040**
Average	**5,640**	**480**	**352**	**832**	**4,808**	**250**	**582**	**832**	**4,808**
Cost sharing as % of total spending			15%					15%	
Plan spending as % of total spending				85%					85%

Source: American Academy of Actuaries

Note: For illustrative purposes only. For this example, total spending is assumed to be constant, regardless of plan design. Depending on the purpose of the plan comparison, changes in utilization caused by plan design changes may be considered. In addition, this example assumes that coinsurance rates are the same, regardless of the service type (e.g., hospital inpatient, physician visit). Many plans will vary cost-sharing requirements by service. The highlighted areas show each person's total out-of-pocket spending, under the plan more beneficial to that person.

Summary

Actuarial values can be a useful tool for characterizing the relative generosity of different health insurance plans. In the ACA, health insurance plans are categorized into various coverage tiers based on their actuarial values, defined as the average share of medical spending that is paid by the plan, rather than out-of-pocket by the consumer. The details of the actuarial value calculation, however, are left unspecified.

The process of determining a plan's actuarial value should produce a measure that can help distinguish plans between coverage tiers, while also being as administratively practical as possible. Administrative simplicity also would facilitate any monitoring or oversight mechanisms.

One of two major goals can be pursued in defining generally the actuarial value calculation methodology. One option would be for plans with similar benefit designs to have similar actuarial values. While perhaps conceptually appealing, implementing such a goal could require the use of a common standardized data set, which likely would entail a complicated and time-consuming process. Moreover, actuarial values won't necessarily correspond to actual consumer out-of-pocket costs. The second option would be for actuarial values to correspond more directly with the expected share of spending paid by the plan. This option would allow for plans to use their own data, including provider-negotiated rates and utilization rates, but adjusted to reflect a standard population, which could be fairly straightforward. Confusion could arise, however, if plans with similar plan designs from different insurers are in different benefit tiers.

Neither approach provides information on the expected out-of-pocket dollar amounts (as opposed to percentages) for an average enrollee under one plan relative to another. Because actuarial values reflect an average population, different plans may be more or less valuable to a particular individual, even among plans in the same benefit tier. Other important factors that consumers should consider include premiums, provider networks, and quality and customer service. It will be important for consumer communications to highlight the limitations of using actuarial values or plan tier information alone when choosing a health insurance plan.

It is also important to emphasize that because premiums incorporate factors that are not incorporated into actuarial value calculations, premiums are not necessarily correlated with actuarial values. For example, the underlying risk profile of plan enrollees, administrative costs, and profit margins can vary across insurers and are incorporated into premiums, but not actuarial values. In addition, to the extent that insurer-negotiated provider payment rates and utilization management techniques are not incorporated into the actuarial values, they will contribute to differences in premiums, even among actuarially equivalent plans. As a result, plans with the same actuarial value most likely will have different premiums. Moreover, it is possible for a plan with a higher actuarial value to have a lower premium than another plan with a lower actuarial value.