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Actuarial Value: A Method for Comparing Health Plan Benefits

Prepared for

CALIFORNIA HEALTHCARE FOUNDATION

by

Roland McDevitt, Ph.D.
Watson Wyatt Worldwide

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About the Author

Roland McDevitt, Ph.D., is Director of Health Research at Watson Wyatt Worldwide. He has developed simulation models to estimate the costs associated with changes in plan design, an aging population, and health care reform. He has also worked with various public and private organizations with an interest in Medicare and retiree health benefits. His current research is focused on consumer-directed health plans and their influence on consumer behavior. Watson Wyatt Worldwide is a human resources consulting firm that works primarily with large employers to plan and administer their benefits and compensation programs.

About the Foundation

The **California HealthCare Foundation** is an independent philanthropy committed to improving the way health care is delivered and financed in California. By promoting innovations in care and broader access to information, our goal is to ensure that all Californians can get the care they need, when they need it, at a price they can afford. For more information on CHCF, visit us online at www.chcf.org.

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I. Introduction

CALIFORNIA'S INDIVIDUAL HEALTH INSURANCE MARKET offers plans with a wide and complex array of benefit levels and cost-sharing provisions. Some policymakers and stakeholders are concerned that this complexity makes it difficult for consumers to evaluate plans. A good summary measure of the protection afforded by these health insurance products might help consumers better assess which plans fit their needs.

Numerous cost-sharing provisions interact to determine what a plan will pay and what the consumer will pay. But the interplay of these provisions can make it difficult for consumers to understand which plans are likely to make the greatest benefit payments. Actuarial value is a summary measure of likely payments by a plan. It measures the percentage of medical expenses paid by a health plan for a standard population, ranging from 0.00 for a plan that pays nothing to 1.00 for a plan that pays all medical expenses.

In 2008, the California HealthCare Foundation commissioned the human resources consulting firm Watson Wyatt Worldwide to describe how actuarial value can be used to evaluate health plans. In previous research, Watson Wyatt had applied the measure to individual market plans available in California during 2006.¹ This paper describes Watson Wyatt's analytic approach, presents the strengths and limitations of actuarial value as a summary measure, and offers observations about the use of actuarial value to assess diverse health plans.

1. Gabel, J., J. Pickreign, R. McDevitt, H. Whitmore, L. Gandolfo, R. Lore, and K. Wilson, "Trends In The Golden State: Small-Group Premiums Rise Sharply While Actuarial Values for Individual Coverage Plummet," *Health Affairs* 26, No. 4 (2007): w488-w499 (published online 14 June 2007; 10.1377/hlthaff.26.4.w488). See also: McDevitt, R., J. Gabel, L. Gandolfo, R. Lore, and J. Pickreign, "Financial Protection Afforded by Employer-Sponsored Health Insurance: Current Plan Designs and High-Deductible Health Plans," *Medical Care Research and Review* (2007) 64: 212-228.

Questions and Answers About “Actuarial Value” and the Individual Health Insurance Market

Q: What does Actuarial Value (AV) measure?

A: AV is a measure of the relative percentages paid by a health benefits plan and its members. It is calculated using the medical claims from a standard population, along with a plan’s cost-sharing provisions, to simulate the payment of claims. The percentage of charges paid by the plan is the actuarial value. It is sometimes called the “benefit rate.” In a recent CHCF project, “Check the Label: Helping Consumers Shop for Individual Health Insurance” (www.chcf.org/topics/healthinsurance/index.cfm?itemID=133667), AV was referred to as “Percent Expense Paid by Insurance.”

Q: How is AV expressed?

A: AV is expressed as a share of all medical expenses. For example, an AV of 0.75 would mean that the health benefits plan would pay 75 percent of covered medical expenses for a standard population.

Q: Do any plans have an AV of 1.00?

A: An AV of 1.00 would mean that 100 percent of a standard population’s covered medical expenses were paid by the insurance carrier. Virtually all insurance products incorporate some consumer cost-sharing features, so even the most comprehensive plans provided through large employers would have actuarial values less than 1.00. A very comprehensive HMO plan, for example, might have an AV near 0.95.

Q: Does AV consider premium cost?

A: No. Actuarial value only measures benefit payments. To fully assess whether a plan is a good purchase, consumers would want to know both the premium and the AV. They may also want to consider other aspects of the plan, such as whether specific benefits like maternity are covered, whether the plan offers a broad choice of providers, and whether the plan has a good record of administrative performance.

Q: How does AV relate to premium cost?

A: Premiums and actuarial value tend to be correlated. Products with more comprehensive benefits, less cost-sharing at the time of service, and higher actuarial value tend to have higher premiums. However, there are exceptions—premiums also can be influenced by such factors as administrative efficiency, provider practice patterns, and level of negotiated discounts.

Q: Can AV be estimated for consumers in different circumstances—for example, for those expected to be low or high users of health care services?

A: Yes. It can be useful to calculate actuarial value and out-of-pocket estimates for high users (for example, the top 1 percent); this can provide a sense of what the plan and member would pay in a worst-case scenario that involves a catastrophic medical event. Actuarial values tend to be low when the focus is on low users, because a higher portion of their expense is likely to fall within deductible and copayment categories.

Q: Is bias introduced by using claims data generated by employment-based coverage to analyze individual market products?

A: Due to medical underwriting, enrollees in California’s individual market are healthier than those insured through employer-sponsored coverage. Thus, they will typically use fewer services than the commercial population whose claims drive the model. This may result in some upward bias in *all* actuarial values calculated for individual market products. However, differences in actuarial value *among* individual market products should still provide a valid measure of the relative generosity of plan provisions.

II. Strengths and Limitations of the Actuarial Value Model

THE WATSON WYATT CLAIMS-PAYMENT MODEL ESTIMATES an actuarial value for each plan by using that plan's cost-sharing provisions to simulate the payment of medical and prescription drug claims for a standard population. This population is a national sample of more than 2,000 people enrolled in employer-sponsored plans that have comprehensive medical and prescription drug benefits. This comprehensive coverage creates an opportunity to capture in a database a detailed account of the acute care medical services used by this population. This database allows the simulation of claims payments under plan designs that differ both in scope of covered services and in the cost-sharing required for these services.

The model estimates plan payments and member out-of-pocket expenses by applying each plan's deductibles, coinsurance, copays, out-of-pocket maximums, and benefit maximums to the claims experience of the model's standard population. Expense categories include the full range of services that are commonly included in individual and group health insurance plans, enabling the tracking of plan expense and member out-of-pocket costs for outpatient visits and surgery, emergency room visits, hospital admissions, other medical care, and up to three tiers of prescription drugs.

This process produces population-based actuarial values using a consistent methodology across plans. The actuarial value is not dependent on the health status of enrollees in the particular plan, or the local health care costs and practice patterns for that plan. Rather, the model calculates an actuarial value showing the percentage of expenses each plan would pay if identical populations were enrolled in all plans.

The limitations of this approach include the following:

- Actuarial value may not fully reflect consumers' out-of-pocket costs. For example, the model does not identify which

prescription drugs are on each plan's formulary and which drugs are excluded from coverage. Nor does it consider long term care services or over-the-counter medications, which normally are not covered by individual or group health plans.

- The model does not consider a plan's administrative performance, the breadth or quality of the provider network, the premiums charged, or whether the plan offers optional features such as a Health Savings Account.
- The claims database does not capture any applicant selection process in which individual insurance market plans engage. Similarly, it does not address coverage exclusions for preexisting conditions or waiting periods imposed by a plan. To the extent these mechanisms do operate, those enrolled in the individual market may carry lower risk than those in the model's standard population derived from group plans.

The purpose of the model is not to replicate the actual level of spending that occurs within each plan, but rather to provide a standard metric for comparing plan benefit payment ratios. Simulating each plan's payments, using a fixed set of claims from a standard population, provides a reasonable way to compare the relative levels of insurance protection offered by each plan.

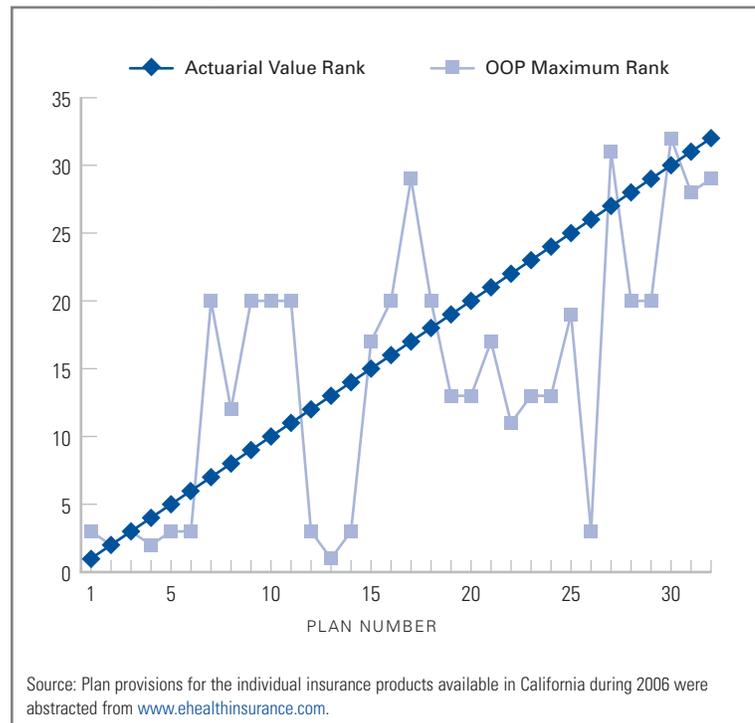
III. Key Findings

THE FOLLOWING FINDINGS ARE DRAWN FROM ACTUARIAL valuations of individual market plans offered in California during calendar year 2006.² Although the broader study included data from plans throughout California, the data presented in Figure 1 are from 32 plans offered in Los Angeles County.

The first finding is that there was considerable variation in actuarial values among these plans, ranging from 0.32 on the low end to 0.85 on the high end. This wide range reflects major differences in deductibles, out-of-pocket maximums, and other cost-sharing provisions.

A second finding is that no single plan provision is fully predictive of actuarial value. For example, Figure 1 illustrates how the 32 plans ranked on actuarial value, and how these same plans ranked

Figure 1. Plan Ranking by Actuarial Value and Out-of-Pocket Maximum



2. Gabel, J. et al., *supra*.

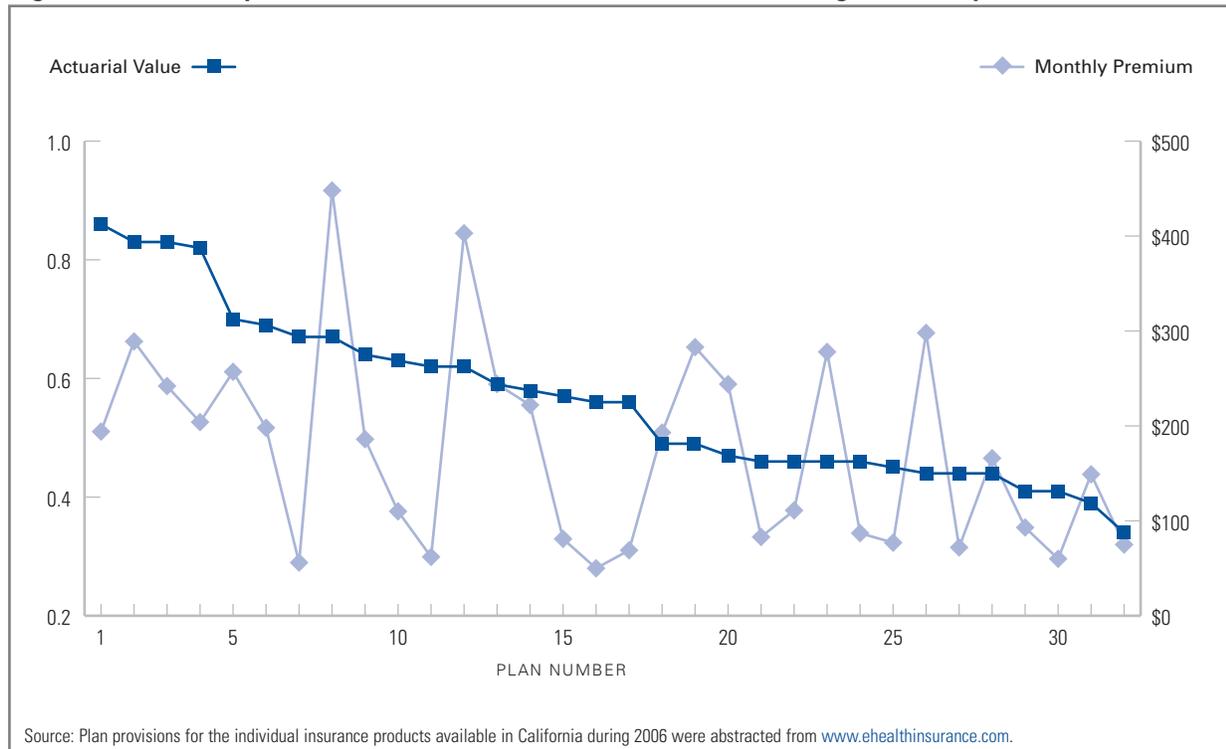
on the basis of their out-of-pocket maximums. Although higher out-of-pocket maximums tend to occur with lower actuarial values, Figure 1 shows that there are many exceptions where the rankings diverge significantly.

Plan number 13, for example, ranks toward the middle of the pack, with an actuarial value of 0.59, but ranks first in terms of out-of-pocket maximum, with a cap of \$2,100. The reason the plan does not rank higher in terms of actuarial value is that it also has a \$2,100 annual deductible that a member must pay before the plan pays any benefits. (The Appendix shows actuarial values for all 32 health plans, along with their annual out-of-pocket maximums and deductibles. As with out-of-pocket

maximums, higher deductibles tend to occur with lower actuarial values, but there are significant deviations from this general tendency in actual plan rankings.)

A final finding is that premium level and actuarial value are not highly correlated. Figure 2 shows how actuarial values related to the premiums charged by these plans in Los Angeles County during 2006 for a 32-year-old individual. The left scale shows actuarial value, the right scale shows monthly premiums, which ranged from a low of \$56 to a high of \$448. The chart shows that two plans might have very similar actuarial values but very different premiums.

Figure 2. Relationship Between Actuarial Value and Premiums in Los Angeles County, 2006



IV. Conclusion

MANY ASPECTS OF HEALTH PLAN VALUE MAY INTEREST consumers when selecting a plan. But a very important one—if they had access to it—could be the percentage of total health care expenses that the plan is likely to pay. Actuarial value provides an estimate of this plan payment percentage, which the consumer might consider along with other information about the plan. This brief analysis of plan data from the individual market in California illustrates the potential usefulness to consumers of a summary measure such as actuarial value. If the policy goal is to provide a single number that consumers can use to compare the relative value of different benefit packages, actuarial value presents a more robust measure than any single cost-sharing provision.

Appendix: Actuarial Value, OOP Maximum, Annual Deductible and Premium for 32-Year-Old: Individual Market Plans in Los Angeles County, 2006

PLAN NO.	RANKINGS				VALUES			
	ACTUARIAL VALUE	OOPM	DEDUCTIBLE	PREMIUM	ACTUARIAL VALUE	OOPM	DEDUCTIBLE	MONTHLY PREMIUM
1	1	3	1	19	0.86	\$3,000	\$ 0	\$194
2	2	2	1	29	0.83	2,500	0	289
3	3	3	1	23	0.83	3,000	0	242
4	4	2	1	21	0.82	2,500	0	204
5	5	3	12	26	0.70	3,000	1,500	257
6	6	3	12	20	0.69	3,000	1,500	198
7	7	20	1	2	0.67	5,000	0	56
8	8	12	7	32	0.67	3,500	500	448
9	9	20	7	17	0.64	5,000	500	186
10	10	20	7	13	0.63	5,000	500	110
11	11	20	12	4	0.62	5,000	1,500	62
12	12	3	11	31	0.62	3,000	1,000	403
13	13	1	18	24	0.59	2,100	2,100	244
14	14	3	7	22	0.58	3,000	500	222
15	15	17	12	9	0.57	4,500	1,500	81
16	16	20	24	1	0.56	5,000	2,750	50
17	17	29	1	5	0.56	7,500	0	69
18	18	20	26	18	0.49	5,000	3,500	193
19	19	13	21	28	0.49	4,000	2,500	283
20	20	13	12	25	0.47	4,000	1,500	244
21	21	17	17	10	0.46	4,500	2,000	83
22	22	11	19	14	0.46	3,200	2,400	111
23	23	13	27	27	0.46	4,000	4,000	278
24	24	13	27	11	0.46	4,000	4,000	87
25	25	19	22	8	0.45	4,700	2,700	77
26	26	3	19	30	0.44	3,000	2,400	298
27	27	31	22	6	0.44	7,700	2,700	72
28	28	20	29	16	0.44	5,000	5,000	166
29	29	20	29	12	0.41	5,000	5,000	93
30	30	32	29	3	0.41	10,000	5,000	60
31	31	28	25	15	0.39	7,000	3,000	149
32	32	29	29	7	0.34	7,500	5,000	75

Source: Plan provisions for the individual insurance products available in California during 2006 were abstracted from www.ehealthinsurance.com.



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1438 Webster Street, Suite 400
Oakland, CA 94612
tel: 510.238.1040
fax: 510.238.1388
www.chcf.org