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## MANAGING COST SHARING

*By Courtney R. White*

Over the last 30 years, health insurers have had to adapt to the changing health insurance landscape. They have moved from managing benefits (indemnity vs. fee-for-service) to managing care (PPOs and HMOs) to managing revenue (risk scores) and will now be faced with managing cost sharing. The Patient Protection and Affordable Care Act (ACA) introduces richer benefits for lower income members in 2014. Health insurers participating on the exchange are being challenged to design the new benefits, identify and educate eligible members and providers, measure the benefit improvement, and coordinate the financing of the richer benefit with the federal government.

The richer benefits come in the form of reduced cost-sharing provisions (i.e., deductibles, coinsurance, copays, maximum out-of-pockets, etc.). Eligible members must enroll in an individual silver plan (defined as a 70 percent actuarial value with +/-2 percent allowed variance), sold on the exchange in their own states and must have a household income between 100 percent and 400 percent of the federal poverty level (FPL). In 2013, 100 percent of the FPL is \$11,490 for a household with only one member.<sup>1</sup> The FPL threshold naturally increases with the number of household members.

Eligible members will receive reduced cost-sharing provisions based on the percentage of their household income relative to the FPL threshold. The reduced maximum out-of-pocket (MOOP) and actuarial value are based on the table shown in Figure 1.

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## LETTER FROM THE EDITOR

By Rachel W. Killian and Jeffery M. Rykhus

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#### Dear SI&PF Section,

It has been two years since I've taken on the role of editor of the SI&PF newsletter. In that time, I've met many great people who have inspired and taught me so much. Thanks to them, we've had the many quality articles that you've come to expect here in our newsletter. Now, however, it is time for me to hand off the role of editor, but I'll be leaving you with an excellent replacement. My co-editor, Jeffery Rykhus, will take charge, starting with the next publication. He has been behind the scenes, assisting me every step of the way. But, before I go, I can't leave without telling you about the excellent articles we have in store for you in this newsletter.

Roughly three years ago the Patient Protection and Affordable Care Act (ACA) became law. Now, in January 2014, the ACA is fully implemented. We begin our newsletter with Courtney White's article on the cost-sharing subsidies provided for under the ACA. Further on, Daniel Pribe takes a look at possible valuation and profitability problems that could result from the federal advanced payment and risk mitigation programs under the ACA.

Thanks to Jon Forman for bringing us an advance look at the Living to 100 Symposium (held in January 2014). His article focuses on the longevity risk facing current and future retirees in the United States and is based on a paper to be presented at that symposium.

We've also included two articles on Medicare. The first article, written by Zach Davis, has been created to educate our members, especially those that do not have any exposure to this program. The second article, by Dan Bailey, provides an interesting look at the actuarial value and member cost-sharing risk of Medicare benefits, with some discussion of traditional Medicare relative to commercial insurance.

In our last publication we created a new section called "Let's Talk." In this section, we will continue to spotlight actuaries and others who have spent time working in the public interest. Thanks to Dick Schreitmueller for sharing his experiences with us for this publication. He has had a career well spent working in the public interest, and we hope he inspires others to do the same. By the way, let us know if you know of others who have done important work in the public interest so we can include them in future issues.

As promised in our last issue, we've included the second part of a Social Security article written by Sam Gutterman. As mentioned last time, Sam has written a longer article that can be found on the SOA website, and Sam's paper includes a link to the full paper. Before we leave the topic of Social Security, we have to mention Bruce Schobel's summary of the annual 2014 updates for Social Security. Even with a government shutdown causing a delay in the information, Bruce worked quickly to make sure that we could provide this information to you. Thanks, Bruce, for that quick turnaround!

This newsletter is free to section members. Current issues are available on the SOA website ([www.soa.org](http://www.soa.org)). To join the section, SOA members and non-members can locate a membership form on the Social Insurance & Public Finance Section Web page at <http://www.soa.org/sipf/>.

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For our members who are not also members of the Health Section, or any who missed it, we've reprinted an important article about Medicaid from one of the recent *Health Watch* publications. Because Medicaid is a social insurance program and so crucial to the ACA, we didn't want anyone to miss out on what Rob Damler has to say on this topic.

Finally, we shouldn't just be all about work and no fun, so we've also included a light-hearted article in our Actuarial Tips and Tricks sections. Thanks to Greg Sgrosso for a fun piece on how to use your actuarial skills to do just that: have fun!

We hope you enjoy what we've brought to you this time. Have a great 2014 and keep those articles coming!


Sincerely,

Rachel W. Killian 

**Dear SI&PF Section,**

I want to thank Rachel Killian for her two years editing *In The Public Interest*. I have worked with her for a year and a half, and I'm grateful for the thoughtful collaboration she has shown throughout that period. I look forward to the upcoming year and the opportunity to be the editor of this newsletter. Please contact me about any articles you wish to submit. If you have any thoughts to share about the newsletter, please connect with me as well, to enhance our shared future in social insurance and public pensions.

Sincerely,

Jeffery M. Rykhus 



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## CHAIRPERSON'S CORNER

# AFFORDABLE

By Steve Schoonveld




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For more than four years now, the phrase “Affordable Health Care” has been heard as frequently as “Let’s Go Red Sox.” But what is affordable, and by whom or what entity is the affordability intended to be experienced? During the past few months, individuals and families have been participating in open enrollment programs at their places of work, through Medicare programs and, perhaps, through the exchange websites. Many have seen staggering increases in overall costs through significantly increased deductibles and coinsurances, implemented to offset premiums. The law is intended to limit out-of-pocket costs to \$6,350 and \$12,700, for individuals and families, respectively; however, this was delayed for the 2014 roll-out. Still, with the average family premium ranging from \$600 to \$1,200 per month, total health care costs for a family may exceed \$20,000 a year! For most middle mass families this would be a short train to bankruptcy.

Is this affordable? Will this help families avoid bankruptcy? The outlook for the middle mass is bleak. First, income levels are very limiting. From the 25th percentile at \$20,000 of gross annual household income to the 75th percentile at \$87,000, there is little room for a catastrophic care episode, even with the “affordable” insurance plans. Second, there is little room within household finances for a retirement plan that goes beyond relying solely on Social Security in retirement. Finally, Medicaid programs are not at all prepared to handle the droves of boomers who will require long-term care in the next few decades and who do not have the funds or the means to receive care. Such a reliance on these programs may very well be catastrophic to many families who rely on these programs.

Perhaps some indication of the vast void in solutions offered by public policymakers is the fact that the recently concluded Federal Long-Term Care Commission did not address the financing of long-term care services in their 174-page report. When considering the members of the commission, as well as those that testified, very little of their financing knowledge was shared at all. In a prior column I discussed a framework for our social insurance and entitlement programs. Such a framework enables policy proposals to be evaluated on the merits and not the posturing. Such a framework enables choices and consequences to be understood. Such a framework allows for a comprehensive look at our financing programs and how best to structure them for the long haul. Such a framework focuses on solutions for the intended consumers rather than on the politics around the issues.

It is abundantly clear that informed, innovative and apolitical solutions are necessary to overcome these significant obstacles and provide the public with affordable solutions to the health and retirement risks they face. Whichever program is discussed, the country desperately needs actuaries to be actively involved in the answers to be presented. Along with the other 18 sections, the Social Insurance & Public Finance Section is the source of this voice. Policymakers and politicians need us to step up and inform. Our middle mass neighbors and friends desperately need us to act. The country needs our voices to be heard.

It is my hope that this section inspires you to let your voice be heard: to Influence, to Inspire, and to Impact. During the recent SOA annual meeting, the new members of the council were officially welcomed: Jian Yu, Krzysztof Ostaszewski and Sven Sinclair have joined the remaining members of Sue Collins, Vince Granieri, Jim Meidlinger, Jeffery Rykhus, Bruce Schobel and me. A special thanks goes to Gordon Latter, Gregg Schneider and Tia Sawhney for their dedicated work over the past three years. We look forward to their continued support as they remain as some of the many friends of the council that we have. Also, very special thanks goes to Jill Leprich for her support over the years. Jill, we greatly appreciate your work with the council. We and the SOA will sincerely miss you. 

**Figure 1:** Household Income, MOOP Reduction, and Required Actuarial Value<sup>2</sup>

Household Income (% of FPL)	MOOP Reduction	Required Actuarial Value*
100% to 150%	67%	94%
150% to 200%	67%	87%
200% to 250%	50%	73%
250% to 300%	50%	70%
300% to 400%	33%	70%

\*Actuarial value equals health insurer portion of the benefits or paid claims/allowed claims.

All other cost-sharing provisions will apply as filed with the silver plan unless the minimum required actuarial value (within +/-1 percent allowed variation) cannot be achieved with the MOOP reduction.

There is also the provision in Section 1402(c)(1)(B) of the ACA that allows further adjustment to the MOOP if the actuarial value were to exceed the required minimum shown in Figure 1. A reduced MOOP without any other changes increases the actuarial value. MOOP reductions for household incomes between 250 percent and 400 percent of FPL (shaded in Figure 1) would result in actuarial values above 70 percent. Therefore, the U.S. Department of Health and Human Services (HHS) does not expect health insurers to reduce the MOOP for these households.

In addition, depending upon household income, the member may also be eligible for premium subsidies. The premiums ultimately collected by the health insurer are unchanged in the case of premium subsidies. The insurer will either collect (1) the full premium from the member at the time of enrollment (and the member receives a tax credit) or (2) partial payment from the member and a deferred payment from HHS.

As with many provisions of the ACA, the practical applications are similar to Medicare Part D.<sup>3</sup> The payment methodology in Section 1402(c)(3) of the ACA will be similar to how the Centers for

Medicare and Medicaid Services (CMS) reimburses Part D carriers for low-income cost sharing (LICS) and federal reinsurance. Health insurers will be paid a monthly prospective amount reflective of the difference in actuarial value between the silver plan (68 percent to 72 percent actuarial value) and the cost-sharing reduction (CSR) plan, plus an allowance for induced utilization.

The table in Figure 2 shows a simple calculation for developing the monthly prospective amounts.

**Figure 2:** Calculating the Monthly Prospective Amount

Plan	Index Rate*	Change in Actuarial Value**	Induced Utilization <sup>3</sup>	Prospective Payment
Silver 70%	\$400			
Silver CSR 94%	\$400	24%	1.12	\$107.52
Silver CSR 87%	\$400	17%	1.12	\$76.16
Silver CSR 73%	\$400	3%	1.00	\$12.00

\* From Unified Rate Review Template filed with HHS.

\*\* From Plan and Benefits Template filed with HHS.

For every member that is eligible for the CSR 94 percent plan, HHS would pay the health insurer \$107.52 for each month the member is enrolled.

About six months after the contract year, the monthly prospective payment will be compared to actual cost-sharing reduction payments made by the health insurer and trued up. That is, the health insurers are not at risk for the cost-sharing reduction payments. The table in Figure 3 shows an illustrative reconciliation with HHS.

**Figure 3:** Illustrative Reconciliation with HHS

Plan	Prospective Payment	Illustrative Actual Payment	(To)/From HHS
Silver CSR 94%	\$107.52	\$125.52	\$18.00
Silver CSR 87%	\$76.16	\$70.00	(\$6.16)
Silver CSR 73%	\$12.00	\$12.50	\$0.50

CONTINUED ON PAGE 6



The risk adjustment program is a “zero-sum game”: by definition the expected payout will equal the expected receipts.

The difference between the prospective and illustrative actual payment would be calculated for each member for the entire year and then aggregated to determine the total amount owed to or due from HHS.

### FINANCING THE NEW PROVISIONS

A concern for many is the ability of our country to finance the new provisions. The ACA is a dramatic change to the health insurance landscape. The risk adjustment and transitional reinsurance programs under ACA were intended to be self-supporting. The risk adjustment program is a “zero-sum game”; by definition the expected payouts will equal the expected receipts. HHS has estimated the per capita cost for the benefits of the transitional reinsurance program in the individual market. Health insurers and third-party administrators (TPAs) are charging all covered insureds, individuals as well as fully and self-insured groups, a reinsurance fee to cover these large claims emerging in the individual market.

Unlike the risk adjustment and federal reinsurance programs, the cost-sharing subsidy programs are not self-supporting. The Congressional Budget Office<sup>4</sup> (CBO) estimates that the cost-sharing subsidies will increase the federal deficit by \$4 billion in 2014, \$8 billion in 2015, and \$13 billion in 2016. Over the next 10 years, the cost-sharing subsidies are estimated to cost \$149 billion.

### POTENTIAL HEALTH INSURER CASH FLOW ISSUES

The timing of the financing arrangement can also create issues for an insurer, especially for start-up organizations or health insurers with significant numbers of members eligible for cost-sharing reductions. This cash flow mismatch can put strain on a health insurer’s financial position in two ways, if not managed appropriately. First, there is a mismatch between the timing of the prospective payment and the actual cost-sharing reduc-

tion. The prospective payment represents an average over all these eligible members over all months within the calendar year. If the MOOP is the primary cost-sharing reduction, then it would be expected that the actual cost-sharing reduction would be lower than the prospective payment in the early part of the year and increase as the year progresses and more members’ cost sharing reaches the lower MOOP.

Second, there is estimation risk that could impact an insurer’s short-term cash position. If the actual cost-sharing reductions are greater than the prospective amounts paid from CMS, then the health insurer will not be made whole until approximately six months after the contract year. Medicare Part D plans have seen the LICRS receivables that are due to this mismatch equal as much as 20 percent of premium.

### CALCULATION OF COST-SHARING SUBSIDIES

HHS recognizes the administrative burden of adjudicating claims twice, so they are allowing the use of a “simplified method” in 2014.<sup>5</sup> Unlike Medicare Part D, where the Prescription Drug Event (PDE) files were designed to capture both the standard benefit and the reduced cost-sharing benefit, claim systems currently used by health insurers were not designed with this in mind. Most health insurers will likely opt for the simplified method in 2014 while working toward operational changes in their claim systems to accommodate both cost-sharing levels.

In practice, the member eligible for a cost-sharing reduction will see the reduction at the point of service in a medical service encounter (i.e., the provider will not ask them to pay any more than their reduced cost sharing). As such, claim records will reflect the lower cost sharing. Therefore, the carriers must estimate the cost sharing they would have paid.

The simplified method uses data from members who are not eligible for cost-sharing reductions to estimate what eligible members would have paid for the silver plan. HHS has identified four steps to estimate the cost-sharing reduction:

1. Calculate the average deductible;
2. Calculate the effective coinsurance for members with allowed costs below the deductible;
3. Calculate the effective coinsurance for members with allowed costs between the deductible and the MOOP trigger (i.e., total costs where cost sharing exceeds MOOP);
4. Calculate the cost sharing for members with allowed costs above the MOOP trigger.

Health insurers will use the statistics identified above to stratify the cost-sharing reduction members' allowed costs, potentially for "self" versus "other than self" coverage as well as medical versus prescription drugs, depending on the structure of the benefits. Figure 4 shows a simple example for three members with the following illustrative assumptions:

- Average deductible is \$1,500.
- Effective pre-deductible (<\$1,500) rate is 50 percent.
- MOOP Trigger is \$33,833 ( $(\$6,350 - \$1,500) / 15\% + \$1,500$ ).
- Effective post-deductible (\$1,500 to \$33,833) coinsurance rate is 15 percent.

If the data is not credible, then the health insurer uses the standard plan's actuarial value and the total allowed costs to determine the cost sharing. Either way, the estimated cost sharing for each member is compared with the actual cost sharing based on the reduced cost sharing reflected in the claim system to determine the impact of the cost-sharing reduction. This calculation is done for each member and aggregated for each CSR

Figure 4: Simplified Method Example

Member Cost Range	Allowed Amount	Cost Sharing**
\$0 to \$1,500*	\$1,000	\$500
\$1,500 to \$33,833***	\$20,000	\$4,275
Above \$33,833***	\$40,000	\$6,350

\*All not subject to the deductible.  
 \*\*Effective deductible and effective coinsurance based on non-cost-sharing reduction members.  
 \*\*\*All cost subject to the deductible.

plan and in total for the health insurer. The aggregate impact of the cost-sharing reduction is then compared to the aggregate prospective payments from HHS to determine whether the health insurer makes payments to or receives payments from HHS.

The simplified method of estimating the value of the cost-sharing reduction is intended to reduce the administrative burden in the first year of the ACA. However, health insurers should assess the accuracy of the method and the risk of using these estimates.

### SUMMARY

The new cost-sharing reductions introduced by the ACA create a new set of operational needs for health insurers, including the following:


- Designing benefit plans that meet the reduced cost-sharing requirements,
- Collecting and reconciling prospective payments from HHS,
- Reconciling internal member eligibility with HHS information,
- Educating members and providers on the cost-sharing reductions,
- Managing cash flows,
- Monitoring and measuring the actual cost-sharing reductions, and



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- Preparing claim systems to handle cost-sharing reductions in 2015.

This is just one aspect of the ACA facing health insurers. Given the magnitude and required effort of these operational and financial changes, health insurers should start early to understand potential issues and provide feedback to HHS. 

#### END NOTES

- <sup>1</sup> Federal Register (Jan. 24, 2013).
- <sup>2</sup> U.S. Department of Health and Human Services (Feb. 24, 2012). Actuarial Value and Cost-Sharing Reductions Bulletin.
- <sup>3</sup> Leida, H. (August 2013). Learning from Medicare Advantage and Part D: Lessons for the individual insurance market under ACA.
- <sup>4</sup> CBO (May 2013). Estimate of the Effects of the Affordable Care Act on Health Insurance Coverage.
- <sup>5</sup> Federal Register (Oct. 24, 2013).



# WHAT DO WE KNOW ABOUT THE OLDEST OLD?\*

By Jonathan Barry Forman\*\*



**Editor's Note:** This article by Jonathan Forman was based on a paper presented at the recent *Living to 100 Symposium*, Jan. 8–10, 2014, in Orlando, Fla. The fifth in the series, this symposium featured more speakers, panel discussions on the implications of aging, and networking opportunities than in the past. To view past monographs and more information on this *Living to 100* international research symposium, see <http://livingto100.soa.org/>.

**L**ongevity risk—the risk of outliving one's retirement savings—is probably the greatest risk facing current and future retirees in the United States. As life expectancy increases, more and more Americans will live to ages 90 and even 100, and we will need to figure out how to ensure that they will have adequate retirement incomes. As a preliminary matter, this article focuses on what we know about today's oldest old, here defined as those aged 90 and over (90+).<sup>1</sup>

## BASIC DEMOGRAPHICS OF THE OLDEST OLD (90+)

According to the National Center for Health Statistics, life expectancy at age 65 in the United States increased from 11.6 years in 1909 to 1911 to 18.8 years in 2008 (See Table 1).<sup>2</sup> People at

very old ages are also expected to live longer. For example, those age 80 can now expect to live, on average, another 8.9 years (versus 5.25 years in 1909 to 1911), those age 90 can now expect to live another 4.5 years (versus 3.03 years in 1909 to 1911), and those age 100 can now expect to live another 2.2 years (versus 1.85 years in 1909 to 1911).

**Table 1.** Life Expectancy by Age, 1909–1911, 1949–1951, and 2008

Age	Average Number of Years of Life Remaining		
	1909-1911	1949-1951	2008
0	51.49	68.07	78.1
65	11.60	13.83	18.8
70	9.11	10.92	15.2
75	6.99	8.40	11.8
80	5.25	6.34	8.9
85	4.00	4.69	6.4
90	3.03	3.44	4.5
95	2.35	2.54	3.1
100	1.85	1.92	2.2

Source: Elizabeth Arias, *United States Life Tables, 2008*, 61(3) NATIONAL VITAL STATISTICS REPORTS (Sept. 24, 2012), p. 52 tbl. 21.



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These prolonged life expectancies at older ages have led to the growing size of the oldest segments of the population. For example, out of a total U.S. population of 310 million in 2010, 40 million (12.9 percent) are aged 65 or older (65+), and as the total population is expected to grow to 439 million in 2050, the 65+ population will more than double, to 88.5 million (20.2 percent).<sup>3</sup> Pertinent here, the 90+ population increased from 720,000 in 1980 to 1.9 million in 2010<sup>4</sup> and is projected to quadruple by 2050, to more than 8.7 million.<sup>5</sup>

The oldest old also account for an increasing share of the older population. For example, those 90+ accounted for 2.8 percent of the older population (65+) in 1980, 4.7 percent of the older population in 2010, and they are projected to account for 9.9 percent of the older population in 2050.<sup>6</sup> All in all, in 2050, around 20 percent of the total U.S. population will be elderly (65+), and one-tenth of the elderly will be 90+ (that is, 2 percent of the total population).

The oldest old (1,761,770 in 2006 to 2008) are overwhelmingly white (88.1 percent) and female (74.1 percent).<sup>7</sup> Most are married (15.8 percent) or widowed (75.1 percent). Most are high school graduates or beyond (61.4 percent).<sup>8</sup> Also, almost all are covered by health insurance: for example, 99.5 percent of the oldest old were covered by health insurance in 2008, with 98.8 percent getting Medicare and 28 percent also receiving Medicaid.<sup>9</sup>

The oldest old had a median annual income of \$14,760 in 2006 to 2008 (in 2008 inflation-adjusted dollars), although the men had a significantly higher median annual income (\$20,133) than the women (\$13,580).<sup>10</sup> Also, 14.5 percent (198,090) of the oldest old were poor in 2006 to 2008, 9.6 percent of the men and 16.5 percent of the women. Pertinent here, the poverty rate increases with age: for example, just 9.6 percent of people aged 65 to 89 were poor in 2006 to 2008.<sup>11</sup>

Disability and institutionalization generally increase with age. For example, just 1.5 million (3.6

percent) of the 65+ population were institutionalized in 2011, but that rate increases dramatically with age, ranging from 1 percent for persons aged 65 to 74, to 3 percent for persons aged 75 to 84, and to 11 percent for persons 85+.<sup>12</sup> As for the oldest old (90+), the vast majority (84.7 percent in 2006 to 2008) reported having at least one disability-type limitation (i.e., difficulties in hearing; seeing; concentrating, remembering, or making decisions; walking or climbing stairs; dressing or bathing; and doing errands alone).<sup>13</sup> And 22.7 percent of the oldest old were institutionalized in facilities such as nursing homes (about 14.5 percent of men and 25.5 percent of women).<sup>14</sup>

Pertinent here, the 2010 Census counted 53,364 centenarians (people age 100 and over, 100+),<sup>15</sup> and the number of these centenarians is projected to grow to 601,000 in 2050.<sup>16</sup> Over half (62.5 percent) of the 53,364 centenarians in the United States in 2010 were age 100 or 101, and 92 percent were 100 to 104.<sup>17</sup> There were also 330 supercentenarians (people age 110 and over) in the United States that year. As with the oldest old, centenarians are overwhelmingly white (82.5 percent)<sup>18</sup> and female (82.8 percent).<sup>19</sup> Also of note, 35.2 percent of centenarian females and 18.2 percent of centenarian males lived in nursing homes.<sup>20</sup>

Finally, residence patterns also tend to vary with age.<sup>21</sup> In particular, there is a tendency toward living in urban areas as one ages. For example, 85.7 percent of centenarians lived in urban areas in 2010, compared with 84.2 percent of those in their 90s (nonagenarians), 81.5 percent of those in their 80s, and 76.6 percent of those in their 70s.<sup>22</sup> Also, while the states with the largest total populations generally also have the highest number of oldest old, the Northeast and Midwest had greater concentrations of nonagenarians and centenarians than the South and West.<sup>23</sup> For example, while nonagenarians made up 0.59 percent of the national population in 2010 (59 per 10,000 population), nonagenarians made up 0.74 percent of the population in the Northeast and 0.67 percent of the population in the Midwest, compared to just 0.51 percent in the South and 0.53 percent in the

West. Not surprisingly, California, New York, and Florida had the most nonagenarians, while Alaska and Wyoming had the fewest; meanwhile, North Dakota had the largest concentration (0.93 percent) of nonagenarians and Alaska had the lowest (0.20 percent).

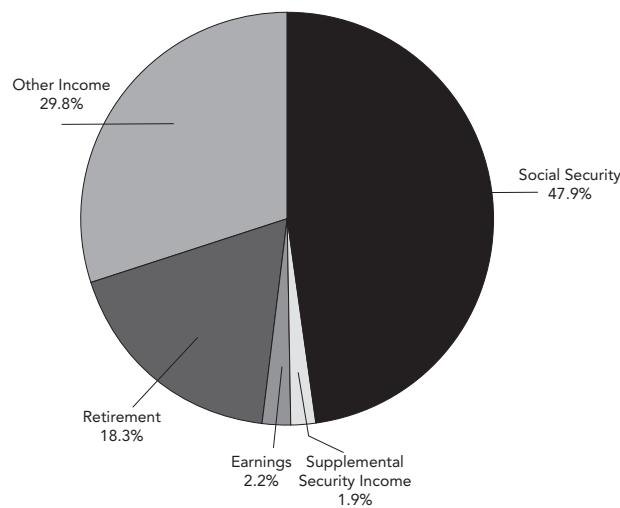
### SOURCES OF INCOME OF THE OLDEST OLD (90+)

Social Security is the most common source of income for households aged 65 or older. For example, in 2010, 86.3 percent of households aged 65 or older received Social Security benefits.<sup>24</sup> Moreover, Social Security provided more than half of total income for 53.1 percent of aged beneficiary couples and 74.1 percent of aged single beneficiaries.<sup>25</sup> Just 39.7 percent of households received retirement benefits from sources other than Social Security, and 51.9 percent received income from other assets.<sup>26</sup>

In 2006 to 2008, 92.3 percent of the oldest old received income from the Social Security Administration, with 86.2 percent receiving only Social Security income, 3.0 percent collecting only Supplemental Security Income (SSI), and 3.1 percent receiving both.<sup>27</sup> All in all, Social Security provides almost half (47.9 percent in 2006 to 2008) of personal income for the oldest old (See Figure 1).<sup>28</sup> Pension and retirement income accounted for another 18.3 percent, earnings for 2.2 percent, SSI for 1.9 percent, and other income (e.g., interest, dividends, net rental or royalty income, welfare, and all other income) accounted for 29.8 percent.

Significantly, the sources of income tend to change as individuals age. In particular, labor income declines as more and more workers retire. For example, according to one recent analysis of data from the Health and Retirement Study (HRS), earnings provided 11.9 percent of the income of those aged 65 to 74 in 2009, but just 3.5 percent of the income of those aged 75 to 84 and just 0.5 percent of the income of those aged 85+.<sup>29</sup> Pension and annuity income initially increased from 17.1 percent of income for those

**Figure 1.** Income Sources of Population Aged 90 and Over: 2006-2008



Source: Wan He & Mark N. Muenchrath, 90+ in the United States: 2006 to 2008 (U.S. Census Bureau Report No. ACS-1, 2011), p. 10 Fig 7.

aged 65 to 74 to 18.4 percent for those aged 75 to 84, before falling to just 15.3 percent for those aged 85+. On the other hand, Social Security benefits went from 53.9 percent of income for those aged 65 to 74, to 60.6 percent of income for those aged 75 to 84, and to 65.7 percent for those aged 85+.<sup>30</sup> That analysis of HRS data also considered the relationship between the income and expenditures of elderly households: in 2009, for example, 37.2 percent of those aged 65 to 74 had household incomes that were less than their expenditures, increasing to 43.9 percent for those aged 75 to 84 and to 46.3 percent for those aged 85+.<sup>31</sup>

### SO WHO LIVES TO BE 90+?


A slightly different way of thinking about the oldest old is to ask which Americans live long enough to reach the oldest old (90+) age group. The answer to this question is especially important when it comes to deciding how to improve social insurance programs, pensions, and other financial products.

CONTINUED ON PAGE 12

As already noted, the oldest old are overwhelmingly white (88.1 percent in 2006 to 2008) and female (74.1 percent in 2006 to 2008). On average, those who survive to 90 are more educated and had higher incomes than their deceased peers.<sup>32</sup> In that regard, it is well established that people with higher incomes tend to live longer than people with lower incomes.<sup>33</sup> The oldest old are also more likely to have been married than their peers,<sup>34</sup> and they also had more pension and non-pension savings and wealth.<sup>35</sup>

### HOW WILL WE SUPPORT THE OLDEST OLD?

A variety of approaches will be needed to ensure that these oldest old have adequate incomes throughout their lives. As the years go by, social insurance programs like Social Security, Supplemental Security Income and Medicaid will undoubtedly need to be expanded. We also need to encourage workers to work longer and save more for their eventual retirements, and to annuitize more of their retirement savings.

While these kinds of solutions seem fairly obvious, the answers to two important policy questions have yet to be decided. First, how much will the government require the oldest old to save earlier in their lives? And second, how much will the government redistribute to benefit the oldest old? Unfortunately, if the history of the Social Security system is any indication, both government mandates and redistribution will be modest, and a significant portion of the oldest old will face their final years with inadequate economic resources. 

### ENDNOTES

- \* Copyright © 2013, Jonathan Barry Forman. This article is drawn from Jonathan Barry Forman, Supporting the Oldest Old: The Role of Social Insurance, Pensions, and Financial Products, prepared for the Society of Actuaries' International Symposium on Living to 100 (Orlando, Fla., January 8–10, 2014). This will be the fifth in the Living to 100 symposium series. Symposia are held every three years, and provide insights valuable to actuaries in several practice areas. For more details, see <http://livingto100.soa.org/>.
- \*\* Alfred P. Murrah Professor of Law, University of Oklahoma; B.A. 1973, Northwestern University; M.A. (Psychology) 1975, University of Iowa; J.D. 1978, University of Michigan; M.A. (Economics) 1983, George Washington University; member of the board of trustees of the Oklahoma Public Employees Retirement System, 2003–2011.
- <sup>1</sup> The term “oldest old” is alternatively defined as people aged 85 and older (85+) or as people aged 90 and older (90+). See, e.g., Wan He & Mark N. Muenchrath, 90+ in the United States: 2006–2008 (U.S. Census Bureau Report No. ACS-17, 2011), p. 1 box. This article uses the 90+ definition, although sometimes 85+ data are all that is available.
- <sup>2</sup> Elizabeth Arias, United States Life Tables, 2008, 61(3) NATIONAL VITAL STATISTICS REPORTS (Sept. 24, 2012), p. 52 tbl. 21.
- <sup>3</sup> Grayson K. Vincent & Victoria A. Velkoff, The Next Four Decades: The Older Population in the United States: 2010 to 2050 (U.S. Census Bureau Report No. P25-1138, 2010), p. 10 tbl. A-1, and author's computations.
- <sup>4</sup> He & Muenchrath, p. 2.
- <sup>5</sup> Vincent & Velkoff, p. 10 tbl. A-1. Similarly, the number of Americans aged 85 and over (85+) is projected to increase from 5.7 million in 2011 to 14.1 million in 2040. Administration on Aging, U.S. Department of Health and Human Services, A Profile of Older Americans: 2012 (2013), p. 1.
- <sup>6</sup> He & Muenchrath, p. 2.
- <sup>7</sup> Ibid, p. 24 tbl. A-1, and author's computations.
- <sup>8</sup> Ibid, pp. 8-9, 24 tbl. A-1, and author's computation.
- <sup>9</sup> Ibid, p. 18.
- <sup>10</sup> Ibid, p. 24 tbl. A-1.
- <sup>11</sup> Ibid, p. 11.
- <sup>12</sup> Administration on Aging, p. 5.
- <sup>13</sup> He & Muenchrath, pp. 15-16.

<sup>14</sup> *Ibid.*, p. 14.

<sup>15</sup> Julie Meyer, Centenarians: 2010 (U.S. Census Bureau Report No. C2010SR-03, 2012), p. 1. There were 1.73 centenarians per 10,000 people in the United States in 2010, up from just 1.42 per 10,000 in 1980. *Ibid.*, pp. 1 fig.1, 13.

<sup>16</sup> U.S. Census Bureau, Older Americans Month: May 2011 (U.S. Census Bureau, Profile America Facts for Features No. CB11-FF08, March 23, 2011).

<sup>17</sup> Meyer, p. 2.

<sup>18</sup> *Ibid.*, p. 3.

<sup>19</sup> *Ibid.*, p. 2.

<sup>20</sup> *Ibid.*, p. 5 fig. 4.

<sup>21</sup> *Ibid.*, p. 9. Pertinent here, life expectancy at age 65 also varies from state to state. Man-Huei Chang, Heba Athar, Paula W. Yoon, Michael T. Molla, Benedict I. Truman, & Ramal Moonesinghe, State-Specific Healthy Life Expectancy at Age 65 Years — United States, 2007–2009, 62(28) *MORBIDITY AND MORTALITY WEEKLY REPORT* (Centers for Disease Control and Prevention, July 19, 2013).

<sup>22</sup> Meyer, p. 9

<sup>23</sup> *Ibid.*, pp. 8 tbl. 2, 9.

<sup>24</sup> SOCIAL SECURITY ADMINISTRATION, *INCOME OF THE AGED CHARTBOOK, 2010* (2012), p. 8; see also Sudipto Banerjee, *Income Composition, Income Trends, and Income Shortfalls of Older Households* (Employee Benefit Research Institute, Issue Brief No. 383, 2013); Barbara A. Butrica & Mikki D. Waid, *What Are the Retirement Prospects of Middle-Class Americans?* (AARP Public Policy Institute, Middle Class Security Project Paper No. 2013-01, 2013).

<sup>25</sup> SOCIAL SECURITY ADMINISTRATION, p. 9.

<sup>26</sup> *Ibid.*, p. 8.

<sup>27</sup> He & Muenchrath, pp. 9-10.

<sup>28</sup> *Ibid.*, p. 10 fig. 7.

<sup>29</sup> See, e.g., Banerjee, p. 6 fig. 1. Note that the labor, Social Security, and pension income data in the Health and Retirement Study can differ significantly from that reported in the Current Population Survey. *Ibid.*, p. 7.

<sup>30</sup> No doubt, it helps immeasurably that Social Security benefits are indexed for inflation.

<sup>31</sup> Banerjee, p. 9.

<sup>32</sup> See, e.g., CONGRESSIONAL BUDGET OFFICE, *GROWING DISPARITIES IN LIFE EXPECTANCY* (2008); Michael A. Fletcher, *Research ties economic inequality to gap in life expectancy*, WASHINGTON POST, MARCH 10, 2013; Ellen Meara, Seth Richards & David Cutler, *The Gap Gets Bigger: Changes in Mortality and Life Expectancy by Education, 1981–2000*, 27(2) *HEALTH AFFAIRS* 350 (2008) (finding that virtually all gains in life expectancy occurred among highly educated groups).

<sup>33</sup> See, e.g., Hilary Waldron, *Mortality Differentials by Lifetime Earnings Decile: Implications for Evaluations of Proposed Social Security Law Changes 73(1)* SOCIAL SECURITY BULLETIN 1 (2013); Gopal K Singh & Mohammad Siahpush, *Widening socioeconomic inequalities in US life expectancy, 1980–2000*, 35(4) *INTERNATIONAL JOURNAL OF EPIDEMIOLOGY* 969 (2006); Hilary Waldron, *Trends in Mortality Differentials and Life Expectancy for Male Social Security–Covered Workers, by Average Relative Earnings* (Social Security Administration, Office of Policy, Office of Research, Evaluation, and Statistics Working Paper No. 108, 2007); Gary Burtless, *Life Expectancy and Rising Income Inequality: Why the Connection Matters for Fixing Entitlements* (Brookings, Oct. 23, 2012).

<sup>34</sup> See, e.g., U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, Office of Human Services Policy, *The Effects of Marriage on Health: A Synthesis of Recent Research Evidence* 5-6 (2007).

<sup>35</sup> See, e.g., Banerjee (discussing the income and assets of the elderly).



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## LET'S TALK

# INTERVIEW WITH AN ACTUARY IN THE PUBLIC INTEREST

Questions provided by the SI&PF Section. Responses by Dick Schreitmueller.

**R**ecently we had the opportunity to spend time with Dick Schreitmueller, learning about his experiences in the public sector. Below are excerpts from Dick's responses to the questions that we presented to him.

### WHAT IS YOUR CURRENT PROFESSIONAL ROLE AND HOW DOES IT RELATE TO THE PUBLIC?

I retired from pension consulting 15 years ago. Since then, I've done a little work on post-retirement benefit issues from a public policy and consumer viewpoint, mostly writing and editing. Examples include working with:

- The Society of Actuaries (SOA) on managing post-retirement risks, including investments and health care;
- Women's Institute for a Secure Retirement (WISER) on financial issues; and
- American Academy of Actuaries (AAA) on Social Security policy.

### WHAT IS YOUR EDUCATIONAL BACKGROUND?

I graduated from University of Notre Dame in 1953 with a Bachelor of Science in Electrical Engineering. After a year as an engineer, I was drafted for two years into the U.S. Army.

I played a lot of bridge in college and got to know Oswald Jacoby, a famous bridge player and former actuary. In 1956 I wrote to Jacoby asking about an actuarial career and he encouraged me to go for it. His letter to me is displayed on my wall at home.

In 1960 I finished the exams to become a fellow of the Society of Actuaries (FSA). My good exam record was mainly due to a knack for summarizing technical material in a format I could study from and use to answer essay questions.

### WHAT IS YOUR PROFESSIONAL BACKGROUND?

My first actuarial job was at Aetna Life, with 10 years in group insurance and three years in group pensions. I was fortunate to work under Paul



Jackson, an excellent role model for managing product lines and for writing in what he called "shirt-sleeve English." I especially liked designing insured products and employee benefit plans.

Then I moved into pension consulting, working with defined-benefit plans for eight years. Again, I enjoyed any chance to design and explain benefit plans.

Haeworth Robertson, chief actuary at the Social Security Administration (SSA), hired me in 1977 because he thought Social Security (SS) would bring in more governmental and nonprofit employers, and I could help with the transition. Haeworth soon left the government but his predictions proved correct. Being outside the SSA's actuarial mainstream, I got a wide range of special projects that often involved explaining the program to outsiders, including "money's worth" calculations that compared workers' benefits with their payroll taxes. In 1980 to 1984, I authored the first official summary of the lengthy annual SS trustees' report.



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Meanwhile, in 1981, President Reagan named actuary Bob Myers to head up the SSA's policy areas, including the actuaries and many others. As a freelance SS expert, Bob had made several public appearances to discuss and debate whether governmental and nonprofit employers should opt out of SS coverage, as the law then allowed. Bob no longer had time to do this, so he asked me, on one day's notice, to step in and represent the SSA. I started off on a panel opposite a consultant who offered to install a defined-contribution (DC) plan replacing SS that would increase benefits and save money. My second appearance was opposite a consultant who wanted to manage a defined-benefit (DB) replacement plan. I did okay on the two panels, but, more important, I now had a clear understanding of the issues and was ready to write a paper about the pitfalls of opting out. Bob Myers agreed to review the paper, which I'd present to the Middle Atlantic Actuarial Club.

My draft began by saying it gave my personal views, but not necessarily those of my employer. Bob Myers crossed that out and said the paper would, in fact, be the views of both himself and the SSA. Bob was a pleasure and a privilege to work with. He made helpful suggestions, and soon the paper was done. We publicized the paper and its key arguments widely among actuaries and other interested parties, and over the next two years I spoke on many panels around the country. I always ended by saying that the law allowing some employers to drop out of SS made little sense and would soon be repealed, which it was in the 1983 SS amendments.

This law also said SS would cover federal civilian employees hired after 1983, plus all elected officials and key appointees. The existing Civil Service Retirement System was designed to be adequate without SS, so its retirement, disability and survivor benefits now had to be cut back to coordinate with SS. The Senate borrowed me from the SSA in 1985 to 1986 to help design the new Federal Employees Retirement System (FERS).

As it happened, my main contribution involved the proposed Thrift Savings Plan (TSP). This emerged from an informal conversation early in 1985 between me and Jamie Cowen, a key Senate staffer. We'd been trying to find a good way for this DC plan to handle common stock investments. Although others suggested using IRAs as a model, offering employees a wide range of investment choices, we wanted a centrally managed fund that would be kept free of politics. But how could the fund managers avoid any tendency to invest in politically favored companies? Jamie got us halfway home when he remarked, "It's too bad there isn't a way to choose the stocks automatically." Right away the proverbial light bulb went on, and I said, "There is a way, called an index fund. And that's how we'll do it."

Index funds, used mainly by large pension funds at the time, were still new and got little respect among investment managers, whose livelihoods were threatened by them. Nobody else on the Hill had heard of index funds, and they weren't even mentioned by the pension and investment experts at our many public forums during the legislative process. But policymakers caught on quickly. The stock index fund proposal was in the Senate bill introduced in July 1985, and a year later I watched President Reagan sign it into law. I spent a few months helping a new agency launch the TSP, working on announcement material and administrative issues.

Then it was time to return to the private sector, where I spent 1988 to 1997 as a resource actuary for two large consulting firms, helping them cope with technical rules for pension plans.

In 1992, the president appointed me to the Department of Defense (DoD) board of actuaries for a 15-year term. This meant overseeing technical work of DoD's fine actuarial staff for the military retirement system. So, I worked with all four of Uncle Sam's big retirement programs (SS, military retirement, civil service retirement and TSP), though most of my career was in the private sector.

### WHAT PREPARED YOU MOST FOR YOUR PROFESSIONAL ROLE?

My interest in politics and government began while I was at Aetna. This interest increased while working in Washington, D.C., with new government pension rules.

### WHAT ARE YOU MOST PROUD OF?

Helping change the federal employee retirement program as a Senate staffer in 1985 to 1986. My main contribution was getting the TSP to use index funds. This resolved two critical issues for policy makers, offering workers an attractive way to invest while keeping politics out of stock selection. The TSP has been widely applauded inside the Beltway and was later extended to military personnel.

A bipartisan group of Senate staffers met weekly to redesign the retirement program. Our office had one PC, which nobody used, so I made a spreadsheet outlining the old versus new plans, updating it for all staffers whenever we filled in new provisions. This outline became the only available description of the new plan as it went through the Senate, the House-Senate conference and White House signoff, until the lengthy bill was printed and signed into law. Even then, all parties used my outline as a reference to the new law until they could digest the actual bill's legal wording for themselves.

### ARE THERE ANY OTHER ACTUARIES THAT WORK DIRECTLY IN THE PUBLIC INTEREST THAT YOU ADMIRE?

Anna Rappaport.

### WHAT ARE SOME WAYS YOU HAVE BEEN ABLE TO STAND UP FOR THE PUBLIC INTEREST?

The FERS legislation tackled issues important to taxpayers and millions of federal employees. Policymakers wanted to reduce retirement costs and allow federal employees to invest in the stock market, while keeping politics out of the investment process. I contributed to this successful effort.

### HOW HAVE YOU DEALT WITH DIFFICULT SITUATIONS?

I don't feel I've had many difficult situations. Selling the index fund concept to policymakers could have been difficult, as it was a new idea in 1985. To help make them comfortable, I cited a financial textbook and named a few large employers who offered index funds in their DC plans.

### WHAT WAS YOUR MOST REWARDING JOB?

Clearly, this was working for the Senate. Before my interview with the Senate, I asked Bruce Schobel about his recent experience on Capitol Hill. Bruce said it would be hard work with little or no recognition, but also a special opportunity and experience. My boss at the SSA, chief actuary Harry Ballantyne, said he'd be glad to have me help Congress, but if I didn't want to go, he'd get me out of it. I felt this was what the SSA had hired me to do.

Committee chairman Sen. Bill Roth (R-DE) liked both my pension experience and my Republican background. Hill staffers tend to have great freedom to do the job their own way but must be loyal and trusted team players.

Senator Roth also asked me to design an early retirement window bill for federal employees. This was unlikely to go far, but media coverage of a press release and hearing would have political value. So I became a client of the Senate's legislative staff, getting them to draft legislative language, and represented Senator Roth in discussions with union leaders and the Congressional Budget Office. For the hearing, I decided who would testify and sat next to the Senator, providing questions for each witness. The bill didn't make it to the Senate floor, but that process was a unique chance for hands-on experience.

The hours were long and demanding but the work had intangible rewards—our staff director called this “psychic income.” Status as a Hill staffer opened many doors. I got prompt techni-


Our office had one PC, which nobody used, so I made a spreadsheet outlining the old versus new plans, updating it for all staffers whenever we filled in new provisions.

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cal help from the Library of Congress and from Ford Motor Company, thanks to their actuary Marc Twinney. The fun parts included a Finnish embassy party, a DC radio call-in show, where I was the guest expert, a confidential State Department briefing on Liberia for a friend who'd soon travel there, and a seat at the Supreme Court to watch oral arguments in a case about government employers who wanted to drop SS coverage.

An item on my bucket list was to publish a paper in the SOA Transactions, which I did in 1988, regarding the federal employee legislation. I patterned the paper after those Bob Myers had done about SS legislation in the 1950s and 1960s. Bob's published remarks about my paper said it was "monumental." Soon the SOA Transactions faded into obscurity, but by then the bucket item was done.

### DO YOU HAVE ANY THOUGHTS TO SHARE WITH CURRENT AND FUTURE ACTUARIES WORKING IN PROFESSIONAL ROLES HAVING A DIRECT IMPACT ON THE PUBLIC?

Actuaries have much to contribute. My Senate staff director said I kept the rest of the staffers glued into reality. Each assignment offers a unique personal and professional experience, working with new people and issues. 



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# AN INTRODUCTION TO MEDICARE

By Zach Davis

Words like Social Security, Medicare, and entitlement programs from the press and politicians receive a lot of attention when the country's economic position and federal deficit are discussed. Many Americans know that Medicare is a government health insurance program; however, they are not always sure who and what it covers. This article is intended to provide an introductory summary of the Medicare program; including its history, who it covers, what it covers, and how it is financed.

## HISTORY OF MEDICARE

Medicare was enacted by President Lyndon B. Johnson on July 30, 1965. The program was designed to extend health coverage to all Americans over the age of 65, low-income children deprived of parental support, their caretaker relatives, the elderly, the blind, and individuals with disabilities. Medicare was implemented on July 1, 1966, with 19 million Americans enrolling. Over the next 48 years there were many expansions to the program. Some of the key expansions include<sup>1</sup>:

- 1972—Extending coverage to long-term disabled individuals under 65 and individuals with end stage renal disease (ESRD);
- 1973—The HMO Act provided grants and loans along with preferential treatment to federally qualified HMOs;
- 1988—The Medicare Catastrophic Coverage Act improved coverage for inpatient, skilled nursing facilities, and included an outpatient prescription drug benefit;
- 1997—The Balanced Budget Act established private Medicare options that have evolved into what is known today as Medicare Advantage or Medicare Part C;
- 1998—www.Medicare.gov launched to help provide information on Medicare and answer Medicare related questions;
- 2003—The Medicare Modernization Act established a prescription drug benefit under Medicare Part D.

## BENEFIT ELIGIBILITY AND STRUCTURE

Individuals must be 65 years old or older to be eligible for Medicare benefits and have paid into the Medicare system by paying the Medicare payroll tax for 10 or more years. Individuals who are under age 65 may also be eligible for Medicare, if they have been collecting Social Security disability for 24 months, have ESRD, or have amyotrophic lateral sclerosis (ALS).

Medicare health coverage is broken down into three parts<sup>2</sup>:

- Part A—Hospital Insurance (HI) covers inpatient hospital care, skilled nursing facility (SNF) care, hospice, and home health services;
- Part B—Medical insurance covers physician services, outpatient services, home health services, durable medical equipment, and other medical services/screenings; and
- Part D—Prescription Drug Insurance, offered through private carriers, provides coverage to individuals enrolled in standard Medicare and Medicare Advantage.

### Part A

There is no Medicare Part A premium for individuals that have paid into the HI fund for 10 or more years. There is a Medicare Part A premium (up to \$441 monthly for 2013) for individuals who have paid into the HI fund for less than 10 years. There is also patient cost sharing (i.e., deductibles, coinsurance, and/or copays) for individuals regardless of whether they pay the Part A premium or not.

### Hospital Inpatient Cost Sharing

- Care is reimbursed based on each benefit period. A benefit period starts when the patient is admitted to the hospital for inpatient care and ends when the patient has been discharged from the hospital or SNF for 60 days without being re-admitted (Note: It



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Patients that are eligible for Medicare are not required to enroll in Medicare Part B, but those that choose to enroll are subject to a monthly Part B premium. . . .

- counts as a single benefit period even if the patient is admitted to the hospital for a different disease/illness within 60 days of being discharged).
- The patient pays the following deductible and copays for each benefit period:
  - First dollar deductible (\$1,184 in 2013);
  - \$0 copay per day for days 0–60;
  - Per day copay (25 percent of first dollar deductible) for days 61–90;
  - Per day copay (50 percent of first dollar deductible) for each day above 90 for up to 60 additional “lifetime reserve days”; and
  - After the lifetime reserve days have been exhausted, the patient is responsible for 100 percent of the continuing cost of care.

**SNF Cost Sharing**

- The patient must have been admitted to the hospital for at least three days before Medicare begins covering the costs of a SNF.
- The patient pays the following deductible and copays for each benefit period:
  - \$0 copay for days 1–20;
  - Copay (12.5 percent of inpatient first dollar deductible) for days 21–100;
  - 100 percent of cost after day 100 for each benefit period; and
  - Patients may not use lifetime reserve days to extend the coverage of care in SNFs.

**Hospice Cost Sharing**

- A doctor must certify that the patient is terminally ill with a life expectancy of less than six months to qualify for hospice care.
- There is no cost sharing for in-home hospice care.

- \$5 copay for outpatient prescription drugs for pain and symptom management.
- Patient pays 5 percent of costs for Medicare approved inpatient respite care.

**Home Health Cost Sharing**

- Home health coverage includes in-home skilled nursing care, pathology services and physical/speech/occupational therapy.
- There is no cost sharing for in-home care.

*Part B*

Medicare Part B provides medical insurance for physician and outpatient services. Patients that are eligible for Medicare are not required to enroll in Medicare Part B, but those that choose to enroll are subject to a monthly Part B premium, which varies by annual income level (\$104.90 to \$335.70 in 2013). Part B services are also subject to an annual Part B deductible (\$147 in 2013) and a 20 percent coinsurance for most services. Patients do not have to pay cost sharing for preventive services.

*Part D*

Medicare Part D is the most recent expansion of the Medicare program. President George W. Bush signed the Medicare Modernization Act in 2003 establishing, for the first time, a Medicare prescription drug benefit. Medicare eligible individuals have the option to enroll in two types of Part D plans; a stand-alone Part D plan (PDP) or a Medicare Advantage Prescription drug plan (MAPD). The PDP plan only offers prescription drug coverage. The MAPD combines a private MA plan along with a PDP plan, so the individual has both medical and prescription drug coverage. The PDP and the MAPD plans are private prescription drug options and involve an annual competitive bidding process. The federal government pays the private health insurance company a fixed premium each month for each individual. The private insurance company is responsible for payment and administration of Part D services. Any gain/(loss) from covering and administering these services is the responsibility of the private



insurance company, subject to risk sharing provisions with the federal government.

## CURRENT AND FUTURE MEDICARE FUNDING STATUS

Medicare Part A (HI) is funded primarily by payroll taxes assessed on employees and employers. Both the employee and the employer pay 1.45 percent of the employee's wage toward the HI fund. There is no wage limit for the Medicare payroll tax. Starting in 2013, high income wage earners are required to pay an additional 0.9 percent tax for wages above \$200,000. The HI fund also receives a small amount of funds from taxes on social security benefits, interest earned in the HI fund, and Part A premiums for those individuals who did not meet the Part A qualification standard.

The Supplemental Medical Insurance fund (SMI) funds both Part B and Part D coverage. The SMI's primary source of funding is an authorization by Congress each year. This funding is paid out of the federal government's general revenue. The second main source of funding is the monthly Medicare Part B and Part D premiums. The monthly Medicare Part B premium is established each year to fund approximately 25 percent of the annual Part B costs. The monthly Medicare Part D premium is established each year to fund approximately 25.5 percent of the annual Part D cost. The SMI also receives a small amount of additional funding from interest earned on fund investments.

According to the 2012 Social Security and Medicare trust fund report,<sup>3</sup> both the HI Fund and the SMI Fund paid out more in benefits than they received in income. The HI fund is projected to be depleted by 2026. Starting in 2026, the revenue is projected to fund only 87 percent of benefits paid out in 2026, and only 73 percent of benefits by 2087.

## ADDITIONAL MEDICARE PRODUCTS

In addition to Medicare Part A and Part B, there are other options for Medicare eligible individu-



als. Medicare Advantage "MA," also known as Medicare Part C, is an alternative to Part A and Part B. Under MA, private health insurance companies enroll and cover Medicare eligible individuals in lieu of standard Medicare. In exchange for taking the risk of these individuals, the private health insurance companies receive a monthly payment for each enrollee from the Centers for Medicare and Medicaid Services (CMS) along with a member premium, if any. The CMS payment is adjusted for several factors including age, area and risk score, but the member premium does not vary. The health insurance company is then responsible for the payment and administration of Medicare covered services along with any additional services promised in the MA plan. Any gain/(loss) from covering and administering these services is the responsibility of the private insurance company. Each year there is a bidding process that establishes the next year's payment from CMS to the health insurance company and any premium to be paid by the individual.

Medigap policies, also known as Medicare Supplemental policies, are another option for Medicare eligible individuals. Medigap policies are sold to supplement Medicare Part A and Part B benefits. These plans are designed to cover out-of-pocket expenses created by the standard Medi-


The HI fund is projected to be depleted by 2026.

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Although few Americans believe that the Medicare program will be terminated, many believe that changes will be needed to make the program sustainable in the future.

care plan design. An individual must be enrolled in Medicare before they are allowed to purchase a Medigap policy. The Medigap policy requires a monthly premium that is age adjusted in addition to any premiums required for Medicare Parts A, B and D. Currently, there are 10 standardized Medigap policies.<sup>4</sup> Since 2004, there have been changes to the standardized Medigap plans, ranging from eliminating prescription drug coverage (due to Part D), to adding high-deductible options, to adding coinsurance, copays and out-of-pocket maximums. Depending on the policy chosen, the Medigap plan may cover some or all of the Medicare deductibles, copays and coinsurance required by standard Medicare plans.

## MEDICARE IN THE FUTURE

Currently, the Medicare HI and SMI funds are paying out more in benefits than they are receiving in revenue each year. This funding issue creates an uncertainty about the future of Medicare. Although few Americans believe that the Medicare program will be terminated, many believe that changes will be needed to make the program sustainable in the future. Some of the potential changes include raising the eligibility age, increasing the Medicare payroll tax, and modernizing the benefit design to simplify cost sharing, steer utilization, and provide more comprehensive catastrophic coverage. 

# VALUATION AND PRICING CHALLENGES UNDER THE ACA

By Daniel S. Pribe

Editors' note: This article was written prior to unexpected changes in regulations that may differ from certain information presented in this article.

The Patient Protection and Affordable Care Act (ACA) introduced several components that begin to blur the lines between social and private insurance. These components include the federal advanced payment programs (federal premium and cost-sharing subsidies), and the federal risk mitigation programs, often referred to as the 3Rs (risk adjustment, reinsurance and risk corridors). The intent of these programs is two-fold: first, to make health insurance more affordable for the commercial, individual and small group markets. And, second, to stabilize the markets, as health insurance issuers attempt to value the cost associated with the full implementation of the ACA's required changes in covered population and benefits.

These programs will have an impact on an issuer's pricing decisions, which drive profitability and surplus. The balance of this article provides background on these programs and explores how they may affect an issuer's financial performance.

## BACKGROUND ON THE FEDERAL ADVANCE PAYMENT AND RISK MITIGATION PROGRAMS

Following is some background on the 3Rs and the advanced payment programs.

### The 3Rs

The 3Rs were introduced to stabilize the individual and small group markets as we transition from a "pre-ACA" to a "post-ACA" environment. Risk adjustment, the first of the three, is a permanent program that transfers funds to health insurance issuers that disproportionately attract higher risk individuals and takes funds from issuers that attract lower risk individuals. This applies only to non-grandfathered individual and small group health plans both inside and outside of the Health Benefit Exchanges (HBEs). This is a zero-sum game (i.e., amounts paid to high-risk plans equal the amounts taken from low-risk plans) and requires no additional funds from the federal government.

The transitional reinsurance program is only in place for three years, 2014 through 2016. In 2014,

this Health and Human Services (HHS) administered program will pay the insurer 80 percent of an individual member's claims between \$60,000 and \$250,000. While the reinsurance recoveries are only paid for claims within the non-grandfathered individual market, the reinsurance premium of \$5.25 per member per month (PMPM) must be paid by the insurer for all commercial insured and self-insured plans (i.e., excludes Medicaid, Medicare, CHIP, Stop-loss, Military benefits, and tribal coverage). This is also intended to be a zero-sum game, since only the money collected from health insurance carriers will be used to pay the reinsurance recoveries. No additional money from the federal government will be used to fund this program. In fact, if the reinsurance program is overfunded, then HHS will hold these amounts for use in a subsequent year, while if the reinsurance program is underfunded, then HHS will reduce reinsurance payments proportionally among issuers.

The temporary risk corridor program is also in place only from 2014 through 2016 and applies to all qualified health plans (QHPs) in the individual and small group markets. QHPs will be required to share a portion of either their profits or their losses, related to the misestimation of their allowable costs, with the federal government, based on the following thresholds.



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Actual Compared to Projected	Payment to/from HHS
Less than 92%:	Issuer pays HHS 2.5% of target plus 80% of difference between 92% of target and allowable cost.
92% to 97%:	Issuer pays HHS 50% of difference between 97% of target and allowable cost.
97% to 103%:	Neither issuer nor HHS pays.
103% to 108%:	HHS pays issuer 50% of excess over 103%.
Greater than 108%:	HHS pays issuer 2.5% of target plus 80% of excess greater than 108%.

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This program is not a zero-sum game because the money paid into the program is not intended to be offset by the money paid out of the program. In other words, the federal government subsidizes the losses, or, conversely, shares in the gains, with each individual insurer.

The risk adjustment and reinsurance calculations will be calculated independently, while the risk corridor calculation is completed only after these two programs are both taken into consideration.

**Advanced Payment Programs**

The ACA also introduces two advanced payment programs to make health insurance more affordable for those who enroll through an exchange. The federal premium subsidy will sometimes provide tax credits to individuals in households where combined income is less than 400 percent of the Federal Poverty Level (FPL). The amount of the subsidy is a function of the individual’s household income relative to the FPL. However, in states that choose not to expand Medicaid, individuals below the FPL will NOT qualify for any tax credits to offset their insurance premiums (and they may not qualify for Medicaid, either).

The federal cost-sharing subsidy, or Cost Sharing Reduction (CSR) subsidy, will reduce cost sharing for individuals with household incomes between 100 percent and 250 percent of the FPL. To qualify for CSR, these individuals must also be enrolled in a silver level individual plan purchased in the Health Benefit Exchange (HBE). Unfortunately, in states that choose not to expand Medicaid, the lowest income (below FPL) individuals do not qualify for this program, and they may also not qualify for Medicaid.

**Additional Fees**

There are several additional fees introduced by the ACA. The first of these fees is the Health Insurance Provider fee, or excise tax, that an insurer must pay to the federal government. The government will use premiums reported from the previous year to determine the tax. The expected total collection for 2014 is \$8 billion, increasing to \$11.3 billion in 2015 to 2016, and increasing

annually thereafter. This translates to roughly 2.5 percent of premium for a for-profit insurer and half of that for a non-profit insurer.

Another fee is the exchange fee. This fee is 3.5 percent of premium for those insurers that participate in the Federally Facilitated Exchange, but that percentage may vary for those states that have their own exchange. The final two fees are the Patient Centered Outcomes Research Institute (PCORI) fee of \$2.00 per member per year (PMPY) and the Risk Adjustment User Fee of \$0.96 PMPY.

While these fees aren’t a major cost, relative to the first two fees, they clearly impact profitability and could affect surplus and cash flow, depending on the timing of payments.

**PROFITABILITY**

Now let’s take a look at these in the context of the Federal Medical Loss Ratio (MLR), or profitability. The simplified MLR formula is as follows:

$$MLR = \frac{\text{Incurred Claims +/- 3Rs impact + Health Quality Improvement Initiatives}}{\text{Premiums - Federal and State Taxes - Licenses and Fees}}$$

The following observations, in isolation, can be made:

- A low risk score will create a risk transfer payment out of the company, increasing the MLR.
- Reinsurance recoveries will decrease MLR (note that the reinsurance recoveries impact the numerator, while the reinsurance premium adjusts the denominator).
- Increased quality improvement expenses will increase MLR.
- Federal fees, such as the health insurance tax and exchange fees, will increase MLR.

However, the following items cannot be looked at in isolation.

- Low risk scores may also mean lower claims costs, which would offset the risk transfer payment.

- Health quality improvement (HQI) initiatives may decrease claims. If the decrease in claims more than offsets the cost of the HQIs, then the MLR will be lower.

There are also a couple of things to consider outside of this formula. First, consider risk scores. In the Medicare environment, it is very clear that revenue increases as a Medicare Advantage plan's risk score increases. However, this may not necessarily be the case in the commercial market, now subject to the Risk Adjustment calculation. Since the commercial market is a zero-sum game, it is not as clear that increasing risk scores will materially impact revenue. In other words, is there an ROI on an issuer's efforts to improve risk scores, such as a detailed chart audit? Additionally, if an issuer does not ensure the highest level of accuracy in capturing all necessary claims information when calculating risk scores (and everyone else in the market does), then that issuer's risk score may be understated, and that issuer would have to pay out funds to issuers with higher risk scores.

Next, consider pricing. Issuers were required to submit premium rates assuming a neutral risk score; therefore, issuers had to make an assumption as to the average risk of the entire individual or small group market in a state. Some issuers may have priced their products resulting in aggressively (low) priced bronze and silver plans (i.e., benefit plans with an actuarial value of 60 percent and 70 percent, respectively). Other issuers may have priced their products such that their gold and platinum plans (i.e., benefit plans with actuarial values of 80 percent and 90 percent, respectively) were more attractive to purchasers. The expectation is that those with low risk scores will be attracted to the bronze and silver plans, while those with higher risk scores will be attracted to gold and platinum plans.

In order to analyze profitability in these situations, one must consider risk adjustment and reinsurance. Take, for example, a relatively low-priced gold plan. The hope for issuers in this situation is that the risk scores may overestimate the

claims associated with respective members. In other words, the risk transfer payment they receive as a result of higher risk scores will more than offset the additional claims these enrollees may incur. Next, let's consider an extreme example where a particular issuer has only enrolled bronze plan members with low risk scores and low expected claims. This issuer will most likely have to pay out a risk transfer payment, due to the relatively lower expected risk score. Additionally, this issuer may have lower than expected reinsurance recoveries because its members will incur lower costs.

## SURPLUS AND CASH FLOW

The ACA has created several new accrual items that issuers will need to estimate in their financials. Additionally, the timing of these payments will affect cash flow, which could be a concern for issuers with most of their business within the individual and/or the small group markets.

The first of these accrual items is the risk transfer payment or receivable, depending on an issuer's risk score relative to everyone else in the market. The risk transfer amount will not be due until the following calendar year so the issuer must accrue for this throughout the current year. In addition, the carrier will not have information regarding how their risk compares to that of the state and so may have difficulty in trying to estimate this value.

Issuers must also accrue for the expected amount of reinsurance receivable that they will receive from the federal government. A related item is the amount payable for the reinsurance premium. The premium is also not due to the government until the end of the calendar year, but the issuer must accrue for this payable throughout the year.


The third accrual item is the risk corridor receivable or payable. Sometime during the year, the experience (i.e., MLR) for a product will be estimable. An accrual may be necessary. For example, if an issuer expects an MLR significantly higher than expected, then the risk corridor may

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kick in, and the issuer will have to estimate a receivable.

Another, possible, significant accrual item to estimate is the federal CSR subsidy. At the beginning of the year, the issuer must make an assumption of how much cost sharing will be subsidized. The federal government will pay a monthly amount throughout the year to the issuer based on this assumption. A reconciliation payment will be required at the end of the annual period. The issuer must determine an accrual estimate throughout the year to recognize that the actual payment received at the end of the year may be higher or lower than originally expected.

## CONCLUDING COMMENTS

Provisions within the ACA that address affordability and market stability create significant profitability and valuation challenges for issuers. Issuers must understand how these programs interact with each other and understand their timing, since they could have significant impact on profitability, surplus and cash flow. Failure to do so could create some unexpected and unpleasant financial surprises for the unprepared. 

## Social Insurance & Public Finance Co-Editor Position:

This person will assist the editor with oversight of the SOA SI&PF section newsletter called *In the Public Interest*. Responsibilities include helping to solicit and edit article submissions on topics pertinent to the section. This person will also assist the editor with communicating with the authors regarding edits, timing, etc. The newsletter is published twice a year. SOA staff editor assists the editor and co-editor. Please contact *Jeffery Rykhus* at [jrykhus@gmail.com](mailto:jrykhus@gmail.com) if you are interested in this position.



# ACTUARIAL VALUE AND THE ACTUARIAL VALUE OF ORIGINAL A/B MEDICARE

By Daniel W. Bailey

*An Overview of the Actuarial Value (AV) of the Medicare Plan of A/B Medical Benefits and the Corresponding Cost-Sharing Paid by Medicare Beneficiaries for Services.*

This paper discusses the actuarial value of the original (fee for service) A/B Medicare plan of benefits and its cost-sharing implications for Medicare beneficiaries. Medicare's medical coverage is social insurance for eligible residents of the United States and its territories. It is a relatively rich plan with comprehensive benefits and modest cost sharing for the average beneficiary. It covers more than 50 million people today—about 42 million elderly and 8 million disabled.

Most Medicare beneficiaries live on fixed or declining incomes; they generally have considerably lower incomes than the non-elderly, non-disabled population. Hence, dollar-for-dollar, Medicare beneficiaries are more sensitive to cost sharing, especially the oldest beneficiaries, who tend to have higher medical spending than younger beneficiaries. On a per member per month (PMPM) basis, Medicare beneficiaries spend about three times as much for medical care as the average person under 65. As the population ages and more people live longer, retirement security and health security become increasingly important and more closely related to each other.

As a health benefit plan, fee for service (FFS) A/B Medicare covers a comprehensive set of basic health care needs for the Medicare population. It does not cover pharmacy benefits available by prescription through retail and mail-order drug stores—these are covered by Medicare Part D, which began in 2006. Nor does FFS Medicare cover hearing benefits, such as hearing aids, vision, such as glasses and contacts, dental, or out of country medical costs. We will refer to these as non-Medicare covered benefits in this article. Some of these additional non-Medicare covered benefits may be covered by Medicare Advantage plans. For the sake of clarity, Medicare Advantage (MA) plans are not discussed at length in this paper.

## SUMMARY

The projected 2014 actuarial value of Medicare is 84 percent. This means that the federal government is expected to pay 84 cents of every dollar of total Medicare medical spending incurred by the average beneficiary enrolled in the original A/B Medicare plan. It also means the average Medicare beneficiary is expected to pay 16 percent, which is 16 cents of every dollar of total Medicare medical spending incurred. (Beneficiary cost sharing does not include the Part B premium paid by the member, which is about \$105 for most beneficiaries in 2013.) Medicare's 84 percent actuarial value (AV) is considerably greater than that of the average individual medical insurance plan sold in the U.S. commercial market for those under 65. It is closer in value to the AV of group commercial health plans, both fully insured and self-funded. (Medicare is also referred to as original Medicare, fee for service A/B Medicare, and traditional Medicare. It is important to distinguish Medicare from Medicare Advantage—the latter is a private plan. Original Medicare is a public program of social insurance.)

According to the Centers for Medicare and Medicaid Services (CMS) in their annual Announcement (see pages 10 and 11), the average aged or disabled Medicare beneficiary in the United States in 2014 is expected to spend about \$1,850 on cost sharing for Medicare-covered benefits in the form of deductibles and coinsurance. In total, the average beneficiary is expected to incur \$11,390 of medical spending; this includes the beneficiary's \$1,850. ( $\$11,390 = 12 \times (\$154.12 + \$795.11) = 12 \times \$949.23$ ). The calculation of the AV of Medicare is shown below:

$$84\% \text{ AV} = \$795.11 / (\$154.12 + \$795.11) = \$795.11 / \$949.23$$

The \$795.11 is the federal government's portion of total average cost per beneficiary per month; the \$154.12 is the beneficiary's portion that is paid in the form of deductibles and coinsurance.



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These amounts are for aged and disabled beneficiaries and exclude those with end stage renal disease.

Unlike any plans which pay for commercial health coverage for the non-elderly, there is a robust market for the sale of Medigap (also called Medicare Supplement) insurance plans that pay for some or all of the Medicare beneficiary's cost sharing. There is also supplemental coverage that may be provided by some employers for their Medicare-eligible retired employees. These supplemental insurance plans reduce the Medicare beneficiary's cost sharing. Regardless of how many Part A or Part B services the beneficiary utilizes, the AV will be greater than 84 percent and as much as 100 percent for those with some form of insurance coverage that supplements Medicare, such as Medigap or employer-sponsored coverage. Medigap Plan F, for example, which represents over half of all Medigap policies in force, has an AV of 100 percent, and it covers non-par provider balance billing, which is a non-Medicare covered benefit.

While the average expected beneficiary cost sharing for Medicare is only 16% = 100% – 84%, in actuality, that percentage may vary from one beneficiary to another. Likewise, the amount of cost sharing in actual dollars per beneficiary per year will vary as well. Some Medicare beneficiaries may have total medical costs that far exceed the average—even if that beneficiary's share of those costs is the average 16 percent, that can be expensive. Half of the approximately 50 million plus Medicare beneficiaries live on an annual income of less than \$23,000; hence, Medicare cost sharing is a significant budget issue when beneficiaries' incomes and assets are considered.

When considering each individual's cost sharing in whole dollars, it is also important to relate this amount back to that individual's income and assets. On average, Medicare beneficiaries have more limited means than the working population. \$1,850 of average FFS Medicare cost sharing

over an average income of \$23,000 is 8 percent, which is a sizable portion, given the amount of that income and all else that it must buy. If we add on the \$105 per month for Part B premium, average medical cost sharing exceeds 13 percent, in total. For the small number of beneficiaries with an unusually large dollar amount of cost sharing in a given year, medical cost sharing comes with significant financial consequences.

For those Medicare beneficiaries with sufficiently low income and assets, Medicaid will pay their Medicare cost sharing; Medicaid may also pay low income beneficiaries' Part B monthly premiums, which are about \$105 per month for most beneficiaries in 2013. (Those with sufficiently high incomes pay more.) A beneficiary who is impoverished by an enormous amount of cost sharing may eventually fall into the Medicaid safety net and have her subsequent Medicare cost sharing paid by Medicaid.

AV is a measure of the generosity of a health plan for the average member. Since the passage of the Affordable Care Act (ACA) and the work by Center for Consumer Information and Insurance Oversight (CCIIO) on metal plans, AV has become the default tool to quickly assess the relative generosity of a benefit plan. It is a shortcut mental device, a heuristic. For plans without an out-of-pocket maximum on beneficiary cost sharing, such as FFS Medicare, AV alone is an insufficient measure to fully portray the risk associated with member cost sharing. Since FFS Medicare does not have an out-of-pocket maximum, every beneficiary without some type of supplemental coverage has a potentially unlimited cost-sharing liability. Redesigning the FFS Medicare benefit by instituting a maximum out-of-pocket limit would eliminate the potential for that unlimited liability. This option not only has been discussed but also has been implemented, temporarily, under the Medicare Catastrophic Coverage Act of 1988. Although such a seemingly simple fundamental benefit change would seem to have a substantial positive effect on ben-

eficiaries, it could be difficult to achieve (again) politically because of the various ramifications it would have on different stakeholders. The lack of a maximum out-of-pocket (MOOP) in Medicare has existed for almost 50 years, and whole industries have developed to help beneficiaries manage the risk of unlimited cost sharing. In that sense, Medigap replaces an uncertain amount of future cost with a certain monthly insurance premium. Since its inception, Medigap has been questioned and opposed by some policymakers because it induces utilization in the Medicare program itself.

While 84 percent is a relatively generous actuarial value, it represents only the actuarial value for the average beneficiary. It is important to understand actual beneficiary cost sharing in absolute dollars for each individual beneficiary across the entire spectrum of beneficiaries. In a given year, some may have no cost sharing, and others may pay out tens of thousands of dollars in shared costs. Hence, it is necessary to understand the statistical distribution of Medicare beneficiaries' actual out-of-pocket costs. If every beneficiary had exactly \$1,850 of annual cost sharing, those expenses would be much easier to manage than the actual risk, in which some beneficiaries have little cost sharing while others have substantial amounts in a given year. The primary concern to focus on and mitigate is the risk of a beneficiary having a large amount of Medicare A/B cost sharing in a given year.

Whereas the recent commercial small group and individual health insurance plans now being sold through health exchanges as a result of the ACA were originally required to have a MOOP spending amount of \$6,350 or less for 2014, original A/B Medicare does not have a MOOP. When Medicare was introduced in 1965, it was not uncommon for benefit plan designs to be without MOOPs, but they have become an essential aspect of the plan design of most health insurance plans today, for obvious reasons. Medicare's lack of a MOOP is a significant disadvantage for

the small portion of beneficiaries today who are without a supplemental policy such as Medigap, or without a Medicare Advantage (Part C) plan that replaces the beneficiary's FFS Medicare A/B plan. Medicare Advantage plans in 2013 and 2014 are required to have a MOOP of \$6,700 or less.

The Original Medicare A/B benefit is essentially a medical benefit without a pharmacy benefit. Prescription drug coverage is made available to Medicare beneficiaries through the separate Medicare Part D program, usually at some cost to the beneficiary. Unlike FFS Medicare, Part D is a private program sold through private health insurers; the majority of the cost of the Part D program, however, is borne by the federal government. In this paper, only the FFS Medicare benefit is considered, not Medicare Part D for drugs. Nonetheless, for the sake of fair comparison, when FFS Medicare is compared with commercial plans, this fundamental benefit difference should be taken into consideration since commercial plans typically include some pharmacy coverage.

#### WHAT IS ACTUARIAL VALUE (AV)?

The term actuarial value is often used in conjunction with the ACA. In this context, AV is simply a measure of the percentage of the expected average total cost of a health insurance plan that is paid by the insurer on behalf of the average member. The total cost consists of the combined cost of the insurer and the member. By definition, the member's cost consists only of the cost sharing that arises from deductibles, copays and coinsurance, which are collectively referred to as member cost sharing. (In reality, beneficiaries may also incur medical costs for certain services not covered by Medicare. These costs are paid out of pocket. They are not considered part of the total cost of original Medicare and are thus not included in the denominator of the AV calculation.) AV is an important indicator of the generosity or "richness" of a health plan. For plans without a MOOP expenditure, however, such as FFS Medi-

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care, the AV is only part of the story—this is an essential part of the message of this paper.

$AV = N / D$ , where:

- the numerator,  $N$  = Expected Costs Paid by Insurer for the average person covered, and
- the denominator,  $D$  = Total Expected Costs Paid for the average person covered, including the average individual's Expected Out-of-Pocket Cost.  $D = N + \text{Avg Member's Expected Out-of-Pocket Cost-Sharing}$ .

In the equation that explains the calculation of the 84 percent AV for Medicare (shown at the beginning of this paper),

$N = \$795.11$  per beneficiary per month, and

$D = \$949.23 = \$795.11 + 154.12$  per beneficiary per month.

While this seems like a relatively simple concept, it becomes more complicated when all the details and nuances are fully considered. It is important to bear in mind that the denominator depends on what the plan covers. FFS Medicare A/B covers a full range of essential medical benefits, with few benefit exclusions. The additional non-Medicare covered benefits mentioned earlier, such as glasses, hearing aids and dental, are more predictable and budgetable; they represent lower financial risk to the beneficiary than the cost of an unforeseen catastrophic illness. Some Medicare Advantage plans cover more benefits than traditional Medicare. This makes for an unfair comparison between Medicare Advantage and traditional Medicare, if one uses AV only.

Since the denominator of the AV ratio includes 100 percent of the plan's total cost (insurer's + beneficiary's), but not 100 percent of an individual's total medical spending, this aspect of the denominator must be considered carefully. There are various types of medical expense that a beneficiary may incur out-of-pocket that are not covered by Medicare. Glasses and hearing aids were mentioned earlier—while these are

an obvious example, a less obvious example of non-Medicare benefits is the inpatient or skilled nursing facility days that a beneficiary might utilize after meeting the covered days limit. None of these non-covered expenses are included in the denominator of the AV calculation. It is important to distinguish between the two types of out-of-pocket costs: First is the cost sharing paid by beneficiaries for Medicare covered services. Second is the cost of the services that Medicare does not cover; thus beneficiaries must pay for them entirely out of their own pocket.

This limitation of the denominator is true for other non-Medicare insurance plans as well. It becomes a source of difficulty in comparing metal plans under the ACA. The variation in denominator from plan to plan is the other consideration to bear in mind when using AV to compare plans. It is also important to remember that actuarial value is a concept that applies on average to a large group of insured people whose claims and cost sharing in aggregate will be subject to the law of large numbers; a large population is needed to mitigate the noise of statistical fluctuation. If, for each individual in an insurance plan, we calculate the actual member cost sharing divided by their actual total cost, including member cost sharing, the results will vary widely around the expected percentage of 100 percent - AV. One exception is a plan in which the only type of member cost sharing is coinsurance applied at the same rate to all services. Even in this special case, each member will have a different dollar amount of cost sharing depending on the total cost of the Medicare A/B services they utilize.

AV is an average expected percentage, a portion of unity between 0 percent and 100 percent; it typically ranges from approximately 60 percent to 100 percent for most types of health insurance coverage. The complement of AV ( $100\% - AV$ ), represents the average person's expected cost sharing as a percentage of total spending. It typically ranges from 0 percent to 40 percent. If an insured person has 0 percent cost sharing, this would mean that the person has no liability, be-

There are various types of medical expense that a beneficiary may incur out-of-pocket that are not covered by Medicare.

cause all the liability is borne by the insurer. In that case, health care is a free good. The Rand study is often cited to explain the induced utilization that occurs as a result of reducing member cost sharing.

Although  $1 - AV$  is the average cost sharing percentage, in actuality, some beneficiaries will have cost-sharing that is more or less than the expected 16 percent. More importantly, some people will have much more medical spending than others, and they will, consequently, have significant out-of-pocket cost sharing in terms of total dollars.

Whereas commercial health exchange plans were designed to limit the member's out-of-pocket liability, the fact that original Medicare does not have spawned a multi-billion-dollar industry of insurance coverage to protect the Medicare beneficiary from the adverse financial effects of large unforeseen cost sharing. This could include financial ruin brought on by the low frequency, high severity risk of a large medical claim and its associated out-of-pocket cost sharing. The MOOP concept is a key component of "pooling" in the design of a health insurance plan. This is especially true for medical coverage, which consists of many relatively small annual claim amounts for most people and some extremely large claims for a few. The private sector, not the federal government, can be credited with the creation and development of the MOOP concept; however, the private sector also created the annual and lifetime maximums on insurer liability, which, in some cases, took away some of what the MOOP gave.

For the sake of clarity, it should be pointed out that the term "actuarial value" is sometimes used in a different but related context to represent the whole dollar amount of a medical cost. This was common prior to the ACA, and this dual usage can be confusing. For example, in the annual Announcement issued by CMS each April on the subject of Medicare and Medicare Advantage, the term actuarial value is used to represent the equivalent dollar value of the Medicare deduct-

ibles and coinsurance for each of Part A and Part B. Their sum is the \$154.12 per beneficiary per month amount that was referred to earlier in the AV calculation for Medicare. This is shown in Table I-3 of the Announcement.

At 84 percent, FFS Medicare has an AV that places it between the Gold and Platinum tiers of a commercial health exchange plan. While this might seem rich, even the least rich commercial metal plan, Bronze, was originally designed with an out-of-pocket maximum that limits the member cost-sharing liability to a maximum amount of \$6,350 per person per year in 2014. If Medicare is compared with Medicare Advantage MA-PD plans or commercial health exchange plans, the lack of a MOOP and the absence of pharmacy coverage for Medicare must both be taken into consideration in order to conduct a fair comparison. This points again to the second blind spot of actuarial value as a measure of plan generosity, as mentioned earlier. The fact that the denominator can vary from plan to plan, as does the package of benefits each plan covers, requires one to take this variation into consideration when using AV to compare two commercial insurance plans across state lines. This also complicates the use of AV to compare Medicare Advantage (MA) plans to original Medicare + Medigap, since some MA Plans include some minor additional benefits that are not covered by original A/B Medicare. Furthermore, the Medigap Plan F covers the balance billing of providers who do not participate in Medicare, which is also not in the list of covered services for original A/B Medicare.

#### DATA PERTAINING TO THE ACTUARIAL VALUE OF MEDICARE

CMS annually publishes Medicare data and estimates used in Medicare Advantage rate-making. The essential elements of the 2014 AV calculation were taken from Tables I-2 and I-3, on pages 10 and 11, of the annual "Announcement," released in April 2013, for the upcoming 2014 contract year. The \$795.11 is the U.S. Per Capita Cost of Medicare (USPCC) for the aged and disabled population. It is a per beneficiary per month cost and represents only the federal

This is especially true for medical coverage, which consists of many relatively small annual claim amounts for most people and some extremely large claims for a few.

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government’s average liability for each beneficiary’s cost sharing. It does not include Medicare beneficiaries with end stage renal disease. This breaks down into Parts A and B as follows:

	Value	Approximate Portion
Part A	\$375.59	½-
Part B	\$419.52	½+
<b>TOTAL</b>	<b>\$795.11</b>	

The \$154.12 per beneficiary per month is the total cost-sharing value for Medicare deductibles and coinsurance on Parts A and B combined. Separately, this amount breaks down as follows:

	Value	Approximate Portion
Part A	\$39.13	¼ -
Part B	\$114.99	¾+
<b>TOTAL</b>	<b>\$154.12</b>	

The total Medicare cost per beneficiary per month is  $\$154.12 + \$795.11 = \$949.23$ .

On Part A services only, the average Part A cost sharing is  $9.4\% = \$39.13 / (\$39.13 + \$375.59)$ . On Part B services only, Part B cost sharing is 21.5 percent of total Part B cost, using the CMS 2014 projections, where  $21.5\% = \$114.99 / (\$114.99 + \$419.52)$ .

### WHAT IS THE IMPORTANCE OF MEDICARE AV?

The AV of Medicare shows us that AV is an inadequate measure when used as the sole metric of a benefit plan’s generosity when the plan has no MOOP. The absence of a MOOP for original Medicare creates a long right-tailed distribution of out of pocket (OOP) beneficiary cost sharing. And, regardless of the percentage, beneficiaries with high annual medical spending will also have high cost sharing in absolute dollars, unless they have a supplemental plan that relieves their cost-sharing burden. AV ignores the risk associated

with the long right-tailed distribution of the beneficiaries’ out-of-pocket expenses. All else equal, given two health insurance plans with the same AV, one with a MOOP and one without a MOOP, the plan with a MOOP presents less risk to the person insured.

Medicare beneficiaries who have a stay of long duration in an inpatient hospital and/or a skilled nursing facility (SNF) setting will likely incur more Part A cost sharing than the average of 9.4 percent calculated previously. The Medicare benefit includes increasing, stepped, cost sharing per day for inpatient and SNF stays. It also allows only a limited number of days of coverage for each setting per “benefit period”; after the days limit is reached, the member must pay the full cost of all subsequent days. Since these non-covered institutional days are not included in the denominator, they do not affect the AV, but they are, nonetheless, an enormous financial burden to the unfortunate beneficiary who has such a long stay. This benefit feature may serve as a deterrent to the use of Medicare as a long-term care plan. Medicare was designed to cover acute care, not long-term care. The institutional days limit may have a sentinel effect that mitigates the potential use of Medicare for custodial care.

The cost of those non-covered institutional days may be greater than the beneficiary’s actual cost sharing. Since the beneficiary is responsible for the entire cost of these non-covered days, they represent a significant risk to the beneficiary. These non-covered days represent a low-frequency, high-severity risk to the beneficiary that is not reflected in AV.

CMS maintains data on average beneficiary cost sharing by county and by year for each major category of service. CMS incorporates these percentages into Worksheet 5 (WKS 5) of the Medicare Advantage Bid Pricing Tool for MA. According to WKS 5, the average beneficiary has approximately 7 percent cost sharing for inpatient care and roughly twice as much, 14 percent, for SNF. While these percentages vary by county, they are both less than the average 16 percent of Medicare cost sharing for Parts A and

B combined. As we saw above, Part A cost sharing is 9.4 percent of Part A total costs. For beneficiaries with longer Part A stays, however, the Part A cost-sharing percentage increases. Also, the denominator for the AV of Medicare does not include the cost of the non-covered inpatient and SNF days that exceed the limits per “benefit period” (previously called “spell of illness”). SNF is limited to 100 days per period. Inpatient allows 90 days per period, plus the additional lifetime reserve of 60 days available once per lifetime.

The fact that average Part A cost sharing is less than 16 percent implies that the average Part B cost sharing is more than 16 percent. This seems reasonable, since Part B has a deductible of \$147 in 2013 and 20 percent coinsurance for the vast majority of services. Part B, however, includes some free preventive care (without any cost sharing) for certain preventive services, as well as no beneficiary cost sharing on home health care services. However, these two “free” services constitute only a very small portion of Medicare cost. According to the calculation above, Part B cost sharing is 21.5 percent of total Part B cost, which seems reasonable given the Part B benefit structure.

### HOW DO MEDICARE BENEFICIARIES MANAGE THE RISK OF LOW-FREQUENCY, HIGH-SEVERITY COST SHARING?

Medicare has existed without a MOOP for almost 50 years. A number of approaches and industries to limit Medicare OOP spending have developed. Employer plans previously filled in many of the Medicare cost-sharing gaps for their retirees of age 65 and older, but these plans have been in decline as the overall cost of medical coverage, in general, has increased at a rate of roughly twice that of general inflation over the past few decades. (In recent times, employers have been more concerned with how to pay for the health care needs of their actively working employees than with their retirees’ health care needs. In part, this decline may also reflect a shift in cultural values.) The Medigap industry now insures more than 10 million beneficiaries. Medicare Advantage (MA) is a private program;

when a beneficiary chooses an MA plan (for at least one year at a time), it replaces his or her Original Medicare A/B coverage. MA covers almost 15 million people. These two programs alone, Medigap and MA, insulate about half of Medicare beneficiaries from the risk of a catastrophic amount of medical cost sharing. About 20 percent of Medicare beneficiaries have sufficiently low income and assets to qualify for Medicaid, which pays their cost sharing. Some beneficiaries become Medicaid eligible after they have spent down their assets (life savings). This is especially true for beneficiaries who can no longer live independently and must reside permanently in nursing homes. The monthly cost of nursing home custodial care is far greater than the average total monthly medical cost for Medicare beneficiaries.

It is estimated that about 11 percent to 17 percent of Medicare beneficiaries are without any form of supplemental or alternative coverage that mitigates their cost-sharing risk; if they incur a catastrophic expense, it may go unpaid in some cases. Unpaid debt is a cost-shift risk faced by all hospitals and skilled nursing facilities, and especially those which serve a disproportionate share of poor Medicare beneficiaries who are not covered by Medicaid.

Some readers will recall the Medicare Catastrophic Coverage Act (MCCA) of 1988. This was a catastrophic plan for Medicare beneficiaries (also called “Part C”) developed during President Reagan’s second term and passed by Congress in 1988. It contained an out-of-pocket maximum and other benefit improvements, including a prescription drug benefit. These changes were the most significant Medicare plan reforms since Medicare’s enactment. The new benefits were financed with new premiums and an income tax surcharge. The MCCA was ultimately repealed in 1989 during President George H.W. Bush’s first term, due to the strong reaction against the changes by some beneficiaries (mainly high income seniors). Seniors did not mind the benefits themselves, but they objected to their

Unpaid debt is a cost-shift risk faced by all hospitals and skilled nursing facilities, and especially those which serve a disproportionate share of poor Medicare beneficiaries who are not covered by Medicaid.

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cost and did not want to pay for them. These new benefits often duplicated those that many seniors already received through their former employer’s supplemental retiree coverage.


### CONCLUSION

The Actuarial Value of Original A/B Medicare for 2014 is expected to be 84 percent, but that does not reveal the full extent of the cost-sharing risk faced by Medicare beneficiaries. For this reason, AV is a less useful measure of plan generosity for health insurance plans that do not include an out-of-pocket maximum (MOOP). AV has two major deficiencies when used as the sole measure of a benefit plan’s generosity or richness: The first occurs when the insurance plan lacks a MOOP. In this case, the AV does not reflect the additional risk of the unlimited member cost-sharing liability. AV has a second weakness, insofar as the denominator of Medicare’s AV does not reflect the potential high out-of-pocket cost a beneficiary may incur for non-Medicare services (such as the non-covered institutional days in an inpatient hospital or SNF for stays that exceed Medicare’s number-of-days limits for inpatient and SNF).

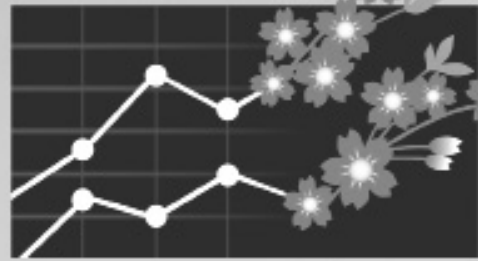
A large majority of Medicare beneficiaries have some other coverage that mitigates their Medicare cost sharing. Multiple options exist for Medicare beneficiaries to manage the risk of high beneficiary cost sharing for medical expenses. For the poorest beneficiaries, there is also the public program of Medicaid, which is a safety net provided without cost to beneficiaries that qualify, based on sufficiently low income and assets. The private sources of risk mitigation include Medigap insurance, Medicare Advantage and employer-sponsored retiree coverage, all of which protect the beneficiary from catastrophic cost-sharing liability to varying extents.

As a number, Medicare’s 84 percent AV may seem generous or “rich,” relative to a bronze or silver health exchange plan with 60 percent or 70 percent AV, respectively. Medicare beneficiaries, however, have approximately three times the average total medical spending of those younger people insured by the “metal” plans sold on health exchanges under individual and small

group coverage. Consequently, Medicare beneficiaries typically have higher annual cost sharing in actual total dollars. Moreover, Medicare beneficiaries are typically non-working and live on lower incomes than working people. Hence, on average, Medicare beneficiaries are more cost-sensitive to cost sharing than most in the working population, who can more easily afford cost sharing.

Medicare is a social insurance program that provides the health security infrastructure for older and disabled beneficiaries in the United States and its territories. It is fundamental to the financial and health security of all Americans. The presence of this social insurance program has complex manifold implications for society. In addition to providing health care to beneficiaries, its downstream ramifications affect the number, type, distribution, and behavior of medical providers who provide medical goods and services to Medicare beneficiaries and non-Medicare patients. The presence of Medicare also affects the wellness, longevity, quality of life, and productivity of beneficiaries, as well as their utilization of medical goods and services. Almost 15 percent of federal spending is presently devoted to Medicare, which covers over 50 million people, and this percentage continues to increase. The number of Medicare beneficiaries is growing, due to aging of the population as well as to growth of the pre-Medicare population itself. For these reasons, Medicare issues are of interest and importance to all Americans. 

A large majority of Medicare beneficiaries have some other coverage that mitigates their Medicare cost sharing.



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# THE NATURE OF SOCIAL INSURANCE PROGRAMS AND THEIR FUNDS (PART 2 OF 2)

By Sam Gutterman



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## EXECUTIVE SUMMARY

This article is the second in a two-part series that summarizes a longer paper that can be downloaded from the website of the Social Insurance and Public Finance Section at <http://www.soa.org/professional-interests/social-ins/default.aspx>. The first article appeared in the June 2013 publication of *In The Public Interest*.

Both articles take the form of a point-counterpoint dialogue addressing important aspects of social insurance programs. The first part discussed their nature, desirability and advantages, as well as whether they can form a framework to achieve sustainable inter-generational equity. The second part focuses on whether pre-funding of a social insurance program can occur and can contribute to the financial security of the participants. Fundamental differences of opinion exist regarding these programs, not only due to different personal and political values, but also as a result of the viewpoint taken (for example, assessment of the program in isolation, consideration of the sponsoring government's financial situation, or the overall national economy).

Note that the author does not agree with all the views described. In fact, a single best answer may not exist for each issue discussed.

## BACKGROUND

A social insurance program provides protection for participants against adverse financial effects of demographic-based hazards (such as longer-than-expected longevity after retirement, disability, need for expensive medical treatment and unemployment) by sharing these costs across population segments and generations. Its benefits are payable when required criteria are met, regardless of the beneficiaries' income or assets, though contributions and benefits can be tilted to favor a population segment in need.

In many cases there is at least some pre-funding from contributions in excess of current benefits because of increasing costs with age for participants, particularly in the context of retirement or as the program matures. In other cases there is no pre-funding, operating on a pay-as-you-go (PAY-

GO) basis where current contributions pay for today's benefits.

Two views are presented here, expressing contrasting perspectives taken by various stakeholders and commentators on social insurance programs. One Supports (S) the long-term nature of these programs and a mechanism to provide pre-funding of their benefits, while the other presents an Alternative (A) view that argues that they are not necessary or, at most, should be provided only where those affected are in dire need and any funds generated are illusory. These views have often been taken by different political camps, with those supporting greater collective societal responsibility tending to support S, while those in camp A holding individual responsibility for personal financial planning as a principle.

## POINT-COUNTERPOINT

### Is there really a fund for social insurance programs?

**S** — Having a legally devoted fund, preferably independent of the rest of government, enhances trust in the long-term future of the program. Government debt is often purchased in arm's-length transactions by the social insurance program from the rest of government. This also provides a low-risk investment return that at the same time can reduce contributions or increase benefits. In addition to funding assistance for future benefits, it can also assist economic growth by reducing the crowding out of private debt and promoting consumer purchases and investment. Although it is impractical to provide full funding, contributions provide a systematic and explicit source of future fund balances that reduce financial uncertainty and insecurity. It also contributes to fiscal discipline by funding these programs in a sustainable manner over the long term.

**A** — But this so-called fund is an economic sham. It is simply a retrospective accumulation of moneys on a balance sheet, an historical record of past transactions. It is not directly related to either a value of the obligations of the program nor does it indicate the ability of the government to pay program benefits. The division of the



government's financial balance sheet into little pieces simply makes it more likely that it is the other guy's responsibility for an overall surplus or deficit balance. In fact, the program's "investment policy" might indirectly encourage larger government debt because the so-called fund represents a ready buyer required to purchase them as assets, regardless of total government debt level. These bonds aren't really bonds after all, as all that is going on is that one part of government is borrowing from another—if the accounts were consolidated they would offset each other. Money received by all areas of government is just put into a large pot to be spent to fulfill total government needs. Governments have and will continue to spend all their tax receipts to meet their obligations, regardless of their source, and to borrow externally when they need to supplement their cash position. The better the economy operates over the short and long term, the more jobs will be created, productivity will be enhanced and contributions to social insurance programs will increase. If there is sufficient government and public support, the benefits of the program will be paid; if the program's revenues are not sufficient, its costs will be paid by the government, whether from general revenues, wage-related contributions or a designated sub-fund. Surely the only way to ensure financial security is for the government to effectively manage the economy and its overall budget.

#### **What about its legal basis?**

S — The U.S. Social Security program has lasted more than 75 years, prescribed by a body of laws. Its continuation has been the result of legal and political integrity, and, of course, the fact that it is wildly popular ensures its ultimate financial soundness! It is a social compact—certainly amoral, even if laws can be changed. Although there is certainly a small possibility that a social insurance program could be decreased or terminated by a future government, social insurance has demonstrated its staying power because of the efficient manner it addresses fundamental human needs. Politicians rarely vote in favor of adverse changes to such an important and widely accepted government program that so many citizens rely upon.

A — The past is the past—legislation can be changed, as laws and regulations are modified every day by government or its politicians. Similarly, a social compact is only as solid as the political winds take it—social insurance laws can be tweaked, changed radically or even terminated tomorrow, as it depends on political will or the economic crisis of the moment. It is wishful thinking that society will always be willing to squirrel away adequate funds for the distant future, when other government programs compete so vigorously for funding, and may crowd out its promised benefits, reduce taxes or benefits. While beneficiaries may believe that they have a "right" or are "entitled" to their promised benefits, legally they do not. It is neither possible nor politically desirable to commit future governments to any such program, without affording them the flexibility to make changes as needed over time.

#### **For argument's sake, let's assume a partial fund has been accumulated. What is the nature of such a fund and does it add value to the financial security being offered?**

S — Changes in the fund consist of the net of (1) cash inflows, primarily contributions from participants and their employers and investment income, and in some cases general government funding and (2) cash outflows, including benefits to beneficiaries and administrative expenses. The net of these cash flows are invested in government securities or other investments. The purpose of such a fund is to help provide benefits over the long term so that contributions, benefits and taxes can be budgeted with limited financial distortion. Before any significant change is made, the government, the program's ultimate sponsor, has to provide its participants plenty of time to better plan for their individual financial futures, including retirement and for possible adverse financial events or conditions. Every dollar of government securities purchased by the fund means one dollar less otherwise borrowed from the public, reducing external public debt on a dollar-for-dollar basis. The need and cost of external financing is therefore reduced—an additional benefit of having

Politicians rarely vote in favor of adverse changes to such an important and widely accepted government program that so many citizens rely upon.

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Almost any long-term pre-funding arrangement places huge pressure on government budgets over time, especially with our large debt burdens and less than optimal overall economy.

such a fund. There is no way a government will default on such a program, even during a terrible economic meltdown, as the political and social ramifications of having retirees, the disabled and unemployed plummet into unplanned poverty are too horrific to contemplate. The calamitous implications of program termination by themselves demonstrate the government's commitment to the continuation of the program, enabling participants to plan for their future and enhance participants' trust in their long-term financial security of the benefits provided.

A — You still describe the fund using accounting terms, which is a meaningless historical construct, which does not affect the probability that the benefits will be paid, nor does not add value or security. Why isn't there a smoothing or pre-funding mechanism for every other wealth transfer or other social program? There is no reason that social insurance is unique in this way, while every other program uses general revenue to meet these problems. It is far better to focus on the finances of the government as a whole, as they ultimately determine the extent of the governmental and societal commitment regarding social insurance benefits. Investments in government bonds or even private assets are just IOUs to ourselves. And of course, taking the perspective of the government or the economy as a whole, every social insurance program is economically a PAYGO program anyway. The money to pay benefits and pay for all other government programs has to come from somewhere, including tax levels or tax sources, designated contributions, reduced spending or borrowing (although the government could just print more money, but that has other consequences). Almost any long-term pre-funding arrangement places huge pressure on government budgets over time, especially with our large debt burdens and less-than optimal overall economy. If government bonds are used as the fund's investment vehicle, we simply owe ourselves—an absurd concept. Any such interest payments might have been put to better long-term use for other purposes such as education, health or safety

rather than to increase an internal account. If not effectively put to use, such resources contribute to less efficient government spending or higher interest rates for all.

### **Does it matter whether the fund is ring-fenced or is a part of general government accounts?**

S — If a fund for a social insurance program is held in a segregated trust account, its assets can be legally protected from being raided by other parts of the government. In most cases they are held in conservative long-term investments. Legal control lies in the fund's trustees, although it is unimportant whether it is called a "trust fund." Transparent information regarding the fund facilitates monitoring for sound governance practice and planning. Objectively determined actuarial projections along with sensitivity analysis provide information needed for policymakers to tweak the program's financing and benefit design to enable it to continue to achieve its objectives. It also facilitates better financial planning by its participants and reduces political temptation to expand benefits beyond those that can be afforded. Fortunately for its beneficiaries, government consists of laws and not just annual budgets—thus, segregated funds cannot be diverted to other purposes without what would be an explicit wildly unpopular policy shift.

A — To understand its economic effects, the legal form of the fund has to be considered. Governments operate as a holistic venture, with the effects of flows of moneys between their sub-funds of limited economic consequence. Future benefits must be met from future revenue or from future borrowings of the government as a whole. Clarity in accounting will not prevent government from renegeing on promises when it is short of resources. In government budgets, social insurance contributions and benefits are usually treated as just other income or outgo on a PAYGO basis and do little to protect against program changes. The existence of a ring-fenced fund and pre-funding does not affect the amount or timing of benefits, as future governmental decisions can supersede and disregard accounting values.

**Does it matter if the funds are invested in vehicles other than government bonds, such as those found in capital markets or in real estate?**

S — Receiving yields greater than governmental bonds on nongovernment securities can provide additional funding for a social insurance program. This type of investment can achieve multiple objectives if it can simultaneously help provide products and services that enhance the overall economy. Examples of such projects to enhance future productivity or economic well-being include public infrastructure and education. In some countries, such as Canada, such invested funds are expected to earn more investment income for the fund while also providing asset diversification. If these objectives are met, contributions (and/or taxes) will be able to be reduced, benefits increased, or funding adequacy enhanced. A fund containing such assets can thus help stabilize the cost between generations and better provide for personal life cycle needs. Some believe that social insurance programs should invest their funds in equities, both to promote economic growth and increase returns for the fund over the long term. Foreign investments can provide additional benefits in terms of increased trade and exports.

A — Although this approach to investment strategy might theoretically increase yield, it doesn't always succeed. It can't really benefit from diversification, as the objective of diversification is usually a reduction in asset risk or volatility, not to increase yield; you can't realize less risk than in national government securities. Non-governmental investing could be viewed as nationalizing part of the economy, which may not be desirable. Alternative (external to the government) investing can also be more costly and risky, with more volatile returns and credit risk. In addition, markets in most countries aren't large enough to handle the amounts of investment involved, while at the same time most private entities do not want the government as a part owner (even if through a passive government agency).

**What is the real economic impact of these funds?**

A — If the assets in these funds are government bonds, the pass-through transactions involving these bonds have been used for current expenditures, seeming to reduce the need for greater revenue. In effect, these funds simply transfer the financing of current deficits to a future date. Any funding approach is economically equivalent in all ways that matter (other than perception) to a pure PAYGO approach. In addition, the availability of cash transfers to general revenues can obfuscate the true extent of government deficit spending. So, clarity in overall governmental accounts is not enhanced by attempting to have more transparency in the accounts of a social insurance program. It is clear which is more important; information about performance of the social insurance program can always be obtained from separate actuarial projections, without providing a separate historical accounting with no economic reality. The bonds simply represent inter-entity transfers that, in general purpose financial reporting standards, would not be reported separately in a consolidated set of accounts. Any sub-funds should not be considered separately as a part of unified government accounts and budget. The legal and political nature of a social insurance fund has encouraged many participants to over-rely on the current commitment of the government to continue what is often referred to as an entitlement program, thus creating moral hazard (i.e., the existence of social insurance reduces the incentive to personally save for adverse financial conditions). As a result, many workers have come to depend on its continued existence, saving very little outside of it. What is surprising is that this overreliance occurs even though many of these same people, especially the young, indicate in surveys that they are convinced that the social insurance programs will not exist when they themselves will need them.

S — These are real securities, whose principal and interest are solely available to provide for social insurance benefits, either now or in the future. A social insurance fund can provide a sound base for providing for retirement and disability financial

Some believe that social insurance programs should invest their funds in equities, both to promote economic growth and increase returns for the fund over the long term.

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needs—otherwise, future levels of contributions/taxation may become less affordable if on a true PAYGO basis, particularly if supplemented with fully funded personal and employer-sponsored plans. Most participants don't mind contributing to a program in which multiple generations participate, setting aside money in a cost-effective and convenient manner, with minimal operating and marketing costs. Although moral hazard is possible, given the financial strain and squeeze felt by the middle class, it cannot exert a significant effect. What is in essence forced savings through public retirement and disability programs is an important contribution to the general welfare of the population and fully within the public interest. One can forget that the same moral hazard also exists with employer-sponsored benefit programs.

**What are your key takeaways from this discussion?**

S — Social insurance shares key attributes of insurance and retirement/disability plans, protecting against the financial effects of participants' adverse life cycle events, supported by what has and continues to be the long-term commitment of governments to maintain and adapt them to changing circumstances. They have, for the most part, been managed on a sound financial basis, for example, to reflect the effect of inflation and longer lifetimes. They provide a soundly based social safety net, protecting participants from the worst financial hazards encountered during their life cycle. They promote equity, hard work, fairness, financial security and the public good, contributing over a long period to a better economy and society.

A segregated fund can be used to partially pre-fund future benefits as the population ages and universally has proven to be immune to most populist pressure; few want to be remembered as the killer of what are the most popular and needed government programs that equitably reduce unnecessary poverty of those who cannot or are unable to help themselves within the context of a social contract. The debate over the nature of a trust fund is a distraction from important long-term fiscal issues.

A — A delusion has been perpetrated on the public, as some are both convinced and have relied on the fact these benefits are guaranteed, in part because funds have been set aside. That's far from the truth—the economy responds to a country's entire financial and economic structure, not to the status of a single fund. Needed protection against financially adverse events can only be provided through operationally effective and efficient programs. Our long-term economic and personal financial futures have been jeopardized by unaffordable and out-of-control entitlement programs. Current and future generations are not guaranteed benefits and only promote unnecessary spending and reduce the incentive to take personal responsibility for individual and family financial future, regardless of whether a fund invests in government debt or outside investments that drain the private sector of needed funds, which can only lead to more government debt that may lead to reduced economic growth.

Although some social safety net is needed, at the same time its design should not result in dependency or a sense of entitlement. Social insurance may not be the most cost-efficient and fair way to satisfy these needs. Rather, a combination of private insurance, employee benefits unencumbered by excessive regulation, and welfare where needed meets the needs addressed in a more affordable manner. Goods and services that retired people use, like golf, health care and restaurant meals, must be produced at the time consumed—it is not practical to save those goods and services for future use. As a result, retirement programs invest in financial assets, representing claims on future goods and services. Whether those claims will be honored does not depend on the existence of a fund, which may be decimated by long-term demographic forces or political decisions. In any event future workers bear the ultimate risks. Inevitably there is only 100 percent of GDP to allocate—pre-funding is not the only factor to consider in ensuring needed benefits. Without economic growth or an ever-growing contribution rate, no social insurance program can fulfill its promises over the long run. 

Rather, a combination of private insurance, employee benefits unencumbered by excessive regulation, and welfare where needed meets the needs addressed in a more affordable manner.

# MEDICAID EXPANSION UNDER THE AFFORDABLE CARE ACT

By Robert M. Damler

Note: This article has been reprinted with the permission of the Health Section. The article originally appeared in the October 2013 issue of Health Watch.

On June 28, 2012, the Supreme Court rendered an opinion on the constitutionality of the Affordable Care Act (ACA). One major outcome of the Supreme Court's decision was to give states the ability to opt out of the Medicaid expansion while not jeopardizing current federal funding levels for existing Medicaid programs. The original text of the ACA would have taken federal Medicaid support away from those states that did not expand enrollment eligibility, but the Supreme Court decision ruled that the ACA violated the prohibition of federal coercion upon states. As of July 2013, 23 states plus the District of Columbia are moving forward with Medicaid expansion, 21 states are not moving forward, and six states are still debating the option.<sup>1</sup> The impact on existing state Medicaid programs will vary by state, regardless of whether or not a state chooses to expand enrollment in 2014.

The ACA expanded Medicaid eligibility to 133 percent of the federal poverty level (FPL) for parent and childless adult populations. However, the eligibility level is often referred to as 138 percent because of a 5 percent income disregard. The expansion will significantly change the population demographics of the current Medicaid program. Table 1 illustrates the fiscal year 2009 enrollment distribution by general eligibility groupings.<sup>2</sup>

**Table 1:** 2009 Medicaid Enrollment by Eligibility Group

Eligibility Group	Enrollees (millions)
Aged	6.1
Disabled	9.5
Adults	16.2
Children	30.7
Total	62.5

The current adult population includes primarily individuals that are eligible either as pregnant women or parents/caretakers of children. Most state Medicaid programs will cover pregnant women up to 185 percent FPL; however, many states limit the parent's eligibility to 20 percent to 50 percent FPL. A few states provide coverage to childless adults through section 1115 demonstration waivers or other waiver programs. Medicaid expansion will primarily extend eligibility to parents and childless adults. Table 2 summarizes the number of individuals that meet the new Medicaid eligibility threshold. We have separately illustrated the populations by current insurance status, either uninsured or currently insured.<sup>3</sup>

**Table 2:** Individuals Newly Medicaid Eligible under ACA Provisions (as of 2010)

Eligibility Group	Uninsured (millions)	Currently Insured (millions)
Parents	6.7	3.5
Childless Adults	14.9	9.2
Total	21.6	12.7

The introduction of the parents and childless adult populations will have a significant impact on the demographic profile of the current Medicaid population. Based on self-reported health status, the currently uninsured adult population, in aggregate, may have a lower risk profile than the current parent population. Table 3 illustrates a relative morbidity distribution based on self-reported health status of the current Medicaid parent population and the uninsured parent and childless adult populations. The relative morbidity is shown in relation to a commercially insured adult member. The relative morbidity was developed by fitting the commercially insured reported health status information from the current population survey to the Milliman Individual Underwriting Guidelines.



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**Table 3:** Relative Morbidity Comparison of Adult Populations

Health Status	Relative Morbidity	Employer Sponsored	Medicaid – Parents Only	Uninsured
Excellent / Very Good	0.60	70%	47%	55%
Good	1.30	23%	32%	32%
Fair / Poor	4.10	7%	21%	13%
Composite Morbidity		1.00	1.56	1.28

Source: (3), Health status distribution by population only

**Table 4:** Population Report Fair/Poor Health Status by FPL

Federal Poverty Level	Fair / Poor Health Status
Below 100%	20.9%
100% - 199%	15.2%
200% - 399%	8.3%
400% +	4.3%

... the percentage of the population reporting fair or poor health status varies significantly by income level.

While the overall uninsured population has a relative morbidity lower than the current Medicaid parent population, the expected average morbidity is 28 percent greater than the average commercial insurance morbidity. Further, the percentage of the population reporting fair or poor health status varies significantly by income level. Table 4 compares the percentage of the population that report fair or poor health status by federal poverty level. The populations include those that are fully insured, receiving public health care, or are uninsured.<sup>4</sup>

Medicaid expansion provides eligibility for the parent and childless adult populations up to 133 percent FPL. If a state does not expand Medicaid, a person may receive federally subsidized health insurance through the health insurance exchanges if their income is between 100 percent and 400 percent of the federal poverty level. With the higher morbidity of the population in the lower income levels, the exchange based population’s relative morbidity may increase under a no Medicaid expansion scenario. In a state that does not expand the Medicaid program, the population between 100 percent and 133 percent FPL will not be eligible for Medicaid but will be eligible

for the advanced premium tax credits and cost-sharing subsidies in the exchange.

In the states that expand Medicaid eligibility, the state Medicaid programs will face various issues related to the new population base.

**Eligibility Changes:** Under the ACA, many of the current Medicaid eligible populations will have different eligibility rules regarding income and assets. Income will be converted to a Modified Adjusted Gross Income (MAGI) standard for all states. Medicaid eligibility for the children, parent and childless adult populations will no longer have an asset test. In addition, the Medicaid program will receive referrals from the health insurance exchanges. All of these eligibility changes may create enrollment delays as individuals are navigating the new eligibility rules.

**Presumptive Eligibility:** Many current Medicaid programs provide presumptive eligibility for pregnant women. Presumptive eligibility provides immediate coverage based on the individual meeting certain criteria. Under the ACA, presumptive eligibility is expanded beyond the pregnant women population. Hospitals may provide presumptive eligibility for individuals that meet certain eligibility criteria. The expansion of the presumptive eligibility provision may increase the average health care costs for the Medicaid populations since individuals will be receiving eligibility at the point of care.<sup>5</sup>

**Pent-up Demand for Services:** Individuals that are currently uninsured may have pent-up demand for health care services. In 2008, the State of Indiana implemented a Medicaid expansion program, the Healthy Indiana Plan. The Healthy Indiana Plan provided expanded Medicaid eligibility for parents and childless adults through an 1115 waiver. During the first year of the program, it was observed that individuals incurred overall health care costs 20 percent greater during the first three months of enrollment in the program, with hospital inpatient and outpatient services 20 percent to 40 percent higher. Pharmacy expenditures tended not to be greater during the earlier months of enrollment; however, the pharmacy expenditures increased after six months of enrollment.<sup>6</sup>

**Access to Providers:** On a national basis, the average physician reimbursement rate under the Medicaid program is approximately 60 percent of the Medicare reimbursement rate. Physician reimbursement varies significantly on a state-by-state basis. The ACA provides for increased physician reimbursement to qualifying primary care physicians for evaluation and management services during calendar years 2013 and 2014. While this provides for short-term enhanced funding to primary care physicians, the long-term funding issue remains for physicians under Medicaid. The newly eligible population may encounter issues related to physician access, especially as the newly eligible population ramps up into the system and more people seek care.

**Take-Up Rates:** Outreach by the state, the exchange and others will impact the percentage of those newly eligible for coverage that actually enroll. The current Medicaid program illustrates that not all of those eligible for coverage choose to engage in the process. We know those with higher perceived needs will be more likely to sign up for coverage, and those that actually seek care will likely be assisted in the enrollment process by their providers. This leads to a less healthy enrolled risk pool than what the survey data on all uninsured would lead one to believe.

**Welcome Mat Effect:** It is anticipated that significant publicity will occur in late 2013 and early 2014 regarding enrollment into Medicaid, health insurance exchanges, and employer-sponsored insurance plans. This may encourage those currently eligible for Medicaid but not enrolled to enroll in the program. The impact of this population may lower the average cost per person if these individuals are lower cost healthier lives, although the aggregate spending will increase with greater enrollment.

For the six states that are still debating legislatively or in discussions with CMS regarding the Medicaid expansion, it may be expected that the expansion may not be able to be implemented with an effective date of Jan. 1, 2014. Under the delayed expansion scenario, individuals may temporarily qualify for the subsidies offered

through health care exchanges and then subsequently qualify for the Medicaid program. If a state implements a mid-year expansion, the integration of the population that qualified for the health care exchanges will create pricing issues for both calendar year 2014 and 2015 as population eligibility shifts during these periods.

During the next several years, the Medicaid expansion population will change the face of the current Medicaid program. The Medicaid program will reflect more parents and adults, with enrollment potentially growing to the levels of the children population. The enrollment growth will put pressure on the demand for health care services and access to providers. Many states may turn to enrollment into risk-based managed care programs. With or without the expansion, state Medicaid programs will need to determine how to integrate eligibility data and information with the health care exchanges. The Medicaid program will continue to evolve as the option to expand coverage has been given to the state legislators, governors, and state Medicaid agencies to decide.


<sup>1</sup>“Analyzing the Impact of State Medicaid Expansion Decisions,” Kaiser Commission on Medicaid and the Uninsured, Issue Brief, July 2013.

<sup>2</sup>Statehealthfacts.org, FY 2009 Medicaid enrollees by enrollment group.

<sup>3</sup>“The Uninsured A Primer, Key Facts About Americans Without Health Insurance,” October 2011, The Henry J. Kaiser Family Foundation.

<sup>4</sup>Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey, Health, United States, 2011, Table 56.

<sup>5</sup>42 CFR 435.1110.

<sup>6</sup>Experience under the Healthy Indiana Plan: The short-term cost challenges of expanding coverage to the uninsured, Milliman Health Reform Briefing Paper, Rob Damler, FSA, MAAA. 

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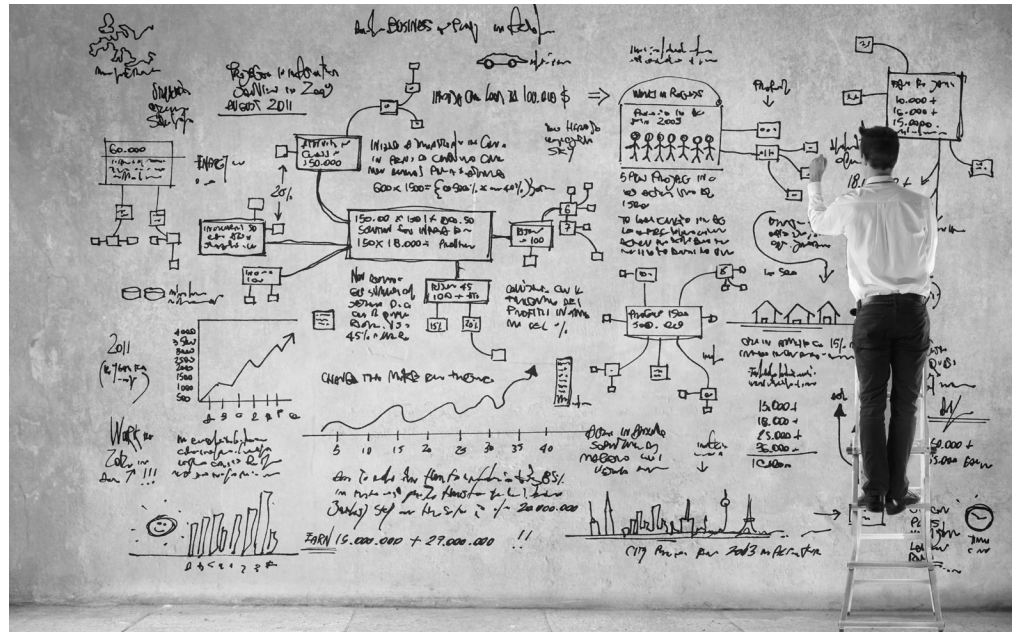
## ACTUARIAL TIPS AND TRICKS

# ARE WE HAVING FUN YET?

By Greg Sgrosso



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**W**hen I first joined an actuarial firm, I, naturally, started hanging out with my co-workers quite a bit. We never did start that company softball team, but we did meet up to go places, went to the lake to water ski, and we'd maybe get a game of poker in here or there.

Being actuaries, we tend to overanalyze a lot of items, like car prices, utility bills, and general budget items. When I started working, I was given a time sheet that had amazing functionality not only for tracking client codes and billable time, but also for mapping out study time on an accompanying calendar. Just a few years later, I received a retirement model that one of my co-workers had made. It was great, with lots of inputs to play with, but it could also be depressing at times. It had an age of "financial ruin," and, in order to make it to 90, it didn't look like I was going to be able to retire at 55 after all.

So, here I am, working in a math-intensive industry where we're all very familiar with spreadsheets and databases, and I'm thinking "How can I use my math knowledge for fun?" I found some time to help a buddy analyze his business

and come up with some benchmarks on numbers he had to hit each month to make some money. I had another friend who was writing a book and who wanted some insight into the assumptions he was making and data he would need to prove/disprove his theories on reversing the initial momentum of a game or match (i.e., the likelihood of winning a game when the other guy scored first). Those are all entertaining, and I love helping out a friend in need, but I thought there might be a way to do something bigger.

I am part of an investment group, and I built a model to track our revenue and expenses with projections for future years. Unfortunately, we bought properties in 2005 and 2006, right before the crash of 2008 and 2009, so that wasn't fun. I also entered a contest with four friends to lose weight, and developed a nice little allocation model to tie the amount owed proportionally to the amount of weight one lost. They were impressed, figuring it would be an all or nothing endeavor (I may have over-thought it). Of course, I spent too much time calculating and not enough time exercising. Not fun.

I'm really into sports, and I saw this show once about how the football (odds) lines in Las Vegas are chosen. I was excited and hoped to see the behind the scenes inter-working of multiple servers of data with detailed analysis of weather conditions and historical trends. But, what did I get? Three guys in a room picking their own number, and then talking it out to arrive at the line. Are you kidding me? This is the foundation of all of those Vegas riches and huge casinos?


The show continued on to present another man, sports betting legend Billy Waters, who has very successfully remained ahead of the curve and who uses a lot of analysis and information to accumulate his money. The story mentioned that in order to be successful you'd need to average at least a 57 percent winning percentage. That was interesting, but it was a full-time job for him, and I wouldn't know what to do with myself without getting to complete Medicare bids in the spring.

There was also a story about some Georgia Tech professors who developed a system to pick the March Madness bracket and had great success. Maybe there was a chance, after all, for some arbitrage on those football lines that seem so arbitrarily obtained....

I went to work and started collecting data as I went. Over the years I gathered varied information on football teams, fed it all into an Excel spreadsheet, and then looked for any trends or formulas that could be relied upon. I even had a nice Actuarial Control Cycle in place. My defined problem was to pick the football games more accurately. My modeling was an attempt to define the solution, and, by monitoring results, I was able to fine-tune the model to get some formulas that worked: one for college football and one for professional football. This was getting fun!

Just as with any control cycle, one cannot account for all external forces. And, unfortunately, there turned out to be a gap in the range of my results where (most of the time) picking a team

wasn't any better than a coin flip. I haven't taken the time (or had the time) to fine-tune my analysis, but I was able to use it to win a college football office pool one season, and that was fun.

Maybe I should just keep my head down and work hard, so I can retire as early as possible without hitting my financial ruin, and then I will have the time to bring more factors into my model to really enjoy football season. That will be fun. 

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# SOCIAL SECURITY CHANGES FOR 2014

By Bruce D. Schobel



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**E**very October, the Social Security Administration announces certain changes in program amounts that occur automatically (i.e., without any new legislation). The most widely publicized of these changes is the cost-of-living adjustment (COLA) affecting all Social Security benefits. Other changes are important to people of working age as well as to beneficiaries. On Oct. 30, 2013 (two weeks late, due to the government shutdown), the Social Security Administration announced that Social Security benefits will increase by 1.5 percent. Whenever a COLA occurs, certain other program parameters automatically change, too. Several important ones are described below.

## BENEFIT INCREASE

Since 1984, Social Security's cost-of-living benefit increases have been based on the 3rd-quarter-to-3rd-quarter change in the average Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W), which is computed by the U.S. Labor Department's Bureau of Labor Statistics. The 3rd-quarter-average CPI-W rose 1.5 percent (rounded to the nearest 0.1 percent) from 2012 to 2013. Accordingly, Social Security benefit amounts will rise by the same 1.5 percent (or a little less, due to rounding rules), effective with the December 2013 benefits that will be paid in January 2014. No COLAs were effective in December of 2009 or 2010, because the CPI-W in the 3rd quarter of each of those years was actually lower than in the 3rd quarter of 2008. Social Security benefits do not decrease when cost-of-living increases are negative. The COLAs effective in December of 2011 and 2012 were 3.6 percent and 1.7 percent, respectively.

## MAXIMUM TAXABLE AMOUNT AND TAX RATES

Other automatic Social Security changes, which are ordinarily announced simultaneously with the COLA, are based on changes in the national average wage, which the Social Security Administration computes from W-2 data. However, some Social Security parameters, such as the maximum taxable amount, do not change after years without a COLA, despite changes in the national average wage. The 2012 national

average wage (the most recent figure, just announced) was \$44,321.67. Based on this figure, a very important change that affects workers and their employers is the increase in the maximum amount of earnings subject to the Social Security (OASDI) payroll tax. The maximum taxable amount increased from \$110,100 for 2012 to \$113,700 for 2013. The 2014 amount will be \$117,000, based on the increase in the national average wage from 2011 to 2012. About 6 percent of workers earn more than the maximum taxable amount in any given year.


The Social Security tax rate, on the other hand, is not automatically adjusted and, instead, is set by law at 6.2 percent, payable by both employees and employers. (The self-employed pay both halves of this tax, or 12.4 percent, with half of the total paid deductible for income-tax purposes.) Congress temporarily reduced the employee share of the tax to 4.2 percent during 2011 and 2012, but it went back to its "permanent" statutory rate of 6.2 percent in 2013.

## RETIREMENT EARNINGS TEST

Since January 2000, workers who have reached their normal retirement age (NRA) can earn unlimited amounts without any reduction in their Social Security benefits. However, beneficiaries younger than NRA who have earnings may see reductions in benefits, if they earn above specified exempt amounts. (Social Security's NRA is 66 for workers born during 1943–54 and rises gradually to 67 for workers born after 1959.) The retirement earnings test exempt amounts are wage-indexed. The annual exempt amount for beneficiaries who will be younger than their NRA during the entire calendar year rose from \$14,640 for 2012 to \$15,120 for 2013. For 2014, the annual exempt amount will rise to \$15,480. Affected beneficiaries who earn more than this exempt amount lose \$1 in benefits for each \$2 of excess earnings. For beneficiaries who will reach their NRA (of 66) in 2014, the exempt amount is \$41,400 for earnings in the months before reaching NRA. Affected beneficiaries who earn more than this exempt amount lose \$1 in benefits for each \$3 in excess earnings (but only earnings in the months before reaching NRA count).



## COVERAGE CREDITS

Interestingly, the amount of earnings needed to receive one “coverage credit” for the year is a wage-indexed amount that does not require a COLA to increase, unlike the maximum taxable amount and the retirement earnings test exempt amounts. The amount required to earn one coverage credit was \$1,160 in 2013 and will rise to \$1,200 for 2014. Workers who earn at least \$4,800 in Social Security-covered employment (or self-employment) during 2014 will receive the maximum four coverage credits for the year. (These coverage credits used to be known as “quarters of coverage”; however, since 1978, they have been granted on the basis of annual earnings, making the old name inappropriate.) 

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