

A PUBLIC POLICY PRACTICE NOTE

**Actuarial Standard of Practice  
(ASOP) No. 6 Practice Note:  
Development of Age-Specific Retiree Health  
Cost Assumptions, Including Applications to  
Pooled and Non-Pooled Health Plans**

March 2021

Developed by the ASOP No. 6 Practice Note Work Group  
of the American Academy of Actuaries



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AMERICAN ACADEMY *of* ACTUARIES

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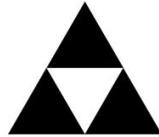
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# TABLE OF CONTENTS

<u>Part</u>	<u>Title</u>	<u>Page</u>	
I.	Introduction.....	1	
II.	Definitions/Terminology.....	3	
III.	Application.....	5	
IV.	General Principles.....	9	
V.	Exceptions.....	11	
VI.	Methodology.....	19	
VII.	Sources of Data.....	21	
Appendix A—Methodology Examples			
	(1) One Pool With Actives and Non-Medicare Retirees .....	26	
	(2) Medicare Retirees in Separate Pool From Non-Medicare Actives/Retirees .....	30	
	(3) Medicare Retirees Mixed Into Same Pool as Non-Medicare Actives/Retirees .....	34	
Appendix B—Brief History of U.S. Professional Standards for Retiree Group Health Benefit Valuations .....			38
Appendix C—Common Terms.....			43

## I. INTRODUCTION

The purpose of this practice note is to provide information for actuaries valuing retiree health benefit plans. Actuarial Standard of Practice (ASOP) No. 6, *Measuring Retiree Group Benefits Obligations and Determining Retiree Group Benefits Program Periodic Costs or Actuarially Determined Contributions*, provides current professional standards for actuaries practicing in the area of retiree health benefit valuations.<sup>1</sup> This practice note provides information regarding current and emerging practices of actuaries in the development of age-specific claims cost assumptions. Various standards-setting boards<sup>2</sup> call upon actuaries to use age-specific retiree per capita claims costs<sup>3</sup> for retiree group health benefit valuations, unless the actuary discloses and supports one of the exceptions listed in ASOP No. 6 section 3.7.7(c). In particular, GASB Statement (GASBS) No. 75 states that any deviation from an ASOP is not in compliance with that accounting standard.

This practice note is not a promulgation of the ASB, is not an actuarial standard of practice, is not binding upon any actuary, and is not a definitive statement as to what constitutes generally accepted practice in the area under discussion. Events occurring subsequent to the publication of this practice note may render the practices described herein irrelevant or obsolete.

Note that ASOP No. 6 applies to actuaries working in every sector (corporate, multiemployer, and public). All actuaries are therefore encouraged to review the information provided herein and refer to the Applicability Guidelines<sup>4</sup> as a resource to suggest which other ASOPs provide guidance.

This practice note describes ways in which practitioners might satisfy the requirement in section 3.7.7 of ASOP No. 6 that an actuary utilize age-specific claims cost assumptions when measuring obligations and costs for financial statement or other purposes for a group that participates in a pooled health plan. It also describes certain conditions by which an exception under section 3.7.7(c) of ASOP No. 6 might apply. Portions of this practice note may cover situations not involving pooled health plans. For example, portions may apply to a valuation for an employer that has its own experience-rated contract with a health insurance carrier or an employer that has its own self-funded plan.

This practice note was prepared by and reflects the views of the ASOP No. 6 Practice Note Work Group of the American Academy of Actuaries. This work group was charged with creating descriptions of practical methods applying the requirement in ASOP No. 6 section 3.7.7 to utilize age-specific claims costs in certain valuations of retiree health benefit plans. Included in this practice note are examples to address the application of age-specific costs to situations where premiums are based (at least in part) on

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<sup>1</sup> For a historical review of professional standards relating to retiree group benefit valuations, refer to Appendix B.

<sup>2</sup> These boards include the Actuarial Standards Board (ASB), Financial Accounting Standards Board (FASB), and Governmental Accounting Standards Board (GASB). Please refer to Appendix B for a brief history and current guidance for using age-specific retiree per capita costs as issued by these standards-setting boards.

<sup>3</sup> For this practice note, usage of the term “age-specific retiree per capita claims costs” is intended to be consistent with that of “age-specific costs” in section 3.7.7 of ASOP No. 6.

<sup>4</sup> Applicability Guidelines may be accessed at <http://www.actuary.org/content/applicability-guidelines-actuarial-standards-practice-0>.

the claims experience of groups other than the one being valued, as well as examples of possible exceptions to the requirement to use age-specific costs. The work group makes no representation of completeness, as other approaches may also be in use and applied. Each actuary should consider the facts and circumstances specific to his or her particular situation.

This practice note was exposed for public comment prior to completion. The work group received both substantive and minor comments from multiple commenters, resulting in the practice note changes summarized below. The work group offers its thanks to each actuary who took the time to review the Exposure Draft and provide thoughtful comments.

<b>Practice Note Location</b>	<b>Description of changes from Exposure Draft</b>
Part II, Definitions/ Terminology	The definition of Implicit Subsidy was expanded to address other types of cross-subsidies.
Part IV, General Principles	A final paragraph was added to note that age-rating of initial costs is a separate issue from the selection of trend for projecting costs.
Part V, Exceptions	Under “type of benefit plan,” the paragraph on Medicare Advantage (MA) was expanded to include Medicare drug, and was revised to show consistent treatment between individual versus group Medicare Advantage and Medicare drug plans. For this topic, the work group interviewed CMS actuaries and other actuaries who review or price MA plans. According to those interviewed, certain CMS documents, and certain Exposure Draft comments, current federal subsidies to these types of plans result in net costs that are based on averages which are independent of age.  Note that this is a significant addition to the Exposure Draft version of the paragraph, which had addressed only individual MA plans.
Part VI, Methodology	On the last page of Part VI, a paragraph was added to note that the Appendix A examples illustrate methodologies which could apply to either pooled or non-pooled health plans. Also, the third-to-last bullet on that page was expanded to address Medicare integration methods.
Appendix A, Methodology Examples	All age 65+ relative value factors were slightly revised to reflect updated underlying data, resulting in small changes to the dollar results. Footnote #31 was added with an icon for the Excel version of the three examples, and footnote #32 notes how the Excel worksheet now has a tab showing the development of relative value factors.

The workgroup also thanks Adam Reese and Jeff Petertil for their thoughtful review of the draft of this practice note before it was exposed. In addition, as noted above, a significant change was made due to comments regarding Medicare Advantage plans. The workgroup thanks Joe Altman of United Healthcare, Dan Hoffman of Optum, Jennifer Lazio of CMS, and Blake Pelzer of CMS for their expertise and perspectives on the pricing of these programs.

## II. DEFINITIONS/TERMINOLOGY

**Pooled health plan**—According to the definition in ASOP No. 6 section 2.31, a pooled health plan is “*a health benefit plan in which premiums are based at least in part on the claims experience of groups other than the group being valued.*” For the purposes of this practice note, in practice, we have observed two types of such plans:

- **Fully pooled health plan**—In our experience, a fully pooled health plan is a pooled health plan in which the historical claims experience of all participating employers is combined to produce an expected future claims cost and a set of premiums that is common to all such employers. The common set of premiums (which is often a proxy for expected claims cost) is then applied to all participating employers without regard to their own claims experience or their own age/gender distribution. Premiums within the set may differ by coverage tier (single / two-party / family), plan option, region, participant type (active versus retired), and/or Medicare status. However, the premiums for a given employer do not vary by that employer’s historical or expected claims experience, or by its current demographic distribution.
- **Partially pooled health plan**—A partially pooled health plan is one in which the premiums for a given participating employer are based on a blend or weighted mix of (a) the experience (or age/gender distribution) for just that employer and (b) the experience (or age/gender distribution) of all participating employers combined. The premium sets may therefore vary by each employer’s expected claims and/or age/gender distribution.

**Implicit subsidy**—For a participating employer in a pooled health plan, in the current year, this is the difference (positive or negative) between the year’s expected age-specific retiree per capita claims costs<sup>5</sup> and the plan’s current year actual premium rates. In future years, it is the difference between projected age-specific retiree claims costs and projected premium rates. For this purpose, age-specific retiree claims costs are based on the experience of the entire pool or, for a partially pooled health plan, on a weighted mix of the experience of the entire pool versus the experience of the one employer being valued. Note that other types of cross-subsidies potentially exist (such as geographic or industry-based) but they are outside the scope of this practice note.

**Ageing factor**—For a given age, this is the assumed percentage by which per capita health claims cost at that age is higher than for the previous age<sup>6</sup> (or lower than for the subsequent age). The percentage can be affected by many variables including status type (active versus retired), Medicare eligibility, benefit type (medical, prescriptions drug, dental), gender, and network type (such as preferred provider organization [PPO] versus health maintenance organization [HMO]).

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<sup>5</sup> For this practice note, claims costs include associated administrative expenses to the extent that such expenses are reflected in the pooled health plan premiums.

<sup>6</sup> Under certain circumstances and for certain ages, the expected per capita health claims cost may actually lie below such cost for the previous age.

**Relative value factor**—For a given age, this is the cumulative effect of assumed aging factors between that age and a given normative age, where the normative age has a relative value factor equal to one. A table of relative value factors versus age is then known as an aging curve. For retiree group benefit valuations, relative value factors are sometimes averaged within age brackets of up to five years, and they may or may not incorporate the effect of a post-65 Medicare cost offset in addition to aging factors.

**Manual premium rates**—These are commercially available or proprietary health cost rates developed using normative databases as compiled from broad-based sources. Such rates are then adjusted to make them representative of the retiree group benefits program being valued.

**Manual rating system**—This refers to a software system that generates manual premium rates from user inputs describing a particular health benefit design and a target population's demographic distribution.

### III. APPLICATION

This practice note was written so that actuaries practicing in the area of retiree health benefit valuations will have a resource to utilize and supplement their own experience. The information contained herein was intended to be consistent with the definitions and references used in ASOP No. 6 as we understand those.

As described in Part IV of this practice note (General Principles), ASOP No. 6 section 3.7.7 advises that “the actuary should use age-specific costs in the development of the initial per capita costs and in the projection of future benefit plan costs.” ASOP No. 6 section 3.7.7(b) applies specifically to a retiree health benefit valuation of an employer that participates in a pooled health plan.<sup>7</sup> The primary purpose of this practice note is therefore to provide information to actuaries performing a retiree health benefit valuation for an employer that participates in a pooled health plan. However, there is substantial information in this practice note that may be useful to actuaries performing a valuation for an employer that does *not* participate in a pooled health plan (e.g., a health benefit plan that pays premiums which are fully or partially based on the employer’s own claims experience or its own age/gender distribution).

In our experience, the principles of ASOP No. 6 are applied differently depending on whether a given employer’s health benefit plan is a fully pooled health plan, non-pooled health plan, or partially pooled health plan. Each of these plan types is discussed below.

#### ***Fully Pooled Health Plan***

A fully pooled health plan is a health benefit plan that develops an annual “common set” of premiums based on the combined or aggregated experience and demographics of all its participating employers. Premiums within the set may differ by coverage tier (single / two-party / family), plan option, region, participant type (active versus retired), and/or Medicare status. However, that common set of premiums (which is often a proxy for expected claims cost) will apply to all participating employers, without regard to their own claims experience or their own age/gender distribution. All employers paying that same common set of premiums are participating in a fully pooled health plan. Such participating employers may be financing implicit subsidies among each other and sharing the costs by way of the common set of premiums. Those employers that are deemed to have a plan-wide implicit subsidy in their premiums will typically have that plan-wide implicit subsidy measured as part of their retiree health benefit valuation (subject to the considerations described in Part V of this practice note).

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<sup>7</sup> As noted above in Part II of this practice note, ASOP No. 6 defines a pooled health plan as “a health benefit plan in which premiums are based at least in part on the claims experience of groups other than the group being valued.”

### ***Non-Pooled Health Plan***

Health plans that are non-pooled health plans use premium rates for a given employer developed from (a) that employer's own claims experience and administrative expenses or (b) manual premium rates as applied to that employer's own age/gender distribution. This causes each employer to have its own set of premium rates based on its own characteristics. Fully pooled health plans, as defined herein, have a common set of premium rates for all participating employers. Partially pooled health plans are discussed in the next subsection.

Large and many midsize employer groups are usually experience-rated. This means that the premium rates for a given employer group are based entirely or primarily on its own claims experience. The claims experience of small employers is usually not considered credible for ratemaking purposes. Consequently, the premium rates of small employers are usually developed for non-pooled health plans based on such employers' own age/gender distributions and applying manual premium rates.

For an actuarial valuation of retiree group benefits for an individual employer group participating in a health plan that is a non-pooled health plan, age-specific (or age/gender-specific) per capita costs are typically developed for the initial year and for projection years based on either expected claims/expenses or total premiums for the employer group. For an employer participating in a non-pooled health plan with a fully insured contract, actuaries often examine the employer's claims experience (if available and credible) to ascertain whether the premiums are a fair representation of the underlying claims expectations. The resulting per capita claims cost or premium equivalent would then be adjusted by the employer group's own age/gender distribution.

### ***Partially Pooled Health Plan***

As indicated in Part II of this practice note (Definitions/Terminology), we have observed two types of pooled health plans in practice: fully pooled health plans and partially pooled health plans. An individual employer group participating in a partially pooled health plan might have a different premium set than other individual employers also participating in that same plan. The ratemaking methodology employed by the partially pooled health plan might involve a blend or weighted mix of (a) the historical and expected claims experience for just that employer (or its own age/gender distribution), and (b) the historical and expected claims experience of all participating employers combined.

The exact ratemaking methodology employed can vary significantly from one partially pooled health plan to another. Within a single partially pooled health plan, the degree of blending may depend on the size of the individual employer group. For example,

- The historical and expected claims or the age/gender distribution of a smaller individual employer participating in a partially pooled health plan might have a much smaller impact (weighting) on the final premium than that of the pooled health plan group as a whole, and

- The historical and expected claims or the age/gender distribution of a larger individual employer participating in a partially pooled health plan might have a much larger impact (weighting) on the final premium than that of the pooled health plan group as a whole.

If the exact ratemaking methodology employed by the partially pooled health plan for developing the individual employer group's premium were known, some version of that could be applied by an actuary to develop the initial age/gender-specific per capita costs for valuing the retiree group benefits of the individual employer group.

While the partially pooled health plan's complete ratemaking methodology is rarely made available to the individual employer group's actuary, he or she may have some knowledge of that methodology and/or the extent of blending used by the plan. In such cases of incomplete knowledge (or no information at all) of a partially pooled health plan's premium-setting mechanics, in our experience, the individual employer group's actuary would apply professional judgment to determine how much of the entire plan's experience (or age/gender distribution) and how much of the individual employer group's experience (or age/gender distribution) should bear upon the development of the employer group's age/gender-specific per capita cost for the initial year.

### ***Fully Pooled Versus Fully Insured***

Whether the underlying health plan is self-insured or cedes the claims responsibility to an insurance company or HMO is not relevant to its determination as a fully pooled health plan or not. A fully pooled health plan is often self-insured because of its size. However, a fully insured health plan can be a fully pooled health plan if the insuring entity develops a common set of premiums that apply to all participating employers or policyholders, without regard to their own claims experience or their own age/gender distribution.

An employer may have a fully insured health plan. That does not necessarily mean it is participating in a fully pooled health plan. These are different concepts. Often a small employer with a fully insured health policy will not be participating in a fully pooled health plan. The insurance company or HMO often sets the premium for a small employer based on its age/gender distribution. For example, a small employer with mostly older employees often pays a higher premium than another small employer with mostly younger employees in the same city with the same plan options. The different premium is intended to reflect the different expectations of claims due to differences in age distribution. These small employers are not participating in a fully pooled health plan.

The insurance company or HMO may be aggregating all the claims of all participating employers in developing manual premium rates that vary by age/gender and may apply those rates to each participating employer based on that employer's own age/gender distribution. These manual premium rates by age/gender are intended to be a proxy for expected claims cost. Such employers are not participating in a fully pooled health plan because the insurance company or HMO is not aggregating all the claims of all participating employers in developing a common set of premiums for all such participating employers without regard to their own age/gender distribution.

### ***Other Uses of the Term “Pooling”***

“Pooling” can sometimes refer to pooling alliances for negotiating premiums or for spreading administrative expenses over a larger base. The “pooling” in a pooled health plan, however, primarily involves aggregating all claims of all participating employers for the purpose of developing a common set of premiums applicable to all participating employers, though it also might involve pooling to negotiate premiums or spreading of administrative expenses.

Insurance arrangements that pool employers’ negotiating positions or that spread administrative expenses are not automatically considered pooled health plans, unless the claims or expected claims of all participating employers’ members are aggregated for the purpose of developing the common set of premium rates.

### ***Stop-Loss***

Sometimes the only pooling or aggregating present in a group health benefits plan is the pooling or aggregating of large claims, after which stop-loss insurance or other reinsurance would apply. The level at which the reinsurance applies is often called the pooling point. In those cases, if the premium charged for such large claims pooling is relatively small compared to the total expected claims, in our experience, current practice has been to consider these plans to be neither partially nor fully pooled health plans. Typically, the premium for the excess claims protection is treated as an additional administrative expense, possibly with its own trend rate to reflect the effect of leveraging.

The magnitude of the premiums charged for stop-loss insurance or other reinsurance, compared to the plan’s total expected claims, is typically considered when determining whether the plan is to be treated as a pooled health plan or as a non-pooled health plan.

### ***Pooled Health Plan With Different Experience Groups***

It is possible for a pooled health plan to encompass several different experience groups as defined by regions, plan options, and/or Medicare eligibility, with each experience group maintaining its own set of premium rates. In that situation, some actuaries are applying ASOP No. 6 separately to each experience group, essentially treating each group as its own pooled health plan to determine whether it qualifies as a fully pooled health plan, a non-pooled health plan, or a partially pooled health plan.

## IV. GENERAL PRINCIPLES

As stated in the Introduction, the purpose of this practice note is to provide information about current or emerging practices for actuaries valuing retiree health benefit plans and, in particular, for those seeking information that may assist in their compliance with section 3.7.7 of ASOP No. 6 as revised in May 2014. Section 3.7.7(a) of the revised ASOP No. 6 states that the general principles for modeling per capita health claims costs include a reflection of differences by age:

*“General Principles—In general, for health coverage, benefit costs vary by age. Therefore, except as noted in (c) below, the actuary should use age-specific costs in the development of the initial per capita costs and in the projection of future benefit plan costs. In general, the development of the age-specific costs should be based on the demographics of the group being valued and the group’s total expected claims or premiums.”*

For any actuarial valuation of a group participating in a pooled health plan with a measurement date on or after March 31, 2015, section 3.7.7(b) advises the actuary to develop age-specific retiree per capita claims costs in lieu of unadjusted pooled health plan premium rates. Section 3.7.7(c) then describes some limited exceptions when it may be appropriate to use the pooled health plan’s premium without regard to adjustments for age (as discussed in Part V of this practice note).

In the absence of an applicable section 3.7.7(c) exception, development of age-specific retiree per capita claims costs is considered the usual practice and is one of the general principles of ASOP No. 6, so that the use of unadjusted pooled health plan premium rates may constitute a material deviation from the guidance of the ASOP. Per ASOP No. 41, this would require an actuarial communication disclosure as to the nature, rationale, and effect of the deviation.<sup>8</sup> For governmental employers, the use of such a deviation would likely not comply with GASB standards.<sup>9</sup>

From the limited nature of the section 3.7.7(c) exceptions, it follows that the general principle of developing age-specific costs will apply in most situations where an employer participates in a pooled health plan. This is true regardless of how much data the pooled health plan provides to assist the actuary in estimating the age-specific retiree claims costs. While it would be helpful to have the pooled health plan provide the age-specific retiree claims costs, we are not aware of any requirement that a pooled health plan provide such assistance, so the actuary typically cannot assume he or she will receive it. A lack of data from the pooled health plan does not change the general principle of using age-specific retiree claims costs when measuring obligations and costs. Instead, when that data is unavailable from

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<sup>8</sup> Actuarial Standard of Practice No. 41, *Actuarial Communications*, provides specific disclosure requirements for situations in which an assumption/method is prescribed by applicable law (section 4.2) and when the actuary relies on other sources (section 4.3). Section 4.4 then states that “If, in the actuary’s professional judgment, the actuary has deviated materially from the guidance set forth in an applicable ASOP, other than as covered under sections 4.2 or 4.3 of this standard, the actuary can still comply with that ASOP by providing an appropriate statement in the actuarial communication with respect to the nature, rationale, and effect of such deviation.”

<sup>9</sup> Refer to discussion of GASBS No. 74/75 at the end of Appendix B of this practice note.

the pooled health plan, the actuary will typically have to make reasonable assumptions regarding the distribution of members<sup>10</sup> and the relative value factors.<sup>11</sup>

The selection of trend rates and other assumptions for the projection of per capita health claims costs is beyond the scope of this practice note. However, we note that age-rating of costs is a separate issue from the trending of costs. As stated in section 3.12.1(a) of the revised ASOP No. 6, an actuary “*should not reflect aging of the covered population when selecting the trend assumption for projecting future costs...*”

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<sup>10</sup> For this practice note, “member” refers to all actives, retirees, and dependents covered by the pooled health plan.

<sup>11</sup> Please refer to Part VII of this practice note for information on other sources of data for age-specific retiree claims costs, and to Part VI for a discussion of cost development methodologies.

## V. EXCEPTIONS

ASOP No. 6, section 3.7.7(c), covers possible exceptions to the general principles of Section 3.7.7(a) described in Part IV:

*“Possible exceptions—In some very limited cases, the use of the pooled health plan’s premium may be appropriate without regard to adjustments for age. The factors that an actuary should evaluate in determining whether the premium may be appropriate without regard to adjustments for age include:*

- 1. the purpose of the measurement (for example, for a projection of short-term cash flow needs the use of the premium may be appropriate);*
- 2. whether for the type of benefit plan being valued (for example, certain dental plans) the impact of using age-specific costs would not be material;*
- 3. the extent to which there are no age-related implicit subsidies between actives and retirees that occur within the pooled health plan; and*
- 4. whether the pooled health plan and its premium structure are sustainable over the measurement period, even if other groups or active participants cease to participate. The use of a premium without regard to adjustment for age is generally inappropriate if the pooled health plan and its premium structure are not sustainable over the measurement period if other groups or active participants cease to participate.”*

The following describes some examples that, in our experience, illustrate how an actuary might apply each of the above four factors. None of these examples are intended to be definitive statements of how these exceptions may be found to apply in a disciplinary, legal, or regulatory proceeding.

1. Purpose of the measurement
  - a. An example of this first type of exception identified in section 3.7.7(c)(1) might be a five-year cash flow projection for the purpose of budget forecasting for an employer participating in a pooled health plan. Qualifying as this type of exception might depend on the actuary’s judgment of the maximum projection period for which the actuary can reasonably assume no significant changes due to aging within the pooled health plan. Age adjustment of premiums is likely not required for a short-term cashflow projection of an employer’s premium payments within this brief period. However, it may be appropriate to disclose that the projection assumes the demographic composition of the pooled population does not change significantly from current enrollment.
  - b. If applicable law or regulations prescribe a methodology for age adjustment that is inconsistent with ASOP No. 6 for a certain purpose, then (per section 3.1.5 of ASOP No. 1, *Introductory Actuarial Standard of Practice*) that prescribed methodology will govern and the actuarial communication should indicate that as the reason for deviating from ASOP No. 6.

## 2. Type of benefit plan

- a. The claim cost rates of most dental plans do not vary significantly by age in our experience. This might depend on plan design, as preventive care and basic restorations generally decrease in cost by age while major types of restorations increase with age. The typical dental plan (such as one that pays benefits at 100% for preventive care, 80% for basic restorations, and 50% for major restorations) often balances out costs by service so that there is little difference in total costs by age. For plan designs that differ from the typical design, an analysis of aging might be undertaken.
- b. Vision and hearing plans can have costs that vary by age, but their costs are typically low compared to the costs of a medical plan. In most cases, due to its minimal impact on overall costs, we have observed rates that do not vary by age.
- c. Medicare Advantage (MA)<sup>12</sup> plans exist in the form of either individual or group-issued contracts. Each type receives a risk-adjusted federal subsidy that is intended to eliminate any subscriber cost differences due to age, gender, or health status, resulting in an average medical cost for all subscribers.<sup>13</sup> It is also true that Medicare prescription drug plans (whether offered as stand-alone or bundled with MA as an MA-PD) have a relatively flat age and gender curve after federal payments. In our view, the age-independent cost curve created by federal subsidies supports the practice of not age-rating the premiums for these individual or group MA, MA-PD, or stand-alone Medicare Part D drug plans. Note that this exception would likely not apply to individual Medicare supplement plans or to traditional employer-sponsored Medicare-integrated retiree health insurance plans, as those generally would have underlying costs that vary by age.

## 3. No age-related implicit subsidies

- a. A medical reimbursement plan with low annual limits (e.g., \$1,000) might not have significant age-related implicit subsidies and so it may be appropriate to use the plan's expected average per capita claims cost without age-rating.
- b. Similarly, a plan that pays for only extremely high catastrophic claims (e.g., those over \$100,000) might also not have significant age-related implicit subsidies, although further study might be required on these types of plans.
- c. For a program that covers only retirees (no active employees)<sup>14</sup> and that limits the employer subsidy to a relatively low fixed cap, it may be appropriate to value only the cap and ignore any age-related implicit subsidies as immaterial.

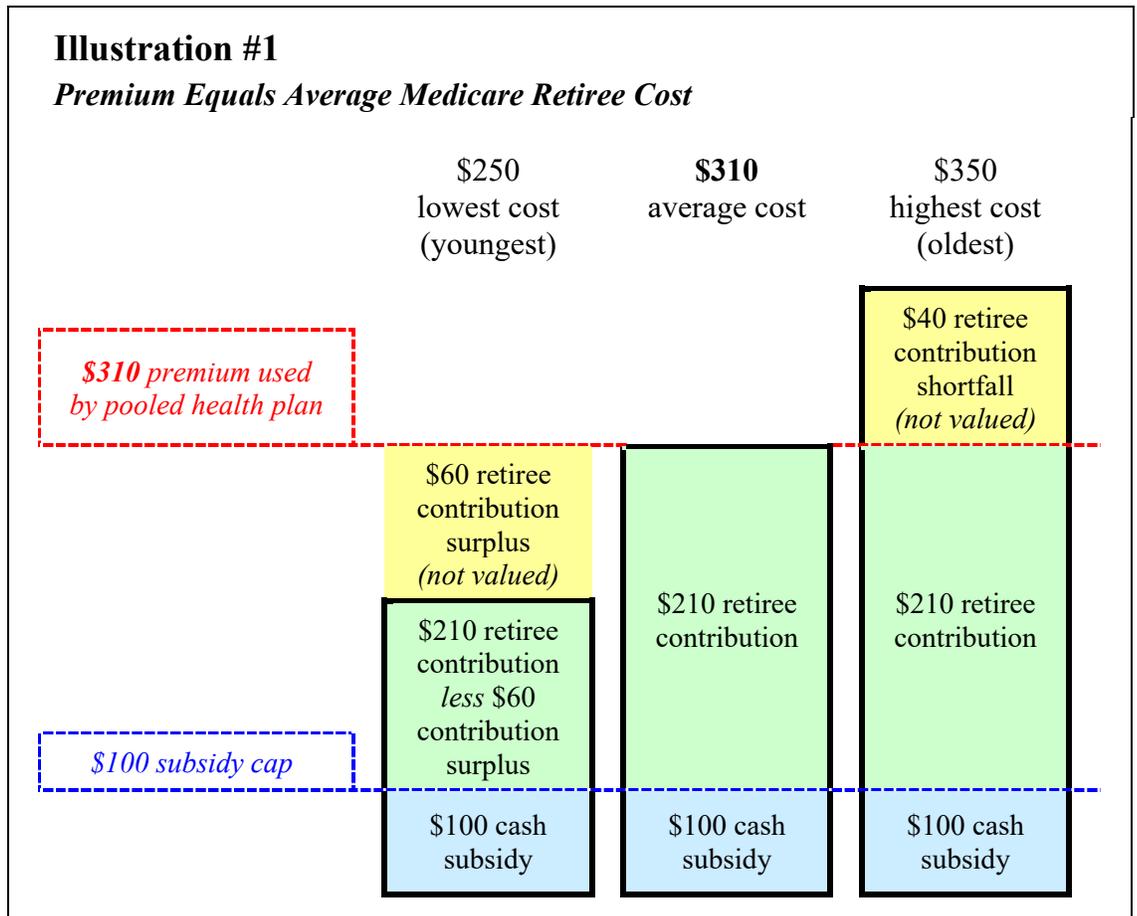
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<sup>12</sup> Medicare Advantage plans must offer benefits that are at least actuarially equivalent to the original fee-for-service Medicare program (Part A Hospital Insurance and Part B Supplemental Medical Insurance), while the benefits for any Medicare prescription drug plan must be at least actuarially equivalent to the standard Medicare Part D design.

<sup>13</sup> This intent was described to us by CMS actuaries and is supported by the following quote from page four of the [Advance Notice of Methodological Changes for 2022](#): "... risk adjustment models ... are used to calculate risk scores that adjust capitated payments made for aged and disabled beneficiaries enrolled in MA plans... A risk score represents a beneficiary's expected medical cost relative to the average expected medical cost of beneficiaries entitled to Part A and enrolled in Part B ..."

<sup>14</sup> A pooled health plan that has no active employees does not automatically qualify for a 3.7.7(c)(3) exemption, because the per capita cost for any given retiree might still be implicitly subsidized (positively or negatively) by the amount paid by an employer for retirees of other ages. Therefore, it is possible for a retiree-only pooled health plan to have age-related implicit subsidies.

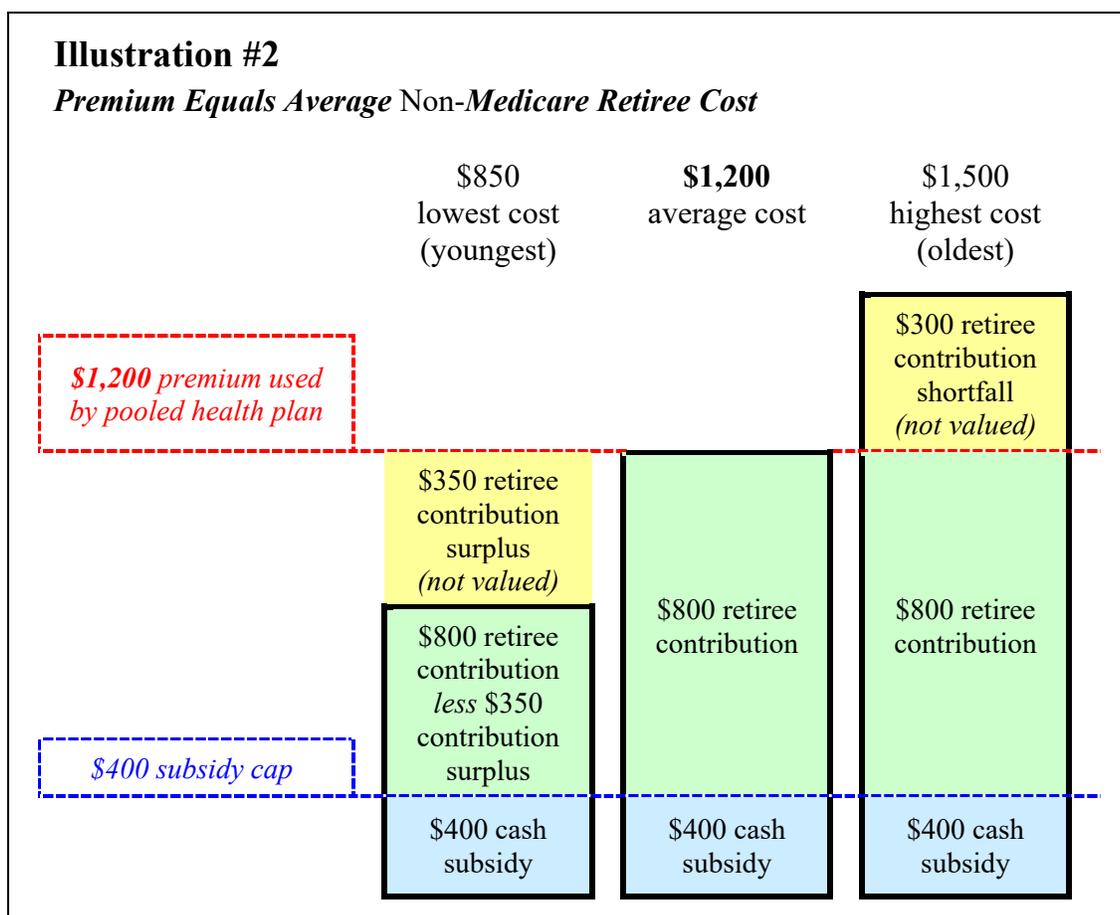
An example of this exception is provided in Illustration #1, which describes a program covering only Medicare-eligible retirees with a monthly per capita subsidy cap of \$100 that is not expected to rise, and a current retiree per capita premium set by the pooled health plan as \$310 (so that the retiree contribution is \$210 = \$310 – \$100), which is expected to rise as claims increase. In addition, the actuary has verified that \$310 is a reasonable representation of current average retiree cost, where such costs now range from \$250 for the youngest retirees to \$350 for the oldest retirees. The key elements here that allow for the disregard of aging factors are (a) the explicit subsidy cap (\$100) is less than the pooled health plan premium (\$310) used to set the retiree contribution (\$210), and (b) the current retiree per capita premium is judged to be close enough to the actuary’s own estimate of the current average retiree per capita claims cost.<sup>15</sup> Under such conditions, in our experience, an actuary might find it reasonable to assume that any future premium increases will be borne by the retirees through increased contributions for coverage.<sup>16</sup>



<sup>15</sup> For this example, if the cap were to be set higher than the current average retiree cost, then the actuary might have to project implicit subsidies for as many years as it takes for the trended future average cost to exceed the cap, assuming the actuary thinks the cap will not increase.

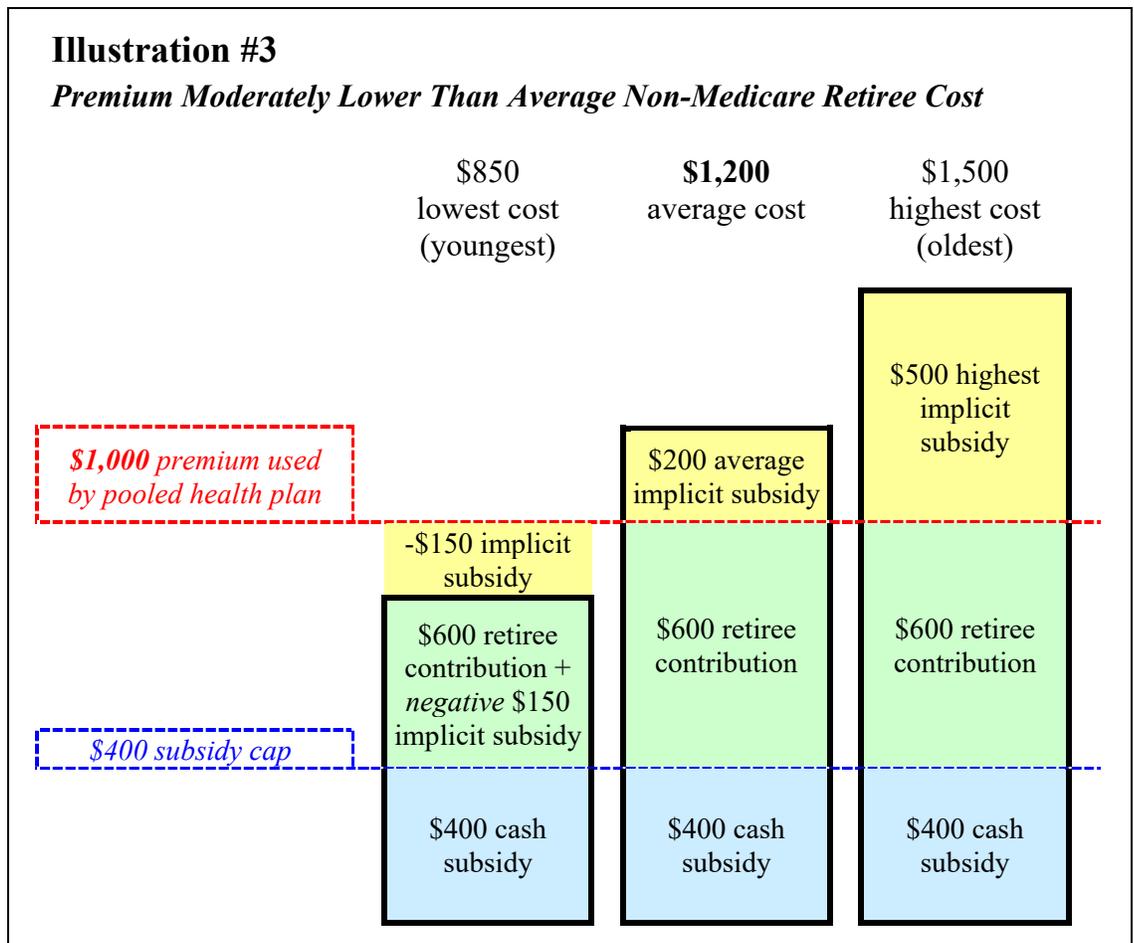
<sup>16</sup> The costs for this example could refer to those developed for either a pooled or non-pooled health plan.

- d. A similar situation to the previous example occurs when a program covers both non-Medicare retirees and active employees, but there is a calculation by the pooled health plan of retiree-only cost, and a setting of retiree contribution as the excess of that retiree-only cost over a relatively low fixed cap. Here it may be appropriate to value only the cap and ignore any age-related subsidies as immaterial, but the actuary would typically verify the calculation of retiree-only cost and not rely solely on assertions from the pooled health plan.<sup>17</sup> An example of this exception is provided in Illustration #2, which describes a program covering both non-Medicare retirees and actives with a monthly per capita subsidy cap of \$400 that is not expected to rise, and a current retiree per capita premium set by the pooled health plan as \$1,200 (so that the retiree contribution is \$800 = \$1,200 – \$400), which is expected to rise as claims increase. In addition, the actuary has verified that \$1,200 is a reasonable representation of current average retiree-only claims cost, where such costs now range from \$850 for the youngest retirees to \$1,500 for the oldest retirees.



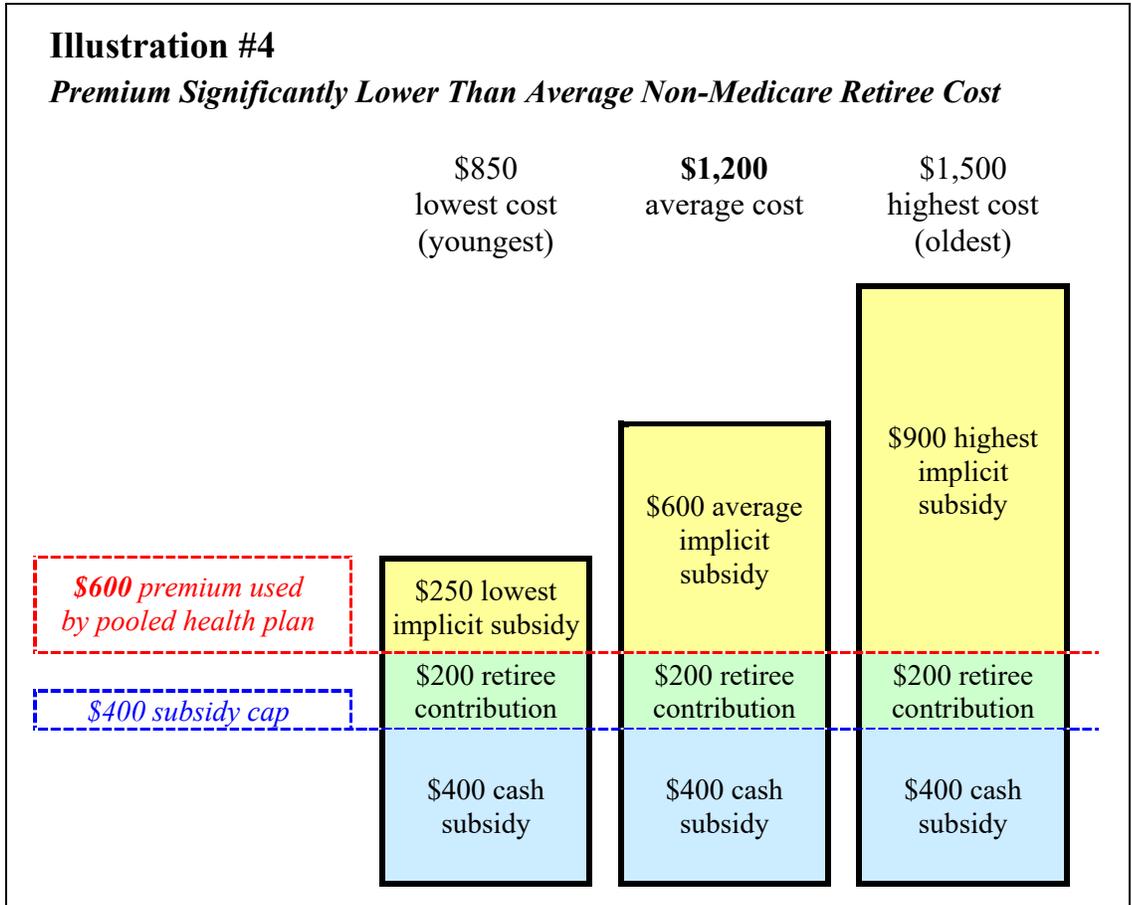
<sup>17</sup> For this example, the verification of retiree-only cost could be accomplished by isolating retiree experience and/or adjusting active experience to that of retirees. In performing such a verification, the actuary typically would consider how section 3.4.3 of ASOP No. 41 requires an actuarial communication to disclose the extent of reliance on any outside sources and to disclaim responsibility for their accuracy.

However, if the actuary determines that the cost used to set retiree contributions in a mixed active/retiree program is *not* sufficiently close to the retiree-only claims cost, then the actuary might decide to value an age-adjusted implicit subsidy in addition to any fixed cash subsidy. A situation like that is presented below in Illustration #3, which is identical to the prior example except that the pooled health plan is using a lower retiree premium of \$1,000 (so that the retiree contribution is \$600 = \$1,000 – \$400). In this new example, if the actuary determines that the pooled health plan’s \$1,000 is sufficiently lower than his or her own \$1,200 estimate of average retiree-only claims cost, then the actuary would have to value both the \$400 cash subsidy and an implicit subsidy that ranges from *negative* \$150 to positive \$500 (i.e., the excess of \$850 to \$1,500 retiree-only cost over the \$1,000 used to set retiree contributions).<sup>18</sup>



<sup>18</sup> It is possible for the actuary’s estimated cost for the youngest retirees to be lower than the pooled health plan’s retiree claims cost used to set retiree contributions, in which case those youngest retirees would have a negative implicit subsidy that would partially offset the positive implicit subsidy of other retirees.

A more extreme example is shown below in Illustration #4, which is the same as above except that the pooled health plan is now using a very low average blended active/retiree cost of \$600 to set the retiree contribution as  $\$200 = \$600 - \$400$ . Here it is clear that the pooled health plan's premium used to set retiree contributions is significantly lower than the actuary's \$1,200 estimate of average retiree-only claims cost, so that the actuary would have to value both the \$400 cash subsidy and an implicit subsidy that ranges from \$250 to \$900 (i.e., the excess of \$850 to \$1,500 retiree-only cost over the \$600 blended active/retiree cost used to set retiree contributions).<sup>19</sup>



<sup>19</sup> The costs for this example could refer to those developed for either a pooled or non-pooled health plan.

#### 4. Sustainable pooled health plan

Health actuaries have long been aware that some pooled health plans have failed over the years for one reason or another. Such failures can occur because the risks of the pool are not adequately considered when setting premium rates for each of the member groups. Health care risks of a pool may vary due to demographics (older members<sup>20</sup> costing more than younger ones), geography (some areas being more expensive than others), industry, education, and other social determinants.

A failure can also begin if some of the lower-cost members leave the pooled health plan, thereby raising premiums for the remaining members and triggering an exodus of the other lower-costing members. As this continues, it creates what is often called a “death spiral” in rates that ultimately leads to the collapse of the unsustainable pooled health plan. Therefore, some pooled health plans and their premium rate structures may not be sustainable when subjected to the stress of losing their healthier members all at once or over a short period of time.

This concept of sustainability is addressed in the last item of section 3.7.7(c), which is framed differently than the previous three items of that section and might be used when an actuary is attempting to demonstrate that a pooled health plan’s premium structure would not significantly deteriorate after the loss of certain groups or of its active members. As stated in 3.7.7(c)(4), a factor that could warrant an exception to the general principle of age-adjusting is:

*“whether the pooled health plan and its premium structure are sustainable over the measurement period, even if other groups or active participants cease to participate [underscore added]. The use of a premium without regard to adjustment for age is generally inappropriate if the pooled health plan and its premium structure are not sustainable over the measurement period if other groups or active participants cease to participate [underscore added].”*

In 2015, the Actuarial Board for Counseling and Discipline (ABCD) was asked for formal guidance on the use of the section 3.7.7(c)(4) exception. The ABCD’s November 2015 response included the following:<sup>21</sup>

*“If the ABCD received a complaint associated with an actuary who used premiums as opposed to age specific rates, the ABCD would carefully scrutinize the reasoning and rationale behind the use of premiums. Where relevant, the ABCD would expect to see written analyses that justified the computations met the exception to the general rule.”*

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<sup>20</sup> For this practice note, “member” refers to all actives, retirees, spouses, and children covered by the pooled health plan, regardless of their potential future eligibility for retiree health benefits. This is consistent with the manner in which ASOP No. 6 uses the term “participant” in the above quote from section 3.7.7(c)(4).

<sup>21</sup> The full text of the November 24, 2015, formal guidance of the Actuarial Board for Counseling and Discipline is at [http://www.abcdboard.org/wp-content/uploads/2016/07/ABCD\\_Formal\\_Guidance\\_24Nov2015.pdf](http://www.abcdboard.org/wp-content/uploads/2016/07/ABCD_Formal_Guidance_24Nov2015.pdf).

This places a boundary on the use of the section 3.7.7(c)(4) exception, in that an actuary would need to disclose a defensible rationale of why the pooled health plan and its premium structure should be considered sustainable even when subjected to the stress conditions described in the ASOP. Those stress conditions are then addressed in the next portion of the ABCD guidance:

*“As an example, for a pooled health plan, if the premium structure would change significantly if all active members or just the active members of the employers that make up the majority of the pool were to cease to participate, §3.7.7(c).4 requires use of age specific rates. This conclusion is regardless of how long the plan has been in existence and the extent of historic changes in plan participation or a specific plan’s enrollment. The conclusion is grounded in §3.7.7(c).4 which plainly states that the use of a premium without regard to adjustment for age is generally inappropriate if the pooled health plan and its premium structure are not sustainable over the measurement period if other groups or active participants cease to participate.”<sup>22</sup>*

This example is inconsistent with the idea that what is being considered in section 3.7.7(c)(4) is merely the exit of the *higher-costing* groups or of *some* active employees. Instead, it asserts that an actuary attempting to make use of the section 3.7.7(c)(4) exception would have to determine whether the pooled health plan’s current premium structure could survive the catastrophic loss of its active members. The ABCD guidance further states that the length of time the pooled health plan has existed is not evidence of sustainability, and that historic changes in the employers participating in the pool (or whether or not a specific employer is in the pool) has no relevance to future sustainability.

An actuary seeking to use this exception would therefore need to assess sustainability under the conditions set forth in ASOP No. 6 section 3.7.7(c)(4) and described above. It may be advisable to request guidance from the ABCD related to development of a rationale to support the use of this exception.

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<sup>22</sup> The ABCD guidance notes that the situation posed by this example is addressed in the General Comments under Appendix 2 of ASOP No. 6, response to the second comment on §3.7.8: *“The reviewers believe that implicit subsidies do exist within pooled health plans and that such subsidies should be recognized in valuations of retiree group benefits by incorporating age-specific costs in the measurement, except in some very limited cases. Thus the reviewers believe that the use of age-specific costs will generally result in a more appropriate representation of the employer’s long term liabilities for retirees than the use of unadjusted premiums. They point out that there is no guarantee that the current premium structure or the pooled health plan will continue over the long term nor that the employer will continue or be allowed to continue in the pool and that the value of employer’s benefit commitment independent of the method used to provide that benefit is the most appropriate basis for valuing the liability, except in some very limited cases.”* Note that in the final version of the ASOP, §3.7.8 was combined with §3.7.7 into a new §3.7.7(a).

## VI. METHODOLOGY

For an employer that does *not* participate in a pooled health plan, but which sponsors a health plan where costs are based exclusively (or nearly so) on its own demographics or expected claims costs, an actuarial valuation of retiree health benefits will include development of age-specific retiree per capita claims costs that are based on the employer’s own demographics or expected claims costs. However, if an employer participates in a pooled health plan for its health benefits, then the age-specific retiree per capita claims costs used in the valuation would be developed based on the demographics or expected claims costs of the pooled health plan as a whole.<sup>23</sup>

The specific steps employed by an actuary to develop a pooled health plan’s age-specific retiree per capita claims costs will depend on two broad categories of factors:

- Status types—The pooled health plan may combine the experience of active employees, non-Medicare retirees, and possibly Medicare retirees, where the retiree population may include disabled lives. Each of these status types might have covered spouses and/or children.
- Pooled health plan data—For plans that release current data on pool-wide member<sup>24</sup> counts and/or relative value factors, such data may be split by status type (active versus retiree), coverage tier (single / two-party / family), member type (subscriber / spouse / child), age bracket, and/or gender. Vital missing data might be estimated or substituted from another source, as described in Part VII of this practice note.

Information on existing and emerging practices for developing age-specific retiree per capita claims costs for every possible pooled health plan situation is beyond the scope of this practice note. Each actuary will therefore want to apply his or her own understanding of health actuarial principles for this task. Actuaries who are not qualified for such a calculation can partner with another actuary who is qualified.<sup>25</sup>

Appendix A of this practice note describes one possible approach to per capita cost analysis for each of three pooled health plan situations as presented in order of increasing complexity:

- (1) One Pool With Actives and Non-Medicare Retirees
- (2) Medicare Retirees in Separate Pool From Non-Medicare Actives/Retirees
- (3) Medicare Retirees Mixed Into Same Pool as Non-Medicare Actives/Retirees

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<sup>23</sup> Refer to Part III of this practice note (Application) for a discussion of non-pooled, partially pooled, and fully pooled health plans, plus methodologies for developing age-specific per capita costs within each.

<sup>24</sup> For this practice note, “subscriber” refers to just the active and retired employees (not their covered dependents), while “member” refers to all actives, retirees, covered spouses, covered children, and other dependent types.

<sup>25</sup> Actuaries practicing in this area should be mindful of Precept 2 of the Code of Professional Conduct (as adopted January 1, 2001, by the five U.S.-based actuarial organizations), which states that “*An Actuary shall perform Actuarial Services only when the Actuary is qualified to do so on the basis of basic and continuing education and experience, and only when the Actuary satisfies applicable qualification standards.*” For example, the experience requirement of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States (section 3.2) requires “*at least three years of responsible experience relevant to the subject of the Statement of Actuarial Opinion under review by an actuary who was qualified to issue the Statement of Actuarial Opinion at the time the review took place under standards in effect at that time.*”

In all the Appendix A examples, there is an implicit assumption that the pooled health plan under consideration will generally charge premiums in the future that increase by trend only (versus needing adjustments for age and trend). This is a common assumption for ongoing health plans with a flow of new entrants and exiting participants.

While the Appendix A examples are designed to illustrate the development of per capita costs based on a pooled health plan's demographics (and the application of such costs to an individual employer's valuation), the examples are also useful to show methodologies for non-pooled health plans.

For an actuary to adapt any of the Appendix A examples to their own pooled or non-pooled situation, he or she might consider the following possible complications:

- If the health plan census data separately identifies current disabled retirees/spouses, or if the actuary's valuation software projects future disabled employees, then the actuary might consider a refinement to his or her projection model to recognize the appropriate cost for those disabled lives.
- If the health plan provides the breakdown of members by age group but not by coverage tier or member type, then an actuary can estimate the tier and type splits using assumptions as to the portion of subscribers with a covered spouse, the portion with covered children, and the number of children for a subscriber with family coverage.
- If the health plan provides the breakdown of members by coverage tier and member type but not by age group, then an actuary might estimate the age distribution using the proportional distribution of a similar group (as described in Part VII of this practice note).
- If the health plan does not provide relative value factors, then the actuary might consider using factors from another source (as described in Part VII of this practice note). For any health plan that pools Medicare-age retirees with non-Medicare members and which has a traditional Medicare offset (where the plan pays secondary), care should be taken to reflect the plan's particular Medicare integration method when choosing relative value factors. The Medicare-age retiree relative value factors in Appendix A reflect the standard Coordination of Benefits integration method, while other commonly used Medicare integration methods are Exclusion, Carve-Out (sometimes called Maintenance of Effort), and Supplement.<sup>26</sup>
- If the health plan provides relative value factors as split by gender and member type, then the actuary might consider expanding this analysis to reflect those different factors. In addition, an actuary might evaluate the health plan's gender composition to determine if the unisex factors are appropriate for the employer being valued.
- If the health plan provides credible historical retiree-only claims and enrollment, then the actuary might consider using such to develop age-related per capita costs in lieu of the premium-based examples in Appendix A.

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<sup>26</sup> For a more complete description of Medicare integration methods, see Chapter 4 (Retiree Benefit Design) in the textbook *Fundamentals of Retiree Group Benefits*, 2<sup>nd</sup> Edition, ACTEX Publications, 2015.

## VII. SOURCES OF DATA

Section 3.7 of ASOP No. 6 provides guidance in modeling initial per capita health care claims costs, for which the required data elements are generally readily available. However, some data may *not* be readily available for the situation addressed in section 3.7.7(b) when an actuary is performing a retiree health benefit actuarial valuation of a group participating in a pooled health plan. In that case, section 3.7.7(b) provides that the actuary should reflect full age-specific retiree per capita claims costs in lieu of the fully pooled health plan's unadjusted premium rates (except as noted in Part V of this practice note). This portion of the practice note will describe the necessary data elements and provide assistance for obtaining such data.<sup>27</sup>

### *Data Elements*

There are four essential elements used to develop a fully pooled health plan's age-specific retiree per capita claims costs:

- (1) Premium rates—These typically are publicly available from the fully pooled health plan because a common set of rates applies to all of the plan's participating employers. Such rates might be split by coverage tier (single / two-party / family), status type (active versus retired), plan options, and Medicare eligibility.
- (2) Pool-wide subscriber<sup>28</sup> counts—The structure of these counts would need to correspond with the structure of the pool-wide premium rates in terms of how each are split by coverage tier, status type, plan options, and Medicare eligibility. Such a correspondence (or mapping) allows for a multiplication of subscriber counts by premium rates to obtain an aggregate annual premium for the fully pooled health plan.
- (3) Pool-wide member counts (or pool-wide member “demographic profile”)—In order to parse the aggregate annual premium into age-specific per capita claims costs, the pool-wide member counts would be split at least by age (or age brackets) and by status type (active versus retired). The member counts can have additional splits by member type (e.g., subscriber/spouse/child), and gender, which can create member type and gender splits in the resulting retiree age-specific per capita claims costs (if those same splits are present in the structure of the next item).
- (4) Pool-wide relative value factors (or the underlying aging factors)—Similar to item #3 above, in order to parse the aggregate annual premium into age-specific per capita claims costs, the pool-wide relative value factors would be split at least by age (or age brackets) and by status type (active versus retired). The relative value factors can have additional splits by member type (e.g., subscriber/spouse/child) and gender, which can create member type and gender splits in the resulting retiree age-specific per capita claims costs (if those same splits are present in the structure of the previous item).

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<sup>27</sup> While the context of this portion of the practice note specifically addresses fully pooled health plans, it will likely also be useful to actuaries who are performing retiree health benefit valuations for groups participating in partially pooled health plans or stand-alone single-employer health plans.

<sup>28</sup> For this practice note, “subscriber” refers to just the active and retired employees (not their covered dependents), while “member” refers to all actives, retirees, covered spouses, covered children, and other dependent types.

## *Alternative Data Sources*

For the pool-wide subscriber counts, member counts, and relative value factors (as described above), the employer's actuary might consider first making a request to the managers of the fully pooled health plan. Vital missing data can then be estimated or substituted from other sources that are considered representative of the fully pooled health plan in terms of age/gender demographic distribution. Examples of alternate data sources would include the following.

- Pension system or dominant employer counts—A pension system or single participating employer that covers or includes most of the fully pooled health plan members is likely to be representative of the plan's demographics. Active and retiree age/gender percentage distributions from such a pension system or dominant employer can be used to parse the total active and total retiree counts from the fully pooled health plan into estimated age/gender distributions.
- Manual rating system or published study counts—Several manual health rating software systems are available for purchase (or lease) that allow the user to view the age/gender distribution of the software system's underlying population. Likewise, there are published large-scale health studies that disclose the age/gender distribution of the underlying population used by the study.<sup>29</sup>

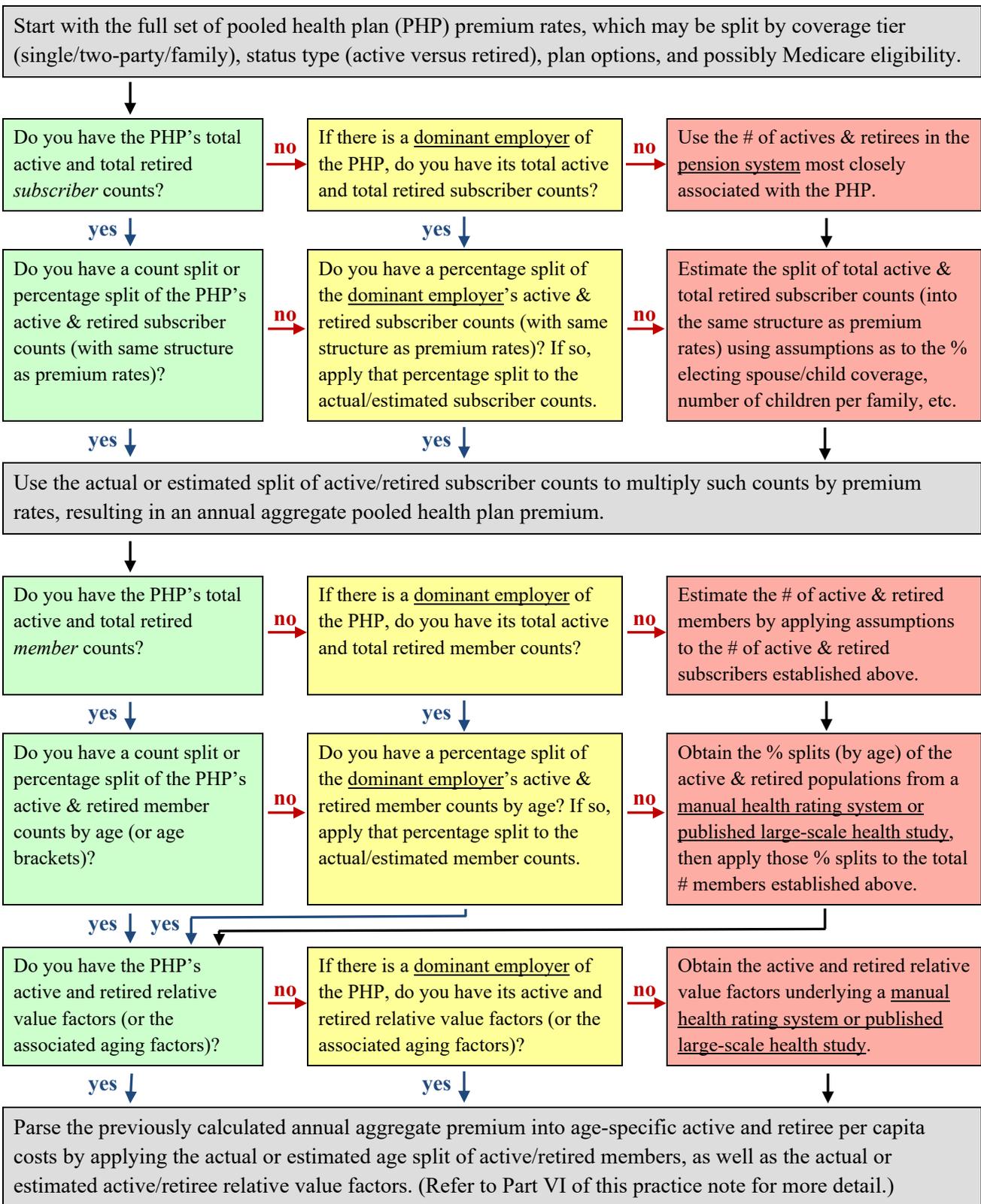
So long as the actuary does not think that there is a significant difference between the age/gender distribution of the fully pooled health plan and that of his or her chosen manual rating system or study, then the active and retiree age/gender proportional distributions from the chosen manual rating system or study could typically be used to parse the total active and total retiree counts from the fully pooled health plan into estimated age/gender distributions. If the actuary *does* think that there is a significant difference in the age/gender distributions, then he or she would normally make appropriate adjustments to the age/gender proportional distributions of the manual rating system or study before applying them to the total counts of the fully pooled health plan.

- Manual rating system or published study relative value factors (or underlying aging factors)—As with the underlying counts discussed above, it is often possible to view the relative value factors that are used by a manual health rating system or published large-scale health study.<sup>29</sup> So long as the actuary does not think that there is a significant difference between the relative value factors of the fully pooled health plan and that of his or her chosen manual rating system or study, then the system/study relative value factors can typically be applied to create age-specific per capita claims costs (as described in Part VI of this practice note).

The above examples for sources of estimating missing data are represented in the following flowchart.

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<sup>29</sup> The relative value factors used in the Appendix A examples of this practice note were developed from the normative data found in the Society of Actuaries' June 2013 research report *Health Care Costs—From Birth to Death* by Dale Yamamoto. That report and an accompanying "databook" spreadsheet are available for download at <https://www.soa.org/research-reports/2013/research-health-care-birth-death>. The age/gender distribution of the underlying population used by this study is in accompanying spreadsheet tab "Chart 5," columns H-J.



The first half of this chart (between the top and middle gray boxes) deals with using premium rates and subscriber counts to develop an aggregate annual premium, then the bottom half addresses the parsing into age-specific per capita costs by applying member counts and relative value factors. In applying the above flowchart, the actuary might keep in mind the following notes.

- “Subscriber” refers to just the active and retired employees (not their covered dependents), while “member” refers to all actives, retirees, covered spouses/children, and other dependent types.
- In lieu of data from a *single* dominant participating employer of a pooled health plan, the actuary might consider using data aggregated from a *collection* of participating employers that together covers a significant portion of pooled health plan members.
- When the total active and total retired subscriber counts are not available from the pooled health plan or a dominant employer, the flowchart advises use of the active and retired counts from the pension system most closely associated with the pooled health plan. In lieu of such pension system counts, the actuary might consider using an alternative approximation method if he or she thinks that it would provide a better estimate of the total active and total retired counts.
- Any assumption or estimate about the extent of dependent coverage can be influenced by the subscriber price for such coverage, subscriber age, subscriber job category, and network type (such as PPO versus HMO).
- When using the age/gender proportional distribution of a manual rating system or published study, the actuary typically first makes adjustments to that distribution to resolve any significant difference that they think exists between the distribution of the system/study versus that of the pooled health plan.
- Likewise, when using the relative value factors of a manual rating system or published study, the actuary typically first makes adjustments to those factors to resolve any significant difference that they think exists between the relative value factors of the system/study versus that of the pooled health plan.
- The yellow and red flowchart boxes indicate that vital data has not been provided by the pooled health plan and has instead been estimated from alternative sources. The actuary should disclose any alternative sources or estimation methodology in his or her external communication (as required by the ASOPs).
- The actuary will review all relevant ASOPs, including ASOP No. 23, *Data Quality*, and ASOP No. 6 section 3.9.3, which states that the actuary “*should consider the various types and sources of data available for the covered population, for the coverage and classification of participants, and for benefit costs ...*” If the actuary deems that any estimate constitutes a material deviation from the guidance of an ASOP, then ASOP No. 41 would require a communication disclosure as to the nature, rationale, and effect of the deviation.

## ***Obtaining Pooled Health Plan Data***

While pooled health plan data is typically preferable to alternative sources, the managers of such plans might be reluctant to release even the minimum required data for competitive or other reasons. Actuaries and participating employers might need to make a strong case to the managers for release of any pooled health plan data. In order to gain a greater likelihood of acquiring the data, it may be helpful that the request include some or all of the following statements.

- Every participating employer's actuary must comply with all ASOPs including ASOP No. 6, which requires information concerning demographics and costs of the pooled health plan.
- For those participating employers that must comply with applicable generally accepted accounting principles (GAAP) accounting standards, ASOP No. 6 (and consequently GAAP) compliance may not be possible if the requested pooled health plan data is not provided.
- The actuary might agree to keep any pooled health plan data confidential, and to use it only for the purpose of retiree health valuations for participating employers. This could be accomplished through a non-disclosure agreement.
- Any pooled health plan data assembled by the managers would be of use to all of the actuaries for the participating employers, so that by posting such data in a central location (such as the pooled health plan's website), the managers would be saving themselves the time of responding to individual requests from multiple actuaries.
- The actuary could provide an example of the format for a full response to all data requested, with the understanding that the actual response from the pooled health plan may cover only a portion of such requested data.<sup>30</sup>

Lastly, if there exists an association of employers who are participants in a certain pooled health plan, then an additional request could come from that association so as to give additional weight to the actuary's original request.

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<sup>30</sup> An example of a full response would be that of the California Public Employees' Retirement System (CalPERS), as found at <https://www.calpers.ca.gov/docs/forms-publications/pemhca-implicit-subsidy.xlsx>.

## APPENDIX A—METHODOLOGY EXAMPLE #1

### One Pool With Actives and Non-Medicare Retirees <sup>31</sup>

Consider a pooled health plan that covers only active employees/spouses/children and non-Medicare retirees/spouses/children, but no Medicare-eligible individuals. Upon the actuary's request, this hypothetical plan has provided the following split of member counts by status type, coverage tier, and member type.

Coverage Tier		Pool-Wide Member Counts			
		Subscriber	Spouse	Children	All
Actives	Subscriber Only	100,000	0	0	100,000
	Subscriber + One	75,000	73,000	2,000	150,000
	Subscriber + Family	<u>50,000</u>	<u>47,000</u>	<u>88,000</u>	<u>185,000</u>
	Total	225,000	120,000	90,000	435,000
Non-Medicare Retirees	Subscriber Only	14,000	0	0	14,000
	Subscriber + One	32,000	31,000	1,000	64,000
	Subscriber + Family	<u>5,000</u>	<u>5,000</u>	<u>6,000</u>	<u>16,000</u>
	Total	51,000	36,000	7,000	94,000

In addition, this hypothetical pooled health plan has provided (or the actuary has assumed) the following split of member counts and of relative value factors by status type and by five-year age brackets.

Age	Relative Value Factor (RVF) <sup>32</sup>		Pool-Wide Member Counts	
	Active	Retiree	Active	Retiree
under 20	0.534	0.534	124,000	4,000
20-24	0.512	0.512	38,000	3,000
25-29	0.679		22,000	0
30-34	0.854		30,000	0
35-39	0.932		33,000	0
40-44	1.023		37,000	0
45-49	1.189	1.189	40,000	7,000
50-54	1.468	1.688	42,000	20,000
55-59	1.790	2.059	36,000	26,000
60-64	2.207	2.538	23,000	34,000
65-69	2.745		8,000	0
70-74	3.313		2,000	0
75-79	3.891		0	0
80-84	4.471		0	0
85+	5.136		0	0
total			435,000	94,000

<sup>31</sup> For Excel versions of these methodology examples, download this practice note then double-click this icon: 

<sup>32</sup> The relative value factors used for these examples were developed from the Society of Actuaries' June 2013 research report *Health Care Costs—From Birth to Death* by Dale Yamamoto (<https://www.soa.org/research-reports/2013/research-health-care-birth-death/>). For the calculation details, see tab "RVF\_development" of the worksheet in the previous footnote.

For this particular example, one possible approach to develop age-specific retiree per capita claims costs can be described in the following three steps.

**Step #1** is to multiply subscriber counts by the current premium rates, then sum across all status types and coverage tiers to get a combined active/retiree “aggregate annual premium” of about \$3.778 billion as shown below.

	Coverage Tier	Subscriber Count	Monthly Premium	Count x Premium x 12 = Aggregate Annual Premium
Actives	Subscriber Only	100,000	\$ 628	\$ 753,600,000
	Subscriber + One	75,000	1,360	1,224,000,000
	Subscriber + Family	<u>50,000</u>	1,778	<u>1,066,800,000</u>
	Total	225,000		\$ 3,044,400,000
Non-Medicare Retirees	Subscriber Only	14,000	\$ 628	\$ 105,504,000
	Subscriber + One	32,000	1,360	522,240,000
	Subscriber + Family	<u>5,000</u>	1,778	<u>106,680,000</u>
	Total	51,000		\$ 734,424,000
<b>Actives + Retirees</b>				<b>\$ 3,778,824,000</b>

**Step #2** is to distribute the aggregate premium by completing the following columns in the table below:

- *Column [A]* = Product of relative value factors and member counts: Sum this product across all age brackets and status types to get a combined active/retiree total of 633,421.
- *Column [B]* = Unloaded Per Capita Annual Costs: For a given status type and age bracket, this will equal the type/bracket's relative value factor multiplied by the ratio of [\$3.778 billion aggregate annual premium] over [633,421 combined total of the previous column]. For instance, the unloaded annual cost per retired member (subscriber or spouse) of age 50-54 is calculated as  $1.688 \times \$3,778,824,000 / 633,421 = \$10,070$ .
- *Column [C]* = Per Capita Annual Retiree Costs With Child Load: This column is needed when the actuary's valuation does not explicitly project costs for covered children of retirees, so that the costs of such children must be loaded onto adult retiree/spouse costs. Here that means increasing each adult retiree/spouse cost from the previous column by a flat child load of approximately \$252, calculated as [children cost of \$21.9 million = (4,000 x \$3,186) + (3,000 x \$3,054)] divided by [51,000 retirees + 36,000 spouses of retirees].
- *Column [D]* = Pool's Annual Aggregate Cost: As a check, multiply member counts by per capita annual costs with child load, then sum across all age brackets and status types to get a combined active/retiree total cost of \$3.778 billion, same as the original aggregate annual premium.

Age	Relative Value Factor (RVF) <sup>32</sup>		Pool-Wide Member Counts		<i>Column [A]</i> RVF x Member Counts		<i>Column [B]</i> Unloaded Per Capita Annual Costs (PCC)		<i>Col [C]</i> PCC with Child Load	<i>Column [D]</i> Pool's Annual Aggregate Cost
	Active	Retiree	Active	Retiree	Active	Retiree	Active	Retiree	Retiree	
under 20	0.534	0.534	124,000	4,000	66,216	2,136	\$ 3,186	\$ 3,186		\$ 395,027,336
20-24	0.512	0.512	38,000	3,000	19,456	1,536	3,054	3,054		116,069,407
25-29	0.679		22,000	0	14,938		4,051			89,116,201
30-34	0.854		30,000	0	25,620		5,095			152,842,218
35-39	0.932		33,000	0	30,756		5,560			183,482,251
40-44	1.023		37,000	0	37,851		6,103			225,809,165
45-49	1.189	1.189	40,000	7,000	47,560	8,323	7,093	\$ 7,093	<b>\$ 7,345</b>	335,145,928
50-54	1.468	1.688	42,000	20,000	61,656	33,760	8,758	10,070	<b>10,322</b>	574,262,804
55-59	1.790	2.059	36,000	26,000	64,440	53,534	10,679	12,283	<b>12,535</b>	710,348,703
60-64	2.207	2.538	23,000	34,000	50,761	86,292	13,166	15,141	<b>15,393</b>	826,183,389
65-69	2.745		8,000	0	21,960		16,376			131,007,616
70-74	3.313		2,000	0	6,626		19,764			39,528,983
75-79	3.891		0	0	0		23,213			0
80-84	4.471		0	0	0		26,673			0
85+	5.136		0	0	0		30,640			0
total			435,000	94,000	447,840	185,581				\$ 3,778,824,000
					Combined total = <b>633,421</b>					

**Step #3** is only necessary if the actuary needs to split each retiree per capita cost into its components of premium and implicit subsidy. One common situation for which that split is needed is when the retiree self-pay is expressed as a percentage of premium. For the example above, the average annual premium per retired member (subscriber or spouse) is \$8,442 = [\$734,424,000 retiree aggregate premium] / [51,000 retired subscribers plus 36,000 spouses]. Subtracting that average per capita premium from the retiree per capita costs developed above yields the following table:

Age	Retiree Per Capita Annual Cost	Retiree Per Capita Annual Premium	Excess of Cost over Premium = Per Capita Annual Implicit Subsidy
45-49	\$ 7,345	\$ 8,442	\$ (1,097)
50-54	10,322	8,442	1,880
55-59	12,535	8,442	4,093
60-64	15,393	8,442	6,951

The above development of per capita implicit subsidy would also be needed if the actuary had to provide a participating employer's *aggregate* implicit subsidy as part of that employer's accounting disclosures for a given year. The product of an example employer's retiree member counts (as averaged over the year) and the above per capita table yields the following table of employer-specific aggregate amounts. If the employer in this example subsidized 100% of retiree premiums, then its aggregate annual cash subsidy benefit payment would be \$15,195,600 while its aggregate annual implicit subsidy benefit payment is \$8,756,700. An amendment that reduces the employer-paid portion of retiree premiums would lower only the employer's cash subsidy benefit payment, as its implicit subsidy benefit payment is always considered to be 100% employer-paid.<sup>33</sup>

Age	Example Employer's Retiree Member Count	Employer's Retiree Aggregate Annual Cost	Employer's Retiree Aggregate Annual Premium	Excess of Cost over Premium = Aggregate Annual Implicit Subsidy
45-49	100	\$ 734,500	\$ 844,200	\$ (109,700)
50-54	300	3,096,600	2,532,600	564,000
55-59	500	6,267,500	4,221,000	2,046,500
60-64	<u>900</u>	<u>13,853,700</u>	<u>7,597,800</u>	<u>6,255,900</u>
total	1,800	\$ 23,952,300	\$ 15,195,600	\$ 8,756,700

<sup>33</sup> The implicit subsidy is generally due to retiree per capita claims being higher than active per capita claims, which is not adequately reflected in premiums. For some situations and some purposes, it may be appropriate for the employer to reduce its portion of active premiums and increase its portion of retiree premiums by the aggregate implicit subsidy in order to be consistent with the actuarial valuation results.

## APPENDIX A—METHODOLOGY EXAMPLE #2

### Medicare Retirees in Separate Pool From Non-Medicare Actives/Retirees <sup>31</sup>

Consider a pooled health plan that covers active employees/spouses/children and non-Medicare retirees/spouses/children, plus a separate pooled health plan for Medicare retirees/spouses. Upon the actuary's request, these hypothetical plans have provided the following split of member counts by status type, coverage tier, and member type.

Coverage Tier		Non-Medicare Pool Counts				Medicare Pool Counts		
		Subscriber	Spouse	Children	All	Subscriber	Spouse	All
Actives	Subscriber Only	100,000	0	0	100,000			
	Subscriber + One	75,000	73,000	2,000	150,000			
	Subscriber + Family	<u>50,000</u>	<u>47,000</u>	<u>88,000</u>	<u>185,000</u>			
	Total	225,000	120,000	90,000	435,000			
Retirees	Subscriber Only	14,000	0	0	14,000	35,000	0	35,000
	Subscriber + One	32,000	31,000	1,000	64,000	34,000	34,000	68,000
	Subscriber + Family	<u>5,000</u>	<u>5,000</u>	<u>6,000</u>	<u>16,000</u>	<u>0</u>	<u>0</u>	<u>0</u>
	Total	51,000	36,000	7,000	94,000	69,000	34,000	103,000

In addition, these hypothetical pooled health plans have provided (or the actuary has assumed) the following split of member counts and relative value factors by status type and by five-year age brackets.

Age	Relative Value Factor (RVF) <sup>32</sup>		Pool-Wide Member Counts	
	Active	Retiree	Active	Retiree
under 20	0.534	0.534	124,000	4,000
20-24	0.512	0.512	38,000	3,000
25-29	0.679		22,000	0
30-34	0.854		30,000	0
35-39	0.932		33,000	0
40-44	1.023		37,000	0
45-49	1.189	1.189	40,000	7,000
50-54	1.468	1.688	42,000	20,000
55-59	1.790	2.059	36,000	26,000
60-64	2.207	2.538	23,000	34,000
65-69	2.745	0.919	8,000	38,000
70-74	3.313	1.035	2,000	30,000
75-79	3.891	1.104	0	16,000
80-84	4.471	1.130	0	10,000
85+	5.136	1.083	0	9,000
total			435,000	197,000

For this particular example, one possible approach to develop age-specific retiree per capita claims costs can be described in the following three steps.

**Step #1** is to multiply subscriber counts by the current premium rates, then sum across all status types and coverage tiers to get a combined active/retiree “aggregate annual premium” of about \$3.778 billion for non-Medicare actives/retirees and \$0.617 billion for Medicare retirees, as shown below.

	Coverage Tier	Subscriber Count	Monthly Premium	Count x Premium x 12 = Aggregate Annual Premium
Actives	Subscriber Only	100,000	\$ 628	\$ 753,600,000
	Subscriber + One	75,000	1,360	1,224,000,000
	Subscriber + Family	<u>50,000</u>	1,778	<u>1,066,800,000</u>
	Total	225,000		\$ 3,044,400,000
Non-Medicare Retirees	Subscriber Only	14,000	\$ 628	\$ 105,504,000
	Subscriber + One	32,000	1,360	522,240,000
	Subscriber + Family	<u>5,000</u>	1,778	<u>106,680,000</u>
	Total	51,000		\$ 734,424,000
<b>Actives + Non-Medicare Retirees</b>				<b>\$ 3,778,824,000</b>
Medicare Retirees	Subscriber Only	35,000	\$ 498	\$ 209,160,000
	Subscriber + One	34,000	1,000	408,000,000
	Subscriber + Family	<u>0</u>	1,300	<u>0</u>
	Total	69,000		\$ 617,160,000

**Step #2** is to distribute the aggregate annual premium by completing the following columns in the tables on the next page:

- *Column [A]* = Product of relative value factors and member counts: Sum this product across all age brackets and status types to get a non-Medicare combined active/retiree total of 633,421 and a Medicare retiree total of 104,683.
- *Column [B]* = Unloaded Per Capita Annual Costs: For a given status type and age bracket, this will equal the type/bracket’s relative value factor multiplied by the ratio of [aggregate annual premium] over [total of the previous column]. For instance, the annual cost per non-Medicare retired member of age 50-54 is  $1.688 \times \$3,778,824,000 / 633,421 = \$10,070$ , while the annual cost per Medicare retired member of age 70-74 is  $1.035 \times \$617,160,000 / 104,683 = \$6,102$ .
- *Column [C]* = Per Capita Annual Retiree Costs With Child Load: This column is needed when the actuary’s valuation does not explicitly project costs for covered children of retirees, so that the costs of such children must be loaded onto adult retiree/spouse costs. Here that means increasing each adult non-Medicare retiree/spouse cost from the previous column by a flat child load of approximately \$252, calculated as [children cost of \$21.9 million =  $(4,000 \times \$3,186) + (3,000 \times \$3,054)$ ] divided by [51,000 non-Medicare retirees + 36,000 non-Medicare spouses].

- *Column [D]* = Pool's Annual Aggregate Cost: As a check, multiply member counts by per capita annual costs (with child load for non-Medicare), then sum across all age brackets and status types to get a non-Medicare combined active/retiree total cost of \$3.778 billion and a Medicare total cost of \$0.617 billion, same as the original aggregate annual premiums.

***Non-Medicare Active/Retiree Pool***

Age	Relative Value Factor (RVF) <sup>32</sup>		Pool-Wide Member Counts		<i>Column [A]</i> RVF x Member Counts		<i>Column [B]</i> Unloaded Per Capita Annual Costs (PCC)		<i>Col [C]</i> PCC with Child Load	<i>Column [D]</i> Pool's Annual Aggregate Cost
	Active	Retiree	Active	Retiree	Active	Retiree	Active	Retiree	Retiree	
under 20	0.534	0.534	124,000	4,000	66,216	2,136	\$ 3,186	\$ 3,186		\$ 395,027,336
20-24	0.512	0.512	38,000	3,000	19,456	1,536	3,054	3,054		116,069,407
25-29	0.679		22,000	0	14,938		4,051			89,116,201
30-34	0.854		30,000	0	25,620		5,095			152,842,218
35-39	0.932		33,000	0	30,756		5,560			183,482,251
40-44	1.023		37,000	0	37,851		6,103			225,809,165
45-49	1.189	1.189	40,000	7,000	47,560	8,323	7,093	\$ 7,093	<b>\$ 7,345</b>	335,145,928
50-54	1.468	1.688	42,000	20,000	61,656	33,760	8,758	10,070	<b>10,322</b>	574,262,804
55-59	1.790	2.059	36,000	26,000	64,440	53,534	10,679	12,283	<b>12,535</b>	710,348,703
60-64	2.207	2.538	23,000	34,000	50,761	86,292	13,166	15,141	<b>15,393</b>	826,183,389
65-69	2.745		8,000	0	21,960		16,376			131,007,616
70-74	3.313		2,000	0	6,626		19,764			39,528,983
75-79	3.891		0	0	0		23,213			0
80-84	4.471		0	0	0		26,673			0
85+	5.136		0	0	0		30,640			0
total			435,000	94,000	447,840	185,581				\$ 3,778,824,000

Combined total =  
**633,421**

***Medicare Retiree Pool***

Age	Relative value factor (RVF)	Pool-Wide Member Counts	<i>Column [A]</i> RVF x Member Counts	<i>Column [B]</i> Unloaded Per Capita Annual Costs (PCC)		<i>Column [D]</i> Pool's Annual Aggregate Cost
	<u>Retiree</u>	<u>Retiree</u>	<u>Retiree</u>	<u>Retiree</u>		
65-69	0.919	38,000	34,922	<b>\$ 5,418</b>		205,883,109
70-74	1.035	30,000	31,050	<b>6,102</b>		183,055,682
75-79	1.104	16,000	17,664	<b>6,509</b>		104,138,344
80-84	1.130	10,000	11,300	<b>6,662</b>		66,619,298
85+	1.083	9,000	9,747	<b>6,385</b>		57,463,566
total		103,000	104,683			\$ 617,160,000

**Step #3** is only necessary if the actuary needs to split each retiree per capita cost into its components of premium and implicit subsidy. One common situation for which that split is needed is when the retiree self-pay is expressed as a percentage of premium. For the example above, the average annual premium per non-Medicare retired member (subscriber or spouse) is \$8,442 = [\$734,424,000 retiree aggregate premium] / [51,000 subscribers plus 36,000 spouses], while the average annual premium per Medicare retired member (subscriber or spouse) is \$5,992 = [\$617,160,000 retiree aggregate premium] / [69,000 subscribers plus 34,000 spouses]. Subtracting those average per capita premiums from the retiree per capita costs developed above yields the following table:

Age	Retiree Per Capita Annual Cost	Retiree Per Capita Annual Premium	Excess of Cost over Premium = Per Capita Annual Implicit Subsidy
45-49	\$ 7,345	\$ 8,442	\$ (1,097)
50-54	10,322	8,442	1,880
55-59	12,535	8,442	4,093
60-64	15,393	8,442	6,951
65-69	5,418	5,992	(574)
70-74	6,102	5,992	110
75-79	6,509	5,992	517
80-84	6,662	5,992	670
85+	6,385	5,992	393

The above development of per capita implicit subsidy would also be needed if the actuary had to provide a participating employer's *aggregate* implicit subsidy as part of that employer's accounting disclosures for a given year. The product of an example employer's retiree member counts (as averaged over the year) and the above per capita table yields the following table of employer-specific aggregate amounts. If the employer in this example subsidized 100% of retiree premiums, then its aggregate annual cash subsidy benefit payment would be \$21,786,800 while its aggregate annual implicit subsidy benefit payment is \$8,769,800.<sup>33</sup>

Age	Example Employer's Retiree Member Count	Employer's Retiree Aggregate Annual Cost	Employer's Retiree Aggregate Annual Premium	Excess of Cost over Premium = Aggregate Annual Implicit Subsidy
45-49	100	\$ 734,500	\$ 844,200	\$ (109,700)
50-54	300	3,096,600	2,532,600	564,000
55-59	500	6,267,500	4,221,000	2,046,500
60-64	900	13,853,700	7,597,800	6,255,900
65-69	400	2,167,200	2,396,800	(229,600)
70-74	300	1,830,600	1,797,600	33,000
75-79	200	1,301,800	1,198,400	103,400
80-84	100	666,200	599,200	67,000
85+	<u>100</u>	<u>638,500</u>	<u>599,200</u>	<u>39,300</u>
total	2,900	\$ 30,556,600	\$ 21,786,800	\$ 8,769,800

## Appendix A—METHODOLOGY EXAMPLE #3

### Medicare Retirees Mixed Into Same Pool as Non-Medicare Actives/Retirees <sup>31</sup>

Consider a pooled health plan that covers active employees/spouses/children, non-Medicare retirees/spouses/children, and Medicare retirees/spouses. Upon the actuary's request, this hypothetical plan has provided the following split of member counts by status type, coverage tier, and member type.

Coverage Tier		Pool-Wide Member Counts			
		Subscriber	Spouse	Children	All
Actives	Subscriber Only	100,000	0	0	100,000
	Subscriber + One	75,000	73,000	2,000	150,000
	Subscriber + Family	<u>50,000</u>	<u>47,000</u>	<u>88,000</u>	<u>185,000</u>
	Total	225,000	120,000	90,000	435,000
Non-Medicare & Medicare Retirees	Subscriber Only	49,000	0	0	49,000
	Subscriber + One	66,000	65,000	1,000	132,000
	Subscriber + Family	<u>5,000</u>	<u>5,000</u>	<u>6,000</u>	<u>16,000</u>
	Total	120,000	70,000	7,000	197,000

In addition, this hypothetical pooled health plan has provided (or the actuary has assumed) the following split of member counts and of relative value factors by status type and by five-year age brackets.

Age	Relative Value Factor (RVF) <sup>32</sup>		Pool-Wide Member Counts	
	Active	Retiree	Active	Retiree
under 20	0.534	0.534	124,000	4,000
20-24	0.512	0.512	38,000	3,000
25-29	0.679		22,000	0
30-34	0.854		30,000	0
35-39	0.932		33,000	0
40-44	1.023		37,000	0
45-49	1.189	1.189	40,000	7,000
50-54	1.468	1.688	42,000	20,000
55-59	1.790	2.059	36,000	26,000
60-64	2.207	2.538	23,000	34,000
65-69	2.745	0.919	8,000	38,000
70-74	3.313	1.035	2,000	30,000
75-79	3.891	1.104	0	16,000
80-84	4.471	1.130	0	10,000
85+	5.136	1.083	0	9,000
total			435,000	197,000

For this particular example, one possible approach to develop age-specific retiree per capita claims costs can be described in the following three steps.

**Step #1** is to multiply subscriber counts by the current premium rates, then sum across all status types and coverage tiers to get a combined active/retiree “aggregate annual premium” of about \$4.394 billion as shown below.

	Coverage Tier	Subscriber Count	Monthly Premium	Count x Premium x 12 = Aggregate Annual Premium
Actives	Subscriber Only	100,000	\$ 600	\$ 720,000,000
	Subscriber + One	75,000	1,300	1,170,000,000
	Subscriber + Family	<u>50,000</u>	1,700	<u>1,020,000,000</u>
	Total	225,000		\$ 2,910,000,000
Non-Medicare & Medicare Retirees	Subscriber Only	49,000	\$ 600	\$ 352,800,000
	Subscriber + One	66,000	1,300	1,029,600,000
	Subscriber + Family	<u>5,000</u>	1,700	<u>102,000,000</u>
	Total	120,000		\$ 1,484,400,000
<b>Actives + Retirees</b>				<b>\$ 4,394,400,000</b>

**Step #2** is to distribute the aggregate premium by completing the following columns in the table below:

- *Column [A]* = Product of relative value factors and member counts: Sum this product across all age brackets and status types to get a combined active/retiree total of 738,104.
- *Column [B]* = Unloaded Per Capita Annual Costs: For a given status type and age bracket, this will equal the type/bracket's relative value factor multiplied by the ratio of [\$4.394 billion aggregate annual premium] over [738,104 combined total of the previous column]. For instance, the unloaded annual cost per retired member (subscriber or spouse) of age 50-54 is calculated as  $1.688 \times \$4,394,400,000 / 738,104 = \$10,050$ .
- *Column [C]* = Per Capita Annual Retiree Costs With Child Load: This column is needed when the actuary's valuation does not explicitly project costs for covered children of retirees, so that the costs of such children must be loaded onto adult retiree/spouse costs. Here that means increasing each adult non-Medicare retiree/spouse cost from the previous column by a flat child load of approximately \$251, calculated as [children cost of \$21.8 million = (4,000 x \$3,179) + (3,000 x \$3,048)] divided by [87,000 non-Medicare retirees/spouses].
- *Column [D]* = Pool's Annual Aggregate Cost: As a check, multiply member counts by per capita annual costs, then sum across all age brackets and status types to get a combined active/retiree total cost of \$4.394 billion, same as the original annual aggregate premium.

Age	Relative Value Factor (RVF) <sup>32</sup>		Pool-Wide Member Counts		<i>Column [A]</i> RVF x Member Counts		<i>Column [B]</i> Unloaded Per Capita Annual Costs (PCC)		<i>Col [C]</i> PCC with Child Load	<i>Column [D]</i> Pool's Annual Aggregate Cost
	Active	Retiree	Active	Retiree	Active	Retiree	Active	Retiree	Retiree	
under 20	0.534	0.534	124,000	4,000	66,216	2,136	\$ 3,179	\$ 3,179		\$ 394,225,733
20-24	0.512	0.512	38,000	3,000	19,456	1,536	3,048	3,048		115,833,875
25-29	0.679		22,000	0	14,938		4,043			88,935,363
30-34	0.854		30,000	0	25,620		5,084			152,532,066
35-39	0.932		33,000	0	30,756		5,549			183,109,923
40-44	1.023		37,000	0	37,851		6,091			225,350,946
45-49	1.189	1.189	40,000	7,000	47,560	8,323	7,079	\$ 7,079	<b>\$ 7,330</b>	334,465,838
50-54	1.468	1.688	42,000	20,000	61,656	33,760	8,740	10,050	<b>10,301</b>	573,097,490
55-59	1.790	2.059	36,000	26,000	64,440	53,534	10,657	12,259	<b>12,510</b>	708,907,240
60-64	2.207	2.538	23,000	34,000	50,761	86,292	13,140	15,110	<b>15,362</b>	824,506,870
65-69	2.745	0.919	8,000	38,000	21,960	34,922	16,343	<b>5,471</b>		338,654,527
70-74	3.313	1.035	2,000	30,000	6,626	31,050	19,724	<b>6,162</b>		224,309,060
75-79	3.891	1.104	0	16,000	0	17,664	23,166	<b>6,573</b>		105,164,965
80-84	4.471	1.130	0	10,000	0	11,300	26,619	<b>6,728</b>		67,276,048
85+	5.136	1.083	0	9,000	0	9,747	30,578	<b>6,448</b>		58,030,056
total			435,000	197,000	447,840	290,264				\$ 4,394,400,000
					Combined total = <b>738,104</b>					

**Step #3** is only necessary if the actuary needs to split each retiree per capita cost into its components of premium and implicit subsidy. One common situation for which that split is needed is when the retiree self-pay is expressed as a percentage of premium. For the example above, the average annual premium per retired member (subscriber or spouse) is \$7,813 = [\$1,484,400,000 retiree aggregate premium] / [120,000 subscribers plus 70,000 spouses]. Subtracting that average per capita premium from the retiree per capita costs developed above yields the following table:

Age	Retiree Per Capita Annual Cost	Retiree Per Capita Annual Premium	Excess of Cost over Premium = Per Capita Annual Implicit Subsidy
45-49	\$ 7,330	\$ 7,813	\$ (483)
50-54	10,301	7,813	2,488
55-59	12,510	7,813	4,697
60-64	15,362	7,813	7,549
65-69	5,471	7,813	(2,342)
70-74	6,162	7,813	(1,651)
75-79	6,573	7,813	(1,240)
80-84	6,728	7,813	(1,085)
85+	6,448	7,813	(1,365)

The above development of per capita implicit subsidy would also be needed if the actuary had to provide a participating employer's *aggregate* implicit subsidy as part of that employer's accounting disclosures for a given year. The product of an example employer's retiree member counts (as averaged over the year) and the above per capita table yields the following table of employer-specific aggregate amounts. If the employer in this example subsidized 100% of retiree premiums, then its aggregate annual cash subsidy benefit payment would be \$22,657,700 while its aggregate annual implicit subsidy benefit payment is \$7,915,600. An amendment which reduces the employer-paid portion of retiree premiums would lower only the employer's cash subsidy benefit payment, as its implicit subsidy benefit payment is always considered to be 100% employer-paid.<sup>33</sup>

Age	Example Employer's Retiree Member Count	Employer's Retiree Aggregate Annual Cost	Employer's Retiree Aggregate Annual Premium	Excess of Cost over Premium = Aggregate Annual Implicit Subsidy
45-49	100	\$ 733,000	\$ 781,300	\$ (48,300)
50-54	300	3,090,300	2,343,900	746,400
55-59	500	6,255,000	3,906,500	2,348,500
60-64	900	13,825,800	7,031,700	6,794,100
65-69	400	2,188,400	3,125,200	(936,800)
70-74	300	1,848,600	2,343,900	(495,300)
75-79	200	1,314,600	1,562,600	(248,000)
80-84	100	672,800	781,300	(108,500)
85+	100	644,800	781,300	(136,500)
total	2,900	\$ 30,573,300	\$ 22,657,700	\$ 7,915,600

## APPENDIX B—BRIEF HISTORY OF U.S. PROFESSIONAL STANDARDS FOR RETIREE GROUP HEALTH BENEFIT VALUATIONS

Over the past several decades, U.S. actuaries have been developing actuarial projections for retiree group health benefits. Unlike projections of retirement income benefits, projections of retiree group health benefits involve assumptions for initial claims costs, health care trend, election of coverage, and other health-related considerations. Claims costs are used to value the benefit received by the eligible retiree or dependent. Claims cost development is based on claims experience and demographic data in a way that recognizes any implicit subsidy from an active group of employees to the retiree group, as well as subsidies from one group to another in situations involving pooled health plans.

### ***ASOP No. 6 (1988)***

In recognition of the growing number of actuaries practicing in the area of retiree group health benefit valuations, ASOP No. 6 was originally adopted by the Actuarial Standards Board (ASB) in October 1988. Because this was an emerging practice, the standard provided a high degree of flexibility in its guidance. This initial version of the ASOP stressed that the benefit costs used in the valuation process “*may be the most important assumption in the cost projection.*”<sup>34</sup> The standard also stated that the actuary should consider using age-specific and sex-specific morbidity.

### ***SFAS No. 106 (1990), ACG No. 3 (1992), and SFAS 106 Implementation Guide (1993)***

In December 1990, the Financial Accounting Standards Board (FASB) released its much-anticipated accounting standard for postretirement benefits other than pensions: Statement of Financial Accounting Standard (SFAS) No. 106. The new accounting standard required companies that are complying with generally accepted accounting principles (GAAP) and sponsoring postretirement benefits to recognize their obligation during the working lifetime of employees rather than on a pay-as-you-go basis (i.e., costs incurred while retired). The key objective of this accounting standard was to require private-sector employers to reflect some measure of the future benefits on their financial statements. The standard recognized that this was a developing actuarial practice.

In response to SFAS No. 106, Actuarial Compliance Guideline (ACG) No. 3, “*For Statement of Financial Accounting Standards No. 106, Employers’ Accounting for Postretirement Benefits Other Than Pensions,*” was adopted by the ASB in October 1992. This guideline was written with a great deal of detail and with a high level of educational content. Pooled health plans were then addressed in question #11 of the 1993 SFAS 106 Implementation Guide:

*“For a plan that stipulates that the benefit to be provided is the payment of retirees’ health care claims, the cost of premiums for insurance that an employer expects to purchase to finance its obligation may be used to measure the obligation if it produces a reasonable estimate of the future cost of benefits covered by the plan. In some situations, such as in a community-rated*

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<sup>34</sup> Actuarial Standard of Practice No. 6 (Doc. No. 008), section 5.4.1.

*insurance plan that provides the type of benefits covered by the employer's plan and in which the premium cost to the employer is based on the experience of all participating employers, the claims experience of a single employer generally will have little impact on its premiums. Accordingly, in those situations a projection of future premiums based on the current premium structure and expected changes in the general level of health care costs may provide a reasonable estimate of the employer's obligation."*

As indicated by the above quote, SFAS 106 originally gave permission to certain employers in a pooled health plan to have their obligation valued using the plan's current premium structure without adjustments for the employer's own experience and without development of age-specific retiree costs. Private-sector health actuaries were subsequently bound by the first and second revisions of ASOP No. 6 to reconsider that initial FASB advice.

### ***ASOP No. 6, First Revision (2001)***

A revision of ASOP No. 6 was adopted by the ASB in December 2001. This version superseded both the original ASOP No. 6 and ACG No. 3. During the 1990s, the design and practice of measuring retiree group benefit obligations evolved from simplified valuation methods to more robust approaches. This revision of ASOP No. 6 was written to provide further guidance in appropriate methods. It included a section (3.4.7) stating that the actuary should consider the variation in rates by age for the benefits being modeled and to use appropriate age bands if the rates vary significantly. It stressed that using a single per capita rate that does not vary by age is not appropriate if health care costs vary significantly by age.

Appendix 1 discussed the use of just two rates (rates for pre-Medicare retirees and Medicare retirees) and indicated that such an approach was too simplified and could produce misleading results. Appendix 2 included a high-level discussion of the various types of premium rates and the appropriateness of their use in developing per capita costs. This 2001 revision provided for a rare exception when the actuary could use a single premium rate (unadjusted for age) which is applicable to both actives and non-Medicare-eligible retirees. Section 3.4.5 included the following guidance:

*"The actuary should consider that the actual cost of health insurance varies by age (see section 3.4.7), but the premium rates paid by the plan sponsor may not. For example, the actuary may use a single unadjusted premium rate applicable to both active employees and non-Medicare-eligible retirees if the actuary has determined that the insurer would offer the same premium rate if only non-Medicare-eligible retirees were covered."*

## **GASBS No. 43/45 (2004)**

In June 2004, the Governmental Accounting Standards Board (GASB) approved a set of accounting standards applicable to “other postemployment benefits” (OPEBs) in its Governmental Accounting Standards Board Statement (GASBS) No. 43 and No. 45.<sup>35</sup> For the first time, these standards required some measure of an OPEB liability to be displayed in the financial statements for governmental entities that are complying with GAAP. It also explicitly referenced actuarial standards. The portion of GASBS No. 45 relevant to pooled health plans is paragraph 13(a)(2) and associated footnotes:

*“When an employer provides benefits to both active employees and retirees through the same plan, the benefits to retirees should be segregated for actuarial measurement purposes, and the projection of future retiree benefits should be based on claims costs, or age-adjusted premiums approximating claims costs, for retirees, in accordance with actuarial standards issued by the Actuarial Standards Board.<sup>8</sup> However, when an employer participates in a community-rated plan, in which premium rates reflect the projected health claims experience of all participating employers rather than that of any single participating employer, and the insurer or provider organization charges the same unadjusted premiums for both active employees and retirees, it is appropriate to use the unadjusted premiums as the basis for projection of retiree benefits, to the extent permitted by actuarial standards.<sup>9</sup>*

<sup>8</sup>See *Actuarial Standard of Practice No. 6 (ASOP 6), Measuring Retiree Group Benefit Obligations*, revised edition (Washington, DC: Actuarial Standards Board, December 2001), or its successor documents.

<sup>9</sup>ASOP 6, as revised in December 2001, discusses the issue as follows: *Use of Premium Rates – Although an analysis of the plan sponsor’s actual claims experience is preferable, the actuary may use premium rates as the basis for initial per capita health care rates, with appropriate analysis and adjustment for the premium rate basis. The actuary who uses premium rates for this purpose should adjust them for changes in benefit levels, covered population, or program administration. The actuary should consider that the actual cost of health insurance varies by age ..., but the premium rates paid by the plan sponsor may not. For example, the actuary may use a single unadjusted premium rate applicable to both active employees and non-Medicare eligible retirees if the actuary has determined that the insurer would offer the same premium rate if only non-Medicare-eligible retirees were covered. [paragraph 3.4.5]*”

## **FASB Codification (2009)**

After a five-year project, the FASB established a new codification system that took all existing accounting topics and placed them in one spot. The system includes all statements of accounting, interpretations, and implementation guides. All topics related to SFAS 106 are included in *Accounting Standards Codification* Topic 715 Subtopic 60 “Compensation – Retirement Benefits: Defined Benefit Plans – Other Postretirement” (ASC 715-60).

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<sup>35</sup> GASBS No. 43, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans* and No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*.

The text and response for question #11 of the 1993 SFAS 106 Implementation Guide (cited above) was retained verbatim and referenced in FASB ASC 715-60-55-7 as current guidance. The FASB paragraph that defines “assumed per capita claims cost by age” may be found in ASC 715-60-20. That definition is then referenced, for example, in paragraphs 73, 93, and 94 of ASC 715-60-35, all of which identify age-rating as the principal or default method for setting per capita claims costs.

### ***ASOP No. 6, Second Revision (2014)***

The current version of ASOP No. 6 was adopted by the ASB in May 2014 with an effective date for full valuations with a measurement date after March 31, 2015. This version reflected the emerging practice since the 2001 version was released. The discussion of age-specific costs was significantly expanded over the prior version. In this latest version, section 3.7.7 states that the actuary should use age-specific costs in the projection of future benefit plan costs except in some very limited cases. It also stresses that pooled health plan valuations are subject to the same use of age-specific costs.

### ***GASBS No. 74/75 (2015)***

In June 2015, the GASB approved a revised set of accounting standards applicable to OPEBs in its GASBS No. 74 and No. 75.<sup>36</sup> GASBS No. 75 generally requires the Net OPEB Liability to be included on the face of the financial statement and in note disclosures of financial statements for governmental entities that are complying with GAAP. Shown below are the two paragraphs of GASBS No. 75 that are most relevant to pooled health plans.

*Paragraph 29: Unless otherwise specified by this Statement, the selection of all assumptions used in determining the Total OPEB Liability should be made in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board. For this purpose, a deviation, as the term is used in Actuarial Standards of Practice, from the guidance in an Actuarial Standard of Practice should not be considered to be in conformity with the requirement in this paragraph.*

*Paragraph 33: Projected benefit payments should be based on claims costs, or age-adjusted premiums approximating claims costs, in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board. For this purpose, a deviation, as the term is used in Actuarial Standards of Practice, from the guidance in an Actuarial Standard of Practice should not be considered to be in conformity with the requirement in this paragraph.*

### ***Current State of the Practice***

The ASB, FASB, and GASB professional standards for retiree group health benefit valuations now call upon actuaries to use age-specific retiree per capita claims costs, unless the actuary discloses and supports one of the exceptions listed in section 3.7.7(c) of ASOP No. 6. As stated in the ABCD’s formal guidance of November 24, 2015, the ABCD will carefully scrutinize the reasoning and

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<sup>36</sup> GASBS No. 74, *Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans* and No. 75, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*.

rationale behind the use of any other methodology. GASBS No. 75 in particular states that any deviation from an ASOP is not in compliance with the accounting standard.

## APPENDIX C—COMMON TERMS

The following terms used in this practice note are restated from section 2 of ASOP No. 6, Definitions.

- **Actuarial Valuation**—The measurement of relevant retiree group benefits obligations and, when applicable, the determination of periodic costs or actuarially determined contributions.
- **Benefit Plan**—An arrangement providing medical, prescription drug, dental, vision, legal, death, long-term care, or other benefits (excluding retirement income benefits) to participants of the retiree group benefits program, whether on a reimbursement, indemnity, or service benefit basis.
- **Benefit Plan Member**—An individual covered by a benefit plan.
- **Covered Population**—Active and retired participants, participating dependents, and surviving dependents of participants who are eligible for benefit coverage under a retiree group benefits program. The covered population may also include contingent participants.
- **Dependents**—Individuals who are covered or may become covered under a retiree group benefits program by virtue of their relationship to an active or retired participant.
- **Measurement Date**—The date as of which the values of the retiree group benefits obligation and, if applicable, the assets are determined (sometimes referred to as the “valuation date”).
- **Measurement Period**—The period subsequent to the measurement date during which the chosen assumptions or other model components will apply. The period often ends at the time the last participant is expected to receive the final benefit.
- **Participant**—An individual who (a) is currently receiving benefit coverage under a retiree group benefits program, (b) is reasonably expected to receive benefit coverage under a retiree group benefits program upon satisfying its eligibility and participation requirements, or (c) is a dependent of an individual described in (a) or (b).
- **Participant Contributions**—Payments made by a participant to a retiree group benefits program.
- **Plan Sponsor**—An organization that establishes or maintains a retiree group benefits program. Examples of plan sponsors include employers and Taft-Hartley Boards of Trustees.
- **Premium**—The price charged by a risk-bearing entity, such as an insurance or managed care company, to provide risk coverage.
- **Prescribed Assumption or Method Set by Law**—A specific assumption or method that is mandated or that is selected from a specified range or set of assumptions or methods that is deemed to be acceptable by applicable law (statutes, regulations, and other legally binding authority). For this purpose, an assumption or method set by a governmental entity for a retiree

group benefits program, which such governmental entity or a political subdivision of that entity directly or indirectly sponsors, is not deemed to be a prescribed assumption or method set by law.

- Retiree Group Benefits—Medical, prescription drug, dental, vision, legal, death, long term care, or other benefits (excluding retirement income benefits) that are provided during retirement to a group of individuals, on account of an employment relationship.
- Retiree Group Benefits Program—The program specifying retiree group benefits, including eligibility requirements, participant contributions, and the design of the benefits being provided.
- Surviving Dependent—A dependent who qualifies as a participant under the retiree group benefits program following the death of the associated participant.
- Trend—A measure of the rate of change, over time, of the per capita benefit payments.