

2023

Public
Employees
Benefits
Board

Other
Postemployment
Benefits

Demographic
Experience Study



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2023 PEBB OPEB Demographic Experience Study

ACKNOWLEDGEMENTS

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Letter of Introduction and Actuarial Certification



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LETTER OF INTRODUCTION AND ACTUARIAL CERTIFICATION

PEBB OPEB DEMOGRAPHIC EXPERIENCE STUDY

May 2023

This report documents the results of a demographic experience study of the Public Employees Benefits Board (PEBB) Other Postemployment Benefits (OPEB) medical and dental plans. The primary purpose of this study is to determine if any adjustments are required to ensure our demographic assumptions remain a reasonable estimate of future PEBB experience. This study also serves to establish assumptions for information we will no longer receive from the Health Care Authority (HCA) under our new Data Sharing Agreement (DSA). This report should only be used in support of the [PEBB OPEB valuations and online tools](#).

For information on the PEBB OPEB economic assumptions, please see our [most current PEBB OPEB report](#).

We organized this report into two sections:

1. **Executive Summary**, which provides a high-level overview of the study results and methodologies, and
2. **Assumptions**, which details our analysis for each assumption.

To study the assumptions, we relied on the same data used for PEBB OPEB valuations. This data came primarily from HCA, with the Department of Retirement Systems (DRS) providing additional data. We focused our analysis on retirees who were employed by the state of Washington, consistent with our PEBB OPEB valuations. An audit of the data was not performed. Unless noted otherwise, we relied on all data provided as complete and accurate.

While we examined several years of data, we relied most heavily on the data since 2017. Data prior to 2017 was less precise than the recent data (e.g., pre-2017 data did not separately identify a retiree from a surviving beneficiary record). These data limitations sometimes restricted our ability to monitor longer term trends. Please see the **Background on Data** subsection of the Executive Summary for further information regarding the PEBB data.

The results summarized in this report involve methods for analyzing experience data and setting new demographic assumptions. We believe the data, assumptions, and methods

used are reasonable and appropriate for the primary purpose stated above and are in conformity with Actuarial Standards of Practice as of the date of this publication. The use of another set of data, assumptions, and methods, however, could also be reasonable and could produce materially different results.

This analysis will become outdated with the release of our next PEBB OPEB demographic experience study. Please replace this report with our next report when available.

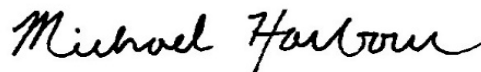
We encourage you to submit any questions you might have regarding this report to our office e-mail address at state.actuary@leg.wa.gov. We also invite you to visit our website (leg.wa.gov/osa) for further information regarding PEBB plans, including the calculation of the state's total OPEB liability.

The undersigned, with actuarial credentials, meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. While this report is intended to be complete, we are available to offer additional advice and explanations as needed.

Sincerely,



Luke Masselink, ASA, EA, MAAA
Senior Actuary



Michael T. Harbour, ASA, MAAA
Actuary

2023 PEBB OPEB Demographic Experience Study

A photograph of three people riding bicycles on a wooden bridge. In the foreground, a man with a beard and a light blue shirt is smiling. Behind him, a woman in a black tank top with a colorful graphic is also smiling. To her right, another woman in a pink tank top and denim shorts is riding a purple bicycle. The bridge has a metal railing and is surrounded by green trees. A large blue rectangular overlay is positioned on the right side of the image, containing the text 'Executive Summary' in white serif font.

Executive Summary

OUR APPROACH

For each assumption in this demographic experience study, we started our analysis by considering relevant data, the materiality of the assumption, and how much credible data was available. We then compiled the data and established study methods for each assumption. Where applicable, we evaluated how well our old demographic assumptions compared to actual experience. Finally, we used this data together with our expectations for the future and professional judgment to either update or create new assumptions, where necessary.

BACKGROUND ON DATA

To perform this demographic experience study, we relied on member and beneficiary data from past PEBB OPEB valuations. This data came primarily from HCA, though we did supplement it with DRS data for some analysis. This data is generally provided biennially, and it contains information on the state, K-12, and political subdivision populations that participate in PEBB. However, the focus of our PEBB OPEB valuations is on the state population only, which primarily reflects Washington State agencies and higher education employers. As such, we generally relied on state data to develop the assumptions found in this study.

For reference, below is a high-level demographic summary of the state population as of the [2020 PEBB OPEB Actuarial Valuation Report](#) (AVR), our most recent PEBB OPEB AVR. (A roll-forward valuation was performed as of 2021, but it relied on the same census data as the 2020 PEBB OPEB AVR.)

| 2020 State PEBB Demographic Summary | | |
|---|---------|---------|
| | Count | Avg Age |
| Actives* | 129,218 | 45 |
| Annuityants | 50,656 | 74 |
| Retirees and Surviving Spouses | 35,843 | 74 |
| Covered (Dependent) Spouses | 14,813 | 72 |
| <i>*Includes members who waived or did not select medical coverage, as they may be eligible for PEBB at retirement.</i> | | |

The scope and format of this data has changed over the years, with data fields being added, removed, or redefined. This is particularly true of data prior to the 2017 valuation, and for that reason, we focused on data since 2017 when setting the assumptions in this demographic experience study. We also did not rely on data from the 2022 valuation, because that data was still in draft form when we performed our analysis. However, where applicable, we did examine these datasets to further check the reasonableness of our assumptions.

These data limitations restricted our ability to monitor longer term trends and identify certain members in the historical data. For example, to study the Participation Percentage assumption, we must track active members over multiple valuations to capture their exit from active employment and see if they join PEBB. While most members who join PEBB do so immediately after they retire, some are able to defer coverage. By only relying on a few years of data, we do not have a long history to capture members who defer joining PEBB for several years after leaving active service. We were mindful of these limitations when setting our assumptions.

Additionally, to improve data security, our new DSA with HCA restricts the types of data fields HCA provides. For example, we will no longer receive Social Security Number or medical plan selection by individual. Future HCA valuation data will therefore look different due to these updated data security protocols. We will also no longer be able to cross reference the HCA data with DRS data. These changes led us to create new assumptions in this demographic experience study (e.g., the Medical/Dental Plan assumption). We will continue to request summarized data from HCA to assess the ongoing reasonableness of certain assumptions in the future.

SUMMARY OF ASSUMPTIONS

Below is a high-level summary of each assumption covered in this study. Please see the **Assumptions** section for additional information.

Participation Percentage Assumption

This assumption represents the portion of eligible active members who we expect will join PEBB after retiring. We lowered this assumption from 65 to 60 percent.

Medical/Dental Plan Assumption

This assumption represents the likelihood a PEBB member will elect a given medical or dental plan. This new assumption is now needed because we will no longer receive medical/dental plan selections by individual as a result of the new DSA.

We assumed a simplified distribution of medical plan coverage, depending on whether a member is eligible for Medicare. We also assumed all members receive dental coverage through the Uniform Dental Plan.

Retirement Plan Assumption

We assign a state retirement plan to all PEBB members, whether they participate in the state retirement systems or not. This assumption helps us estimate retirement eligibility criteria and future behavioral assumptions. This is a new assumption which is needed because we will no longer be able to cross-reference HCA and DRS data to determine members' retirement plans.

We assumed all PEBB members belong to the Public Employees' Retirement System (PERS) Plan 2.

Spousal Coverage Assumption

This assumption represents the percentage of future retirees who we expect will include their qualifying beneficiary (often the retiree's spouse) on their PEBB coverage.

We maintained our current assumption that 45 percent of all future retirees will include spousal coverage.

Age Difference Assumption

This assumption represents the difference in age between a retiree and their qualifying beneficiary (often the retiree's spouse).

For males, we maintained the old assumption that retirees are three years older than their beneficiary. For females, we assumed retirees are two years younger than their beneficiary, rather than our old assumption of one year younger.

PEBB Medicare Continuation Assumption

This assumption represents the percentage of pre-Medicare retirees who we expect will continue to participate in PEBB once they become eligible for Medicare.

We maintained the old assumption that all retirees will continue their PEBB coverage once they become Medicare eligible.

COBRA to PEBB Retiree Assumption

This assumption represents the percentage of members with Consolidated Omnibus Budget Reconciliation Act (COBRA) coverage who we expect will become PEBB retirees in the future.

We continue to assume no members with COBRA coverage become PEBB retirees in the future.

Accrued Service Assumption

This assumption represents the expected years of service credit a member has earned as of a given valuation date. Along with the Retirement Plan assumption, we use this to estimate how long an active member will work. This new assumption is needed because we will no longer be able to cross-reference HCA and DRS data to determine member accrued service.

We assumed a hire age of 35, as well as a minimum of one year of accrued service for all active members.

Percent Male/Female Assumption

This assumption represents the percentage of the PEBB population that is male versus female.

We maintained a 50 percent male and 50 percent female assumption.

2023 PEBB OPEB Demographic Experience Study

Assumptions



PARTICIPATION PERCENTAGE ASSUMPTION

WHAT IS THIS ASSUMPTION AND HOW DO WE USE IT?

The Participation Percentage assumption represents the portion of eligible active members we expect will join PEBB after retiring. We use this assumption to estimate the total OPEB liability of the active population. Of the assumptions included in this demographic experience study, Participation Percentage has the greatest impact on total OPEB liability.

DATA, ASSUMPTIONS, AND METHODOLOGY

We relied on data from past PEBB OPEB valuations to develop this assumption, calculating the percentage of members who leave active status after the age of 55 and elect to remain in PEBB. We chose to focus on the active population aged 55 and over, because most of these members are eligible to retire immediately. We then tracked these members through the 2020 valuation to account for any who may have delayed joining PEBB after retiring.

This approach assumes all members aged 55 and over are eligible to elect PEBB at retirement, however there is a minimum service requirement as well. Given we do not receive reliable accrued service amounts for all members, we instead relied entirely on age to determine eligibility. This will overestimate the eligible population and therefore undercalculate the actual participation percentage.

We have limited historical data, due to structural differences in the data prior to 2017. This restricts our ability to accurately capture members who delay joining PEBB for several years, e.g., those who terminate and retain their PEBB eligibility by having coverage under their spouse's healthcare policy (see the [Washington Administrative Code \[WAC\] 182-12-205](#)). We also can't distinguish between members who retire and decline PEBB from those who terminate or die. These limitations result in an underestimation of the true participation percentage. However, this data does include retirees who joined PEBB after first electing COBRA.

ANALYSIS

The following table estimates the Participation Percentage data by valuation year. We split this data based on the assumed Medicare age of 65.

Column (a) represents the number of active members aged 55 or older (i.e., those we assume had the ability to elect PEBB coverage upon retirement) who were not reported as active on the subsequent valuation file. Column (b) represents the number of people in column (a) who were reported as a PEBB retiree on or before the 2020 valuation file.

| Summary of Participation Percentage Data | | | |
|--|--|--|------------------------------------|
| Valuation Year | Number of Members who Leave Active Status by Next Valuation File (a) | Number Reported as PEBB Retiree by 2020 Valuation File (b) | Participation Percentage (b) / (a) |
| Age 55-64 | | | |
| 2017 | 4,568 | 1,882 | 41% |
| 2018 | 6,597 | 2,549 | 39% |
| Age 65+ | | | |
| 2017 | 2,231 | 1,386 | 62% |
| 2018 | 3,082 | 1,768 | 57% |
| Combined | | | |
| 2017 | 6,799 | 3,268 | 48% |
| 2018 | 9,679 | 4,317 | 45% |

The data shows a decline in the participation percentage, but as noted in the prior section, this data has limitations that likely under report the actual participation percentage. Additionally, while the data indicates a much lower participation percentage for those under the age of 65, this may be partially a result of our assumption that anyone 55 and older is eligible to retire. If we were able to identify and remove those members ineligible to retire, it would serve to increase the calculated participation percentage.

RESULTS

Based on the data and considerations above, we decreased the Participation Percentage assumption from 65 to 60 percent. This change was made to reflect the data above, which suggests a lower participation percentage than previously assumed, but also acknowledges that this data could under report the actual participation percentage. We believe a single assumption applied to all members eligible for retirement is reasonable and we will continue to monitor this assumption as part of future PEBB OPEB demographic experience studies.

MEDICAL/DENTAL PLAN ASSUMPTION

WHAT IS THIS ASSUMPTION AND HOW DO WE USE IT?

The Medical/Dental Plan assumption represents the probability that a PEBB member will participate in a given medical or dental plan. We use this assumption to assign a medical and dental plan to each PEBB member, since HCA will no longer be providing this information by individual. The medical and dental plan assignments inform the OPEB liability attributable to each member.

DATA, ASSUMPTIONS, AND METHODOLOGY

We relied on retiree data from past PEBB OPEB valuations to develop this assumption, examining the percentage of members who selected each medical and dental plan. This data was split based on the assumed Medicare age of 65.

As part of our analysis, we looked at reducing the number of assumed medical and dental plans for purposes of our valuation, particularly those with small membership numbers. We tested the impact from different assumption scenarios on the total OPEB liability and found that the liability associated with pre-Medicare plans reflects about 10 percent of the total OPEB liability. Therefore, modifying the plan assumption for pre-Medicare members has a smaller impact than modifying the assumption for Medicare members. Given this, we chose to simplify the pre-Medicare plan assumption relative to the reported data. The number of plans available to Medicare members is more limited, but we still looked for opportunities to streamline the number of plans we model where appropriate.

When reviewing historical data, we also noted that HCA reported some members without a medical or dental plan. If those members were included in past valuations, we placed them into a default plan based on a distribution of prior plan selections. We were unable to easily identify these members for purposes of studying this assumption, but we believe they comprise a small portion of the total membership.

ANALYSIS

The following tables summarize the Medical/Dental Plan data by valuation year.

Medical Plan Data

| Summary of Medical Plan Data (Pre-Medicare) | | | |
|---|--------------|--------------|--------------|
| Medical Plan | 2020 | 2018 | 2017 |
| Kaiser Permanente (KP) | 27.4% | 29.4% | 30.7% |
| WA Classic | 8.9% | 9.8% | 10.5% |
| WA CDHP | 2.0% | 1.9% | 1.8% |
| WA Value | 12.1% | 15.1% | 16.0% |
| WA Sound Choice | 3.2% | 1.3% | 0.9% |
| NW Classic | 1.0% | 1.1% | 1.3% |
| NW CDHP | 0.2% | 0.2% | 0.1% |
| Uniform Medical Plan (UMP) | 72.5% | 70.6% | 69.2% |
| Classic | 52.9% | 53.8% | 57.0% |
| CDHP | 7.7% | 6.5% | 5.8% |
| UW Med | 8.8% | 7.0% | 4.5% |
| Puget Sound | 3.1% | 3.3% | 1.9% |
| Total | 99.8% | 99.9% | 99.9% |

Note: Totals may not agree or sum to 100% due to rounding and the exclusion of plans with less than 0.1% membership.

| Summary of Medical Plan Data (Medicare) | | | |
|---|---------------|---------------|---------------|
| Medical Plan | 2020 | 2018 | 2017 |
| Kaiser Permanente | 30.0% | 31.1% | 31.2% |
| Uniform Medical Plan | 60.8% | 61.7% | 63.0% |
| Plan F / G* | 9.1% | 7.2% | 5.9% |
| Total | 100.0% | 100.0% | 100.0% |

Note: Totals may not agree due to rounding and the exclusion of plans with less than 0.1% membership.

*We grouped together Medicare Supplement Plans F and G, as these plans generally have similar coverages and costs. Plan F is only available to those who became Medicare-eligible before January 1, 2020.

Dental Plan Data

| Summary of Dental Plan Data (Pre-Medicare) | | |
|--|---------------|---------------|
| Medical Plan | 2020 | 2018 |
| Uniform Dental Plan | 77.1% | 77.9% |
| DeltaCare | 11.9% | 10.9% |
| Willamette Dental | 11.0% | 11.2% |
| Total | 100.0% | 100.0% |

Note: Totals may not agree due to rounding.
Dental plan data not available prior to 2018.

| Summary of Dental Plan Data (Medicare) | | |
|--|---------------|---------------|
| Medical Plan | 2020 | 2018 |
| Uniform Dental Plan | 91.6% | 91.9% |
| DeltaCare | 2.9% | 2.7% |
| Willamette Dental | 5.6% | 5.4% |
| Total | 100.0% | 100.0% |

Note: Totals may not agree due to rounding.
Dental plan data not available prior to 2018.

RESULTS

The following table displays the new Medical/Dental Plan assumption. Based on the data above, our sensitivity testing, and our professional judgment, we selected this assumption to reflect the membership trends of the largest medical and dental plans. We intend to monitor this assumption on a biennial basis moving forward using summarized data provided by HCA.

| Medical/Dental Plan Membership Assumption | |
|---|------|
| Pre-Medicare Medical Plan* | |
| KP WA Classic | 10% |
| KP WA Value | 15% |
| UMP Classic | 65% |
| UMP CDHP | 10% |
| Medicare-Eligible Medical Plan | |
| KP | 30% |
| UMP | 60% |
| Plan F | 10% |
| All Members Dental Plan | |
| Uniform Dental Plan | 100% |

**We assume actives and retirees under age 65, as of the valuation date, will transition to the corresponding Medicare plan for KP and UMP when they reach age 65. In other words, we don't transition any of these members into Plan F in the future.*

RETIREMENT PLAN ASSUMPTION

WHAT IS THIS ASSUMPTION AND HOW DO WE USE IT?

The Retirement Plan assumption represents the retirement plan we assign to PEBB members. Our valuation model applies retirement eligibility criteria and future demographic assumptions (for example, the probability a member terminates or retires) based on this retirement plan. These eligibility criteria and assumptions can vary by plan. This helps us estimate if and when a member is expected to become a PEBB retiree, along with how long we expect them to receive postemployment medical/dental benefits.

DATA, ASSUMPTIONS, AND METHODOLOGY

Our historical PEBB OPEB valuations have primarily relied on data from HCA, which does not contain retirement plan information. However, we determined most members' retirement plans by cross-referencing with DRS data. PEBB members not found in the DRS data are likely higher education employees who do not participate in the state retirement plans administered by DRS. Instead, most participate in the Higher Education Retirement Plan (HERP).

For future valuations though, we will no longer be able to perform this cross-reference because of the new DSA. Thus, we need to assign a retirement plan for all PEBB members.

We studied this assumption using data from our 2020 PEBB OPEB AVR, but we also looked at prior years' data for consistency. We examined the data by employment status and retirement plan.

ANALYSIS

Based on our methodology and assumptions described above, the following table displays the retirement plan distribution of PEBB members as of the 2020 valuation. Beneath the table are our takeaways from this data.

| 2020 Summary of Retirement Plan Data | | | |
|--------------------------------------|------------|------------|-------------|
| | Actives | Retirees | Total |
| PERS | 52% | 15% | 67% |
| Plan 1 | 0% | 6% | 7% |
| Plan 2 | 38% | 7% | 45% |
| Plan 3 | 14% | 1% | 15% |
| Higher Education | 21% | 6% | 27% |
| Other Plans* | 5% | 1% | 6% |
| Total | 78% | 22% | 100% |

NOTE: Totals may not agree due to rounding.

*Captures all other DRS retirement plans (for example, PSERS and WSPRS).

- Roughly two-thirds of the population belong to PERS, which is notable because our mortality assumption is applied by retirement system. In other words, we apply the same set of mortality assumptions for all members of PERS Plans 1, 2, and 3.
- ❖ Other behavioral assumptions (such as the probability a member terminates or retires) and retirement eligibility criteria can vary by retirement plan, so we also examined the retirement plan

distribution among active members. Almost half of the active population (49% = 38%/78%) belong to PERS 2.

- ❖ For context, we set PERS 2 demographic assumptions as part of our [2013-2018 Demographic Experience Study](#) (DES). To be retirement eligible in PERS 2, members must be at least 65 years old with at least 5 Years Of Service (YOS), or at least 55 years old with at least 20 YOS. For more information on retirement eligibility requirements, see our 2020 PEBB OPEB AVR.
- Roughly a quarter of the population belongs to a HERP. We do not have behavioral assumptions specific to these members. However, for past valuations, we relied on PERS 2 demographic assumptions to model their behavior.
- ❖ HERP have different plan provisions than PERS 2. For example, many higher education institutions allow HERP members to retire at age 55 with 10 YOS whereas PERS 2 requires 20 YOS to retire at age 55. The actual behavior of HERP members may therefore vary from that of PERS 2 members.

RESULTS

We considered applying separate retirement eligibility criteria and demographic assumptions (such as the Teachers' Retirement System [TRS] assumptions) to the HERP population. However, we do not anticipate being able to distinguish state agency members from higher education members in future valuations because of the new DSA.

As described above, we already rely on PERS demographic assumptions for PEBB members of both PERS and HERP, which represents more than 90 percent of the PEBB population. Given PERS 2 is the largest retirement plan in PERS, **we chose to apply PERS 2 retirement eligibility criteria and demographic assumptions for all members.**

This approach provides modeling simplicity and allows us to accommodate future data limitations without having a significant impact on our valuation of the total OPEB liability. We do not intend to study this assumption in the future due to a lack of access to the data needed to set this assumption moving forward. However, we will revisit this assumption if relevant changes are made to retirement eligibility or the state retirement plan distributions.

SPOUSAL COVERAGE ASSUMPTION

WHAT IS THIS ASSUMPTION AND HOW DO WE USE IT?

The Spousal Coverage assumption represents the percentage of future retirees who we expect will include their beneficiary (often the retiree's spouse) on their PEBB coverage. We use this assumption to model the total OPEB liability attributable to beneficiaries who participate in PEBB.

DATA, ASSUMPTIONS, AND METHODOLOGY

We relied on retiree data from past PEBB OPEB valuations to develop this assumption, calculating the ratio of PEBB retirees with covered spouses to the total number of PEBB retirees. We excluded surviving beneficiary records from this calculation. Surviving beneficiaries who continued their PEBB coverage after the retiree's death were not separately identified prior to the [2018 PEBB OPEB AVR](#), so we excluded pre-2018 valuation data from the following table.

ANALYSIS

The following table summarizes the Spousal Coverage data by valuation year.

| Summary of Spousal Coverage Data | | | |
|----------------------------------|--------------------|-----------------------------------|----------------------------|
| Valuation Year | Total Retirees (a) | Retirees with Covered Spouses (b) | Spousal Coverage (b) / (a) |
| 2018 | 30,506 | 13,816 | 45% |
| 2020 | 32,558 | 14,775 | 45% |

For additional reference, we also examined the historical analysis conducted for our last *PEBB OPEB Demographic Experience Study*. This data showed between 40 and 45 percent of retirees included a spouse on their coverage. However, this data did not separately identify who is a surviving beneficiary versus a retiree with single coverage, so the results underestimate actual spousal coverage. Based on the 2020 PEBB OPEB AVR, there are approximately 3,300 surviving beneficiaries with single coverage.

RESULTS

Based on the data above, we **maintained a 45 percent Spousal Coverage assumption**. We will continue to monitor this assumption as part of future PEBB OPEB demographic experience studies using summarized data provided by HCA.

AGE DIFFERENCE ASSUMPTION

WHAT IS THIS ASSUMPTION AND HOW DO WE USE IT?

The Age Difference assumption represents the expected difference in age between a retiree and their qualifying beneficiary (often the retiree's spouse). We use this assumption to estimate a beneficiary's age, when it is not provided, given the age and gender of the retiree. Our valuation model relies on a beneficiary's age to estimate future OPEB liabilities for covered beneficiaries.

DATA, ASSUMPTIONS, AND METHODOLOGY

The data we historically received for PEBB OPEB valuations included beneficiary age and gender fields, which were populated for practically all retirees with a covered spouse as well as for some active members. However, for future valuations, we will no longer receive these beneficiary data fields for any PEBB members (as per the new DSA) and thus will need to apply assumptions to approximate these fields.

Using data from past valuations, we studied the Age Difference assumption by gender for retirees with covered spouses. This is the first time we studied the Age Difference assumption specifically for the PEBB population. We previously set this assumption equal to the PERS Age Difference assumption developed in our DES.

We assume that all current (and future) beneficiaries are the opposite gender of the retiree. Based on our historical data, same-sex beneficiaries account for less than two percent of PEBB retirees with spousal coverage. Given this limited number of occurrences and our inability to track this information in the future under the new DSA, we chose not to make any adjustment.

ANALYSIS

The following table summarizes the Age Difference data by valuation year and gender.

| Summary of Age Difference Data | | | | |
|--------------------------------|-----------------|-------|-----------------|-------|
| Valuation Year | Male Retirees | | Female Retirees | |
| | Age Difference* | Count | Age Difference* | Count |
| 2017 | 2.8 | 7,932 | (2.1) | 5,102 |
| 2018 | 2.7 | 8,314 | (2.0) | 5,534 |
| 2020 | 2.6 | 8,726 | (2.1) | 6,087 |

*Age Difference = Retiree age - Beneficiary age.

RESULTS

Based on the data studied, we maintained the +3 Age Difference assumption for male members and updated our Age Difference assumption from -1 to -2 for female members. We will continue to monitor this assumption as part of future demographic experience studies using summarized data provided by HCA.

PEBB MEDICARE CONTINUATION ASSUMPTION

WHAT IS THIS ASSUMPTION AND HOW DO WE USE IT?

The PEBB Medicare Continuation assumption represents the percentage of pre-Medicare retirees who we expect will continue to participate in PEBB once they become eligible for Medicare. We use this assumption to estimate the total OPEB liability of the future Medicare-eligible population.

DATA, ASSUMPTIONS, AND METHODOLOGY

We relied on data from past PEBB OPEB valuations to develop this assumption. We used this data to calculate the ratio of retirees who maintained their PEBB coverage after becoming eligible for Medicare. For purposes of this analysis, we assumed all members became eligible for Medicare at age 65.

ANALYSIS

The following table estimates the PEBB Medicare Continuation data by valuation year.

| Summary of PEBB Medicare Continuation Data | | | |
|--|---|--|--------------------------------------|
| Valuation Year | Total PEBB Retirees Turning Age 65 before Next Valuation Date (a) | Number Reported with Medicare PEBB Coverage on Next Valuation File (b) | PEBB Medicare Continuation (b) / (a) |
| 2017 | 845 | 770 | 91% |
| 2018 | 1,467 | 1,314 | 90% |
| 2020 | 1,432 | 1,287 | 90% |

RESULTS

The data above indicates that roughly 90 percent of pre-Medicare PEBB retirees continue their coverage once they turn age 65. However, this ratio also reflects retirees who either return to work or die between valuations. Excluding these members would further increase the ratio, but we are unable to identify by exactly how much due to limitations in the data. Based on this data and these considerations, **we maintained our assumption that all pre-Medicare retirees will maintain their PEBB coverage once eligible for Medicare.** We will continue to monitor this assumption as part of future PEBB OPEB demographic experience studies.

COBRA TO PEBB RETIREE ASSUMPTION

WHAT IS THIS ASSUMPTION AND HOW DO WE USE IT?

COBRA provides employees “who lose their health benefits the right to choose to continue group health benefits provided by their group health plan for limited periods of time (generally up to 18 months) under certain circumstances,” according to the [U.S. Department of Labor](#).

The COBRA to PEBB Retiree assumption represents the percentage of members reported with COBRA coverage who we expect will become PEBB retirees in the future. We use this assumption to determine if members with COBRA coverage should be included in the PEBB OPEB valuation.

DATA, ASSUMPTIONS, AND METHODOLOGY

We relied on data from past PEBB OPEB valuations to develop this assumption. We used this data to calculate the ratio of COBRA members who joined PEBB by the time of the subsequent valuation. Ideally, we would track these members over several years, but we are unable to do so due to certain data limitations. This is a source of potential under-counting in our analysis, but we believe the impact is limited due to the COBRA time constraints. We also take this population into consideration when setting the Participation Percentage assumption.

We are also unable to differentiate COBRA members who previously worked for the state from those who worked for K-12 or a political subdivision in Washington. For that reason, we included COBRA members from all groups in our analysis. This introduces some potential uncertainty in our results when the assumption is applied to just the state, but we anticipate the impacts are generally minor.

ANALYSIS

The following table estimates the COBRA to PEBB Retiree data by valuation year.

| Summary of COBRA to PEBB Retiree Data | | | |
|---------------------------------------|-------------------------------|--|---------------------------------|
| Valuation Year | Number of COBRA Enrollees (a) | Number Reported as a PEBB Retiree in the Next Valuation File (b) | COBRA to PEBB Retiree (b) / (a) |
| 2017 | 541 | 59 | 11% |
| 2018 | 812 | 85 | 10% |

For context, the total number of state retirees (excluding dependent spouses) enrolled in PEBB during this period ranged from approximately 32,000 to 36,000. With that in mind, the portion of retirees that were previously on COBRA appears to be minimal.

RESULTS

Based on the data and considerations above, **we maintained our assumption that no members with COBRA coverage will become PEBB retirees in the future.** We do not intend to study this assumption in the future due to both the limited materiality of this assumption and a lack of access to the data needed to set this assumption moving forward. However, we will monitor changes to current law that may impact this assumption.

ACCRUED SERVICE ASSUMPTION

WHAT IS THIS ASSUMPTION AND HOW DO WE USE IT?

The Accrued Service assumption represents the expected service credit a member has earned (or accrued) as of the valuation date. We use this assumption to estimate when an active member will reach retirement eligibility, as well as the likelihood that they stop working at any point during their career.

DATA, ASSUMPTIONS, AND METHODOLOGY

Our historical PEBB OPEB valuations have primarily relied on data from HCA, which does not contain accrued service information. However, we were able to determine most members' accrued service by cross-referencing with DRS data. For PEBB members who were not part of DRS, we previously set their accrued service equal to the greater of zero and their age minus an assumed hire age of 36. For future valuations, we will no longer be able to perform this cross-reference due to the loss of a common unique identifier field under the new DSA. Thus, we will need to estimate accrued service for all PEBB members.

We studied the Accrued Service assumption using active member data from past valuations. We excluded both active members who worked for higher education and current retirees, since we did not have actual accrued service from DRS for these populations.

ANALYSIS

The following table estimates the average hire age by valuation year for active PEBB members, calculated as the average attained age minus average service.

| Summary of Hire Age Data | | |
|--------------------------|--------------|--------|
| Valuation Year | Avg Hire Age | Count |
| 2017 | 34.3 | 61,206 |
| 2018 | 34.6 | 63,358 |
| 2020 | 34.7 | 66,091 |

We then compared these results to the average hire ages of other comparable populations. Among active members, the average hire age is 35.7 for PERS, 32.7 for TRS (both based on our [2021 AVR](#)), and 34.3 for the Higher Education Supplemental Retirement Plan (based on our [2020 valuation](#)). We anticipate these comparison points could be a primary resource for future PEBB OPEB demographic experience studies given the DRS cross-reference data won't be available.

RESULTS

Based on the data above, we updated the average hire age used for the Accrued Service assumption from 36 to 35. We also assume all members have at least one year of service. As of 2020 valuation, this new approach would result in an average of 12.0 YOS for active PEBB members, compared to 10.4 YOS under the old approach. We do not intend to study this assumption in the future due to a lack of relevant available data.

PERCENT MALE/FEMALE ASSUMPTION

WHAT IS THIS ASSUMPTION AND HOW DO WE USE IT?

The Percent Male/Female assumption represents the percentage of the PEBB population that is male and the percentage of the population that is female. We use this assumption to assign a default gender for records not reported as either “male” or “female”. (In 2020, this impacted less than 1 percent of the population.) Where applicable, our valuation model relies on this assumption to apply gender-based assumptions, such as mortality rates.

DATA, ASSUMPTIONS, AND METHODOLOGY

We relied on both active and retiree data from past PEBB OPEB valuations to develop this assumption. We calculated the ratio of male to female members for each dataset. This is the first time we studied the Percent Male/Female assumption specifically for the PEBB population. We previously set this assumption equal to the PERS Percent Male/Female assumption developed in our DES.

Under [WAC 246-490-075](#), effective January 27, 2018, individuals born in Washington State can change their sex designation to “gender X”, which is a gender that is not exclusively male or female. We excluded the limited gender X data when setting our assumption due to an inability of our valuation software to account for this third gender option properly. Any individual in the data who identifies as gender X will be defaulted to a gender of either male or female based on this Percent Male/Female assumption. We will continue to monitor the frequency of gender X observations in our data and may make changes as part of future demographic experience studies where appropriate.

ANALYSIS

The following table summarizes the Percent Male/Female data by valuation year.

| Summary of Percent Male/Female Data | | | |
|-------------------------------------|--------------|----------------|---------|
| Valuation Year | Percent Male | Percent Female | Count |
| 2017 | 44% | 56% | 153,625 |
| 2018 | 43% | 57% | 156,895 |
| 2020 | 42% | 58% | 165,061 |

RESULTS

Based on the data above, the population appears to be trending toward slightly more female than male members over time. However, **we maintained the 50 percent male and 50 percent female assumption** given our limited application of this assumption (as of our 2020 PEBB OPEB AVR, less than one percent of records rely on our default gender assumption). We will continue to monitor this assumption as part of future PEBB OPEB demographic experience studies.



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