

2018 State Salary Survey Methodologies Overview

This methodology overview is intended to be used in conjunction with the executive summary or State Salary Survey, June 2018 PowerPoint presentation.

Acronyms, definitions and symbols

– Number of survey responses

% responses – Ratio of number of responses/total number of survey participants

*** – Fewer than five responses. We followed the Federal Trade Commission and the U.S. Department of Labor guidelines that five matches should exist per job or benefit questions to draw reliable conclusions. Therefore, we did not calculate statistics (means, medians, etc.) for benchmark jobs and benefit questions with fewer than five job matches.

Consumer Directed Health Plan (CDHP) – High Deductible Health Plan (HDHP) + Health Savings Account (HSA)

Health Care Plan Tier 1 – EE Only – Employee-only plan tier

Health Care Plan Tier 2 – EE+ S – Employee plus spouse plan tier

Health Care Plan Tier 3 – EE+ Child – Employee plus child(ren) plan tier

Health Care Plan Tier 4 – Family – Family plan tier

In-State Private Sector – Refers to published survey data.

In-State Public Sector Participants – Refers to all in-state Washington participants that submitted responses to the custom survey.

Market – Refers to combined market, i.e., combination of all in-state public sector participant and other state government participant responses. The definition of “market” specifically includes in-state private sector in addition to in-state public sector, and other state government responses for sections 4.A (Health Programs), 4.B (Wellness Programs & Activities) and 4.C (Retirement).

Mean – The value obtained by adding a set of numbers and then dividing the sum by the number of items in the set.

Median - The middle value in a set of ranked data points, i.e., half the data points are below this level.

Non-Rep – Responses related to employees that are not represented by a labor organization.

Number of No Responses – Number of participants that did not respond to the survey question.

OT – Overtime

OT Eligible – Eligible for overtime compensation under the Fair Labor Standards Act.

OT Exempt – Exempt from overtime compensation under the Fair Labor Standards Act.

Other State Governments – Refers to out-of-state custom survey participants, i.e., state government participants that submitted responses to the custom survey.

Union – Responses related to employees who are represented by a labor organization.

State governments selection

- All states that fall within the standard deviation of the identified economic criteria
- States within the western continental states region

Economic criteria:

1. 2016 population from Census Bureau midyear population estimate via Bureau of Economic Analysis SA1 tables
2. 2015 state government employment from BEA SA25N tables
3. 2015 regional price parities from BEA Regional Price Parities all items index

Geographic adjustments

State government data used in the survey was geographically adjusted using the 2015 Regional Price Parities. RPPs measure geographic differences in the price levels of consumption goods and services relative to the national average. RPPs are expressed as a percentage of the overall national price level for each year, which is equal to 100.

The RPPs are calculated using price quotes for a wide array of items from the Consumer Price Index, which are aggregated into broader expenditure categories (such as food, transportation or education)¹. Data on rents are obtained separately from the Census Bureau's American Community Survey. The expenditure weights for each category are constructed using CPI expenditure weights, BEA's Personal Consumption Expenditures and ACS rents expenditures.²

The broader categories and the data on rents are combined with the expenditure weights using a multilateral aggregation method that expresses a region's price level relative to the United States.³

For example, if the RPP for area A is 120 and for area B is 90, then on average, prices are 20 percent higher and 10 percent lower than the U.S. average for A and B, respectively. If the personal income for area A is \$12,000 and for area B is \$9,000, then RPP-adjusted incomes are \$10,000 ($\$12,000/1.20$) and \$10,000 ($\$9,000/0.90$), respectively. In other words, the purchasing power of the two incomes is equivalent when adjusted by their respective RPPs.

¹ The BEA Regional Price Parity statistics are based in part on restricted access Consumer Price Index data from the Bureau of Labor Statistics. The BEA statistics expressed herein are products of BEA and not BLS.

² To estimate RPPs, CPI price quotes are quality adjusted and pooled over five years. The ACS rents are also quality adjusted and are either annual for states or pooled over three years for metropolitan areas. The expenditure weights are specific to each year.

³ The multilateral system that is used is the Geary additive method. Any region or combination of regions may be used as the base or reference region without loss of consistency.

BEA site reference included in the 2018 state salary survey report is https://www.bea.gov/newsreleases/regional/rpp/rpp_newsrelease.htm.

Published data sources

Published data sources were used to represent in-state private employers due to diminished participation from this sector. These are:

- CompData Benchmark Pro 2016 Survey Library
- Economic Research Institute
- Gallagher 2017 National Benefits Survey
- Milliman 2017 Northwest Benefits Survey
- Milliman 2017 Northwest Financial Industry Compensation Survey
- Milliman 2017 Northwest Healthcare Compensation Survey
- Milliman 2017 Puget Sound Regional Salary Survey
- Milliman 2016 Northwest Engineering/Scientific/Project Management Survey
- Milliman 2016 Northwest Management and Professional Salary Survey
- Milliman 2016 Northwest Utilities Salary & Wage Survey
- U.S. Medical Expenditure Panel Survey 2016
- Willis Towers Watson 2016 Survey Library

Aging factors

No aging factor was applied to the custom survey data as the effective date of the custom survey was July 1, 2017.

All in-state private (published) market salary data was aged to a common effective date, July 1, 2017, using the state of Washington private sector market trend from the 2017-2018 WorldatWork Salary Budget Survey. The prevailing state of Washington private sector market trend for general wage increases is 2.2% per year for salary ranges. In other words, this refers to percentage change in the control (or midpoints) of the formal salary range, band or wage rate that are adjusted to reflect movements in the market place. This adjustment was used to age salary range data.

Benchmark result calculations

The following aggregate statistical summaries were calculated for salary range data:

Median annual salary range minimum

Represents the middle salary rate of the minimum range data points, i.e., half the salary rates are below this level.

Annual salary range midpoint

Represents the estimated market value. Refer to the calculation methodology provided below.

Median salary maximum

Represents the middle salary rate of the maximum range data points, i.e., half the salary rates are below this level.

Salary range midpoint for each respondent

$(\text{Salary range minimum} + \text{salary range maximum})/2$

Estimated market value

An overall estimated market value was calculated using the aggregated data from each survey type. This was calculated using the following approach:

1. In-state public sector: Median of the calculated range midpoint values for all benchmark jobs.
2. Other state governments: Median of the calculated range midpoint values for all benchmark jobs.
3. In-state private sector: Market median (50th percentile) of actual salary values for all benchmark jobs.

The in-state public sector, other state governments and in-state private sector aggregates were combined and averaged to calculate the overall market information. This value is referenced as the estimated market value.

Benchmark results

Benchmark results will be published only when there are five or more responses, including participant data and published data. Federal Safe Harbor Guidelines (Antitrust Safety Zone) are followed for publishing participant data. Therefore, it is possible that the only response published will be for “All Responses.”

Data Review and outlier analysis

All job matches were reviewed to include the closest job matches based on essential responsibilities and career level using at least a 70 percent job match guideline for matching jobs.

The Federal Trade Commission and the U.S. Department of Labor guidelines were followed. These guidelines require five job matches per benchmark job to conduct statistical analyses or for drawing conclusions. Therefore, we did not calculate statistics (means, medians, etc.) for benchmark jobs with fewer than five job matches.

Midpoint-to-midpoint analysis is used for determining the percentage to reach the combined market

- The combined market is private and public sector in-state employers and other state governments.
- The median survey result is reported.
- The in-state public sector, other state government and in-state private sector aggregate results are combined and averaged to calculate the estimated market value for each benchmark, excluding Washington state data. The salary range midpoint for Washington data is derived from middle value of the bottom and top steps of the approved general service salary schedule, including longevity steps.
- This methodology is selected (1) to allow consideration of both the minimum and maximum for all sectors, (2) limit the impact of data outliers and (3) produce a more stable result factor.

Jobs classifications excluded from the 2018 State Salary Survey

- Represented University of Washington classifications not used by general government or other higher education institutions and independently surveyed by UW.
- Information technology classifications included in the enterprise-wide IT classification study
- Apprentice jobs that are paid a percentage of the journey level job
- Certificated teacher jobs that are subject to any adjustment made to the Vancouver School District No. 37 professional salary schedule

Health care plan point-of-service (POS) calculation

Medical plan actuarial value or metal tier converted to actuarial value (e.g., a platinum plan is an approximate additional 10 percent cost to the employee at the point-of-service cost).