



**Report on the  
Risk Adjustment Program  
Plan Years 2014 to 2017**

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**Prepared for the  
California State Legislature**

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**Table of Contents**

Introduction..... 1

(a) Unadjusted and Risk Adjusted Single Party Premiums (2014-2017)..... 2

(b) 80/80, 85/80, and 100/90 State Employer Contributions (2014-2017)..... 2

(c) Evaluation: Risk Adjustment Procedure Goals ..... 2

(d) Procedure, Challenges & Rationale for Continuing or  
Eliminating..... 4

**Appendix A – Single Party Plan Premiums**

Table 1: Single Party Plan Unadjusted Premiums..... A-1

Table 2: Single Party Plan Adjusted Premiums..... A-1

**Appendix B – State Health Premium Contributions**

Table 1: State Health Premium Contributions..... B-1

California Public Employees' Retirement System  
Report on the Risk Adjustment Program - Plan Years 2014 to 2017

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## Introduction

This report is being submitted in accordance with the Budget Act of 2016 (Stats. 2016, Ch. 23, Sec. 12, Item 7900-001-0822 [2]), which reads as follows:

*The Legislature finds and declares that the Board of Administration of the Public Employees' Retirement System (PERS), is accountable to members, governmental entities, and taxpayers with respect to the annual health premium increases adopted by the Board of Administration. To facilitate legislative oversight, the Board of Administration shall submit a one-time report on or before October 1, 2016, covering the administration of the health care premium risk adjustment procedures for premium years 2014 to 2017, inclusive, as authorized by paragraph (3) of subdivision (f) of Section 22850 of, and Section 22864 of, the Government Code, and related rules and regulations. For each premium year, the report shall include all of the following:*

- (a) Both the unadjusted single party plan premium and the risk-adjusted single party plan premium for each health benefit plan approved by the Board of Administration.*
- (b) The 80/80, 85/80, and 100/90 state employer contributions for each party plan for both the unadjusted plan premiums and the adjusted plan premiums.*
- (c) An evaluation as to the extent the risk adjustment procedure implementation has met the original goals of the procedure, including, but not limited to, the maintenance of plan choice and sustainability, the control of premium cost trends, improved data and transparency, and the encouragement of health plan disease management programs.*
- (d) The risk adjustment procedure, including the phase-in of premium adjustments, a discussion of implementation challenges, and a rationale for continuing or eliminating the risk adjustment procedure.*

*The report shall be submitted to the Chairperson of the Joint Legislative Budget Committee, the chairpersons of the committees and subcommittees in each house of the Legislature that consider PERS' budget and activities, the Controller, the Director of Finance, and the Legislative Analyst.*

California Public Employees' Retirement System  
Report on the Risk Adjustment Program - Plan Years 2014 to 2017

---

Risk adjustment is intended to reinforce market rules that prohibit risk selection, i.e., targeting only healthy enrollees by health benefit carriers. Risk adjustment attempts to accomplish this by transferring funds from plans with lower-risk enrollees to plans with higher-risk enrollees. One of the principle goals of CalPERS risk adjustment program is to motivate its carriers to compete based on the value and efficiency of their plans rather than by merely pursuing healthier enrollees. Accordingly, risk adjustment is an actuarial tool used to calibrate payments to carriers based on the relative health of those participating in their health benefit plans.

This process includes health risk assessment, and cost neutral premium adjustments via transfer payments between plans. Specifically, the process measures the risk of a health plan's CalPERS enrollees relative to the average risk for all CalPERS plan enrollees in similar plans, i.e. Health Maintenance Organization (HMOs) and Preferred Provider Organizations (PPOs) plans, which then may lead to premium adjustments in the form of transfers from plans with relatively healthier populations to plans with less healthy populations.

CalPERS implemented risk adjustment procedures starting with the 2014 Plan Year (PY), adopting a four-phase process for each PY to ensure that up-to-date data is being used for premium adjustments and payment transfers. The first phase is directly connected with CalPERS Rate Development Process, thereby ensuring that the Board adopts rates that are risk adjusted.

**(a) Unadjusted and Risk Adjusted Single Party Premiums (2014-2017)**

"Both the unadjusted single party plan premium and the risk-adjusted single party plan premium for each health benefit plan approved by the Board of Administration."

See Appendix A.

**(b) 80/80, 85/80, and 100/90 State Employer Contributions (2014-2017)**

"The 80/80, 85/80, and 100/90 state employer contributions for each party plan for both the unadjusted plan premiums and the adjusted plan premiums."

See Appendix B.

**(c) Evaluation: Risk Adjustment Procedure Goals**

"An evaluation as to the extent the risk adjustment procedure implementation has met the original goals of the procedure, including, but not limited to, the maintenance of plan choice and sustainability, the control of premium cost trends, improved data and transparency, and the encouragement of health plan disease management programs."

CalPERS implemented risk adjustment beginning in 2014 PY as part of its strategy to

## California Public Employees' Retirement System Report on the Risk Adjustment Program - Plan Years 2014 to 2017

---

deliver affordable and sustainable health benefit plans to State and contracting agency employers and their employees and dependents. As expressed in the February, 2013, Pension and Health Benefits Committee, and reflected in the Budget Act of 2016, the goals of risk adjustment are fourfold:

- Provide Choice of Plan;
- Control Cost Trend;
- Better Data & Transparency; and
- Better Disease Management.

### Maintenance of Plan Choice and Sustainability

CalPERS is committed to providing its members health benefit plan options that are sustainable over the long-run. Risk adjustment has helped ensure that plans are competitive and viable over the long-run, assisting plans with disproportionately unhealthier (perhaps due to an older population) enrollees than the general CalPERS pool, in establishing premiums that are competitive with plans with healthier enrollees (perhaps due to a younger population). In this manner, CalPERS has enhanced plan choice.

In 2014, CalPERS introduced four new HMO carriers (UnitedHealthcare, Health Net of California, Anthem Blue Cross, and Sharp HealthCare) to the CalPERS health benefits program. These carriers brought in a total of six new Basic, i.e., non-Medicare, HMO plans, which significantly increased the choice of plans for CalPERS members. It is likely that without risk adjustment, some of these new plans, particularly those covering areas where the average enrollee is less healthy than the CalPERS average, and the cost of care is higher than the state average, would not have been able to remain in the CalPERS portfolio.

In fact, since the implementation of risk adjustment, only one of CalPERS twelve Basic plans, Blue Shield NetValue, is no longer being offered, and all six of the new plans remain, and are projected to be sustainable for years to come. On balance, risk adjustment has likely helped CalPERS provide plan choice.

### Control of Premium Costs

In terms of controlling cost trends, the average risk adjusted premium increase for CalPERS Basic plans from PY 2014 through PY 2017 has been 5.04 percent. This breaks down as 5.07 percent for HMO plans and 4.96 percent for PPO plans. Although it is difficult to attribute any single factor as an explanation for a particular cost trend, CalPERS believes that the pressure risk adjustment exerts on plans to improve their data and transparency and compete on value and efficiency rather than on attracting healthier enrollees has, in fact, had a favorable impact on CalPERS cost trend. In 2017, CalPERS was able to limit premium increases to an average of 3.92 percent for its Basic plans, surpassing many other healthcare purchasers.

### Improved Data and Transparency

As a result of risk adjustment, CalPERS receives greater amounts of data from its

California Public Employees' Retirement System  
Report on the Risk Adjustment Program - Plan Years 2014 to 2017

---

plans than before 2014. While CalPERS may have more transparency into the relative health of each risk adjusted plan's membership, it is not uniform across all of the plans. Improved data and transparency have revealed that some carriers are more capable than others in capturing data that reflects membership health (or risk), which may affect premium adjustments and payment transfers between plans. This issue is discussed further under Section (d) below.

#### Disease Management

All CalPERS risk adjusted plans have disease management programs, designed to more effectively manage chronic illnesses and ensure patient compliance with treatment plans. Due to the lack of uniformity among the plans in capturing the relative health of their CalPERS membership, it is premature to draw any conclusions regarding the effect risk adjustment has had on the management of disease and patient compliance with treatment plans. Nonetheless, given that risk adjustment encourages plans to compete on efficiency and value rather than by attracting already healthy enrollees, CalPERS anticipates that risk adjustment has already produced better disease management.

#### **(d) Procedure, Challenges & Rationale for Continuing or Eliminating**

"The risk adjustment procedure, including the phase-in of premium adjustments, a discussion of implementation challenges, and a rationale for continuing or eliminating the risk adjustment procedure."

#### Procedure

Risk adjustment applies to Basic health plan premiums and excludes the Association Health Plans. HMO and PPO premiums are adjusted separately. The CalPERS risk adjustment model uses concurrent diagnosis data, as a measure of morbidity (illness) in each health plan's population, to predict medical and pharmacy costs and uses a phased allowance for improvements in diagnoses coding.

The risk adjustment process uses individual health data, family size and geographic cost variances to assess risk and calculate transfer payment amounts. Premiums are risk-adjusted prior to being published and transfer payments to participating plans are adjusted during the PY as CalPERS receives updated health claims and enrollment data.

The health claims and enrollment data is stored in the CalPERS data warehouse, i.e., the Health Care Decision Support System or HCDSS. The source of the claims data is the CalPERS health plans, and the source of the enrollment data is my|CalPERS.

#### Phases

To ensure the most up-to-date data is used for premium and payment calculations, CalPERS adopted a four phase risk adjustment process for each PY as follows:

- Phase 1 uses past claim experience to estimate risk and forecast enrollment for

California Public Employees' Retirement System  
Report on the Risk Adjustment Program - Plan Years 2014 to 2017

---

the upcoming PY during the premium development stage. This is an integral part of CalPERS annual rate setting process.

- Phase 2 updates enrollment data after open enrollment, which establishes the basis for monthly inter-plan risk adjustment asset transfers. The total dollar adjustment for the system results in cost neutrality.
- Phase 3 reconciles risk adjustment with updated enrollment and risk after the middle of the PY. This modifies the monthly inter-plan risk adjustment asset transfers for the remaining months of the PY.
- Phase 4 provides for a final reconciliation of the risk adjustment transfers based on the actual data for the entire PY. Phase 4 occurs in the year immediately following the PY.

#### Implementation Challenges: Lack of Uniform Data Submissions

Given some of the unanticipated difficulties in accurately measuring the health-status of groups of enrollees, many entities, including the federal government, have experienced challenges relating to risk adjustment. CalPERS is effectively tackling these challenges.

As previously discussed under Section (c), certain carriers that contract with CalPERS are better than others in capturing data that reflects membership health (or risk). Diagnostic coding, a principal means of capturing data to measure risk, varies across CalPERS carriers. This may impact risk adjustment, affecting premium adjustments and payment transfers between plans.

The risk scores produced through risk adjustment models are very sensitive to changes in medical diagnosis coding that reflect the morbidity of the population in any health plan. Ideally, the medical data provided from diagnosis coding should be complete, timely, accurate, and neither overstate nor understate the severity of illness.

The first few years of risk adjustment have exposed, however, that the number of codes and the accuracy and timeliness of claims data influence whether risk is understated or overstated, and each plan's capacity to accurately code differs. This may lead to a "coding bias," where a plan's ability to properly code disproportionately drives the risk score, rather than the health of a plan's enrollees driving the score.

In addition, sufficient encounter data is crucial to determine the geographic adjustments to premiums. A capacity deficit by the plans in supplying both types of data may result in biased risk scores and geographic adjustment factors, and unless monitored and corrected, might lead to inaccurate premium adjustments and payment transfers.

CalPERS has been diligent in detecting the issue and making necessary adjustments,

California Public Employees' Retirement System  
Report on the Risk Adjustment Program - Plan Years 2014 to 2017

---

and CalPERS is undertaking a diagnosis coding audit using experts in the medical records coding industry to ensure the diagnosis codes for each plan accurately reflect that plan's morbidity. Not surprisingly, the amount of time and resources necessary to correct any coding biases are substantial.

The following, which the proposed audit will cover, both summarizes the above and provides more detail to the issue.

- Effective risk adjustment depends on health plan monthly submissions of accurate, complete and consistent data for risk score calculations and geographic adjustment factor development.
- CalPERS Basic HMO plan products vary in the provider-health plan financial arrangements that include: global capitation, dual risk (hospital-physician-health plan shared risk), shared risk (physician-health plan shared risk) and discounted fee for service provider payment mechanisms. Many services are covered through hospital and physician capitation through health plan contractual arrangements. The encounter data associated with capitated payments submitted to the data warehouse, and used for risk score development, is extremely sensitive to the number and types of International Classification of Disease 9 and 10 (ICD 9 & ICD 10) diagnosis codes used to generate the risk scores as a measure of disease in the population.
- Different health plans have different ICD 9 & 10 system reporting capabilities, and their providers also may have different approaches to diagnostic coding. The diagnostic coding differences among providers can affect the health plans' risk scores in accurately and consistently reflecting the CalPERS population morbidity within each plan.
- It is difficult to accurately predict the actual enrollment for the PY when premiums are set. This affects CalPERS ability to predict accurate changes in risk scores due to inter-plan member migration and measurement of the disease burden transferred from one plan to another.

Implementation Challenges: Administrative Oversight and Management of Carriers

The implementation of new HMO plans in 2014 substantially bolstered competition among CalPERS health benefit plans, which CalPERS believes has helped mitigate premium increases. While inter-plan migration leads to some unpredictability with plan risk scores due to the difficulty in forecasting plan enrollment, the inter-plan migration that CalPERS experienced was more substantial than expected.

As a result of this migration, and due to the different system reporting capabilities among the HMO plans, repeat testing by CalPERS has become a standard instead of



## California Public Employees' Retirement System Report on the Risk Adjustment Program - Plan Years 2014 to 2017

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an exception. In instances where data warehouse fields have been updated to reflect improvements in data coding completeness by some plans, other plans report system limitations on number and types of diagnosis codes, leading to data discrepancies between plans. As plans improve their coding, however, a new challenge arises. Plans may request reloading of historical data to reflect these coding improvements. All of these variables have the potential to change the risk score results and the resulting health plan risk transfer amounts as premium transfer reconciliations are measured. Consequently, there is a greater dependency on internal and external actuarial staff to conduct repeated testing of the models.

CalPERS has had to repeatedly revise risk score methodologies, such as using age/sex factors and placing coding constraints on plans with better system reporting capabilities to ensure the risk adjustment model continues to be actuarially reasonable, consistent with applicable law, adequately communicated to the carriers, and reflective of its Board's objectives.

To address these implementation challenges, CalPERS continues working with internal and external actuaries to evaluate the risk adjustment process, and make modifications if necessary. Some solutions CalPERS has already initiated and continues to pursue are:

- Foster greater communication and transparency between CalPERS and its carriers.
- Enhance the expertise of staff working on risk adjustment by transferring more responsibility to the Actuarial Office, and where necessary, increasing actuarial staff.
- Analyze, and if necessary, improve HCDSS data submissions.
- Recast risk scores on the rolling phases to account for improvement and validation of the risk pool.

### Rationale for Continuing or Discontinuing the Risk Adjustment Procedure

CalPERS objective for implementing risk adjustment was to encourage health plans to compete on the basis of medical and administrative efficiency and quality of care rather than on their ability to attract healthier members through lower premiums. On balance, CalPERS believes it has made significant progress toward this objective. Despite a difficult start to the program due to the simultaneous implementation of multiple, new HMO plans, CalPERS has effectively implemented risk adjustment, and has mitigated or avoided many of the pitfalls encountered by other risk-adjusting entities. The challenges CalPERS has faced with implementing risk adjustment are not unique to CalPERS. The federal government, including the U.S. Department of Health and Human Services and the Center for Medicare and Medicaid Services, has faced similar issues with risk adjustment implementation, e.g., coding and migration.

California Public Employees' Retirement System  
Report on the Risk Adjustment Program - Plan Years 2014 to 2017

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After significant, multiple tests of the preceding risk models and phases, the actuarial staff is gaining a more complete picture of the risk adjustment challenges and the modeling assumptions required to make the process effective. These tests require substantial reliance on external actuaries, complete and accurate documentation of each phase of each risk adjustment set of calculations, and confidence that the diagnosis data reporting is consistent with industry standing coding practices. To this end, CalPERS staff is undertaking a coding audit of all health plans to ensure that industry-wide standard coding practices are being followed consistently and by each physician and hospital, and that complete information is being sent from these providers to the health plans and to the CalPERS data warehouse.

Given that the objective for risk adjustment is to have plans compete on efficiencies rather than cherry picking healthier members, CalPERS believes that it may have achieved this objective with its health benefit plans by 2018. If, among other things, CalPERS determines its plans have sufficiently stable and large populations, and over the last several years have built infrastructures to service such enrollees that do not rely on attracting only the healthy to be viable and sustainable over the long-run, then CalPERS may decide not to continue risk adjustment. In the short run, continuing risk adjustment through PY 2017 or 2018 will allow CalPERS to continue to test the models, confirm the standardization of diagnosis coding practices consistently across all health plans, and ensure that risk scores and risk models reflect an accurate, valid, and reliable measurement of CalPERS population disease risk.

## Appendices

- **Appendix A – Single Party Plan Premiums**
- **Appendix B – State Health Premium Contributions**

## Appendix A

### Single Party Plan Premiums

**Table 1: Unadjusted Single Party Plan Premiums**

Health Plan	Plan Year			
	2014	2015	2016	2017
Anthem EPO	\$759.46	\$602.94	\$713.42	\$737.40
Anthem HMO Select	598.17	608.51	631.13	655.01
Anthem HMO Traditional	759.46	784.89	800.90	860.18
BSC Access+	730.49	794.43	833.45	845.03
BSC NetValue	514.88	603.92	684.43	-
Health Net Salud y Más	436.07	340.51	343.43	340.56
Health Net SmartCare	531.31	447.97	587.46	635.05
Kaiser Permanente	652.70	630.94	656.05	675.26
PERS Choice	665.63	652.50	713.42	737.40
PERS Select	383.39	388.23	427.75	457.82
PERSCare	1,116.06	1,052.73	1,098.98	1,121.40
Sharp	539.52	510.40	548.93	542.60
UnitedHealthcare	664.47	671.76	639.45	608.38

**Table 2: Adjusted Single Party Plan Premiums**

Health Plan	Plan Year			
	2014	2015	2016	2017
Anthem EPO	\$670.36	\$640.45	\$715.70	\$740.88
Anthem HMO Select	622.53	639.45	695.77	740.23
Anthem HMO Traditional	670.36	727.34	752.48	872.91
BSC Access+	655.02	718.16	767.45	830.44
BSC NetValue	575.78	670.36	761.20	-
Health Net Salud y Más	515.87	535.97	552.39	475.46
Health Net SmartCare	632.38	671.47	651.23	692.89
Kaiser Permanente	661.61	633.04	661.76	662.92
PERS Choice	643.53	640.45	715.70	740.88
PERS Select	594.95	618.22	649.76	673.25
PERSCare	698.73	718.93	801.58	826.37
Sharp	562.14	586.38	574.73	616.49
UnitedHealthcare	652.08	642.40	625.78	686.17

## Appendix B

### State Health Premium Contributions

**Table 1: Unadjusted and Risk Adjusted Premiums**

Year	Contribution Formula	Subscriber Tier	State Employer Contribution	
			Unadjusted	Risk Adjusted
2017	80/80	Single	\$564	\$559
		2-Party	1,133	1,125
		Family	1,469	1,462
	85/80	Single	599	594
		2-Party	1,168	1,160
		Family	1,505	1,497
	100/90	Single	713	707
		2-Party	1,359	1,349
		Family	1,736	1,727
2016	80/80	Single	555	562
		2-Party	1,116	1,128
		Family	1,451	1,469
	85/80	Single	590	597
		2-Party	1,151	1,163
		Family	1,486	1,504
	100/90	Single	700	705
		2-Party	1,333	1,343
		Family	1,711	1,727
2015	80/80	Single	522	524
		2-Party	1,047	1,050
		Family	1,360	1,368
	85/80	Single	555	557
		2-Party	1,080	1,083
		Family	1,392	1,401
	100/90	Single	657	655
		2-Party	1,248	1,246
		Family	1,600	1,605
2014	80/80	Single	511	512
		2-Party	1,025	1,024
		Family	1,325	1,328
	85/80	Single	543	544
		2-Party	1,057	1,056
		Family	1,357	1,360
	100/90	Single	645	642
		2-Party	1,224	1,218
		Family	1,561	1,559