

**Sylvan Union School District  
Estimate of Self-Funding Rates  
Dental Plan**

*prepared by Total Compensation Systems, Inc.*

*Date: September 15, 2017*

*Plan year:  
January 1, 2017 to December 31, 2017*

**Sylvan Union School District  
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**Introduction**

Total Compensation Systems, Inc. (TCS) was asked to estimate required funding rates for Sylvan Union's self-funded dental plan for the period January 1, 2017 to December 31, 2017. This estimate of required funding rates is intended to assist Sylvan Union in complying with the actuarial cost estimate requirements of California Education Code Section 17566.

**Methodology**

Below is a summary of the calculations used to estimate the required funding rate.

Paid Claims January 1, 2017 to July 31, 2017	\$563,932
Plus: Change in IBNP claims December 31, 2016 to July 31, 2017	\$62,570
Plus: Demographic adjustment	\$0
Plus: Adjustment for plan changes	\$50,120
Plus: Miscellaneous adjustment January 1, 2017 to July 31, 2017	\$0
Equals: Estimated Incurred Claims January 1, 2017 to July 31, 2017	\$676,622
Divided by: Employee months of coverage January 1, 2017 to July 31, 2017	5,706
Equals: Estimated monthly incurred claims January 1, 2017 to July 31, 2017	\$118.58
Times: Trend adjustment 3.5 months at 4.5%	1.0129
Equals: Projected monthly incurred claims January 1, 2017 to December 31, 2017	\$120.11
Plus: Administrative Expenses January 1, 2017 to December 31, 2017	\$8.39
Plus: Stop-loss premiums January 1, 2017 to December 31, 2017	\$0.00
Plus: Claim fluctuation margin at 5.0%*	\$6.01
Equals: Projected per capita plan cost January 1, 2017 to December 31, 2017	\$134.51

\* This margin is only necessary if Sylvan Union does not have funds specifically earmarked to cover claim fluctuation.

Following is a more detailed discussion of the actuarial assumptions and methods. Materials relied on in estimating costs are listed in Appendix A.

**Incurred But Not Paid (IBNP) claims**

The increase in IBNP claims is calculated by subtracting an estimate of outstanding claims at December 31, 2016 from an estimate of claims still outstanding at July 31, 2017. The estimate of claims outstanding at July 31, 2017 is based on an actuarial method known as the Bornhuetter-Ferguson Method. The proportion of claims expected to be outstanding is based on completion factors derived from actual District claim

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lag data. Using this method, the IBNP claims are estimated as the sum, for all prior months, of: Expected Incurred Claims for the month x Proportion of Claims Expected to Be Still Outstanding

For the estimate of IBNP claims at December 31, 2016, claim lag data was used to the extent possible to determine actual claims paid during the experience period that were incurred prior to January 1, 2017. Where claim lag data was not available, the Bornhuetter-Ferguson Method was used to estimate claims paid during the experience period that were incurred before January 1, 2017. The Bornhuetter-Ferguson Method was also used to estimate claims paid *after* the end of the experience period that were incurred before the experience period.

Using the above methodology, we estimated IBNP claims as shown in the following table: This estimate of “Expected IBNP Claims” was used to project the monthly cost per employee. For accounting purposes, Sylvan Union should include allowances for expenses, fluctuation margin, uncashed checks, etc.

While it is outside the scope of this report to determine the amount of uncashed checks, the following table recommends a reasonable reserve for IBNP expenses and IBNP fluctuation margin. We also have shown an estimate of the claim fluctuation margin if enrollment is the same during the upcoming plan year as it was during the experience period. This allows an estimate of the total dental plan required reserves. This figure should be viewed as a minimum. It would not be unreasonable to hold twice the amount shown below as IBNP fluctuation margin and/or claim fluctuation margin.

	December 31, 2016	July 31, 2017
Estimated IBNP Claims	\$0	\$62,570
Estimated Run-out Expenses	N/A	\$13,678
Estimated IBNP Fluctuation Margin	N/A	\$12,514
Estimated Claim Fluctuation Margin*	N/A	\$58,788
Total Required Reserves	N/A	\$147,550

### **Demographic Adjustment**

The claim experience on which cost projections are based reflects the employees and dependents covered during the period January 1, 2017 to July 31, 2017. The demographics of the group that will be covered from January 1, 2017 to December 31, 2017 may be different from the demographics of the group covered in the past. The demographic adjustment reflects any information we were given about material differences between the demographics of the group to be covered in the future and the group that was covered in the past.

We had no information to indicate that any demographic adjustment is necessary.

### **Adjustment for Plan Changes**

The claim experience used for cost projections reflects the dental plan in effect at that time - including the effect of any plan changes that occurred during that period. If the plan design for the projection period is different from the plan reflected in the claim experience, it is important to adjust the prior claim experience.

We reflected addition of adult orthodontia using the claim cost estimates from Keenan & Associates.

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### **Trend**

Trend is one of the most important assumptions and is also one of the most difficult to accurately estimate. Trend includes the effect of external factors that influence health plan costs. These external factors include inflation, changes in claim frequency (i.e. utilization), cost shifting among health care payors and new technology.

We determine trend factors by looking at past trend and predicting how future trend may change. Our analysis of future trend considers each of the above external factors individually.

At any time, a major component of trend is inflation. Inflation is historically measured by the Consumer Price Index (CPI). However, the CPI measures increases in the price of housing, transportation, food and other goods and services not covered by a typical group health plan.

The federal Department of Labor also publishes a Medical CPI. The Medical CPI reflects the increase in price for health care goods and services. The Medical CPI includes medical goods and services, dental and vision care. Like the overall CPI, the Medical CPI is also *not* a good indicator of the effect of inflation on dental care. In order to use the Medical CPI to estimate the impact of inflation, it is necessary to adjust the Medical CPI. The Medical CPI includes a component specifically for dental care. This component can be used directly to estimate the effect of inflation on trend. Adjusting the Medical CPI in this manner results in recent inflation increases based on CPI figures of 4.5% for dental.

These inflation increases would apply directly to group dental plans that have no deductibles. For a plan that has a deductible, the burden of inflation is disproportionately borne by the plan sponsor. The process that results in plan sponsors assuming a disproportionate share of inflation's impact is commonly known as "deductible leveraging." The effect of deductible leveraging depends on the plan design, the level of claims for a plan, and the inflation rate.

Recent trend surveys show that indemnity dental plans have experienced trend of 5.0% to 7.0% on average. This means that the components of trend other than inflation have been contributing from 0.5% to 2.5% of dental plan costs in addition to inflation and deductible leveraging.

In applying trend factors, it is important to note that trend involves a retrospective element as well as a prospective element. The claim experience from January 1, 2017 to July 31, 2017 must be adjusted for trend to a current date. This adjustment reflects past trend which can be estimated to a large extent based on historical CPI data. It is also necessary to project claims from a current date to the January 1, 2017 to December 31, 2017 plan year. In projecting claims, trend can only be guessed by extrapolating from past data.

Taking into consideration the different components of trend and the combined retrospective and prospective element of cost projections, following is the range we believe to be reasonable for estimating future dental plan costs.

	Type of Plan	
	<u>Indemnity</u>	<u>Pre-Paid</u>
Dental Trend Range:	4.0% to 6.0%	3.0% to 5.0%

It should be noted that "scheduled" plans may have trends much lower than the above trend ranges if the

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scheduled benefits are significantly below prevailing charges. It is also important to note that pre-paid plan trends are sometimes lower because these plans typically do not have much , if any, deductible leveraging. Other reasons for potentially lower pre-paid plan trends are: better claim management; reduced cost shifting through contracting; and lower inflation applied to the larger proportion of *pre-paid* premiums attributable to administrative expense.

In addition to plan-related trend effects, there are also market-related effects. For example, administrators and providers may adjust prices upward to improve profit margins. Prices may not increase as quickly if, for example, providers are competing for market share and are willing to contract for lower fees under managed care plans. Market-related factors can have a dramatic effect on trend rates at times.

In projecting future dental plan costs, it is usual to project claims for a period that is longer than one year. In calculating trend factors for periods other than one year, we have “compounded” the effect of the trend factor. To compound the trend rate, we take the sum of one plus the annual trend rate and raise the sum to the  $m/12$  power. In calculating this exponent,  $m$  is equal to the number of months claims are being projected.

### **Margin**

Projected incurred claims are intended to represent the “expected” level of claims. Dental claims are subject to statistical principles and, even if all actuarial assumptions are accurate, there is about a 50% chance that claims will exceed the projected claim level and a 50% chance claims will be less than the projected level.

We believe that it is prudent to prepare for the likelihood that statistical fluctuation or inevitable errors in actuarial assumptions will cause claims to exceed the expected level. We have included a 5% “margin” in our cost estimates. Should Sylvan Union already have funds earmarked for margin, it would not be necessary to include margin in funds budgeted for benefits. The margin indicated in this report should be viewed as a minimum level.

### **Administrative Expenses**

Administrative expenses were estimated based on information available at the time the cost estimates were prepared. It is possible that fees charged to Sylvan Union for the January 1, 2017 to December 31, 2017 plan year have been finalized or adjusted since the cost estimates in this report were prepared. Under normal circumstances we would not expect any material error from using *preliminary* administration fees.

Administrative expenses have been estimated on an “incurred” basis (as have claim costs). Using an incurred basis provides cost estimates that are consistent with current or future Governmental Accounting Standards Board (GASB) accounting standards related to self-funded plans. The following table shows the components of administrative expenses included in our cost projection.

Claim Administration	\$7.00
Consulting	\$1.00
Eligibility Administration	<u>\$0.39</u>
Total	\$8.39

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### **Three Year Costs**

Ed Code Section 17566 requires an actuarial estimate of self-funded health plan costs every three years. Unfortunately, it is not feasible to confidently project health costs very far into the future. Plan changes or demographic changes can arise that can't be anticipated a year or two in advance. Even for a group with a stable plan and stable demographics, predicting health trends is subject to considerable uncertainty. To predict trend two years from now requires: an accurate economic forecast; a good prediction of how political forces will affect legislation and policy related to health care finance; an accurate prediction of breakthroughs in health care technology, drugs and treatment methods; a prediction of emerging public health issues; and an accurate prediction of the impact of market forces on health care prices. Needless to say, there can be considerable uncertainty projecting these factors three months much less three years!

We recommend that Sylvan Union obtain annual cost estimates from a qualified benefit consultant (not necessarily with actuarial credentials). The requirement that a qualified actuary provide cost estimates every three years should assure that annual cost estimates don't get too far out of line, as long as interim cost estimates are prepared by a competent benefit professional.

The following three year projection is based on a projection of expected claims and expenses using trend. Projections are expressed as ranges. The high trend estimate has been increased by 2% in the first year and 4% in the second.

<u>Period</u>	<u>Low Estimate</u>	<u>High Estimate</u>	<u>Trend Range</u>
January 1, 2017 to December 31, 2017	\$127.89	\$136.44	4.0% to 6.0%
January 1, 2018 to December 31, 2018	\$133.00	\$147.36	4.0% to 8.0%
January 1, 2019 to December 31, 2019	\$138.32	\$162.09	4.0% to 10.0%

***It should be emphasized that the “High Estimate” costs do NOT represent a worst case scenario.*** Actual costs could be much higher depending on factors mentioned at the beginning of this section. These projected costs should NOT be relied on for funding purposes.

It is also important to note that the high estimate costs include fluctuation margin. Sylvan Union may not need to fund fluctuation margin if a suitable amount is already earmarked for this purpose.

### **Future Cost Estimates**

Any projection of health care costs will be only as good as the data used as the basis for the projections. To get the best possible estimates of future costs, the following types of data would be necessary.

- < Claim lag reports produced no less frequently than quarterly.
- < Monthly count of the administrator's “on hand” claims.
- < A list, with amount, of any “pending” claims. (Pending claims have been received, partially processed and are awaiting additional information before being finalized.
- < Quarterly snapshots of demographic data for enrolled employees and their dependents.

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- ◁ An annual claim history tape to assist in pricing plan changes and for other analyses.

The cost and reserve estimates contained in this study do not reflect costs for retiree benefits beyond the projection period. To prudently fund its benefit plan, funds should be earmarked for any retiree health benefits. To do so, funding should include the annual accrued cost for district-paid retiree health benefits as well as an amount to amortize any unfunded past service liability.

### **Professional Qualifications**

The estimates of required funding rates were prepared by Geoffrey Kischuk. Mr. Kischuk is a Fellow of the Society of Actuaries (FSA), a Member of the American Academy of Actuaries (MAAA) and a Fellow of the Conference of Consulting Actuaries (FCA). Mr. Kischuk has 40 years of experience estimating costs for group life, health and disability plans.

Mr. Kischuk's professional credentials qualify him to perform this evaluation according to California Education Code Section 17566.

Prepared by:

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**APPENDIX A: MATERIALS RELIED ON IN ESTIMATING COSTS**

- ◁ Delta Dental claim lag data thru July 31, 2017.
- ◁ Keenan & Associates renewal calculation.