MILLIMAN REPORT

2024 Dental Actuarial Analytics Commercial PPO Network Study

July 2025

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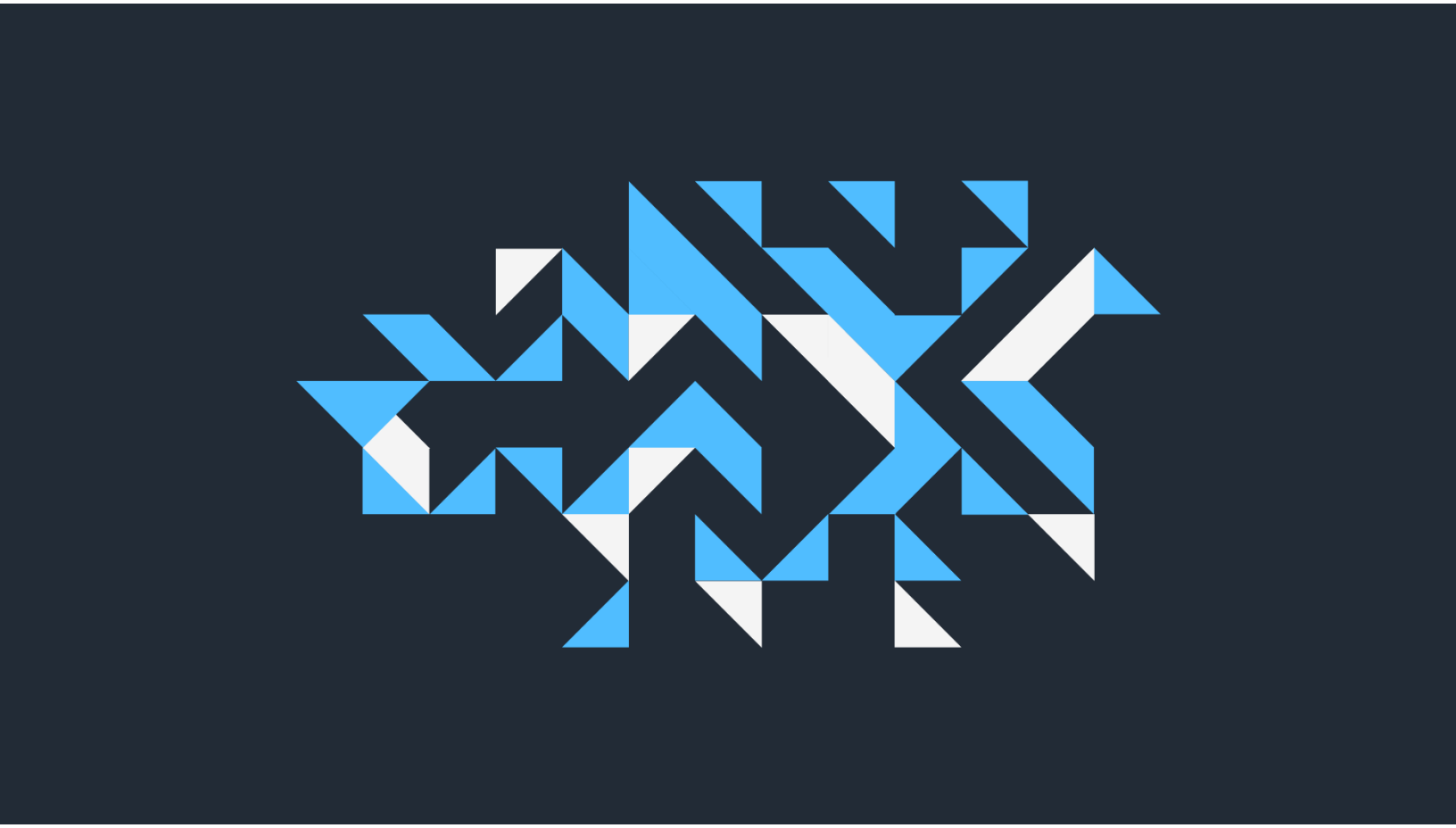

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Introduction

The 2024 Milliman Dental Actuarial Analytics (DAA) Commercial PPO Network Study is a detailed competitive benchmarking study of the commercial dental market. The study is utilized by the vast majority of the dental market to gain insights into dental network components, including discounts and in-network utilization. This year's study includes data on 466 million dental procedures and over $73 billion in submitted charges. The results of individual reports and data are proprietary to participants of the study. This report serves as an overview of study processes and methodology.

This 2024 Milliman DAA Commercial PPO Network Study overview includes study definitions and methodology along with caveats and limitations. Each section details the framework of the study:

- Study definitions and methodology – provides definitions, formulas, and context surrounding key subject material in the study. This section includes information related to the following outputs: preferred provider organization (PPO) network discounts, non-PPO network discounts, effective discounts, net contracted discounts, PPO network utilization, and network size. It also details the results aggregation processes relevant to data organized by class, category of service, area, procedure, benefit plan type, and tiered networks.
- Caveats and limitations – provides clarification relevant to the purpose of the report, as well as the responsibilities and liabilities of parties involved.

Study definitions and methodology

SUMMARY OF DATA AND KEY CALCULATIONS

Each company submitted detailed claim data for calendar year 2024 service dates, paid through at least January 2025. Company claims data were reviewed and then organized into a study database off which analysis was conducted. In making claims data consistent across companies, we apply several rules to the data; some notable ones include:

- For claims subject to alternate benefit provisions,[1] we ensure that calculated discounts do not include the impact of cost differences between the submitted and paid procedure costs.
- We exclude orthodontia claims from the analysis, as well as procedures with no defined fee (e.g., teledentistry) and other unusual procedures (e.g., Dx999 "by report" procedures).

Average charge denominator

For all discount calculations, the average charges are used as a consistent basis for the denominator across all study participants.

The method used to create average charges by procedure code and area is as follows:

- Aggregate processed data across contributors by procedure code and three-digit ZIP Code.
- Where credible, use original data to generate an average billed charge by procedure code and three-digit ZIP Code. In creating the average, we remove outlier data (0.5% of highest and lowest occurrences). As stated above, we have enough credible data to use original data for 99.9% of procedure/ZIP Code combinations for the 2024 study. If we consider results for the top 54 Common Codes produced as part of our Full Package, over 99.99% of procedure/ZIP Code combinations for the 2024 study are based on the original data without any imputation.

1. Alternate benefit provisions are defined as a contractual provision that allows a dental plan to cover, and pay for, an alternate, generally less expensive procedure than the procedure received. For example, for fillings, patients may receive a more "visually appealing" procedure, but the less expensive, but clinically similar, less "visually appealing" procedure code is covered by the plan.

- For the 0.1% of procedure/ZIP Code combinations without credible data, we were able to impute an average billed charge using:
  - the average Current Dental Terminology (CDT) submitted charge at the regional level, if not credible then
  - the average CDT submitted charge at the state level, if not credible then
  - the area adjusted average CDT submitted charge at the national level

Allowed charge numerator

Average contracted amounts for each procedure are calculated from the allowed charges in the network claim data.

An average allowed amount for each procedure was calculated from the allowed charges across all claim data. For claims from a contracted dentist, this amount is usually equal to the contracted amount. For claims from a non-contracted dentist, this amount is equal to the submitted charge reduced for Usual Reasonable & Customary (UCR) or Maximum Allowable Charge (MAC) limits.

Calculated discount statistics

The following key discount and network related outputs are calculated:

- **PPO network discounts** represent the discount, or reduction in price, off average charges on procedures from PPO network dentists. PPO network discounts represent the savings a PPO network can achieve due to contracted rates with providers. For networks with a tiered structure, there may be contracted dentists outside the PPO network; this calculation does not consider savings from those providers, nor does it consider savings from non-contracted dentists. This calculation does not account for the proportion of claims included in the PPO network, only the price reduction the network is able to achieve.

  The PPO network discount for each procedure was calculated as:

$$1 - \frac{(average\ PPO\ network\ contracted\ amount)}{(average\ charges)}$$

  PPO network discounts were also calculated for general dentists only and for specialists only. These discounts use the same average charges since average charges by provider type are not available.

- **Non-PPO network discounts** represent the discount, or reduction in price, off average charges on procedures from non-PPO network dentists. Non-PPO network discounts represent savings from providers not in the PPO network. This includes dentists from second network tiers in a tiered network model and non-contracted dentists. This calculation does not account for the proportion of claims outside the PPO network, only the price reduction achieved from non-PPO providers.
- **Effective discounts** represent total savings achieved by the network. Effective discounts are the discounts off average charges on procedures from all dentists. This calculation considers the entire claims base, including in-network contracted rates, savings from UCR or MAC schedules, and the proportion of claims at contracted providers and non-contracted providers the network has.

  Effective discounts are both developed based on data for all groups for each network and separately based on data from groups with passive plan designs (defined below) for each network. Summarizing only groups with passive plan designs minimizes the impact of network steerage from plan design features and makes information across companies more comparable.

  The effective discount for each procedure was calculated as:

$$1 - \frac{(average\ allowed\ amount\ from\ all\ dentists)}{(average\ charges)}$$

- **Net contracted discounts** represent savings achieved from contracted dentists in the network. Net contracted discounts are the discounts, or price reduction, off average charges on procedures from dentists from contracted dentists in any network times the percent of claim dollars from those dentists. This includes dentists in second network tiers in a tiered network model. This calculation assumes no savings from non-contracted dentists and focuses only on network savings. This calculation accounts for both the price reduction achieved for contracted dentists and the proportion of claims the network had in-network.

  Net contracted discounts are both developed based on data for all groups for each network and separately based on data from groups with passive plan designs (defined below) for each network. Summarizing only groups with passive plan designs minimizes the impact of network steerage from plan design features and makes information across companies more comparable.

  The net contracted discount for each procedure was calculated as:

$$\left[1 - \frac{average\ allowed\ amount\ from\ all\ contracted\ dentists}{average\ charges}\right] X\ (percent\ of\ claim\ dollars\ using\ a\ contracted\ dentist)$$

  In the net contracted discounts based on claims for all benefit designs, some of the savings from contracted dentists outside the PPO network may be coming from the use of a MAC benefit design that allows only the PPO network fees, rather than from the contracts in place with those dentists. This is consistent with the methodology for effective discounts based on claims for all benefit designs.

- **PPO network utilization** represents the amount of claims the network has with PPO contracted dentists. This is the percentage of claim dollars from PPO network dentists. For networks with a tiered structure, there may be contracted dentists outside the PPO network that are not considered in this statistic. This statistic quantifies the proportion of total claims that get access to the PPO network discounts.

  The percentage of utilization from a PPO dentist for each network was calculated as:

$$\frac{[(number\ of\ PPO\ network\ procedures)X(\ average\ charge\ for\ each\ procedure)]}{[(number\ of\ total\ procedures)X(average\ charge\ for\ each\ procedure)]}$$

- **Network size** represents the number of providers within the PPO network. PPO network size data was provided by Zelis Healthcare,[2] based on their comprehensive Network360® database of provider directories as of April 2025. The study uses Zelis's counts of confirmed practicing providers by network. Zelis provides Milliman with the publicly available information from their database, not proprietary network information that carriers may also share with Zelis.

RESULTS AGGREGATION

By class and category of service: Average discounts across each class and category of services and for all services in total were calculated based on the aggregate distribution of procedures across all claim submissions.

By area: Data from three-digit ZIP Code areas were aggregated into 180-plus regions; there are no changes to the regions previously defined by DAA. Only networks with at least 500 PPO network claims or 500 total claims in a region were used in that region, and only those with at least 250 PPO network claims of a given benefit type were used in discounts or PPO network utilization rates for that benefit type and region.

2. More information about Network360 is available at https://www.zelis.com/solutions/network-solutions/network360/.

Weighted average discounts for each market are based on defined membership groupings rather than the actual size of each network. The weights are based on the average claim volume of the networks in each grouping. For the 2024 study, companies with a "<" membership grouping have a weight of 1. Weights used with ">" membership groupings were:

	DAA REGIONS	STATES
>10,000	26	26
>25,000	23	23
>50,000	22	28
>100,000	24	33

Regions with no membership groupings use weights of 1, i.e., their weighted average is equal to the straight average.

Common procedures: The 54 procedures for which code-specific discounts are given were chosen to cover the most commonly utilized dental services, as well as to cover a broad range of service categories. These procedures do not represent the complete list of codes used in aggregate results.

By benefit plan type: For reports that include splits by benefit plan type, the following definitions apply.

MAC benefit design = a plan that uses the PPO fees, or another schedule that will result in balance billing on most claims, as the maximum allowed amount for all claims from a dentist not in the PPO network (or in the first network tier in a tiered network structure).

The remaining plans are all defined as non-MAC. These would typically allow the full contracted fees for any claims from a supplemental network, and something similar to the 80th percentile of area charges for claims from non-contracted dentists.

Passive benefit design = a plan having the same deductible applied to the same procedure classes and the same coinsurance rates for visits to dentists in or out of any network tier.

Strong active benefit design = a plan having richer benefits (higher coinsurance or lower deductible) for preventive and diagnostic claims from a dentist in any network tier than for a non-network dentist. For example: 100/80/50 coinsurance in-network and 90/70/50 out-of-network; or a deductible that is waived for Preventive and Diagnostic (P&D) claims only if a PPO dentist is seen.

Weak active benefit design = a plan having the same benefits for P&D claims from all dentists but having richer benefits (higher coinsurance or lower deductible) for some other type of claims from a dentist in any network tier. For example: 100/80/50 in-network and 100/70/50 out-of-network.

We also received more granular benefit details from companies with tiered networks to indicate whether the strong or weak active benefit elements applied to just the Tier 1 (PPO) network, applied to Tiers 1 and 2 with lower benefits out of network, or whether each tier's benefits were differentiated. For purposes of the study, these categories were recombined into the standard strong and weak active categories.

Caveats and limitations

This report was prepared to provide an overview of the methodology and processes of the 2024 Milliman Dental Actuarial Analytics (DAA) Commercial PPO Network Study. This information may not be appropriate, and should not be used, for any other purpose. Milliman does not intend to benefit, and assumes no duty or liability to, other parties who receive this work product. Any third-party recipient of this work product who desires professional guidance should not rely upon Milliman's work product but should engage qualified professionals for advice appropriate to their own specific needs. Any release of this report to a third party should be in its entirety. This report must be read in its entirety, and specialized knowledge of the industry is necessary to fully understand the report and its conclusions.

Milliman has developed certain models to estimate the values mentioned in this report. The intent of the models was to develop the 2024 Milliman DAA Commercial PPO Network Study. We have reviewed the models, including their inputs, calculations, and outputs, for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOP).

The models rely on data and information as inputs to the models. We have relied upon certain data and information provided by DAA Study participants and Zelis. We have not audited or verified this data and other information but reviewed it for general reasonableness. To the extent that the data and information provided is not accurate, or is not complete, the values provided in this report may likewise be inaccurate or incomplete. We performed a limited review of the data used directly in our analysis for reasonableness and consistency and have not found material defects in the data. If there are material defects in the data, it is possible that they would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

Any reader must possess a certain level of expertise in areas relevant to this analysis to appreciate the significance of the assumptions and their impact on the illustrated results. The reader should be advised by professionals competent in these areas so as to properly interpret the results.

ACKNOWLEDGMENT OF QUALIFICATION

Joanne Fontana and Nolan Kurtz are consulting actuaries for Milliman. We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

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