Milliman

Independent Evaluation of Trend Development Methodology

Prepared for:
Collective Health

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INTRODUCTION

CollectiveHealth, Inc. ("Collective Health") has asked Milliman, Inc. ("Milliman") to review its methodology for analyzing the health care cost trend of its clients.

This report contains the results of our review.

BACKGROUND

Collective Health is a healthcare technology company that provides a complete health benefits solution to employers with self-insured health plans. Collective Health offers its products and services to companies in California, New York, and other states.

Collective Health has performed an analysis of health care cost trend for the employer groups that it administers. Collective Health requested an independent review of its analysis methodology.

SUMMARY OF RESULTS

We reviewed the model developed by Collective Health. The intended use of Collective Health's model is two-fold: (1) to report the aggregate health care trend of its employer groups for potential clients and (2) to report the health care trend of each employer to the employer or other interested parties. The model compares health care costs from the base period and performance period for each employer group and in aggregate. The model is set up to perform the comparison with or without normalizing for differences in demographics, area, and benefit design. The model is also set up to truncate the total health care cost of a member at different attachment points.

We believe that the methodology Collective Health used is reasonable and not biased based on the data available when the model was developed. As Collective Health's data volume grows, we suggest that Collective Health review and refine the methodology as appropriate.

For the purpose of comparing to an external benchmark trend, the appropriate trends should be based on costs:

- That have been normalized for change in demographics, area, and benefit design;

- That are based on costs incurred by all members, not just the engaged members; and

- That are truncated for catastrophic health care costs.

Trends from other model parameters may be appropriate for other purposes.

We note that the attachment point to be used for truncating catastrophic health care costs may depend on characteristics unique to each employer group and all employer groups in aggregate.

In reviewing the model developed by Collective Health, we did not review how claims and eligibility data were summarized and entered into the model.

METHODOLOGY

Description of Collective Health Model

Collective Health provided the model they developed to analyze the health care cost trend of its employer groups.

The model contained a summary of health care claims data and eligibility data in the base period and performance period. In the version of the model that we reviewed, the base period was the first six months of 2016, and the performance period was the first six months of 2017. Health care claims incurred in the performance period were adjusted to account for claims incurred but not paid (IBNP), using separate completion factors for the following

categories – inpatient, outpatient, professional, and ancillary. One set of completion factors was used for all employer groups. Health care claims incurred in the base period were assumed to have no claims IBNP.

The model summarized the allowed costs from the base period and performance period using the following dimensions:

- Medical vs. pharmacy vs. total

- Employer group vs. total

- Engaged population vs. non-engaged population vs. total.

To account for possible change in mix from the base period to performance period, the model was set up to normalized for the following:

- Demographics – Collective Health used age/gender factors it developed using results from Truven 2015 Norms Report. There was no adjustment for other changes in population risk profile.

- Area – Collective Health used area factors provided by Milliman.

- Benefit design – Collective Health used induced utilization factors provided by Milliman.

To account for outsize impact of members with catastrophic health care cost, the model was set up to truncate the member's total cost at various attachments ranging from $50,000 to $500,000. The truncation was done separately for total medical cost and total pharmacy cost.

Comments

We have the following comments:

- We did not review how the claims and eligibility data were summarized and entered into the model.

- The model was set up to define the base period and performance period to be less than full 12 months. Seasonality may be an issue if different intra-year periods are used in the base period and performance period. The version of the model we reviewed used the same six-month period (i.e., January through June) in the base period and performance period,

- We believe it is appropriate to adjust the performance period claims for claims IBNP using different completion factors by broad service category. We did not review how the completion factors were calculated. Without further review, we cannot opine on the reasonableness of the completion factors used. Similarly, we cannot opine on whether using a single set of factors for all employer groups is appropriate. If the claim reporting/payment pattern differs significantly from region to region and employer groups are located in different regions, then developing completion factors by employer group may be appropriate.

- We believe it is appropriate to account for change in mix by normalizing for demographics, area, and benefit design. The calculation for normalization is accurate.

- The induced utilization factors that Collective Health used may not be appropriate when less than full 12 months of claims are used in the base period and performance period.

- We reviewed the trends using truncation at various attachment points and found that the trends vary significantly with respect to attachment points. We recommend reviewing the trends at different attachment points to understand the potential variations in trend caused by truncating at different attachment points.

DATA RELIED UPON

We relied upon the following information provided by Collective Health:

- *2016 Clients Trend Analysis - thru oct_20171129_send_v3.xlsb.xlsm* provides the model that Collective Health used.

CAVEATS

The services provided for this project were performed under the signed Consulting Services Agreement between Milliman and Collective Health effective November 7, 2017.

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. Susan Pantely is a member of the American Academy of Actuaries, and meets the qualification standards for performing this analysis.

Our analysis relied on information provided by the client. We did not perform any review on the data. If this information was not accurate, results and conclusions may not be appropriate.

Actual experience will differ from historical experience. It is certain that future trends will differ from historical trends.

The results for any particular group will be unique to the characteristics of that group. This report does not constitute an endorsement or recommendation of Collective Health's services.

We understand that Collective Health intends to distribute the report to its prospective customers. We consent to this distribution as long as the work is distributed in its entirety. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. Milliman recommends that third parties be aided by their own actuary or other qualified professional when reviewing the Milliman work product.