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**White Paper**

## Focused Health Solutions' Program Cost Savings Methodology

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The disease management programs by Focused Health Solutions (FHS) have provided our self-insured employer partner's significant savings in medical claims expenses. In this white paper report we spotlight the methodology used to evaluate our programs. As many readers will know, evaluating disease management program results fairly can be challenging. In our judgment, and in the judgment of our external peer reviewers, we believe we meet this challenge with the rigorous and conservative methodology described here; but the objective of this report is to provide complete transparency so you can decide for yourself.

Medical cost savings from the FHS disease management programs are evaluated using a control design. This is an analytic design compares aggregate cost differences over between two matched groups in order the question "did this program make a difference?" This is a straightforward which is heavily utilized in the industry for program outcomes. In fact, the Disease Management Association of America <sup>1,2</sup> just recommended this approach in the release of their outcomes evaluation guidelines.

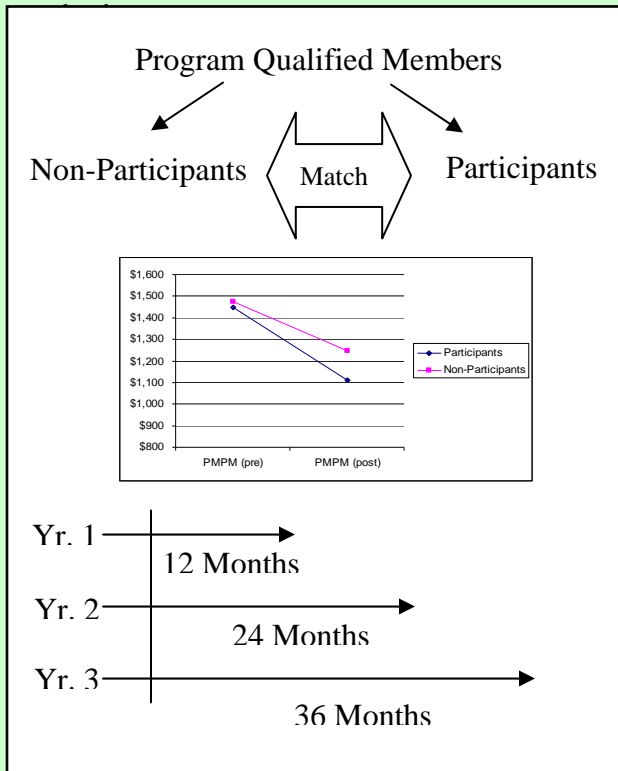
The FHS programs differ from the industry its opt-in model. This means we only customers for members who actively in the programs and therefore, we only take savings for members who actively participate. In contrast, most disease management companies charge fees for and take credit on savings for members who participate passively by having access to educational websites or receive newsletters However, in their operating models, the passive members *outnumbers* the number of participants. We think this approach may effective and published evidence supports <sup>3</sup>. Our program is different: with us, you get pay for, you only pay for members who participate, and with our evaluation methodology you see exactly what that buys.

Since the opt-in model is unique in the it requires a different measurement approach typical "pre-post" analysis most often evaluate total population-based DM Based on the design of FHS' opt-in

the most appropriate design is the comparison of program participants with a matched set of non-participants with a matched set of non-participants (see **Exhibit 1, Methodological Approach At-A-Glance**). This approach is required because there is a need to compare the program participants to *something* in order to judge whether there have been improvements. Comparisons could be made to their own pre-program baseline, but this would result in false savings because of regression to the mean.

## Methodological Approach At-A-Glance (Exhibit 1)

1. With an opt-in model, we know the members who actively participate during the program-time period. In order to determine program outcomes, we need to find a similar (matched) set of members who should have participated but did not.
2. To do this, we match members in the measurement year with non-participating members with similar clinical, utilization, and cost characteristics.
3. Once the matched groups are formed and confirmed we compute costs for each group and compare them to



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So the fair comparison group is a “matched” group of non-participants that were eligible for participation, but did not participate in the program. In this way, everything about this comparison group would be equivalent except for program participation – thus the effect of the program can be isolated. The approach is to take the program participants, profile or characterize them by their demographic and claim history information, and find people one-by-one who match their profile during the same period.

Fortunately, there is a sound, published scientific literature on valid approaches for completing this profiling and matching, as well as scientific, peer-reviewed publications from 3<sup>rd</sup> parties that describe the matching methodology<sup>3,4,5</sup>. This is an important point to us because we want to utilize solid, well-documented evaluation methodologies. And the matching method we use is well-tested; indeed, it was 1<sup>st</sup> published two years before the DMAA’s own guidelines<sup>6</sup>.

During each program year the matching method involves profiling the program participants and then matching those participants to similar non-participants from the same time period. The profiling is done on many characteristics including demographic and clinical utilization history. These characteristics are used to develop a multi-pass matching algorithm – similar in concept to propensity scoring. For example, the matching algorithm utilizes retrospective risk, co-morbidities, prior cost, prior hospital admissions, and prior ER utilization to find the closest available non-participant match from the same period.

#### Step-by-Step Overview of Methods (Exhibit 2)

- **Extract claims:** For the members included in the evaluation groups, medical and pharmacy claims data are extracted from the FHS data warehouse and used to support the matching algorithm. The medical and pharmacy claims for this period are pulled for every member in the list on a monthly basis. The costs used are the “allowed amounts”.
- **Extract member months:** For the evaluation year members, member month data are extracted from the FHS data warehouse. These data are the result of compiling the monthly eligibility files received from the customer or their data provider.
- **Remove Ineligible Claims or Members:** FHS focuses on certain conditions and recognizes that other specialized expertise is required to best support some conditions, such as ESRD, AIDS, and organ transplants; members with these types of conditions are not included in our program or savings methodology. Also, our program is not designed to impact certain other conditions or issues such as fertility treatments, skin cancers, and auto accidents, so we only selectively remove the specific claims and keep everything else.
- **Create Matched Comparison Groups:** Program participants are profiled and then matched to non-participant same time period one-by-one using an automated algorithm. The algorithm considers each participant’s demographic (e.g., age, sex...) and clinical utilization profile (e.g., disease conditions, inpatient admissions, ER visits, retrospective risk...).
- **Calculate Total Claims:** All members in the participant and non-participant group are included in the analysis with their pre and post member month totals as well as the medical and pharmacy claims totals for every month.
- **Compare Cost Trends:** Based on the total allowed amount (plan paid plus subscriber liability), cost trends are created for the participant and non-participant groups over time. The overall difference between these trends is used to estimate overall program savings.
- **Calculate ROI Results:** The overall estimate monthly costs savings is then multiple by the number of participant member months to determine total medical costs savings for the program. This amount, divided by total member months for the customer’s total population, yields a \$PMPM savings amount. The \$PMPM savings can then be compared to the \$PMPM fees to determine the program’s ROI.

The methodology is applied longitudinally over a three year period (aligned with performance guarantees). In the first program year, a 12 month measurement window is utilized to estimate program value. This window is then extended in subsequent years to include a 24 and 36 month window (see **Exhibit 1, Methodological Approach At-A-Glance**). This approach is more consistent with the longitudinal nature of disease management programs and will provide more accurate and meaningful savings results.

One important point to note is that the costs for members that are included in the evaluation are based on “allowed amounts”. Allowed amounts are the member pay (e.g. co-payments, deductibles, etc.) plus plan pay amounts. This ensures that benefit design changes over time, with subsequent changes in plan pay ratio, do not impact results.

Denied claims or claims not otherwise considered final are not included in the program evaluation. Finally, annual allowed costs are capped at \$100,000 (using an actuarial prorating approach) for each member in an effort to removed statistical outliers.

In summary, the methodology used by FHS is a standard matched control group design. Aside from the need to create a matched comparison group for the program participants, the methodology is consistent with industry standards such as those put forth by the DMAA. The methodology is straightforward, conservative, based on published peer-reviewed documentation, and is rigorous enough to support our customer's decisions about their business. Additional information about the methodology is provided in **Exhibit 3, FAQs**, below, where we provide responses to some frequently asked questions.

### **FAQs (Exhibit 3)**

*Is this methodology consistent with industry standards?*

Our opt-in disease management program is unique in the industry and so there is not an industry standard. However, we follow all of the principles of transparency and equivalence that have been published by the Disease Management Association of America (DMAA) and other organizations such as the Society of Actuaries (SOA).

*How is this methodology different from the DMAA's most recent publication (Volume 4)?*

The approach that we are utilizing is consistent with the DMAA's most recent published guidelines. For example, we use a matched control group, similar clinical exclusions, outlier cutoffs, and matching algorithms which include robust retrospective risk scores. In addition, we use credibility adjustments for small populations.

*How does this methodology address common measurement pitfalls?*

- Regression to the mean: This methodology addresses regression to the mean by allowing both the participant group and the matched non-participant group to experience similar regression to the mean patterns. That is to say, we let it happen equally to each of the matched groups over time. In this way, we can be assured that the and regression to (or dispersion from) the mean are balanced between the groups.

- Selection bias: Whenever comparisons are made between two groups where one group has chosen to do something, selection bias is always a reality/concern. The multi-pass matching method that we utilize is designed to address this issue as much as possible by adjusting for observable differences that exist between the groups. Though selection bias can never be fully removed from the analysis, its effects are minimized through the use of this measurement design.

*Do you guarantee a positive ROI and put your fees at-risk using this method?*

Yes. We know that this methodology is conservative and will reflect program savings as accurately as possible, therefore we offer performance guarantees on medical cost savings.

*Is there anything you won't tell me about your methodology?*

No. We have set the highest bar for disclosure and transparency, and we are confident the more you learn the more you will like what you see.

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## Questions

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