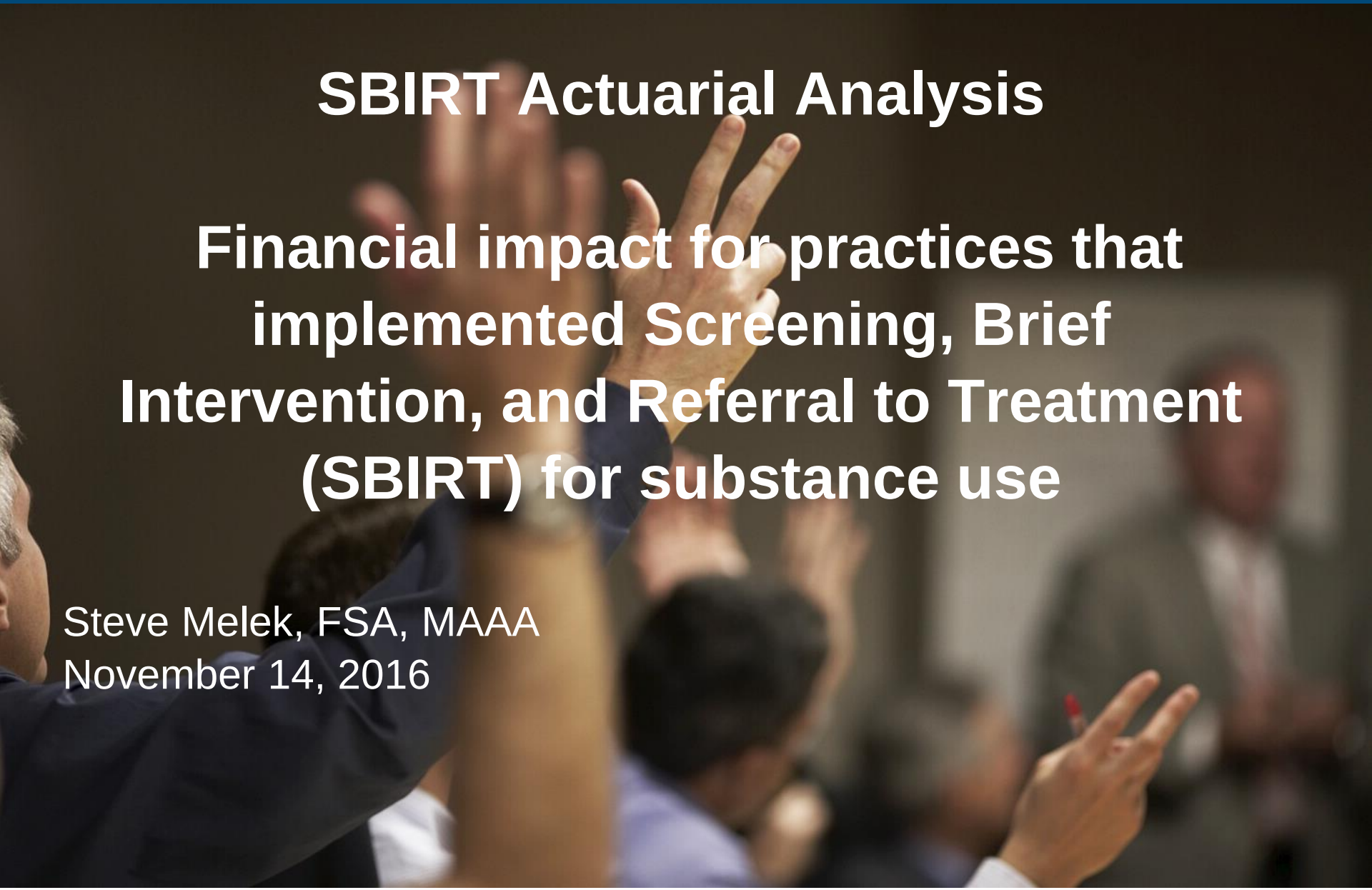

# SBIRT Actuarial Analysis

## Financial impact for practices that implemented Screening, Brief Intervention, and Referral to Treatment (SBIRT) for substance use

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Milliman

# Presentation Outline

- Background
- Methodology
- Results
- Conclusions & Further Analyses

# Background

- Colorado received two consecutive, five-year grants from the Substance Abuse and Mental Health Services Administration (SAMHSA) to implement Screening, Brief Intervention, and Referral to Treatment (SBIRT) for substance use, administered by the Colorado Department of Human Services, Office of Behavioral Health (OBH), and managed and implemented by Peer Assistance Services, Inc. (PAS).
- PAS, with funding provided by OBH, asked Milliman to conduct an analysis of claims data from participants in this program to assess results for healthcare cost savings.
- The Milliman report presents the analysis of the impact of the SBIRT program on the total cost of healthcare for populations to whom SBIRT was made available.

# Methodology

- We used the Colorado All Payer Claims Database (APCD) as the data source for this analysis.
- The Center for Improving Value in Health Care (CIVHC) provided data extracts for patients attributed to SBIRT practices using their own proprietary methodology.
- Because patients that receive SBIRT were not individually identifiable, either through a separate tracking approach or through specific claim codes that were used for the screening, we assigned all of the attributed patients to each SBIRT practice based on the earliest visit to a practice site after SBIRT was implemented at that site.
- We then analyzed each patient's total cost of care on a per-member-per-month (PMPM) basis before and after this first post-SBIRT visit.

# Analysis Goal and Approach

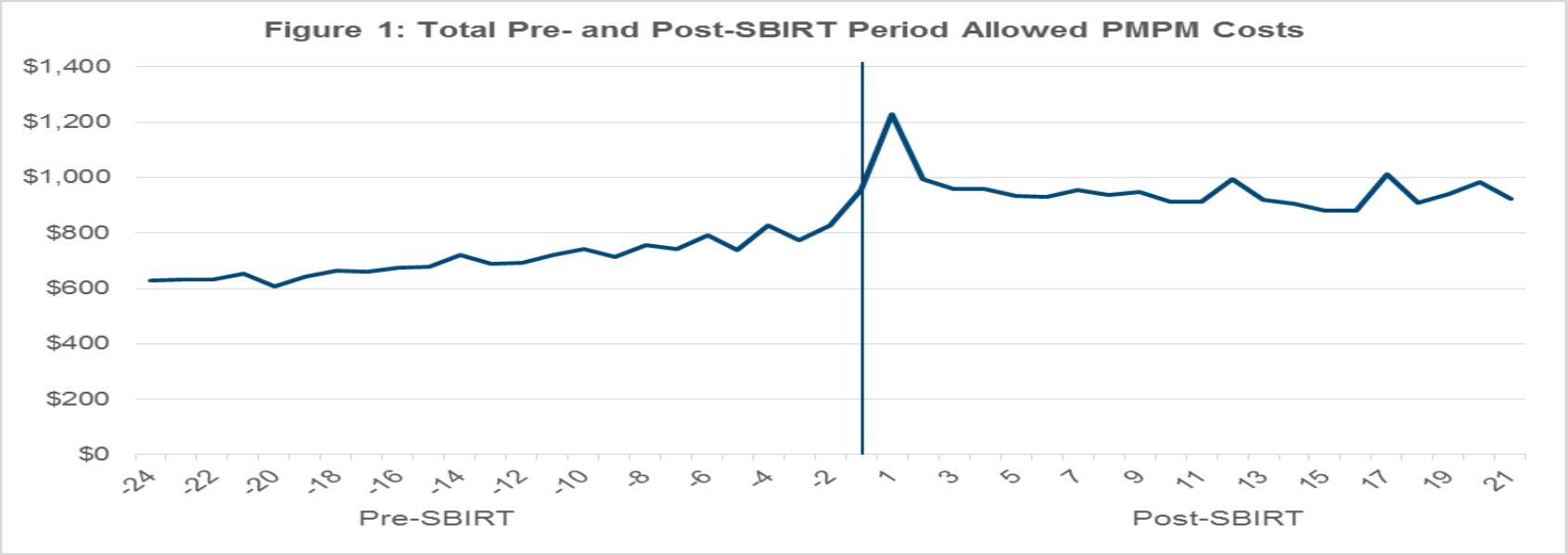
- The goal of this analysis was to determine if any healthcare savings were achieved for practice sites that implemented SBIRT by comparing the actual costs seen in the post-SBIRT period to a projection of expected costs if SBIRT had not been implemented.
- We aligned all patients' claim data by index month, using the month in which their first visit to a practice post-SBIRT occurred as the index month, and summarizing claim data for the 24-month pre-SBIRT period, as well as the 21-month post-SBIRT period.
- We also analyzed cost trends to determine any changes in trend rates pre- and post-SBIRT.

# Study Limitation

- Due to limitations in data availability, we were only able to analyze the total cost of care through up to 21 months following the index month for each patient (this varied by site based on their SBIRT implementation date).
- Further, we were also only able to perform analysis on 10 of the 13 SBIRT practices. This included claims data between June 2010 and January 2015.
- Due to 42 CFR Part 2, a federal law which restricts the availability of substance use claims in the APCD, claims related to substance use were not included in this analysis.

# Results

- For all analyzed practice sites in total, we observed higher healthcare cost levels post-SBIRT than were seen pre-SBIRT.
- These higher costs may be a reflection of the increased level of healthcare necessary for those who were screened and referred for further treatment, including physical and behavioral healthcare (excluding substance use claims as described above).



# More Results

- We also observed annualized cost trend rates that were significantly higher pre-SBIRT than post-SBIRT. These trends are shown in Table 1:

**Table 1: Annualized Cost Trend**

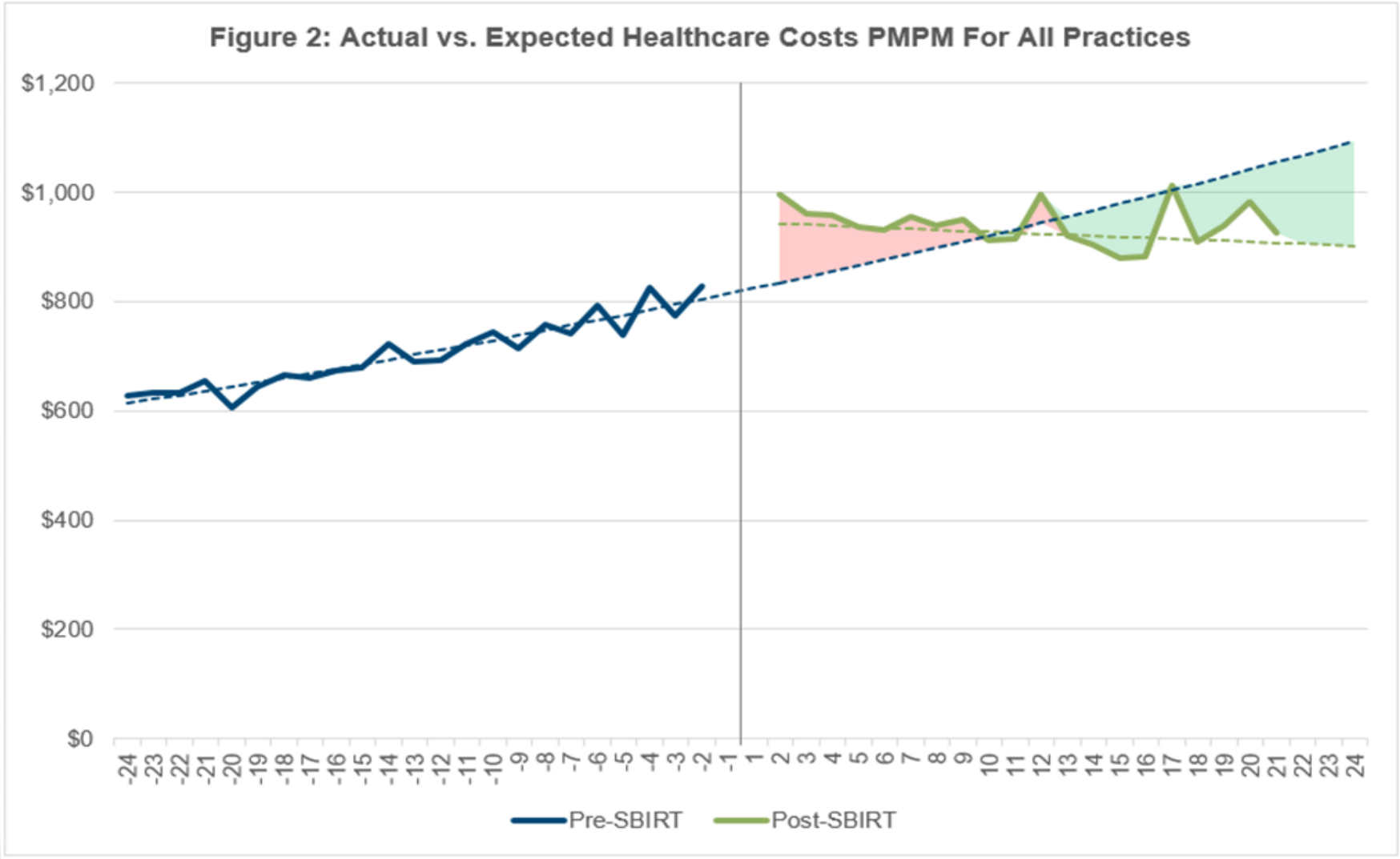
| Pre-SBIRT Period | Post-SBIRT Period |
|---|---|
| 13.8% | -2.4% |

- Although healthcare cost levels appeared to increase immediately following the index month, over time, cost levels stagnated and declined, producing a negative trend.

# More Results

- We used the observed trend rate pre-SBIRT to project expected PMPM cost levels in the post-SBIRT period had SBIRT not been implemented.
- These projected healthcare costs are compared to the actual post-SBIRT cost levels, and are also used as the projections of expected cost levels through the second year after a visit to an SBIRT site after implementation.
- **Based on this methodology, we estimate that monthly healthcare savings (avoided healthcare costs) were achieved by the 10$^{th}$ month post-SBIRT, and cumulative healthcare savings will be achieved by the 24$^{th}$ month post-SBIRT.** This does not account for any actual costs of implementing the SBIRT tool.

# Actual post-SBIRT Costs vs. Projected Costs



# Impact of the Emergency Department Results

- There were not enough patients in each practice site to produce a credible site-by-site savings or cost trend analysis; however, we were able to make observations about practices that were assigned enough members through attribution to be credibly analyzed.
- Emergency department (ED) patients showed a much higher and positive healthcare cost trend rate post-SBIRT than other practices. We speculate that a population assigned to an emergency department may differ materially from populations attributed to less intensive care settings in that they may have more complicated healthcare needs.
- Additionally, the ED staff does not follow their patients' care paths and patterns after they leave the ED, whereas primary care practices are far more likely to follow their patients after their office visits and treatments; thus the difference in healthcare cost patterns after the SBIRT was used.

# Results Excluding ED

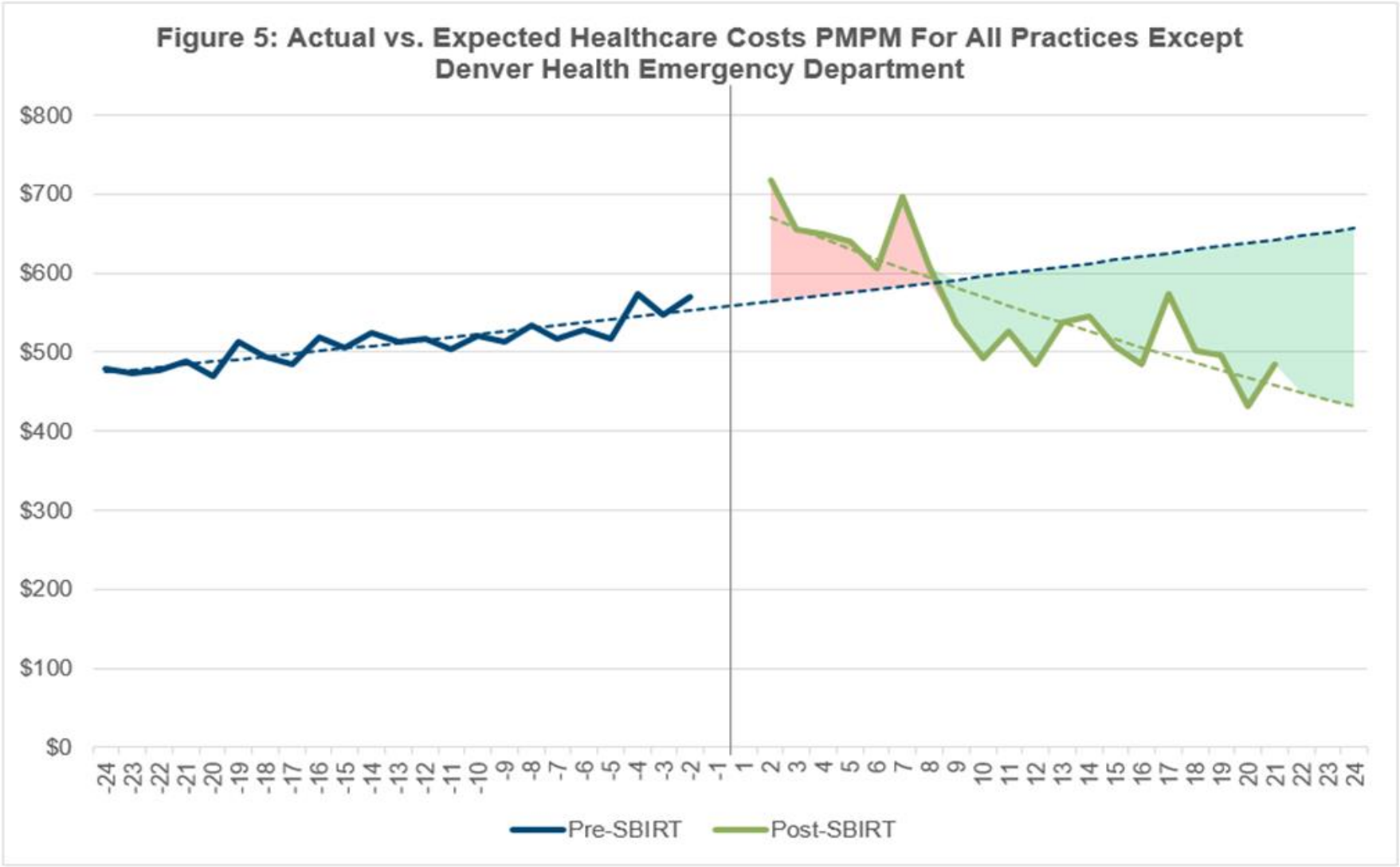
- We also analyzed all SBIRT practices combined excluding the ED site. The resulting annual trend rates calculated for this population are shown in Table 2:

**Table 2: Annualized Cost Trend excluding ED Site**

| Pre-SBIRT Period | SBIRT Period |
|---|---|
| 8.0% | -27.4% |

- This shows an even greater difference between the pre- and post-SBIRT periods. In this analysis, we estimate **monthly healthcare savings were achieved by the 9th month post-SBIRT and cumulative savings were achieved by month 18 post-SBIRT.**

# Actual post-SBIRT Costs vs. Projected Costs –Excluding ED



# Caveats & Further Analyses

- Several factors influence healthcare cost patterns. The decreasing pattern of healthcare costs post-SBIRT is quite dramatic and could be caused by a number of factors not associated with the use of the SBIRT tool. Further detailed analyses would add additional value to this report.
- Due to 42 CFR Part 2, no substance use claims were included in this analysis.
- Because there is no record of which specific patients received SBIRT, patients were attributed based on CIVHC methodology and assigned to practices based on their first visit to a site after SBIRT implementation. We do not know that these patients actually received screening. Our analysis serves as a proxy for patients who *could have* received screening and follows their claims experience over time.

# More Caveats

- We relied on the APCD provided by CIVHC on August 11, 2016, for this analysis. We did not audit these data, but did examine them for reasonability. Any errors or omissions in the APCD would result in errors or omissions in these results.
- The timeframe for the data available does not extend far enough to fully capture all post-SBIRT claims at sites with more recent implementation dates. To the extent that the experience at these recent implementation sites differs from the average experience, the results are biased towards the experience of the sites that implemented SBIRT earlier.
- The absence of a control group available for this analysis makes the inferences from this analysis less robust than an analysis that includes results for a control group.

# Future Analyses

- In addition to analyzing total healthcare costs, other health outcomes could be studied. It would be interesting to identify improved health status as a result of SBIRT, with the caveat that substance abuse claims cannot be used for this analysis.
- With the second five-year grant for SBIRT in Colorado ending, if there are future implementations of SBIRT, data could be collected in a different way to more closely analyze direct impacts of the program. This analysis could involve following the members who actually received the screening, provided that a record of SBIRT participants is kept.
- Given the data available, cost savings in this analysis were calculated by trending data before SBIRT implementation forward into the period following implementation. In future studies, baseline costs could be developed using actual costs of a control population that never received SBIRT in order to more closely estimate actual avoided healthcare costs.

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