

IMPACTABILITY SCORE 2.0: A NEW TOOL IN THE MANAGEMENT OF HIGH-RISK MEMBERS FOR BLUE CROSS AND BLUE SHIELD OF LOUISIANA

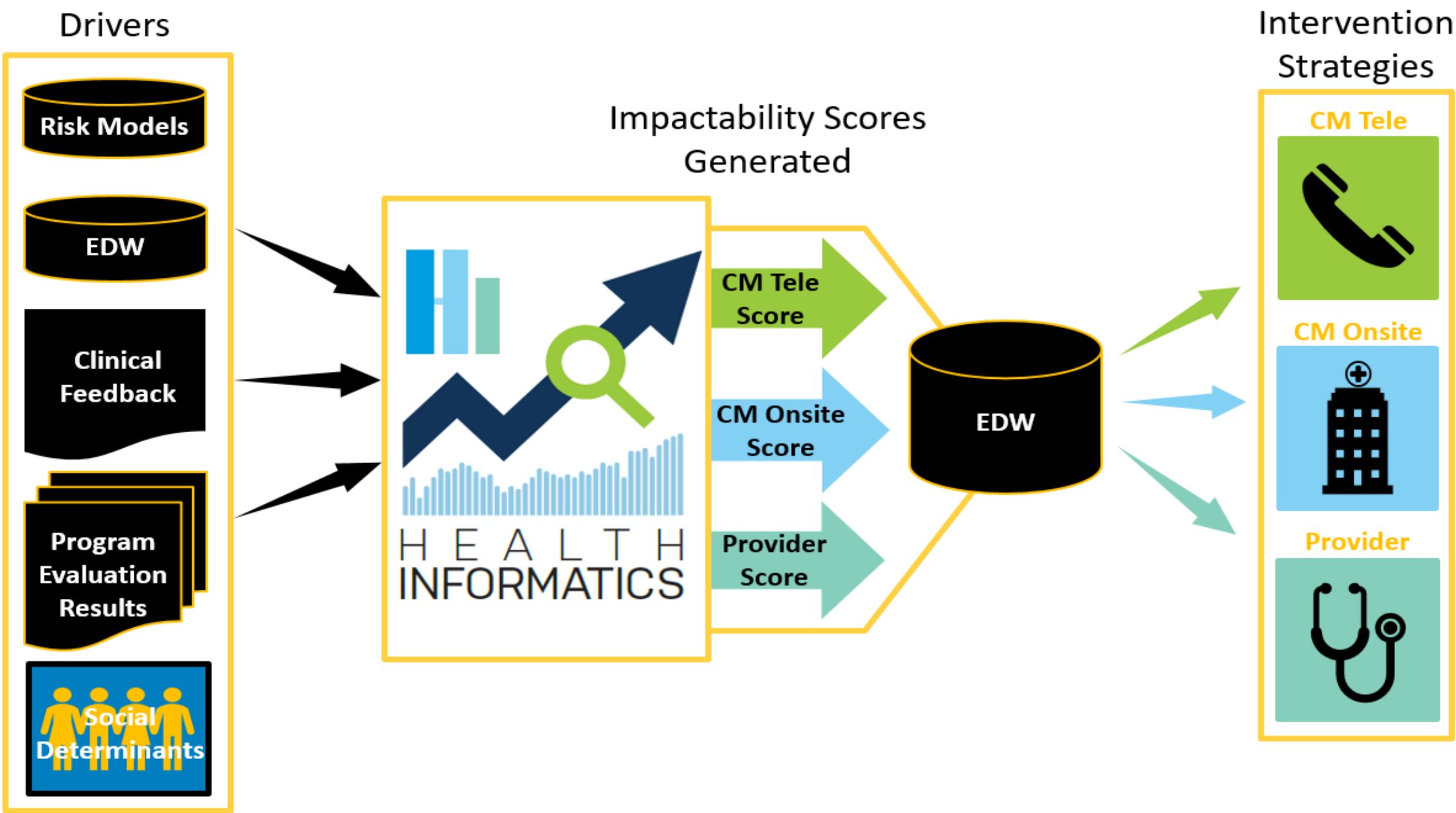
Ruthann Zhang, BS; Yuan Zhang, PhD; Miao Liu, MS; Cherie Bailey; Tasha Bergeron, MSPH, RN; Kristy Nikolaus; Deirdre Barfield, MD, MBA; Jeremy Wigginton, MD, MBA; Jason Ouyang, MD, MPH; Dawn Cantrell, BA; Benjamin V. Vicidomina, BS; Stephanie Mills, MD; Somesh C. Nigam, PhD. | Blue Cross and Blue Shield of Louisiana, Baton Rouge, LA, USA

BACKGROUND

Health plans are challenged to improve care and reduce unnecessary utilization for the highest-cost populations. Identifying these high-risk members who will need extra support and matching them with the appropriate interventions that will positively affect their behavior and mitigate their risks for hospitalizations and emergency department visits can be challenging.

Blue Cross and Blue Shield of Louisiana (BCBSLA) took on such a challenge in 2019 by developing an impactability score to measure a high-risk member's likelihood of being affected by an intervention. The score uses machine learning algorithms and considers health history, utilization and previous experience with preventive services. BCBSLA further developed the score in 2021 by adding new elements, such as taking into consideration a member's rising risk, adding more granular score drivers, and expanding the score to different intervention approaches.

IMPACTABILITY SCORE DEVELOPMENT



METHODS

- The BCBSLA impactability score was developed by front-line Care Management nurses, primary care physicians and medical directors, and the use of machine learning algorithms with over 8,000 data elements.
- Clinical data were organized into care opportunities. Those care opportunities were combined with risk scores, social determinants, program evaluation results and clinical feedback to create the impactability score for each intervention approach: telephonic care management, community care management, and primary care provider engagement.

- Score drivers have varying levels of granularity to ensure that members are assigned the most accurate score as possible. This includes accounting for disease stage progression, diagnosis severity and the timing of diagnosis.
- The score has five categories of potential impact: low, medium, medium high, high and very high. The scores for each of the three interventional approaches are made available to health care providers and BCBSLA case managers via dashboards. A retrospective assessment of the score was performed to fine-tune the score and its drivers. Below are the results when high-risk members are further classified into the five impactability buckets.

RESULTS

- The majority of members with potentially actionable drivers are in high-impact buckets rather than low. For example, more newly diagnosed cancer members had high-impact potential, while the majority of members with end-stage congestive heart failure had low.
- Very high- and high-impact potential members account for 3.4% of the population and 26% of the total costs. Focusing resources on the highest impactable members ensures manageable capacity for BCBSLA's Care Management team and ensures that members they are reaching out to can truly be impacted.
- As impactability scores increase, members see more benefits from Care Management intervention. Engaged, very high-impactable members had more cost savings per member, per month (PMPM) and avoided hospitalizations (IP) from intervention compared to engaged, low-impactable members.
- Very high-impactable members who were engaged also saw greater medical cost savings and more avoided hospitalizations in the post period (\$407 PMPM; 91 per 1,000) compared to the control (\$243 PMPM; 54 per 1,000). This shows that engaged, very high-impactable members performed better than the control (very high-impactable members who were not engaged).

Figure 1. Cost Savings PMPM by Impactability Bucket

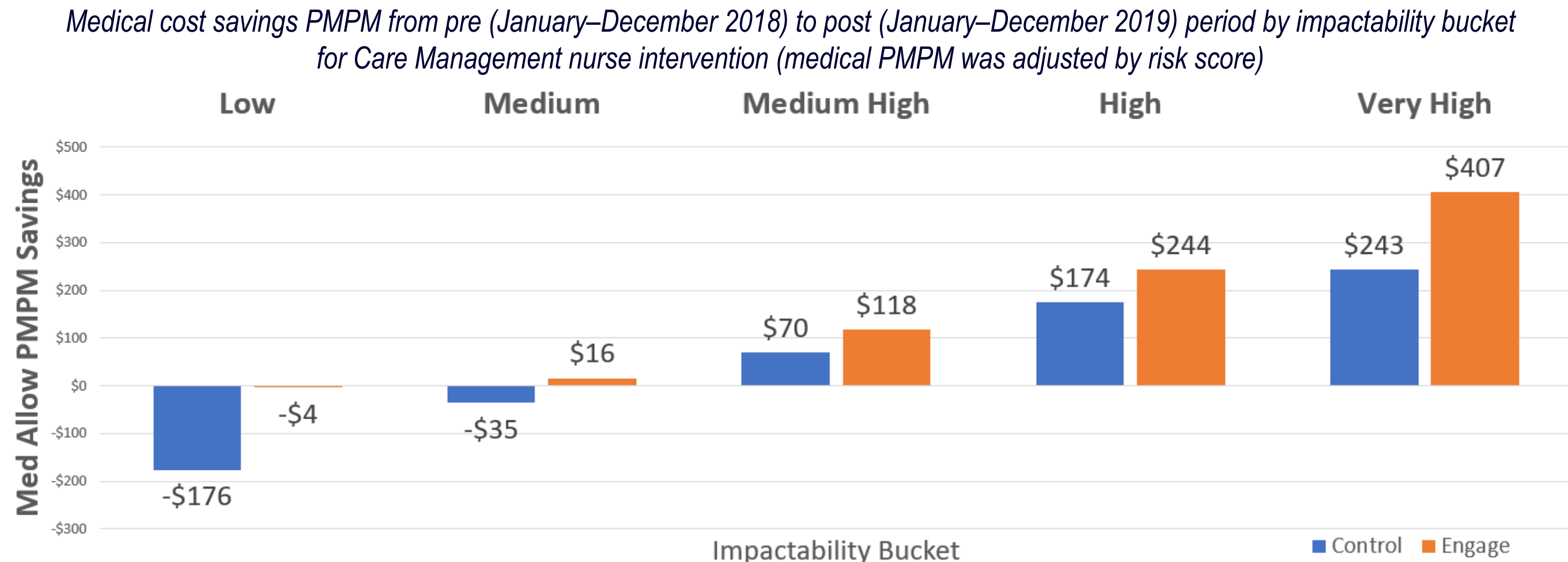


Figure 2. Avoided IP per 1,000 by Impactability Bucket

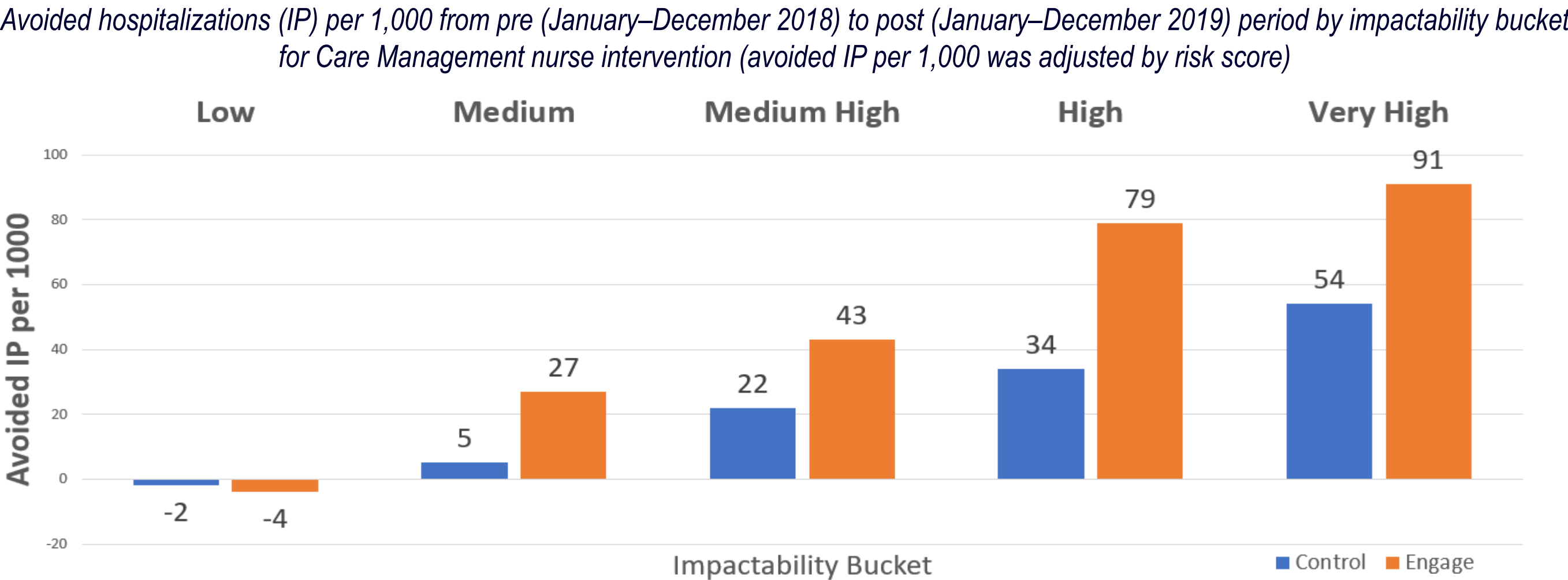
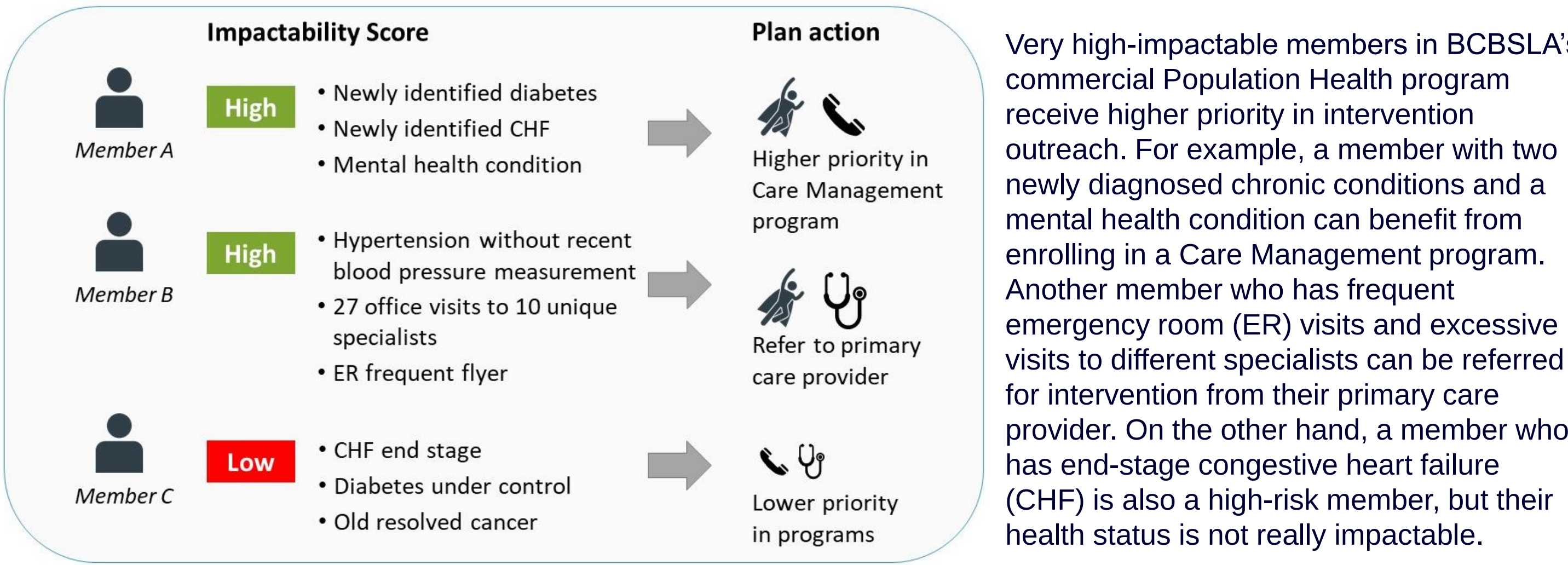


Figure 3. Impactability Score in Action



CONCLUSIONS

Engaged members with higher impactability scores showed a decreasing trend in medical costs and hospitalizations. As such, the current impactability score allows BCBSLA the ability to evaluate a patient's likelihood of benefiting from a particular intervention, which in turn directs providers and/or Care Management nurses to the right member at the right time. This results in members receiving the most appropriate interventions in a timely manner, ultimately maximizing care and reducing costs.