

## The association between medication self-monitoring using an incentivized digital health program and claims-based medication adherence

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*Patients most engaged in self-monitoring of medication adherence achieved the highest optimal adherence.*



### BACKGROUND

- While self-monitoring has been shown to positively influence a range of health behaviors<sup>1,2</sup>, there has been minimal research to validate patients' self-reported adherence against claims-based adherence.
- Walgreens Balance Rewards for healthy choices® digital health program (BRhc), that included medication adherence self-monitoring\*, provides small financial incentives for users to set and achieve their lifestyle and condition management goals.

### OBJECTIVES

- To examine the association between adherence self-monitoring and pharmacy claims-based medication adherence for patients taking medications for hyperlipidemia, hypertension, or diabetes.

### METHODS

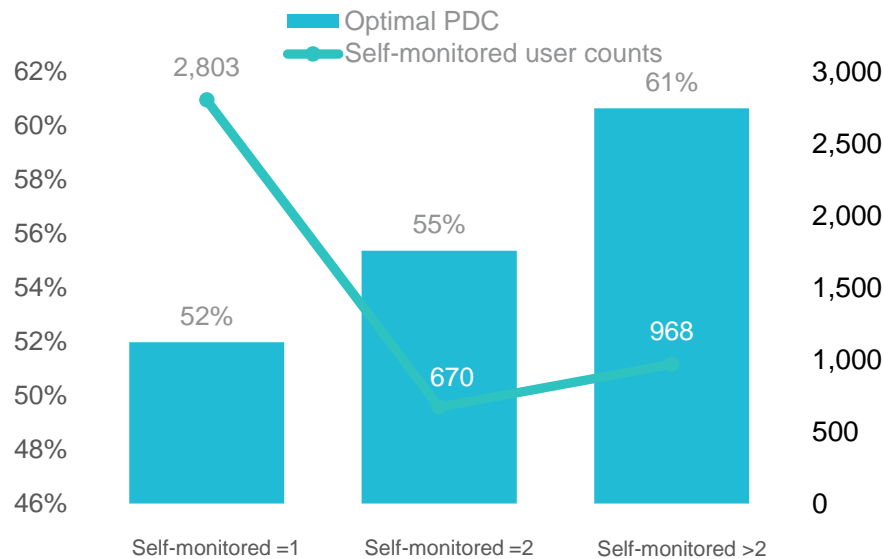
- A retrospective cohort design was used to examine medication adherence.
- The analysis required patients to have an index script between January-July 2016 and entered adherence status at least once on the BRhc platform during the 12-months following the index script.
- Objective adherence was measured using Walgreens pharmacy claims data. Adherence was defined as Proportion of Days Covered (PDC) and optimal adherence as PDC ≥ 80%.
- The Cochran-Armitage trend test was used to assess the dose-response effects between the frequency of medication adherence self-monitoring and objective medication adherence.

### RESULTS

- Patients (n= 2,305) filled 4,441 targeted prescriptions during the index period. Participants had a mean age of 48.8 and were 77.7% female. We found that 54.4% of prescriptions were taken with optimal adherence.

- Self-monitoring adherence status was recorded only once for 63.1% of prescriptions, twice for 15.1% of prescriptions, and three or more times for 21.8% of prescriptions.
- The result showed that optimal adherence increased as medication self-monitoring became more frequent (Figure 1). The Cochran-Armitage trend test showed a dose-response association for self-monitoring: patients who self-monitored adherence frequently were significantly ( $Z=-4.6771$ ,  $p<0.001$ ) more likely to be optimally adherent.

Figure 1: Association between Optimal PDC and self-monitoring Adherence (n=4,441)



## CONCLUSIONS

- This study demonstrated a significant positive association between participant medication self-monitoring and claims-based medication adherence. Medication adherence increased as self-monitoring became more frequent, demonstrating a dose-response association.
- This study shows that digital health programs can be leveraged to support medication adherence.

\* Medication adherence self-monitoring was available through BRhc from 2014-2017.

### References:

1. Hosseininasab M. Self-monitoring of blood pressure for improving adherence to antihypertensive medicines and blood pressure control: a randomized control trial. *American Journal of Hypertension*. Nov 2014; 27(11):1339-1345.
2. Webber KH, Bowling M. Motivation and its relationship to adherence to self-monitoring and weight loss in a 16-week internet behavior weight loss intervention. *Journal of Nutrition Education and Behavior*. Mar 2010; 40(3):161-167.

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