The Relationship between Online Activity & Biometric Tracking and Medication Adherence among members with Hypertension

Presented at the Society of Behavioral Medicine 36th Annual Meeting
San Antonio, CA; April 22-25, 2015

There is a significant relationship between member engagement in healthy activities and biometric tracking through Balance Rewards for healthy choices™ and better adherence to prescribed antihypertensive medications.

BACKGROUND

- In 2013, a national community pharmacy launched Balance Rewards for healthy choices™ (BRhc) an online and mobile program that gives members points (incentives) for making healthy choices and tracking activities and biometrics such as walking, running, cycling, and body weight.
- In April 2014, the program expanded to offer points for connecting biometric devices and tracking blood glucose and blood pressure.

OBJECTIVE

- To determine the relationship between member engagement in BRhc and adherence to blood pressure medications, with focus on: physical activity and blood pressure tracking.

METHODS

- Study design: Retrospective cohort study
- Study sample: Members newly enrolled in the BRhc program between May 1 - June 30, 2014 who tracked an activity or biometric within 6 months of enrollment and had at least one fill of an antihypertensive medication in 2014 (GPI2=33, 34, 36, 37).
- Outcome variable: Adherence to antihypertensive medications using proportion of days covered (PDC)[1]. calculated from each members' index prescription fill date to December 31, 2014
- Activity variables: Blood pressure tracking, and physical activity steps converted into miles on a 2,000:1 basis. Members were also segmented by those logging < or ≥ 180 miles in 6 months. .
- Statistical analysis: Descriptive analysis, Student's t-test, and chi-square test. A *p*-value of <0.05 was considered significant. All statistical analyses were conducted using SAS version 9.3 (SAS Institute Inc., Cary, NC).

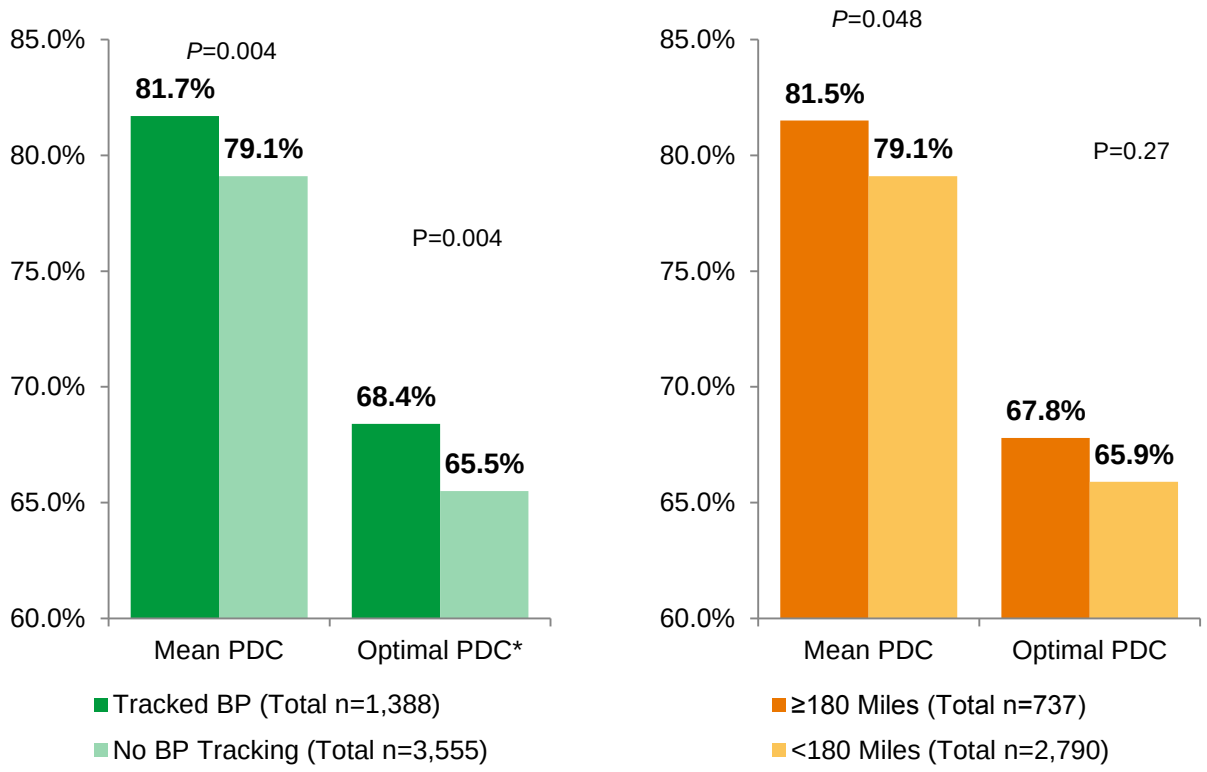
RESULTS

- Overall, BRhc members who filled antihypertensive prescriptions were older and had more comorbidities compared to the general BRhc member population with any prescription fill in 2014. (See Table 1)
- Among BRhc members with hypertension, 1,388 (28.1%) tracked their blood pressure and 3,557 (72.0%) tracked steps. Blood pressure tracking and higher levels of physical activity were associated with significantly greater levels of medication adherence. (See Figure 1)

Table 1. BRhc Members Demographics and Maintenance

Characteristic	BRhc Members (n=16,410)	BRhc Members with Hypertension (n=4,943)
Median Age	39.97	47.0
Female %	81.7%	73.7%
Mean Maintenance GPI2	2.7	4.1
Median Maintenance GPI2	2.0	4.0

Figure 1. Mean and Optimal PDC by Blood Pressure Tracking Status and Total Miles Logged



*Optimal PDC is defined as the percent of member's with PDC ≥ 0.80

CONCLUSIONS

- This study demonstrated a significant relationship between higher levels of member engagement in healthy activities and biometric tracking through Balance Rewards for healthy choices™ and greater adherence to prescribed antihypertensive medications.

References:

1. Hess LM, Raebel MA, Conner DA, Malone DC. Measurement of adherence in pharmacy administrative databases: a proposal for standard definitions and preferred measures. *The Annals of pharmacotherapy*. Jul-Aug 2006;40(7-8):1280-1288.

AMA Citation:

Taitel, M, Jiang, J, Akinbosoye, O, Orr, G. The Relationship between Online Activity & Biometric Tracking and Medication Adherence among members with Hypertension. Presented at the Society of Behavioral Medicine 36th Annual Meeting, April 22-25, 2015, San Antonio, CA.

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This research was funded internally by Walgreen Co. All authors are employees of the employer, Walgreen Co., for whom this research was conducted.