



The Association between Use of a Community Pharmacy's Mobile Pill Reminder App and Medication Adherence

Presented at the Society of Behavioral Medicine 37th Annual Meeting
Washington, DC; March 30- April 2, 2016

This study demonstrated that utilization of the Walgreens mobile app pill reminder was associated with significantly higher adherence to oral antidiabetic, antihypertensive, and antihyperlipidemic medications.

BACKGROUND

- Research has demonstrated the linkage between patient forgetfulness and non-adherence to medications¹. A national community pharmacy offers a digital health platform that integrates a pill reminder feature in its mobile device application. Reminders are customizable based on individual needs and medication schedules.

OBJECTIVE

- To determine the relationship between the use of Walgreens pill reminder and adherence to oral antidiabetic, antihypertensive, and antihyperlipidemic medications.

METHODS

- Study Design: Retrospective cohort study.
- Study Sample: The test group comprised of patients who used the pill reminder and had oral antidiabetic (N=33,260), antihypertensive (N=85,281) or antihyperlipidemic (N=68,508) medications between an index period of January 2014 and September 2014 were compared to a control group comprised of 5% age group and gender stratified random sample who did not use the pill reminder (N=93,309, N=285,903, N=245,358, respectively) . Patients were ≥ 18 years and had ≥ 2 oral antidiabetic, antihypertensive, and antihyperlipidemic medications on different dates during a 12-month follow-up period.
- Outcome Variable: Adherence was measured using proportion of days covered (PDC) and calculated from each patient's first fill during the index period. Optimal adherence was determined by $PDC \geq 80\%$. Multivariable logistic regression was used to assess the odds of optimal adherence, adjusted for demographic, drug utilization and socioeconomic differences across groups.
- Statistical Analysis: Descriptive analysis, Student's t-test, and chi-square test were applied, with a significance level of 0.05. All statistical analyses were conducted using SAS version 9.3. (SAS Institute Inc., Cary, NC)

RESULTS

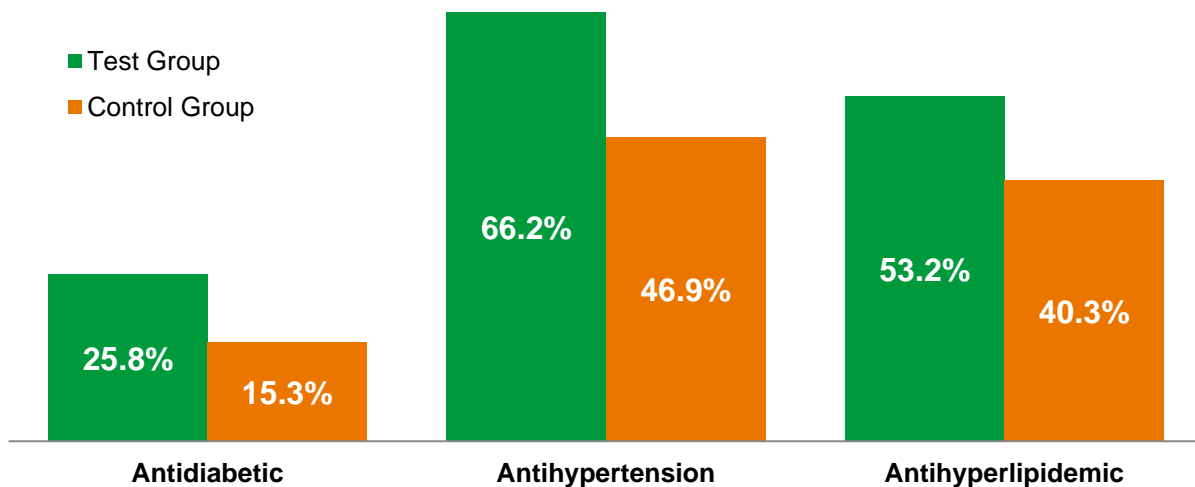
- The test group was significantly younger, more likely female, had higher socioeconomic status, and used medications from a greater number of therapeutic classes compared to the control group. (See Table 1)
- Among the 128,799 unique patients in the test group and 609,203 unique patients in the control group, the test group had more patients represented in the 3 target medication categories than the control group. (See Figure 1)

Table 1. Demographics, Maintenance Medication Utilization and Socioeconomic Status Distributions

	Test Group (N=128,799)	Control Group (N=609,203)
Mean Age*	50.1	52.3
Female %*	54.7%	51.8%
Mean Maintenance Medication Classes*	4.5	3.9
Median Maintenance Medication Classes	4.0	4.0
≥25% BA degree holders*	51.6%	47.3%
Median Household Income*	60,808	59,284

*Denotes $p < 0.01$

Figure 1. Distribution of Patient Counts across 3 Medication Categories



- The test group had significantly higher unadjusted PDC and optimal adherence to oral antidiabetic, antihypertensive, and antihyperlipidemic medications respectively compared to the control group. (See Figure 2)
- The test group were 21.9%, 20.8%, and 14.6% more likely to be optimally adherent to oral antidiabetic, antihypertensive, and antihyperlipidemic medications respectively compared to the control group, after controlling for differences in age, gender, chronic drug utilization and socioeconomic status across groups. (See Figure 3)

Figure 2. Unadjusted Adherence Difference across 3 Medication Categories

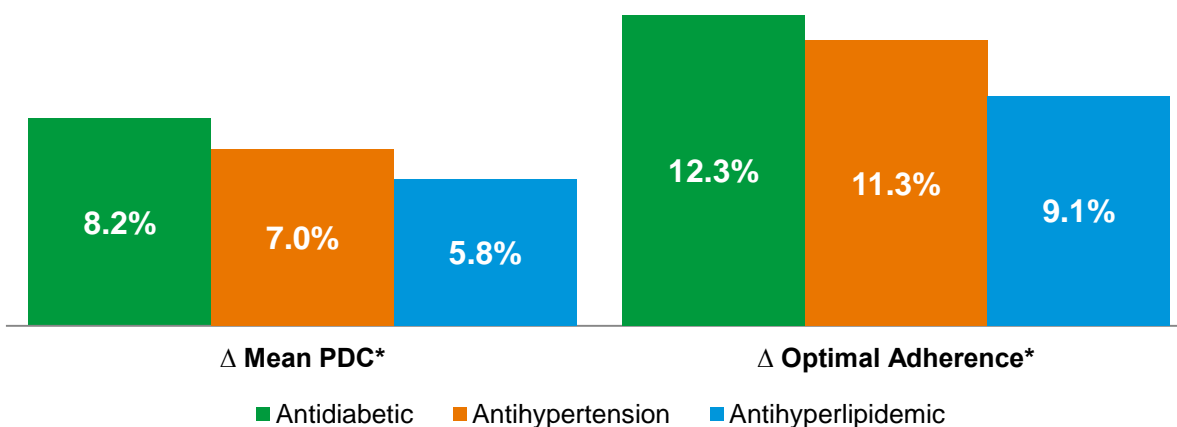
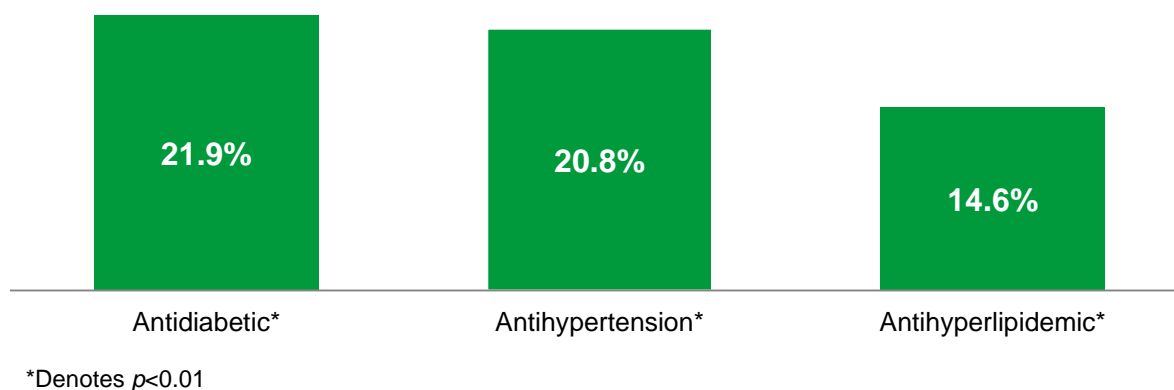


Figure 3. Adjusted Odds of Optimal Adherence Across 3 Medication Categories



CONCLUSIONS

- This study demonstrated that utilization of the Walgreens mobile app pill reminder was associated with significantly higher adherence to oral antidiabetic, antihypertensive, and antihyperlipidemic medications.

References:

1. Osterberg L, Blaschke T. Adherence to Medication. *N Engl J Med* 2005; 353:487-97.

AMA Citation:

Akinbosoye, O, Jiang, J, Taitel, M, Orr G. The Association between Use of a Community Pharmacy's Mobile Pill Reminder App and Medication Adherence. Presented at the Society of Behavioral Medicine 37th Annual Meeting, March 30- April 2, 2016, Washington DC.

Contributing Authors:

Osayi Akinbosoye Ph.D., PAHM; Jenny Jiang, MS; Michael Taitel, Ph.D.; Greg Orr, MBA
Walgreens, Deerfield, IL

For more information on this presentation, please contact: research@walgreens.com.

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