Impact of Pharmacist-Call Intervention Program on New-to-Therapy Patients' Medication Adherence

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A single telephone call from a trusted community pharmacist significantly improved medication adherence across multiple therapeutic classes among new-to-therapy patients.

OBJECTIVES

- Patients new-to-therapy for chronic conditions often have poor medication adherence that can lead to adverse outcomes and higher medical costs.[1]

- Previous studies have demonstrated the benefit of pharmacist interventions to improve medication adherence.[2]

- The objective of this study is to evaluate the impact of a community pharmacist telephonic program on medication adherence among patients who are new-to-therapy for any of five therapeutics classes.

METHODS

- This prospective randomized trial used claims data from a large pharmacy chain beginning in February 2013.

- Patients were randomly assigned to a test group (n=154,847) that were eligible to receive an intervention of one pharmacist phone call within three days after dispensing to discuss their newly prescribed medication or a control group (n=160,005) that received no calls.

- A total of 86,247 patients in the test group had a confirmed conversation over the phone with their pharmacist.

- We tracked patients' claims data for 365 days to evaluate their medication adherence. Baseline demographic characteristics were compared between groups.

- Medication adherence was measured by proportion of days covered (PDC) within 365 days.

- We compared PDC differences between test and control groups for every targeted therapeutic class (anti-depressants, anti-Parkinson, beta blockers, diuretics, and hematological agents) and overall.

- Analyses were conducted at the intent-to-treat level and at the confirmed intervention level. To reduce bias, propensity score matching (PSM) was used to match confirmed test patients with control patients based on age, gender, therapeutic class, and therapeutic count.

- Significance was determined using X^2 and t-tests between test and control groups.

RESULTS

Intent-to-treat

- The baseline demographics were not significantly different between test and control groups (Table 1).

- Overall, the test group was significantly more adherent (2.2% increase) than the control group ($p<0.01$) (Table 2).

- The test group had significantly greater adherence than the control group in all five therapeutic classes with the PDC increases ranging from 1.8% for diuretics to 4.6% for anti-Parkinson agents ($p<0.05$) (Table 2).

Confirmed Intervention

- After propensity score matching, test patients with a confirmed intervention had baseline demographic characteristics that were not significantly different than matched control patients (Table 3).

- Overall, the test group was significantly more adherent (3.7% increase) than the matched control group ($p<0.01$) (Figure 1).

- The test group had significantly greater adherence than the matched control group in five therapeutic classes with the PDC increases ranging from 2.1% for diuretics to 7.2% for anti-Parkinson agents ($p<0.05$) (Figure 1).

Table 1. Patients Demographic Characteristics by Test and Control Groups

Group	Age	Female %	Therapeutic Counts
Test (N=154,847)	53.7	62.5%	3.1
Control (N=160,005)	53.6	62.6%	3.0

No significant differences were found between test and control groups.

**Table 2. PDC Increase by Test Group at the Intent-to-treat Level**

Therapeutic Class	Test (N)	Control (N)	PDC Increase	P value
Antidepressants	72,833	75,881	2.2%	P<0.01
Antiparkinson	4,006	3,992	4.6%	P<0.05
Beta Blockers	35,903	37,050	2.2%	P<0.01
Diuretics	35,603	36,742	1.8%	P<0.01
Hematological	6,502	6,340	2.9%	P<0.05
Overall	**154,847**	160,005	**2.2%**	**P<0.01**

Table 3. Patients Demographic Characteristics Before and After Propesity Score Matching

Group	N	Age	Female %	Therapeutic Counts
Control	160,005	53.6*	62.6%	3.0*
Test Patients Confirmed (before PSM)	86,247	55.5	62.2%	3.3
Control (after PSM)	85,471	55.5	62.4%	3.2
Test Patients Confirmed (after PSM)	85,471	55.4	62.3%	3.2

*Denotes significant differences between test and control groups before PSM. No significant differences were found after PSM.

Figure 1. PDC Increase by Test Group at the Confirmed Intervention Level
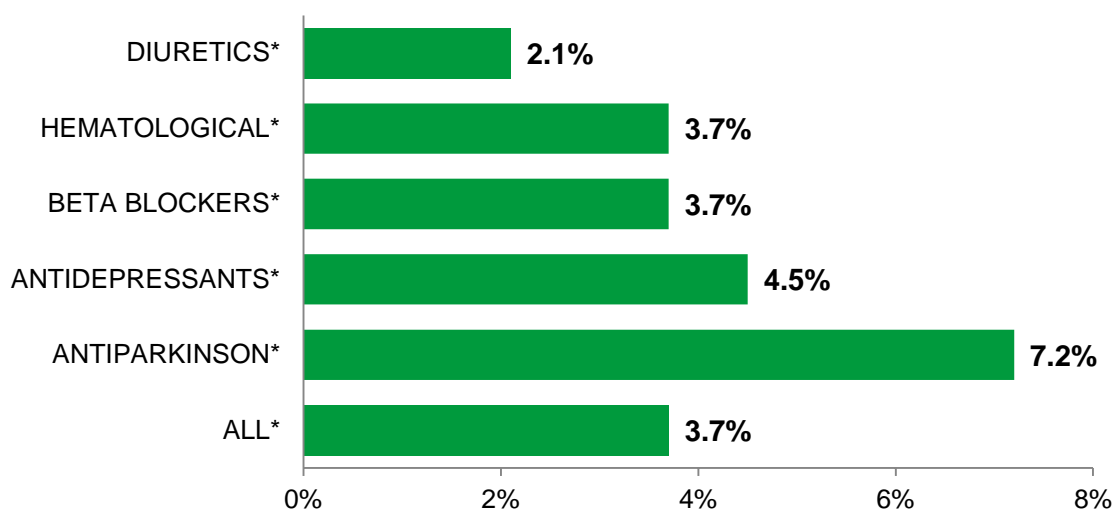
*Denotes significant differences between test and control groups.

CONCLUSIONS

- A single telephone call from a trusted community pharmacist significantly improved medication adherence across multiple therapeutic classes among new-to-therapy patients.

- Future research can explore the impact of additional outreach on medication adherence.

LIMITATIONS

- This analysis was based on Walgreens pharmacy data only. It is possible that patients could have received their medications elsewhere.

References:
1. Sokol MC, McGuigan KA, Verbugge RR, Epstein RS. Impact of medication adherence on hospitalization risk and healthcare cost. *MedCare*. 2005;43(6):521-530.
2. Taitel MS, Jiang JZ, Rudkin K, Ewing S, Duncan I. The impact of pharmacist face-to-face counseling to improve medication adherence among patients initiating statin therapy. *Patient Preference and Adherence*. 2012; 6: 323 – 329.