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Comprehensive asthma consultations with pharmacists improve medication adherence and condition management among pediatric patients with asthma

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Pharmacy-based comprehensive pediatric asthma consultations and follow-up calls improve medication adherence and asthma control.

BACKGROUND

Asthma afflicts 6.1 million American children and is the third leading cause of hospitalization among those under age 15. Asthma education can improve medication adherence and asthma control.

OBJECTIVE

This study examined the outcomes of comprehensive pediatric asthma pharmacist consultations at the time of prescription pickup.

METHODS

- Pharmacists consulted with patients' caregivers on medication adherence, asthma management, and inhalation techniques. A two-week follow-up call was conducted by pharmacy staff. Participants included Texas Medicaid patients age<18 from a large pharmacy chain who were prescribed asthma maintenance medications.
- Pharmacists completed training prior to the study. Consultations were provided from July 1st-December 31st, 2020 for new-to-therapy patients and patients identified as high-risk.
- Patients were randomized into test and control arms at the store-level, matched by store and trade area attributes. A difference-in-differences (DID) analysis was conducted comparing proportion of days covered (PDC) for either 6-month pre/post (Jan-June, 2020/July-Dec, 2020) or year-over-year (July-Dec, 2019/July-Dec, 2020).
- Patients were identified as being highly adherent if asthma maintenance medication PDC≥75%. Rescue inhaler PDC was used to approximate asthma control, with high PDC indicating reduced control. Patients were identified as having excessive rescue inhaler use if rescue inhaler PDC≥90% in an extended 9-month period.
- The chi-squared test was employed to measure the statistical difference between study arms.

RESULTS

- The percent of highly adherent patients increased incrementally in the test arm (n=6,796) compared to controls (n=13,248). The difference was significant YOY (DID p=0.0382; Figure 1) but not pre/post (DID p=0.1592).
- After conducting a pre-period PDC match between test and controls (n=5,939 in each arm, p=0.9907), the test arm had a significantly increased percent of highly adherent patients compared to controls in the post period (53.1% vs 50.4%, p=0.0348; Figure 2).

Figure 1: Percent of highly adherent asthma patients YOY

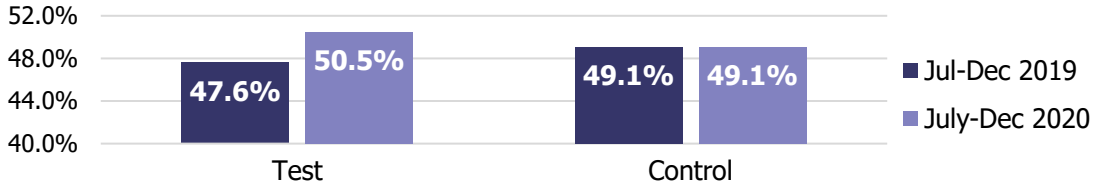
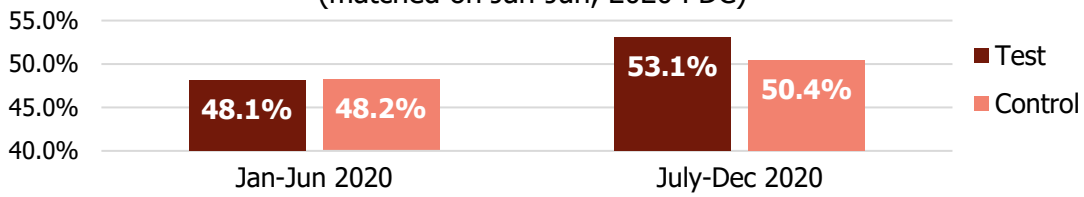


Figure 2: Percent of highly adherent asthma patients pre/post (matched on Jan-Jun, 2020 PDC)



- The percent of patients with excessive rescue inhaler use was lower in the test arm compared to controls during the post period (6.9% vs 7.8%, pre/post DID p=0.0431; Figure 3).
- The YOY DID was not statistically different; however, after matching on the same time period YOY (n=4,265 in each arm, p=0.7857), the test arm had a significantly lower percent of patients with excessive rescue inhaler use in the post period (2020) compared to controls (4.4% vs 6.1%, p=0.0255; Figure 4).

Figure3: Percent of patients with excessive rescue inhaler use pre/post

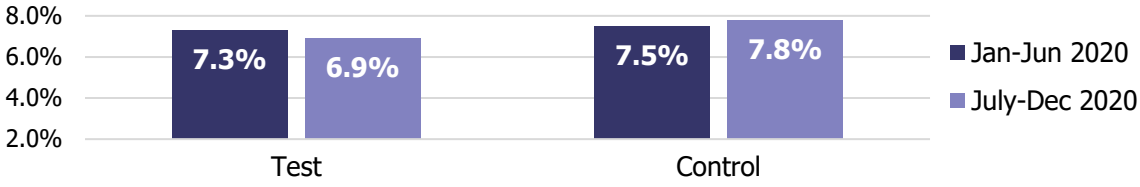
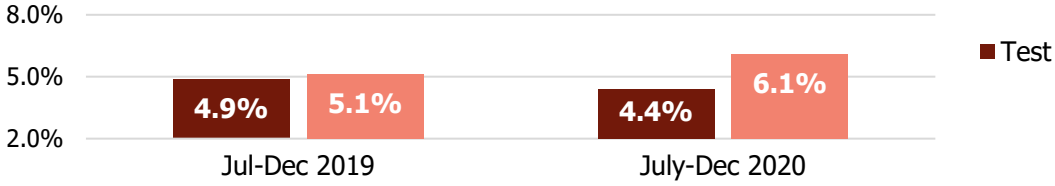


Figure 4: Percent of patients with excessive rescue inhaler use YOY (matched on July-Dec, 2019 PDC)



CONCLUSION

This study demonstrates that pharmacy-led comprehensive pediatric asthma consultations and follow-up calls improve medication adherence and asthma control.

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