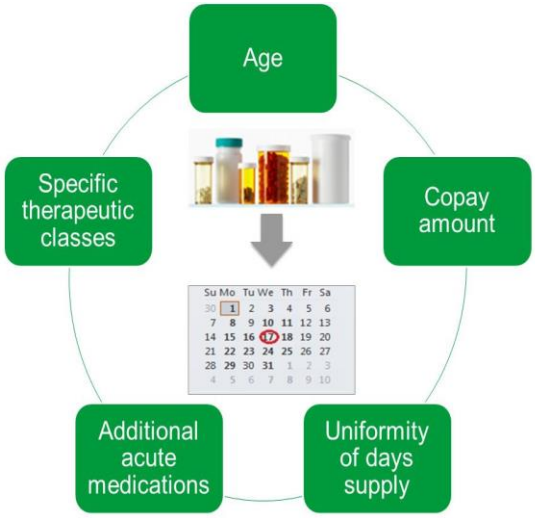
Exploring Factors Associated with Medication Self-Synchronization

Presented at the Annual Meeting of the International Society for Pharmacoeconomics and Outcomes Research (ISPOR), Boston, MA, May 20-24, 2017

Identifying the factors associated with patients' likelihood to synchronize multiple maintenance medications helps pharmacies to improve the design and delivery of medication synchronization programs.



OBJECTIVE

- To explore factors associated with medication self-synchronization.

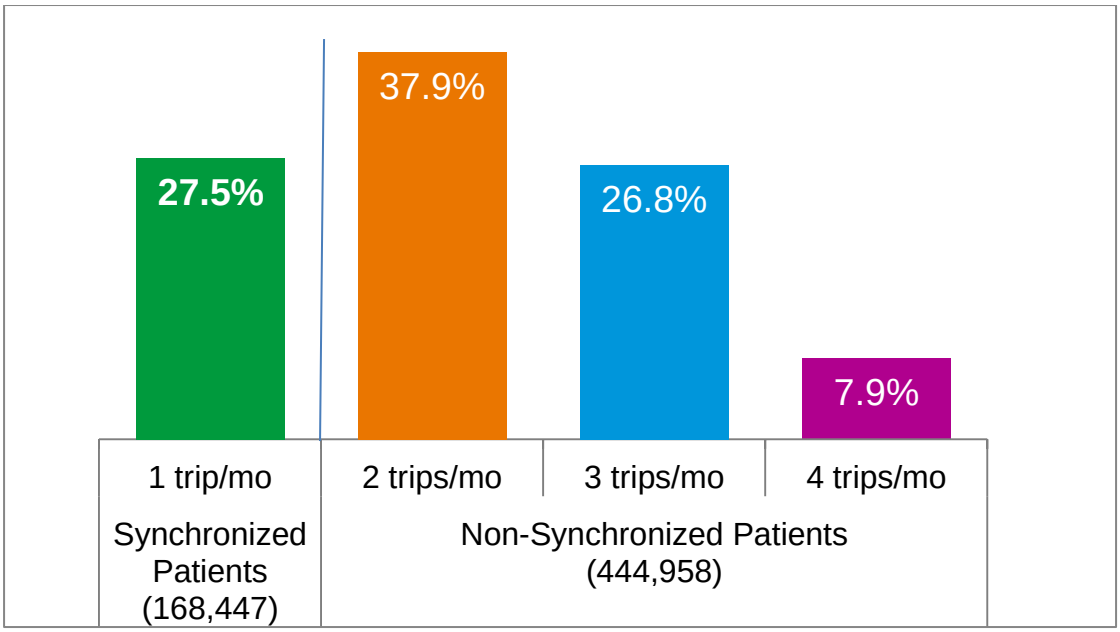
METHODS

- **Study Design:** Observational study.
- **Study Population:** Established Walgreens patients who filled 4 unique maintenance medications in July 2016.
- **Study Period:** One month.
- **Dependent Variable:** Self-synchronization (self-synch) which is defined as having 1 trip (measured as unique prescription sold date) for all maintenance medications in the month.
- **Independent Variables:** Age, gender, payment type, copay amount, total number of prescriptions, maintenance medication indicators, and days supply indicator.
- **Statistical Analyses:** Logistic regression is used to evaluate the independent variables associated with medication self-synchronization. All statistical analyses were conducted using SAS version 9.3 (SAS Institute, Cary, NC).

RESULTS

- Out of 613,405 patients, about one quarter (27.46%) were self-synchronized (See Figure 1).

Figure 1: Percent of Patients Self-Synchronized



- Younger patients are more likely to self-sync than older patients (See Table 1).

Table 1: Odds Ratio to Determine Characteristics that Increase the Odds of Self-Synchronization

Category	Effect	Odds Ratio	95% CI
Younger vs. Older Patients	age ≤ 35 vs. age > 65	**1.8**	[1.7, 1.8]
	35 < age ≤ 45 vs. age > 65	**1.6**	[1.5, 1.6]
	55 < age ≤ 65 vs. age > 65	**1.5**	[1.5, 1.6]
	45 < age ≤ 55 vs. age > 65	**1.4**	[1.3, 1.4]
Lower Drug Copays vs. Higher Drug Copays	copay ≤ $10 vs. copay > $80	**1.6**	[1.6, 1.7]
	$10 < copay ≤ $20 vs. copay > $80	**1.5**	[1.5, 1.6]
	$20 < copay ≤ $40 vs. copay > $80	**1.3**	[1.3, 1.4]
	$40 < copay ≤ $60 vs. copay > $80	**1.2**	[1.1, 1.2]
	$60 < copay ≤ $80 vs. copay > $80	**1.1**	[1.0, 1.1]
Uniform Days Supply vs. Mixed (30-90) Days Supply	only 90-day vs. mixed	**2.3**	[2.2, 2.4]
	only 30-day vs. mixed	**1.6**	[1.6, 1.7]
Mix of acute medications	without additional acute meds vs. with	**0.9**	[0.9, 0.9]
Select Drug Classes	with hypertensive meds vs. without	**1.3**	[1.3, 1.4]
	with hyperlipidemia meds vs. without	**1.3**	[1.3, 1.4]
	with diabetes meds vs. without	**1.1**	[1.1, 1.1]

Notes: Logistic regression estimated on 613,405 total patients where 168,447 patients (27.5%) were self synchronized (picked up all medications on a single date in a month)

- Patients with lower copays are more likely to self-sync than patients with higher copays.
- Patients who had only 90-day fills or only 30-day fills are more likely to self-sync compared to patients who had *both* 30-day and 90-day fills.
- Patients who only fill maintenance medications are more likely to self-synch than patients with additional acute medications.
- Patients on three therapeutic classes (hypertensive, hyperlipidemia, or diabetes medications) are more likely to self-synch than patients who are not on these classes.

CONCLUSION

- Identifying the factors associated with patients' likelihood to synchronize multiple maintenance medications helps pharmacies to improve the design and delivery of medication synchronization programs.

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