Store and Prescription Characteristics Associated with Primary Medication Non-Adherence

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**BACKGROUND:** Primary medication nonadherence (PMN) is any instance whereby patients fail to initiate a pharmacotherapy regimen after receiving a prescription for a new therapy. Currently, there is little in the literature that provides information on how to measure PMN across pharmacies and what factors are related to PMN. The Pharmacy Quality Alliance (PQA) has developed a quality measure to assess the rates of PMN in pharmacies. The PMN measure is calculated by dividing the number of unclaimed (not picked up after 30 days) electronic prescriptions for newly initiated drug therapy (or appropriate alternative) by the total number of electronic prescriptions for newly initiated drug therapy during the measurement period (for patients 18 and over). The measure only includes drugs for chronic conditions.

**OBJECTIVE:** The objectives were to measure PMN in a grocery chain pharmacy and to identify the prescription-level (prescriber and patient) and store characteristics associated with PMN.

**METHODS:** The PQA-developed PMN measure was used and PMN rates were calculated for 100 pharmacies in a large grocery chain as well as an overall rate. The grocery chain provided de-identified, transactional data for calendar years 2009- January 2012 (de-identified, unique patient and store codes were available). Investigators examined adult individuals with a new electronic prescription for any of a number of medications included in the PQA PMN measure during the measurement period and determined whether the medication (appropriate alternative) was claimed within 30 days. The wash-out period for the data was 180 days prior to January 1, 2011. This period was used to determine that a prescription was a newly initiated prescription for the patient. The PMN measurement period was from January 1, 2011 to December 31, 2011 (plus 30 days after to assess whether prescriptions were claimed). Prescription-level (patient and prescriber characteristics associated with a prescription) and store-level predictors of whether a prescription was unclaimed were assessed using multilevel logistic regression with a random intercept. PROC GLIMMIX in SAS version 9.3 was used for the analysis.

**RESULTS:** Of the e-prescriptions during the one-year observation period, 29,238 were for new therapy as defined by the PMN measure, and 3570 (12.2%) of those new prescriptions (or drug alternatives) were not claimed within the 30-day period. There was significant variability among the 100 pharmacies. The estimated odds of an unclaimed prescription were different significantly among drug classes comprising the PQA PMN measure (p<0.0001) and were higher as out-of-pocket costs increased (p<0.0001), when the prescription was accompanied by another prescription on the same day (p<0.0001), and for primary-care and specialist physicians relative to physician assistants and advanced practice nurses (p=0.0002). The estimated odds were slightly higher for younger individuals (p=0.0008) and when dispensed at stores with lower prescription volumes (p=0.0017). Neither the gender of the patient (p=0.733) nor the payment source (p=0.543) were related to whether the prescription went unclaimed in the multivariable model.

**CONCLUSIONS:** Based on the calculated rates, PMN is a significant problem in this setting. Efforts directed at further understanding this behavior and how to reduce its occurrence are
warranted.

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