

# Prescribing Generic or Preferred Medications Aids Adherence to Chronic Pharmacotherapy

Shrank WH, Hoang T, Ettner SL, et al. The implications of choice: prescribing generic or preferred pharmaceuticals improves medication adherence for chronic conditions. *Arch Intern Med* 2006;166:332–7.

## Study Overview

**Objective.** To determine if patients enrolled in 3-tier pharmacy benefit plans are more adherent with generic or preferred medications compared with nonpreferred medications.

**Design.** Retrospective review of pharmacy claims data.

**Setting and participants.** Patients who received pharmacy benefits from a large pharmacy managed care plan in Colorado and Nevada from 1 October 2001 to 1 October 2003 (average number of enrolled participants per month, 270,137). Patients were included if they were continuously enrolled during the 2-year period and filled a new prescription for 1 of 6 drug classes: calcium channel blockers, statins, oral contraceptives, orally inhaled corticosteroids, angiotensin receptor blockers, and angiotensin-converting enzyme inhibitors.

**Main outcome measure.** Adherence with the index prescription over a 1-year period. Adherence was defined as the proportion of days covered (PDC) during the first year after the index prescription. Adequate adherence was defined as PDC > 80%. Adherence rates with generic or preferred drugs versus nonpreferred drugs were compared after adjusting for sociodemographic variables using regression models. Switching rates within different tiers of the same drug class were also compared.

**Main results.** 7532 new prescriptions were filled for drugs in the 6 classes (23.2% nonpreferred, 58.1% preferred, and 18.7% generic). The mean PDC for all prescriptions was 56.1%. Adherence was 6.6% greater for patients prescribed generics compared with nonpreferred drugs and 4.6% greater for patients prescribed preferred drugs compared with nonpreferred drugs ( $P < 0.001$  for both comparisons). Adequate adherence was more common for generics (odds ratio [OR], 1.62 [95% confidence interval {CI}, 1.39–1.89]) and for preferred drugs (OR, 1.30 [95% CI, 1.15–1.47]) compared with nonpreferred drugs. Switching to another drug in the same class occurred in 13.6% of patients prescribed generics,

19.9% of those prescribed preferred drugs, and 28.3% of those prescribed nonpreferred drugs.

**Conclusion.** In a 3-tier pharmacy benefits plan, prescribing generic or preferred medications was associated with better adherence and less medication switching compared with prescribing nonpreferred medications.

## Commentary

Three-tier pharmacy benefits plans, in which patients have different copayments depending on the tier of the drug chosen (ie, generic, preferred, nonpreferred), have become increasingly common. However, patients enrolled in these plans as well as their physicians may not have the information they need at the time drug therapies are being prescribed to make the most economical choices. In the study population, selection of second-tier (preferred) and third-tier (nonpreferred) medications was common, despite the fact that lower-cost choices were available. Shrank et al detected a consistent, graded relationship between drug tier and adherence. Furthermore, patients prescribed generic medications were least likely to switch to other drugs of the same class during the year. The authors point out reasons that their figures may be underestimates of the differences between tiers: some prescriptions are never filled or that patients with a high copayment may have contacted their physician to make a switch before filling the first prescription. In some cases, more costly drugs may have been recommended to patients because of real or perceived clinical advantages. Had the investigators been able to capture unfilled initial prescriptions or to examine only drugs that were felt by prescribers to be therapeutically equivalent, the observed differences in adherence between the drug tiers would likely have been greater.

Although the study population was fairly young (mean age,  $42.2 \pm 14.7$  years), it is likely that these findings would apply to older populations as well. For example, Medicare patients who face greater out-of-pocket costs for statins are more likely to forgo these medications compared with other less expensive cardiovascular medications [1].

### Applications for Clinical Practice

Prescribers should be aware that patients' out-of-pocket costs are likely to influence their subsequent long-term medication use. When therapeutically similar choices are available, selection of generic or preferred drugs rather than non-preferred medications may lead to less medication switching and better adherence. This, in turn, could lead to better health outcomes. Clinicians should ask patients about their pharmacy benefits and consult the drug formulary for patients' benefit plans. With the adoption of Medicare Part D, the need

to clarify the scope of patients' pharmacy benefit is likely to take on even greater importance.

*—Review by Stephen D. Persell, MD, MPH*

### Reference

1. Federman AD, Adams AS, Ross-Degnan D, et al. Supplemental insurance and use of effective cardiovascular drugs among elderly medicare beneficiaries with coronary heart disease. *JAMA* 2001;286:1732–9.

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