

Teaching Wisely

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The imperative to reduce health care costs in the United States has led to a growing movement to better educate medical students, residents, and practicing physicians about providing high-value, cost-conscious care.¹ It has even been suggested that the Accreditation Council for Graduate Medical Education and the American Board of Medical Specialties establish resource stewardship as the seventh general competency.² The use of equally effective but less expensive generic alternatives in place of brand name drugs represents 1 way of practicing high-value, cost-conscious care and has been highlighted as a top priority by the American Board of Internal Medicine Foundation.³

The cost associated with prescription drug use in the United States cannot be overstated. In 1970, annual retail prescription drug expenditures in the United States totaled \$5.5 billion; by 2012 that amount had grown to more than \$263 billion.⁴ In 2010, more than three-quarters of physician office visits involved drug therapy.⁵ Older data from the Medical Expenditure Panel Survey in 2000 suggested that full adoption of generic substitution would save an additional \$8.8 billion annually.⁶ More recent data from the Congressional Budget Office estimated that the use of generic alternatives in the Medicare prescription drug benefit generated \$33 billion in savings in 2007.⁷ In addition, because the financial burden of brand name prescribing is shared by consumers in the form of copayments and coinsurance, several studies have shown that brand name prescribing adversely affects adherence.⁸ Not surprisingly, an issue brief prepared for the Department of Health and Human Services in 2010 concluded that “there is a clear consensus that generic savings are now a large and important source of health care savings.”⁹

Research has documented the powerful influence of pharmaceutical industry marketing on prescriber behavior.¹⁰ Studies have suggested that medical students and residents may be especially susceptible to such marketing techniques, particularly when they involve gifts, in part because of the perception of hardship and personal sacrifice

imposed by training.^{11,12} Yet, when compared with our understanding of commercial influences on physician behavior, there is a relative paucity of information about educational strategies to promote cost-conscious habits among trainees, including generic drug prescribing behaviors.¹³ This disparity calls for more research to understand the educational factors that predict prescribing behavior and to help medical educators tailor interventions to encourage generic prescribing.

In this issue of the *Journal of Graduate Medical Education*, Ryskina et al¹⁴ begin to explore the connections among various training factors and the propensity for brand name statin prescribing. They conclude that residents at a single urban academic residency clinic prescribe brand name statins at highly variable rates: when residents were categorized into quintiles by rate of brand name statin prescribing, the bottom quintile prescribed brand name statins in 1.7% of encounters and the top quintile in 98.2% of encounters. Prescribing brand name statins was inversely associated with being in the primary care track and completing medical school in a lower-intensity health care use environment, as measured by the Dartmouth Atlas’ Hospital Care Intensity (HCI) index. We believe the finding of wide variability in generic prescribing emphasizes the responsibility of medical educators to inculcate principles of cost-conscious prescribing.

The observed relationship between primary care track training and generic prescribing in this study warrants further study. Are residents who elect careers in primary care intrinsically more cost sensitive? Do primary care track residents have better awareness of larger health systems issues? Does more time in ambulatory training encourage generic prescribing because the reasons for medication nonadherence and discontinuation, including cost, are more likely to be explored in that setting? Does payer mix—and by extension, exposure to various formularies and preferred drug lists—affect prescribing behaviors? A recent study found that among patients with diabetes who are similar in other dimensions, Medicare beneficiaries are 2 to 3 times more likely to be prescribed a brand name drug compared with patients in the Veterans Affairs health system.¹⁵ Studying how a training environment like the Veterans Affairs influences postresidency prescribing patterns could prove to be important in understanding the relationship between training and resource stewardship.

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Perhaps the most provocative finding in this study is the apparent association between attending a medical school affiliated with a high HCI index facility and the likelihood of brand name prescribing. The HCI is a measure of reliance on hospital care in the last 2 years of life and incorporates both the number of hospital days and the number of inpatient physician visits. Precisely how high HCI training environments influence brand name prescribing is not clear. A more detailed analysis of the prescribing culture at high HCI facilities and its transmission to medical students could prove revealing. A recently published analysis of the impact of medical school gift restriction and conflict-of-interest policies found that physicians who trained during and after the implementation of such policies were less likely to prescribe newly marketed brand name drugs.¹⁶ An accompanying editorial emphasized the importance of a medical school's hidden curriculum (classically defined as "a set of influences that function at the level of organizational structure and culture"¹⁷) in determining a physician's susceptibility to pharmaceutical industry marketing.¹⁸ Although wider adoption of gift restrictions and conflict-of-interest policies must be pursued as a matter of professional integrity, smaller efforts to undermine the hidden curriculum, such as insisting on the use of nonproprietary names in educational conferences and clinical settings, could also be worthwhile.¹⁹

A variety of innovative, small-scale educational interventions focused on encouraging cost consciousness in trainees have been reported in the literature. Requiring residents to scrutinize their practice-level prescribing patterns,²⁰ holding didactic sessions and case-based conferences centered on individual patient bills to highlight opportunities for savings,^{21,22} and even creating a computerized team-based competitive simulation focused on health care costs²³ have all been described. It is our hope that greater appreciation of the factors that predispose practitioners to brand name prescribing will help to guide the development of curricula to promote the use of generic alternatives.

In the end, every prescription written for a brand name drug when a less expensive generic alternative exists represents a lost opportunity to reduce health care costs. A more complete understanding of the factors that encourage generic prescribing will be crucial to the national efforts to teach high-value, cost-conscious medicine to trainees.

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