

Medication Underuse in Diabetes Due to Cost

Piette JD, Wagner TH, Potter MB, Schillinger D. Health insurance status, cost-related medication underuse, and outcomes among diabetes patients in three systems of care. *Med Care* 2004;42:102–9.

Study Overview

Objective. To examine the association between health insurance coverage and medication underuse and between cost-related medication underuse and health outcomes among adults with diabetes.

Design. Observational cross-sectional study with a patient survey using insurance status from billing records and hemoglobin A1c (HbA_{1c}) measurements.

Setting and participants. 339 patients receiving care in the Veterans Health Administration (VHA) system, 160 patients from public clinics, and 267 patients from a university clinic.

Main outcome measures. Self-reported medication underuse due to cost, HbA_{1c} levels, symptom burden (assessed through a series of diabetes and non-diabetes-related questions), and the Physical and Mental Composite Summaries calculated from the Medical Outcomes Study 12-Item Short-Form.

Main results. Cost-related medication underuse was reported by 40% of participants with no health insurance, 31% with Medicaid, 25% with Medicare, 18% with private health insurance, and 9% in the VHA system. Cost-related medication underuse was statistically less likely for VHA patients than for patients with other forms of health insurance. Except for VHA patients, cost-related underuse was more common for patients with more comorbidities. HbA_{1c} levels were significantly higher for patients who reported cost-related medication underuse (adjusted percentage, 0.6% [95% confidence interval {CI}, 0.2%–0.9%]) compared with those who did not. In adjusted analyses, cost-related medication underuse also was associated with poorer physical functioning and more physical and mental symptoms. Patients who underused diabetes medications only had worse HbA_{1c} levels as compared with patients who did not (0.6% [95% CI, 0.1%–1.1%]), whereas patients who underused other medications (but not their diabetes medication) had similar HbA_{1c} levels but worse symptom scores.

Conclusion. Cost-related medication underuse is common

among patients with diabetes outside the VHA health system and appears to be worse for patients with comorbid illnesses. Underuse of diabetic medications is associated with worse glycemic control.

Commentary

Middle-aged and older Americans with chronic medical conditions face increasing financial hardships paying for prescription drugs. Those with diabetes frequently require multiple prescription medications and may face particularly large burdens. Underuse of prescription medication due to cost has been documented, as has the reduction in medication usage that occurs when out-of-pocket costs increase [1]. However, by linking health insurance status, physiologic measurement, and information on cost-related underuse, Piette and colleagues are able to make several interesting observations. To varying degrees, cost-related medication underuse is a problem for adults with diabetes who have public, private, or no health insurance. The VHA system, which exposes users to little or no out-of-pocket drug costs, appears to be an exception.

While the cross-sectional study design does not allow for definitive conclusions, Piette and colleagues found that patients who forgo diabetes medication have higher HbA_{1c} levels, and patients who underuse nondiabetes medicines have greater symptom burdens. Furthermore, a national survey published by these authors elsewhere demonstrated that of adults with diabetes who reduce their use of medication due to cost, only 32% tell their clinicians about medication reduction in advance, and 37% never discuss cost problems with clinicians at all [2].

Applications for Clinical Practice

Physicians should be aware that a significant number of

“Outcomes Research in Review” is edited by Stephen D. Persell, MD, MPH, Department of Medicine, Northwestern University, Chicago, IL; Harvey J. Murff, MD, MPH, and Josh F. Peterson, MD, MPH, Division of General Internal Medicine, Vanderbilt University Medical Center, Nashville, TN; David R. Spigel, MD, Sarah Cannon Cancer Center, Nashville, TN; and Ashish K. Jha, MD, Division of General Medicine, Brigham and Women’s Hospital, Boston, MA.

diabetic adults do not use their medications as prescribed due to cost, and such underuse may lead to significantly worse glycemic control and symptom burden. Financial obstacles are very common for patients without health insurance but also influence medication use for publicly and privately insured persons. These findings challenge clinicians to discuss drug costs and financial burdens openly when making prescription treatment decisions with all patients. Prescription drug choices that minimize patient's out-of-pocket costs could potentially result in increased adherence

and better disease control.

—Review by Stephen D. Persell, MD, MPH

References

1. Huskamp HA, Deverka PA, Epstein AM, et al. The effect of incentive-based formularies on prescription-drug utilization and spending. *N Engl J Med* 2003;349:2224–32.
2. Piette JD, Heisler M, Wagner TH. Problems paying out-of-pocket medication costs among older adults with diabetes. *Diabetes Care* 2004;27:384–91.

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