OBSERVATION: BRIEF RESEARCH REPORT

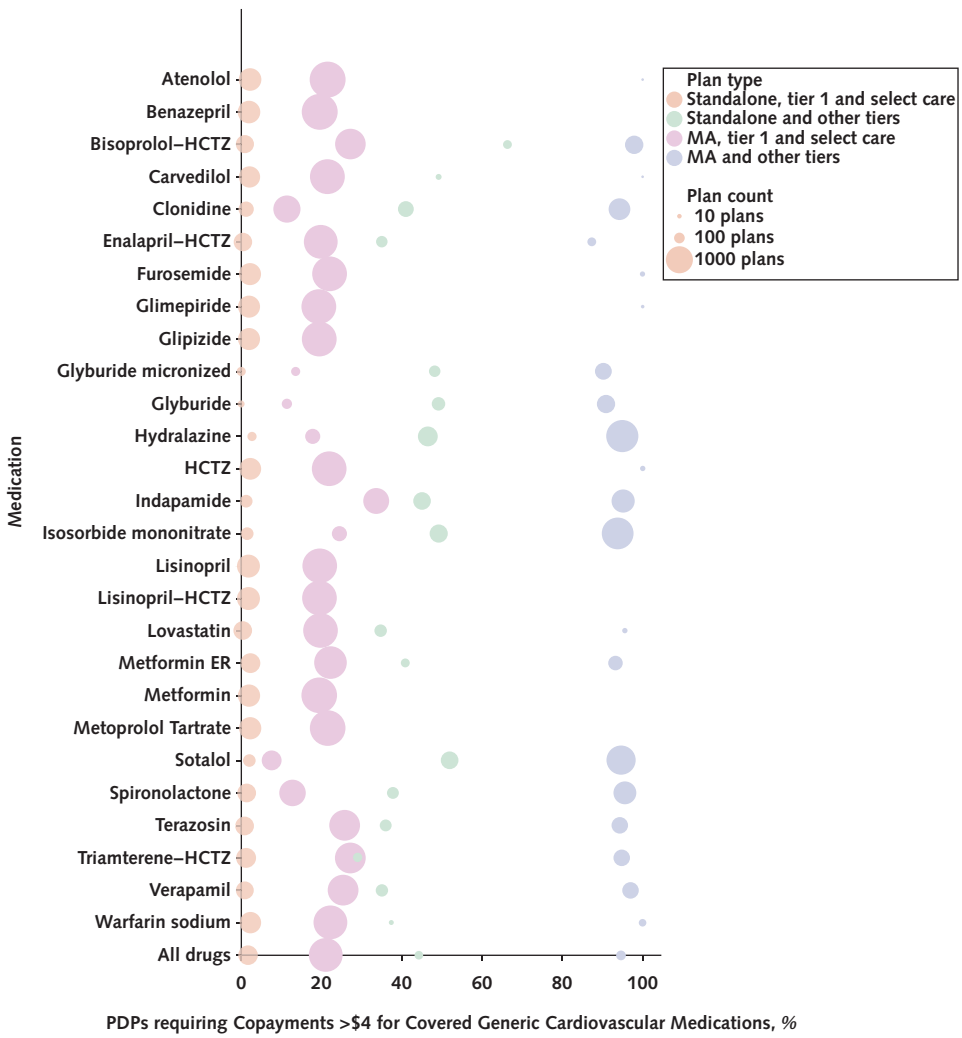
Medicare Beneficiary Out-of-Pocket Costs for Generic Cardiovascular Medications Available Through $4 Generic Drug Discount Programs

Background: Prescription drug spending in the United States totaled more than $328 billion in 2016 and continues to increase annually (1). To control expenditures, health plans are increasingly shifting costs to patients. Greater out-of-pocket expenses may adversely affect patients' medication adherence and subsequent health outcomes (2). Generic drug discount programs (GDDPs), including one from Walmart, were started in 2006 and sell many commonly used generic medications for $4 per 30-day supply regardless of insurance status and may lead to patient savings (3, 4).

Objective: To compare Medicare beneficiary out-of-pocket costs through prescription drug plans (PDPs) with $4 GDDP cash prices, focusing on 30-day supplies of generic medications used to treat cardiovascular disease (CVD)-related conditions.

Methods and Findings: We obtained Walmart's September 2017 GDDP list and identified generic medications used to treat 7 prevalent CVD-related conditions: hypertension, hyperlipidemia, diabetes, ischemic heart disease, heart failure, atrial fibrillation, and stroke (5). Next, we used Medicare PDP data from June 2017 to determine beneficiary out-of-pocket

Figure. Proportion of U.S. Medicare PDPs with copayments >$4 for 27 covered generic cardiovascular medications available through Walmart's GDDP, by plan type and tier—June 2017.



Circle size reflects the number of plans offering the drug for each plan type and tier category. The specific tier structure differs across plans and has implications for cost sharing. Tier 1 is generally the category used for preferred generics and in which cost sharing is lowest, whereas other tiers are used for nonpreferred generics, preferred and nonpreferred brand-name drugs, and specialty drugs. Since 2015, with the advent of the Five-Star Quality Rating System, some Medicare prescription drug formulary plans have added a select care tier for which cost sharing is low or nonexistent for drugs whose adherence by patients is considered part of specific quality measures. The exact tier structures differ across plans. ER = extended release; GDDP = generic drug discount program; HCTZ = hydrochlorothiazide; MA = Medicare Advantage; PDP = prescription drug plan.

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Table. Proportion of Plans With Copayments >$4 and Median Out-of-Pocket Costs for 27 Covered Cardiovascular Medications Available Through Walmart's GDDP, by Medicare PDP Type and Tier—June 2017

Variable	Median Plans With Copayments >$4 (IQR), %	Median Out-of-Pocket Cost (IQR), $
All plans combined	21.0 (16.3–38.1)	2 (0–5)
MA-PDP		
Tier 1 and select care tiers	19.9 (19.4–22.3)	2 (0–4)
Other tiers	95.6 (94.3–100.0)	10 (7–15)
Standalone PDP		
Tier 1 and select care tiers	1.9 (1.1–2.2)	1 (0–2)
Other tiers	45.9 (37.1–49.5)	3 (2–8)

GDDP = generic drug discount program; IQR = interquartile range; MA-PDP = Medicare Advantage PDP; PDP = prescription drug plan.

costs for the lowest-priced dose of each drug in each plan. We excluded special-needs plans and plans operating exclusively in the 8 states that do not guarantee $4 GDDP prices. Because we were characterizing cost sharing, beneficiary out-of-pocket costs for each drug were determined for the first phase of coverage for each plan: the deductible phase for plans that required a deductible and offered coverage in this phase or the initial coverage zone.

Our primary outcomes were the proportion of plans requiring patients to spend more than $4 out of pocket to obtain a 30-day supply for covered medications and each drug's median out-of-pocket cost. Analyses were stratified by plan type (Medicare Advantage PDPs [MA-PDPs] vs. standalone PDPs) and tier category (tier 1 and select care tiers vs. all other tiers); select care tiers have low beneficiary out-of-pocket costs, similar to those required for drugs in the preferred generic tier (tier 1), because Medicare assesses the adherence of each plan's beneficiaries to certain medications as part of the Five-Star Quality Rating System. Tier placement is independent of GDDP availability and determined solely by the PDP. Differences between plan types were analyzed using a Mann–Whitney U test. All analyses were performed using Stata, version 15.1 (StataCorp), and RStudio, version 1.1.423.

Our analysis involved 2155 Medicare PDPs, which comprised 1533 (71.1%) MA-PDPs and 622 (28.9%) standalone PDPs. From Walmart's GDDP list, we identified 27 generic medications used for prevalent CVD-related conditions; of these, Medicare PDPs covered a median of 25 medications (interquartile range [IQR], 25 to 27 medications). Across all medications and tiers, the median proportion of plans that required patients to spend more than $4 out of pocket for covered medications was 21.0% (IQR, 16.3% to 38.1%) (**Figure**); the median proportion differed significantly between MA-PDPs versus standalone PDPs for medications covered in tier 1 and select care tiers (19.9% [IQR, 19.4% to 22.3%] vs. 1.9% [IQR, 1.1% to 2.2%], respectively; $P < 0.001$ [**Table**]) and for medications covered in other tiers (95.6% [IQR, 94.3% to 100%] vs. 45.9% [IQR, 37.1% to 49.5%], respectively; $P < 0.001$).

The median total out-of-pocket cost of covered medications across all tiers was $2 (IQR, $0 to $5); these costs differed significantly between MA-PDPs and standalone PDPs for medications covered in tier 1 and select care tiers (median cost, $2 [IQR, $0 to $4] vs. $1 [IQR, $0 to $2], respectively; $P < 0.001$) and for medications covered in other tiers (median cost, $10 [IQR, $7 to $15] vs. $3 [IQR, $2 to $8], respectively; $P < 0.001$).

Discussion: A substantial proportion of Medicare PDPs in 2017 required patients to spend more out of pocket than Walmart's GDDP for 30-day supplies of 27 generic medications used to treat prevalent CVD-related conditions. In particular, MA-PDPs consistently required patients to spend more out of pocket than standalone PDPs, a counterintuitive finding considering that MA plans are responsible for acute care coverage, outpatient services, and other health care expenses for their beneficiaries and not solely pharmaceutical services like standalone PDPs.

Our study has important limitations. We do not know the number of beneficiaries enrolled in each plan or the generalizability of our findings to other drug classes. Enhancing information on out-of-pocket costs for PDPs, particularly comparing these costs with those for medications available through GDDPs, could decrease beneficiary drug spending. Efforts should include addressing laws that prohibit pharmacists from notifying patients about lower out-of-pocket prices for medications, especially given the widespread availability of GDDPs. Helping beneficiaries pay the lowest available price for generic medications may improve medication adherence among Medicare beneficiaries and, in turn, their clinical outcomes.

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Reproducible Research Statement: *Study protocol and statistical code:* Available from Dr. Ross (e-mail, joseph.ross@yale.edu). *Data set:* Available for purchase at www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/NonIdentifiableDataFiles/PrescriptionDrugPlanFormularyPharmacyNetworkandPricingInformationFiles.html.

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