Association between Higher Generic Drug Use and Medicare Part D Star Ratings: An Observational Analysis

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A B S T R A C T

Background: Increasing generic drug use, due to potential for cost savings and drug access, is a viable consideration for Medicare prescription drug plans to achieve high star ratings and improve quality of plan offerings for Medicare beneficiaries. **Objective:** To examine the association between contract-level proportion of generic drugs dispensed (pGDD) and Medicare Part D star ratings. **Methods:** This was a retrospective study of linked 2011 Medicare Part D star rating data with contract-level pGDD data. A total of 477 individual Medicare prescription contracts were included, representing 75% of total Prescription Drug Plans and more than 65% of total Medicare Advantage Prescription Drug Plans available by the end of 2010. Primary outcomes were Medicare Part D summary and domain star ratings (1–5 indicating lowest to highest performance), incorporating a range of quality measures for access, cost, beneficiary satisfaction, and health services outcomes and processes. Ordinal logistic regression models were used to examine associations between pGDD and

Medicare Part D summary and domain star ratings, controlling for contract type and number of beneficiary enrollment. **Results:** Higher pGDD was associated with higher summary star ratings (adjusted odds ratio 1.08 with 95% confidence interval 1.04–1.12) and higher "member experience with drug plan" domain ratings (adjusted odds ratio 1.07 with 95% confidence interval 1.03–1.11). **Conclusions:** Prescription formulary benefit design targeting increasing generic drug use appears to be associated with improved member experience and higher plan star ratings. Consideration may be given to incorporating pGDD into Medicare Part D star rating measures to improve quality of prescription plans.

Keywords: Medicare, star ratings, quality of care, generic drugs.

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Introduction

Prescription drug expenditure in the United States is rapidly rising. Total annual drug expenditure increased by 11.7% from 2014 to 2015, reaching $419.4 billion [1]. Rising costs to the health care system cannot be maintained long-term. Thus, solutions to the issue of rising drug expenditures are sorely needed.

One potential solution to mitigate rising prescription drug expenditures is to increase prescribing and dispensing of generic drugs. Generic drug use is a safe and cost-effective alternative to brand drug use [2]. In 2016, generic drugs were used to fill 89% of prescriptions in the United States, while accounting for only 28% of total drug spending [3]. Because generics are 20% to 90% less expensive than their reference brand drug product, generics

accounted for roughly $77 billion in savings to Medicare and its beneficiaries in 2016 alone [3,4].

Increasing use of generic medications may further decrease costs to Medicare beneficiaries and plans, while also generating clinical benefits. For example, the cost savings generated by generic drug substitution have been attributed to improving medication adherence, which may improve clinical outcomes [5]. Indeed, adherence to chronic medications is part of Medicare's plan-level quality measures. Adherence and cost-savings quality measures have been strongly associated with generic drug use. For example, a 2014 study by Leslie et al. [6] showed a positive relationship between Medicare beneficiaries' adherence to antihypertensive, antihyperlipidemic, and antidiabetic agents (of which many are available as generics) and Medicare prescription drug plan star ratings for the iCare Medicare Advantage

Prescription Drug plan. While generic drug use is related to medication adherence and cost savings, current Medicare prescription plan star rating measures of plan quality do not explicitly measure the use of generic drugs. Therefore, evidence supporting the direct association between generic drug use and Medicare prescription plan quality ratings is very limited.

Since 2008, the Medicare prescription drug benefit (Medicare Part D) has used a five-star scale—Star Rating System—to track quality and performance measures of individual MA-PD plans and Prescription Drug Plans (PDPs) [7–9]. Summary star ratings for Medicare Part D prescription drug plan quality are reported annually on the basis of how well plans perform in four different domains: drug plan customer service, member complaints and Medicare audit findings, member experience with the plan's drug services, and drug safety and drug pricing accuracy [7]. These domains each contain a number of individual measures of quality, which contribute to the Medicare Part D summary star rating. Measures focusing on prescription drug use address concerns with cost savings, medication adherence, communication with health care professionals, as well as measures of patient satisfaction and safety [7]. Using weighted performance measures, Medicare assigns plans a rating from one star (poor) to five stars (excellent). Low-ranking plans are incentivized to improve their rankings via numerous mechanisms, including bonus payments, publicly reporting plans' star ratings, and a broader open-enrollment period for plans with five-star ratings [10–12]. These incentives to achieve and maintain high ratings require plans to focus on patient satisfaction, service provision, and quality of care.

Improving Medicare Part D plan quality ratings may help to improve beneficiary access to high-quality plans. As a first step in finding a means to reduce drug costs and improve care quality for Medicare beneficiaries, the purpose of this study was to examine the association between contract-level proportion of generic drugs dispensed (pGDD, the proportion of prescription drugs dispensed as generics for each Medicare Part D contract) and Medicare Part D prescription summary star ratings. On the basis of existing associations among generic drug use with cost savings and medication adherence, we hypothesized that higher pGDD was associated with higher Medicare Part D summary star ratings. We also examined the associations between pGDD and subdomains of Medicare Part D star ratings, including drug plan customer service, drug plan member complaints and Medicare audit findings, member experience with drug plan, and drug pricing and patient safety. This knowledge is useful in making informed decisions regarding the role of generic drug use in improving quality ratings for Medicare Part D prescription plans. In turn, this may afford Medicare beneficiaries with improved access to high-quality prescription plans and lower cost medications, improving beneficiary satisfaction and quality of care.

Methods

Study Design and Data

This was a retrospective, observational study using Medicare contract-level prescription, rating, and enrollment data. The 2011 Medicare Part D star ratings report (Fall release) and contract-level 2010 Medicare Part D pGDD data were linked using the unique Medicare plan contract ID. The 2011 Medicare Part D star ratings report included reporting time periods (between January 1, 2009, and July 9, 2010, varying by individual measure) for each Medicare Part D performance or quality measure, star ratings for individual measures and domains, and Part D summary star ratings for each of 616 individual MA-PD plan and PDP contracts. All data in the star ratings files were reported at the contract level

(a contract may include more than one plan) and excluded the following special-interest plans: National Programs for All-Inclusive Care for the Elderly, Cost plans, Employer Group Health plans, Continuing Care Retirement Community demonstrations, End Stage Renal Disease Networks, and Demonstration plans [13]. Furthermore, in the 2011 Medicare Part D star ratings report, summary star ratings were calculated by the Centers for Medicare & Medicaid Services (CMS) as an average from 17 individual Part D quality measure star ratings. Domain star ratings were calculated as averages from individual quality measure star ratings corresponding to each domain and included the following: Drug Plan Customer Service (CS); Drug Plan Member Complaints and Medicare Audit Findings (MC-AF); Member Experience with Drug Plan (ME); and Drug Pricing and Patient Safety (DP-PS) domains. During the reporting time period analyzed, these domains, respectively, covered seven, three, three, and four individual customer service, process, satisfaction, and drug safety and access measures (medication adherence measures not yet reported). In addition, the 2010 Medicare Part D pGDD data were available at the CMS Web site, CMS.gov. Contract-level pGDDs were calculated by the CMS on the basis of 2010 Prescription Drug Event data from the Integrated Data Repository standard analytical file. To control for the number of Medicare beneficiary enrollment per contract, the monthly enrollment by contract data for August 2010 (the 2011 Medicare Part D star ratings report included reporting time periods between January 1, 2009, and July 9, 2010) was also downloaded from CMS.gov and linked by contract ID [14].

This study was approved by institutional review boards of the authors' respective institutions and the US Food and Drug Administration (FDA) Research Involving Human Subjects Committee.

Inclusion/Exclusion Criteria

Figure 1 presents the Consolidated Standards Of Reporting Trials diagram of contract selection. MA-PD plan and PDP contracts in the 2011 Medicare Part D star ratings report were included if they had a valid 1 to 5 summary star rating (n = 478). Contracts with
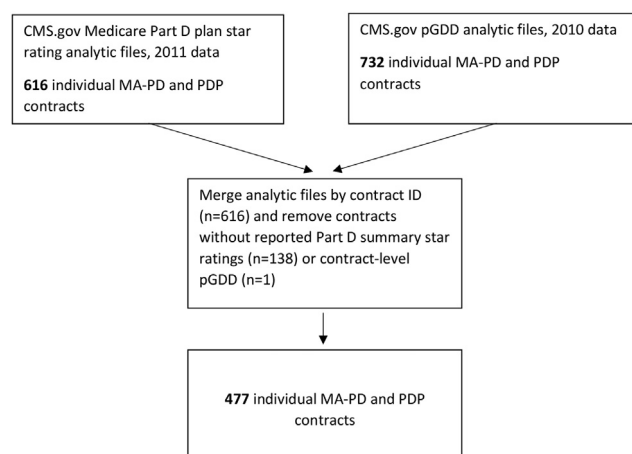
Fig. 1 – CONSORT Diagram of eligible 2010 Medicare contracts. Eligible 2010 Medicare contracts were Medicare Advantage Prescription Drug (MA-PD) plan or Prescription Drug Plan (PDP) contracts. Contract-level proportion of generic drugs dispensed (pGDD) was calculated as the total number of generic prescription drug events divided by the total number of generic or branded prescription drug events processed per contract during the calendar year.