

## Editorial

# Prevalence and Spending on Diabetes for Medicare's Fee-for-Service Population: US Trends, 2010

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## Introduction

Diabetes Mellitus is one of the most common and costly chronic diseases. The Centers for Disease Control and Prevention reports that in 2010, 25.8 million people, or 8.3% of the population of the United States, had diabetes, including 10.9 million adults age 65 and above [1]. Type 2 diabetes comprises an estimated 90-95% of cases, with Type 1 diabetes and gestational diabetes accounting for the remaining cases [2-5]. Diabetes is a leading cause of death and is often associated with costly and disabling conditions including obesity, hypertension, nerve damage, kidney failure, lower limb amputations, adult onset blindness, heart disease and stroke. Individuals with diabetes use more health care services, medications and other supplies, and have shown medical costs per case that increase with age [6].

In the U.S., individuals age 65 and over account for an estimated 59% of national spending on diabetes care, most of which is paid by the Medicare program [7], the publicly-funded health insurance program funded by the Centers for Medicare & Medicaid Services (CMS). Medicare covers the majority of adults age 65 and above in the US. While some individuals may enroll in private health plans that contract with Medicare, the standard benefit is Medicare Fee-for-Service (FFS) coverage. The Medicare FFS program offers coverage in several parts. Medicare Part A (hospital insurance) covers care in hospitals, skilled nursing facilities and other institutions. Medicare Part B (medical insurance) covers physicians' services, outpatient services, diagnosis, examinations, care, equipment and supplies relating to diabetes, and some preventive and self-management services. Medicare Part D (prescription drug insurance) provides prescription drug coverage and covers supplies for injecting or inhaling insulin, and is provided through private insurance companies that contract with CMS.

Because diabetes presents an enormous health and economic burden on the aging Medicare population and its publicly-funded program, it is of critical importance to better understand prevalence and spending for diabetes within the aging population and the Medicare program in particular. Specifically, we were interested to understand:

- What trends exist regarding prevalence and spending for diabetes in the Medicare FFS population?
- How does prevalence or spending for diabetes relate to prevalence or spending for other chronic conditions?

- Do these trends vary for males and females, for different age groups, or for different types of Medicare utilization and spending?

## Approach

We were able to examine these and related trends in diabetes care for FFS beneficiaries with a focus on individuals age 65 and above (older adult population) to better understand prevalence and spending patterns. We also included in our analyses beneficiaries below age 65, because the Medicare program does provide coverage to a small number of disabled beneficiaries in this age category. Our analyses used actual Medicare FFS claims information from a newly available set of Public Use Files (PUFs) from CMS which also contained 2010 information about Medicare beneficiaries' chronic conditions. These PUFs and analyses are described in a recent journal article [8]. Our approach contributes to previous studies of spending and resource use on diabetes care that have relied on large self-reported survey data, or data from private Medicare Part D health plans. These latter data sources do not represent actual hospital, medical and pharmaceutical spending as do the administrative claims we use for the trend analyses summarized in this editorial report.

The PUFs include the following chronic conditions: Alzheimer's Disease and Related Disorders or Senile Dementia; Cancer including one or more of the following types: breast, colorectal, prostate, or lung; Congestive Heart Failure; Chronic Kidney Disease; Chronic Obstructive Pulmonary Disease; Depression; Diabetes; Ischemic Heart Disease; Osteoporosis; Rheumatoid Arthritis/Osteoarthritis; and Stroke\Transient Ischemic Attack.

## Summary Findings

We share some of our key findings below. For detailed tables and reporting readers are referred to our recently published work, cited previously [8].

- More than 6 million (22.6%) Part A beneficiaries were diagnosed with diabetes making it the most commonly observed chronic condition among Medicare FFS beneficiaries age 65 and over. The share of diabetic beneficiaries was higher (25.0%) among Part B beneficiaries but lower (15.6%) among Part D beneficiaries.
- Beneficiaries with only diabetes were about 5.4(6.0) % of the Part A (Part B) beneficiaries, but another 2.4 (2.6) % had both diabetes and ischemic heart disease, and 1.1 (1.2) % had both diabetes and arthritis within the most common combinations of chronic conditions.
- Males age 65 and over were more likely to have diabetes than females in Medicare Parts A, B and D.

- Prevalence of diabetes increased with age initially for the aged Medicare population, but dropped for beneficiaries 85 years of age and older. This may reflect shorter life expectancies among individuals identified with diabetes, and warrants more in-depth investigation.
- Ischemic heart disease, arthritis, chronic kidney disease, and congestive heart failure appear as the major comorbidities of diabetes in the Medicare population age 65 and above.
- Only 24% of Part A and Part B beneficiaries with diabetes did not have comorbidity, with 3 of 4 beneficiaries dealing with diabetes also dealing with at least one other chronic condition.
- Average Medicare spending for a Part A beneficiary with diabetes and no chronic condition was \$537; for a Part B beneficiary with no other chronic condition was \$2,146; average total drug costs were about \$2,214. Spending increased dramatically with comorbidities. For Part A, 2.8 fold with ischemic heart disease and congestive heart failure, 4 fold with arthritis, 5 fold with chronic kidney disease. Increases were substantial but less dramatic for Parts B and D.
- On average, diabetic beneficiaries in Part A and Part B had 2.8 chronic conditions (including diabetes) with average Medicare spending of \$5,741 and \$5,991. Total drug costs for Part D beneficiaries were \$3,119.

## Discussion: A Starting Point for Policy and Program Planning

This report provides a brief summary of trends in prevalence and spending for Medicare beneficiaries with diabetes age 65 and above in the FFS population. Our findings are consistent with trends identified in surveys and research that shows diabetes as a common, costly chronic condition, especially among older adults. Findings also show increases in prevalence of chronic conditions with advancing age.

People with diabetes accounted for approximately one in four Medicare FFS beneficiaries in 2010, with a higher share among Part A beneficiaries. Most beneficiaries with diabetes had other chronic conditions, which averaged 2.8 (with diabetes). Spending was modest for beneficiaries who had only diabetes, but increased substantially for the majority who had diabetes with other chronic conditions. For

example, we found that hospital care costs increased about 3 fold (\$1,502 vs. \$537) if a diabetic beneficiary also had ischemic heart disease, which is the most common chronic condition with diabetes.

The presence of comorbidities such as those in this study can complicate diabetes management, including patients' abilities to self-manage their care, and increase overall costs of care. Conditions such as depression and arthritis can impair patients' functioning, lifestyle changes and impose barriers to proper care management.

As with any data set, there are limitations to the CMS PUFs data we have used for these analyses. The data do not include information about beneficiaries' race and ethnicity, for example, actors known to be closely tied to prevalence of diabetes. The data also include information on only eleven chronic conditions, when many others may be related to or tied to a diagnosis of diabetes.

Still, the trends we present here do provide a starting point for further, ongoing investigation important to program policy and management of health and health care for older adults with diabetes and chronic conditions in the Medicare program. In particular, the prevalence of diabetes with co-occurring chronic conditions has significant implications for prevention and self-management efforts focused at constraining increases in diabetes and related expenditures for older adults in the Medicare FFS population.

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