Home Delivery Supports Greater Medication Adherence and Lower Total Costs Among Medicare Beneficiaries

Over 85 percent of U.S. adults 65 and older report taking prescription drugs to treat one or more long-term health conditions, with 35 percent taking five or more.[1] Ensuring adherence to long-term medication regimens is crucial for effectively managing health conditions, preventing disease progression, and avoiding serious complications.[2] Medication non-adherence is associated with poor clinical outcomes, including increased morbidity and mortality,[3,4] greater utilization of health care services,[5,6] and avoidable health care spending.[7,8,9]

Home delivery pharmacies advance medication adherence by offering consumers convenience and timely access to long-term medication regimens. A prior analysis demonstrated that for Medicare patients with high blood pressure (hypertension), Optum Rx home delivery outperforms retail pharmacies on three important measures of medication adherence, achieving:[10]

- **35% fewer** days NOT covered
- **32% fewer** non-adherent individuals
- **21% lower** likelihood of individuals experiencing a 30-day gap in their medications

High blood pressure (hypertension) is the most common chronic condition among Medicare beneficiaries. It is a serious medical condition that increases pressure on blood vessels and the heart and can lead to stroke, heart attack, kidney damage, or death.[11]

This analysis compares health care utilization and costs for Medicare beneficiaries with higher versus lower adherence, confirming recent research that finds greater adherence to hypertension medications is associated with favorable utilization and cost outcomes.[12]

Prevalence

An estimated 64 percent of Medicare beneficiaries have hypertension. Among these approximately 40 million individuals with hypertension, the prevalence of other common chronic conditions is high, including:[13]

- Diabetes (64%)
- Heart disease (56%)
- Chronic lung disease (47%)
- Mental health conditions (48%)
- Arthritis (44%)
- Kidney disease (34%)

Utilization

Medicare beneficiaries with hypertension who had higher medication adherence had favorable all-cause utilization patterns, including:

- **54% fewer** hospital admissions
- **34% fewer** emergency department (ED) visits
- **67% fewer** skilled nursing facility (SNF) stays

Utilization per 1,000 Medicare Beneficiaries per Year

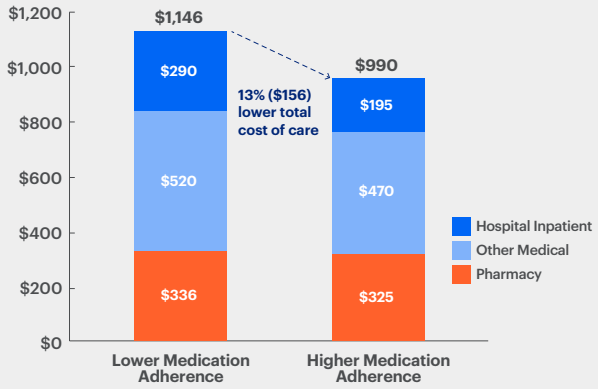
Hospital Admissions	**165 fewer** (137 vs. 302)
ED Visits	**216 fewer** (418 vs. 634)
SNF Stays	**59 fewer** (29 vs. 88)

Costs

Medicare beneficiaries with hypertension who had higher medication adherence had a lower average total cost of care:

- **13% lower** total medical and pharmacy costs, consisting of:
  - **32% lower** all-cause hospital inpatient costs
  - **9% lower** other medical costs, including hospital outpatient, ED, and SNF costs
  - **3% lower** pharmacy costs

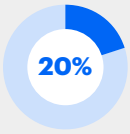
Cost per Medicare Beneficiary per Month



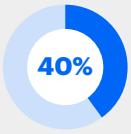
Potential Savings from Increased Adherence

Approximately 90 percent of Medicare beneficiaries with hypertension, including those with other chronic conditions, are currently adherent to their hypertension medications[14]—leaving approximately 3 million individuals non-adherent.[15] When more non-adherent beneficiaries become adherent, the federal government realizes substantial Medicare savings through fewer hospital admissions, ED visits, and SNF stays. If 80 percent of non-adherent beneficiaries with hypertension became adherent to their hypertension medications, Medicare savings would reach $5 billion in the first year and exceed $60 billion over ten years.[16]

Ten-Year Savings

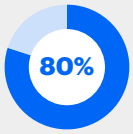


$15 billion if 20% became adherent



$30 billion if 40% became adherent

$45 billion if 60% became adherent



$60 billion if 80% became adherent

These estimated savings are associated with adherence to hypertension medications. Additional health benefits and savings could be realized through increased adherence to medications taken by these beneficiaries for their other chronic conditions.

Moving Forward

Policymakers have an opportunity to enable greater medication adherence, improved health outcomes, and lower costs for Medicare beneficiaries by supporting the most effective ways to provide prescription drugs to those with chronic health conditions. To ensure more individuals have convenient, timely, and affordable access to medications and can take them as prescribed, policymakers can:

- Recognize the capabilities that home delivery pharmacies provide in delivering clinical value, optimizing health outcomes, and lowering costs.
- Ensure that Medicare beneficiaries can continue to choose home delivery as a key resource for accessing prescription drugs.

Methodology

The analysis is based on Optum Rx (ORx) pharmacy claims and UnitedHealthcare medical claims for the period July 1, 2023, through December 31, 2024.

Beneficiaries

The study sample includes non-dual-eligible Medicare Advantage-Prescription Drug plan beneficiaries aged 65 or older on July 1, 2023, with continuous pharmacy and medical coverage from July 1, 2023, through December 31, 2024, who had a hypertension diagnosis and two or more prescription fills on different dates for medications associated with hypertension. To ensure comparability between cohorts and reduce confounding, the study sample did not include beneficiaries who were undergoing active cancer treatment, had end-stage renal disease, received a transplant, were in hospice care, had primary care providers receiving capitated payments, or had missing information (covariates).

Health Conditions

Beneficiaries with hypertension were identified using 2024 pharmacy and medical claims, defined by: a minimum of two pharmacy claims on different dates for a hypertension medication, and a minimum of one inpatient claim or two outpatient claims on different dates with a hypertension diagnosis. Medical claims for hypertension and the other chronic conditions co-occurring for beneficiaries with hypertension were identified using ICD-10. The other chronic conditions were then grouped into broader condition categories defined by the Agency of Healthcare Research and Quality's Clinical Classification Software, and the most prevalent and debilitating conditions were reported. Some categories were renamed for simplicity. Heart disease includes pulmonary heart disease and congestive heart failure; chronic lung disease includes chronic obstructive pulmonary disorder and asthma; mental health conditions include anxiety, mood disorder, and schizophrenia; arthritis includes osteoarthritis, rheumatoid arthritis, and non-traumatic joint disorders; and kidney disease includes chronic kidney disease and renal failure.

Adherence

To ensure the analysis focused on beneficiaries who were taking medication over the long term, the analysis was limited to those who had at least two pharmacy claims on different dates for hypertension, with the first fill occurring at least 91 days prior to December 31, 2024. The proportion of days covered (PDC) was calculated by dividing the total number of days with medication on hand from the start of the prescription to the end of the year, based on the prescription fill date and the number of days of medication supplied, by the total number of days from the start of the prescription to the end of the year. Beneficiaries with a PDC of 80 percent or more were considered to have higher adherence.

Utilization and Cost Comparison

To reduce confounding and selection bias, health care costs and utilization between beneficiaries with higher and lower adherence were compared using a propensity score weighing method that adjusted for demographics, geography, plan design, risk score, utilization of chronic disease medications, co-morbidities, and baseline cost and utilization. Two-stage modeling was used when models did not converge. All observed results achieved statistical significance, with p-values falling below the 0.05 threshold. As with all observational studies, it is possible that there are other confounding factors that this study did not control for. Findings may not generalize to the commercially insured or Medicaid populations.

Systemwide Savings

Systemwide annual savings were estimated by applying the study sample's per person cost differential between adherent and non-adherent Medicare beneficiaries to the estimated number of beneficiaries who were non-adherent to hypertension medications. The systemwide volume of beneficiaries who were non-adherent to hypertension medications was estimated by taking the total number of beneficiaries in 2024 (67.9 million, CMS, "Medicare Monthly Enrollment"), subtracting the number of beneficiaries with dual Medicare-Medicaid enrollment (12.1 million, CMS, "Medicare Monthly Enrollment"), and multiplying by the share of beneficiaries with Medicare Parts A and B coverage (91%, CMS, "Medicare Monthly Enrollment"). This total was then divided into Medicare Advantage (MA) and Fee-For-Service (FFS) populations (54% MA, KFF, 2024), and each were multiplied by the share with hypertension (64% for MA, UHG, 2025; 65% for FFS, CMS, "Mapping Medicare Disparities by Population"), and then the share estimated to be non-adherent to hypertension medications (11%, rounded down to 10% to be conservative and avoid overestimating the number of non-adherent individuals, CMS, "Medicare 2025 Part C & D Star Ratings Technical Notes"). The systemwide annual savings were then calculated for each incremental 20% reduction in the number of non-adherent beneficiaries by using 2024 per capita costs for MA and FFS beneficiaries (Milliman, 2024) and applying total cost savings estimated from this analysis (13.6%). Savings estimates for 2025 to 2034 were estimated by growing the 2024 number of Medicare beneficiaries by 1.5% annually, consistent with the projected annual Medicare membership growth rate (CBO, 2024) and growing per capita costs by 3% annually, consistent with the average annual growth of the medical care component of the Consumer Price Index over the past 10 years.

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