Commercially Insured Individuals Achieve Greater Medication Adherence with Home Delivery 90-Day Prescriptions: Up to 38% Fewer Individuals Are Non-Adherent Compared to Those with Retail 90-Day Prescriptions

Two-thirds of U.S. adults report taking prescription drugs to treat a long-term health condition, with one-third taking three or more drugs daily.[1] **Ensuring adherence to long-term medication regimens is crucial for effectively managing health conditions, preventing disease progression, and avoiding serious complications.**[2] Each year in the U.S., failure to take medications as prescribed results in poor clinical outcomes,[3,4] preventable deaths,[5] and avoidable health care spending.[6,7,8]

Home delivery of prescription drugs advances medication adherence for patients by supporting timely access to treatment for chronic and behavioral health conditions.[9,10]

Compared to retail pharmacies, home delivery is associated with **higher adherence rates, favorable clinical outcomes, and fewer hospital admissions and emergency department visits**.[11,12,13]

Higher adherence rates are associated with **improved clinical outcomes**[14] **and reduced mortality**.[15]

When individuals opt for 90-day supplies of medications from home delivery pharmacies, they receive their medication with **low dispensing error rates**[16] and often at a **lower cost** than retail pharmacies.[17,18]

Measures of Medication Adherence

This analysis utilizes established measures of medication adherence that the federal government, independent quality improvement organizations, academic researchers, and the health care industry use to assess how often people take their medications as prescribed.[19,20,21]

- **Proportion of Days Covered** measures the share of days that an individual has access to their prescribed medication.[22]
- **Medication Adherence Rate** measures the share of a population with at least an 80 percent Proportion of Days Covered,[23,24] an adherence threshold associated with favorable clinical outcomes.[25,26,27]
- **Medication Persistence** measures the continuity of medication usage[28] by estimating the probability of individuals going at least 30 days without medication.[29]

Common Conditions and Medication Categories

This analysis focuses on the following common chronic and behavioral health conditions and the medication categories used to treat them, which collectively account for over one third of all prescriptions for commercially insured individuals.[30]

Chronic Conditions (Medication Categories)

Diabetes (Antidiabetics)
High Blood Pressure (Antihypertensives)
High Cholesterol (Statins)

Behavioral Health Conditions (Medication Categories)

Depression and/or Anxiety (Antidepressants)
Psychosis (Antipsychotics)
Mood Disorder (Mood Stabilizers)

Across all prescription drug categories and adherence measures studied, Optum Home Delivery 90-day fills outperform both 30-day and 90-day retail fills, promoting better access, continuity in medication usage, and more favorable clinical outcomes.

Consumers, providers, employers, health plans, and government programs all benefit from recent advancements in home delivery services. Today, Optum Home Delivery Pharmacy plays a range of roles including:

- Providing consumers and prescribers with prompt 24/7 access to pharmacist experts via phone and virtual consultations
- Ensuring consistent, reliable medication access for consumers with limited retail pharmacy options in rural and urban communities
- Proactively partnering with prescribers to ensure consumers receive timely renewals of their maintenance medications
- Deploying comprehensive quality and safety processes to achieve a 99.998% rate of dispensing accuracy
- Shipping 98% of prescriptions within two days of ordering and providing state-of-the-art package-monitoring to give consumers peace of mind

Proportion of Days Covered

Home Delivery 90-day fills were associated with the fewest days NOT covered for commercially insured individuals across conditions and prescription drug categories in 2022.[31]

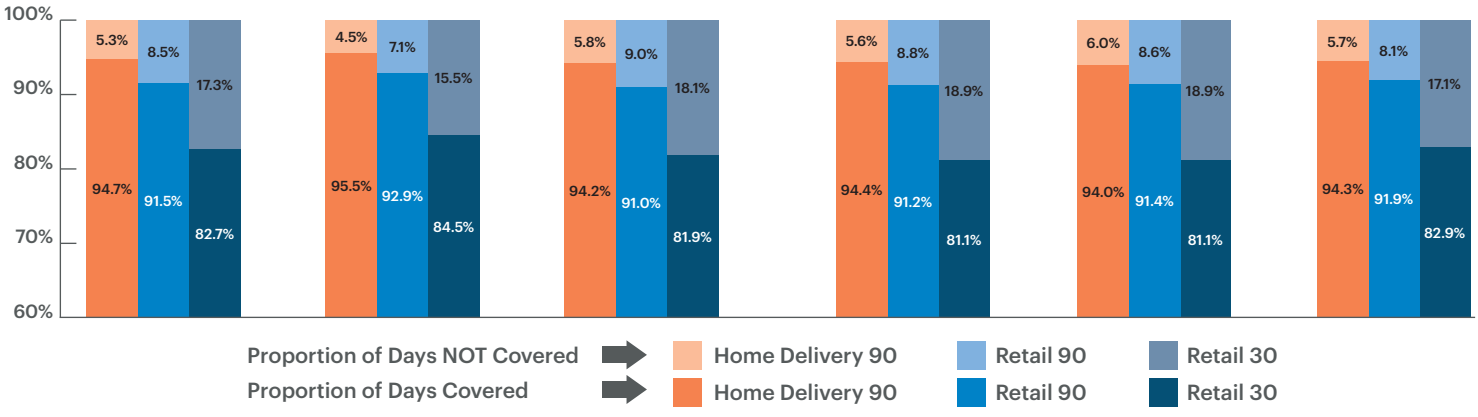
- **30% to 38%** fewer days NOT covered compared to Retail 90-day fills
- **67% to 71%** fewer days NOT covered compared to Retail 30-day fills

Chronic Conditions

Diabetes (Antidiabetics)	High Blood Pressure (Antihypertensives)	High Cholesterol (Statins)
38% fewer vs. Retail 90 (5.3% vs. 8.5%)	**37%** fewer vs. Retail 90 (4.5% vs. 7.1%)	**36%** fewer vs. Retail 90 (5.8% vs. 9.0%)
69% fewer vs. Retail 30 (5.3% vs. 17.3%)	**71%** fewer vs. Retail 30 (4.5% vs. 15.5%)	**68%** fewer vs. Retail 30 (5.8% vs. 18.1%)

Behavioral Health Conditions

Depression / Anxiety (Antidepressants)	Psychosis (Antipsychotics)	Mood Disorder (Mood Stabilizers)
36% fewer vs. Retail 90 (5.6% vs. 8.8%)	**30%** fewer vs. Retail 90 (6.0% vs. 8.6%)	**30%** fewer vs. Retail 90 (5.7% vs. 8.1%)
70% fewer vs. Retail 30 (5.6% vs. 18.9%)	**68%** fewer vs. Retail 30 (6.0% vs. 18.9%)	**67%** fewer vs. Retail 30 (5.7% vs. 17.1%)



Medication Adherence Rate

Home Delivery 90-day fills were associated with the fewest non-adherent commercially insured individuals across conditions and prescription drug categories in 2022.[32]

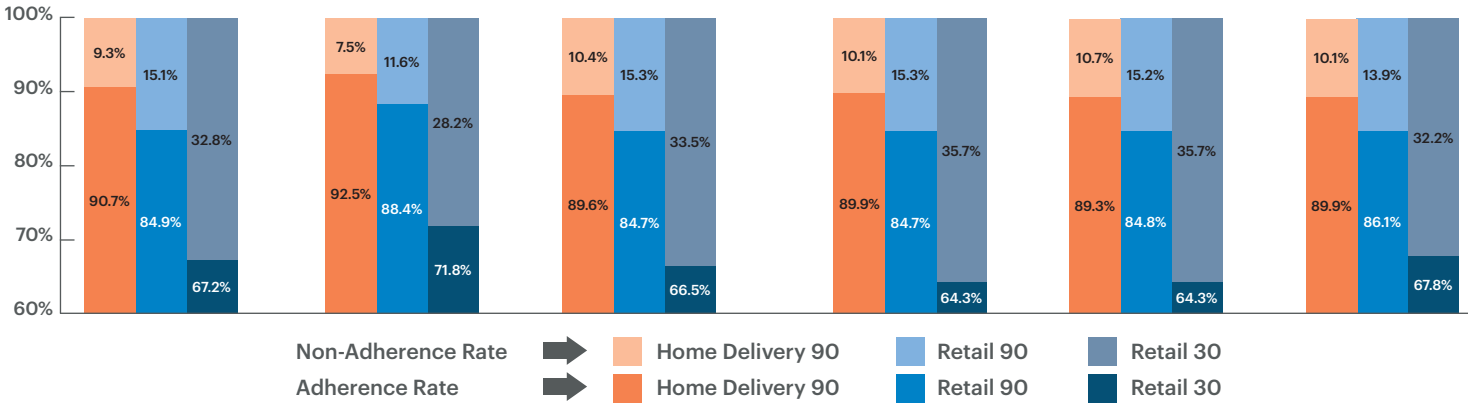
- **27% to 38%** fewer non-adherent individuals compared to Retail 90-day fills
- **69% to 73%** fewer non-adherent individuals compared to Retail 30-day fills

Chronic Conditions

Diabetes (Antidiabetics)	High Blood Pressure (Antihypertensives)	High Cholesterol (Statins)
38% fewer vs. Retail 90 (9.3% vs. 15.1%)	**35%** fewer vs. Retail 90 (7.5% vs. 11.6%)	**32%** fewer vs. Retail 90 (10.4% vs. 15.3%)
72% fewer vs. Retail 30 (9.3% vs. 32.8%)	**73%** fewer vs. Retail 30 (7.5% vs. 28.2%)	**69%** fewer vs. Retail 30 (10.4% vs. 33.5%)

Behavioral Health Conditions

Depression / Anxiety (Antidepressants)	Psychosis (Antipsychotics)	Mood Disorder (Mood Stabilizers)
34% fewer vs. Retail 90 (10.1% vs. 15.3%)	**30%** fewer vs. Retail 90 (10.7% vs. 15.2%)	**27%** fewer vs. Retail 90 (10.1% vs. 13.9%)
72% fewer vs. Retail 30 (10.1% vs. 35.7%)	**70%** fewer vs. Retail 30 (10.7% vs. 35.7%)	**69%** fewer vs. Retail 30 (10.1% vs. 32.2%)



Medication Persistence

Home Delivery 90-day fills were associated with the lowest probability of commercially insured individuals becoming non-persistent, by experiencing a gap of at least 30 days without medications, across conditions and prescription drug categories in 2022.[33]

- **19% to 33%** less likely to experience a gap compared to Retail 90-day fills
- **47% to 57%** less likely to experience a gap compared to Retail 30-day fills

Chronic Conditions

Diabetes (Antidiabetics)	High Blood Pressure (Antihypertensives)	High Cholesterol (Statins)
33% less likely vs. Retail 90 (HR=0.67)	**26%** less likely vs. Retail 90 (HR=0.74)	**29%** less likely vs. Retail 90 (HR=0.71)
57% less likely vs. Retail 30 (HR=0.43)	**55%** less likely vs. Retail 30 (HR=0.45)	**54%** less likely vs. Retail 30 (HR=0.46)

Behavioral Health Conditions

Depression / Anxiety (Antidepressants)	Psychosis (Antipsychotics)	Mood Disorder (Mood Stabilizers)
29% less likely vs. Retail 90 (HR=0.71)	**25%** less likely vs. Retail 90 (HR=0.75)	**19%** less likely vs. Retail 90 (HR=0.81)
56% less likely vs. Retail 30 (HR=0.44)	**52%** less likely vs. Retail 30 (HR=0.48)	**47%** less likely vs. Retail 30 (HR=0.53)

Note: Hazard Ratio (HR) is the ratio of the probabilities of individuals becoming non-persistent, by experiencing a gap of at least 30 days without medications, for Home Delivery 90-day fills vs. Retail 90-day fills, or for Home Delivery 90-day fills vs. Retail 30-day fills.

Moving Forward

Policymakers have an opportunity to enable improved health outcomes by supporting the most effective ways to provide prescription drugs to patients with chronic and behavioral health conditions. **To ensure more individuals have convenient and timely access to medications and can take them as prescribed**, policymakers can:

- Ensure that individual consumers, employers, and health plans **can continue to choose home delivery** as a key resource for accessing prescription drugs.
- **Recognize the value and capabilities that home delivery pharmacies provide** in improving health outcomes and delivering clinical value.

Methodology

This analysis focused on 2022 commercial claims of individuals aged 18 or older with 12 months of pharmacy and medical coverage in calendar year 2022. To ensure the analysis focused on individuals who were taking medication over the long term, the analysis for each medication category is limited to those who had a minimum of two pharmacy claims that were at least 150 days apart. Individuals were categorized into one of the three comparison groups based on having 80 percent or greater days supplied for the medication category of interest (antidiabetics, antihypertensives, statins, antidepressants, antipsychotics, or mood stabilizers) by either Optum Rx home delivery for 90-day fills (HD 90), retail pharmacy for 90-day fills (Retail 90), or retail pharmacy for 30-day fills (Retail 30). In this analysis, retail pharmacies include national, regional, and local chains, as well as independently-owned community pharmacies; retail pharmacies exclude specialty pharmacies, compound pharmacies, and all Optum Rx pharmacy channels.

The proportion of days covered (PDC) is calculated by dividing the total number of days with medication on hand, based on the prescription fill date and the number of days of medication supplied, by the total number of days from the start of prescription until the end of the year. Medication adherence rate was defined as the share of individuals with at least an 80 percent PDC. Comparisons of PDC and adherence were conducted separately for the HD 90 group compared to each retail group and medication category. The average of the two HD 90 values were reported for each medication category since the HD 90 outcome values for the Retail 30 and Retail 90 comparisons were similar. A Hazard Ratio (HR), the ratio of the probabilities of individuals becoming non-persistent, by experiencing a gap of at least 30 days without medications, was estimated using Cox proportional hazards regression models for Home Delivery 90-day fills vs. Retail 90-day fills and for Home Delivery 90-day fills vs. Retail 30-day fills. Subtracting 1 from HR determines whether individuals with Home Delivery 90-day fills are more likely or less likely to become non-persistent. To reduce confounding and selection bias, the 2022 weighted average PDC, adherence rate, and persistence comparisons were calculated using inverse-propensity score weights that adjusted for demographics, geography, plan design, risk score, utilization of chronic disease medications, and co-morbidities between the comparison groups. As with all observational studies, it is possible that there are other confounding factors that this study did not control for. Every observed result achieved statistical significance, with p-values falling below the 0.05 threshold. Findings may not generalize to the Medicare or Medicaid populations.

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