



# Evaluation of the Advanced Medication Management Program

## Baseline Characteristics and Pre-Engagement Trends

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**T**HIS REPORT PRESENTS A COMPREHENSIVE BASELINE PROFILE of participants enrolled in the Advanced Medication Management Program (AMMP), an innovative intervention designed to enhance medication adherence and safety, care coordination, and health outcomes for Medicaid clients with complex needs. The AMMP pilot served individuals who often take multiple medications prescribed by different providers, face barriers to access and adherence, and experience elevated risks of adverse drug events. This report describes the demographic, behavioral health, and clinical characteristics of program participants prior to engagement in the AMMP program, along with their patterns of service use, as a foundation for a future evaluation of the program. Findings provide context for understanding both the population served and the potential mechanisms through which AMMP may improve outcomes and reduce avoidable health care utilization.

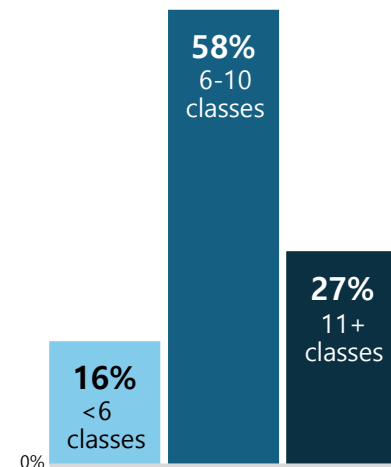
### Key Findings

1. AMMP participants represent a **clinically complex** population with substantial **polypharmacy** and **physical and behavioral health comorbidity**.
2. **Behavioral health conditions including depression, anxiety, trauma-related conditions, and substance use disorder were highly prevalent among participants.**
3. **Outpatient emergency department and inpatient hospital utilization increased in intensity prior to AMMP enrollment** underscoring both the population's fragility and the program's potential to reduce avoidable hospital use.
4. **The program's community-based, pharmacist-supported model aligns well with participants' needs and has potential for replication across other high-risk populations,** particularly in rural areas where access to clinical pharmacy services may be limited.

FIGURE 1.

### Number of Prescription Therapy Classes

58 percent of participants were prescribed medications in 6 to 10 different therapy classes.



These descriptive findings suggest that estimating impacts on medication-related health care quality measures likely will not be feasible due to the small sample size. In addition, evaluation of the program will need to control for high rates of concurrent engagement in the Health Home intensive care management program.

## Study Design

This report describes the demographic, behavioral health, and clinical characteristics of program participants prior to engagement in the AMMP program, along with their patterns of health insurance coverage and health service use, as a foundation for future evaluation of the program. The AMMP program is described in more detail in the box below. Aging and Long Term Care of Eastern Washington (ALTCEW) and Rural Resources Community Action provided AMMP patient rosters. The rosters included 279 unique participants, of whom 277 could be linked to a valid Medicaid beneficiary identifier.

Given the likely importance of considering prior health service utilization history when evaluating AMMP program impacts, the descriptive analyses in this report were restricted to persons continuously enrolled in full-benefit Medicaid coverage (while meeting Medicare and third-party coverage inclusion criteria) in the 24 months prior to AMMP enrollment. The following inclusion criteria were used due to the continuous availability of “original Medicare” fee-for-service payment data over the entire study period, and the availability of D-SNP encounter data beginning in January 2022:

- For months prior to January 2022, a month was considered to be study-eligible if the participant had full-benefit Medicaid coverage and did not have full third-party coverage, including any Medicare Part C coverage.
- For months from January 2022 onward, months with full-benefit Medicaid coverage and Dual-Eligible Special Needs Plan (D-SNP) coverage were also considered to be study eligible.

After imposing these criteria, the final study sample included 175 AMMP participants whose month of initial AMMP engagement ranged from October 2020 to October 2024.

Study-eligible AMMP pilot participants were linked to information in RDA’s Integrated Client Databases. Analyses were based on information integrated from the ProviderOne Medicaid Management Information System maintained by the Health Care Authority, along with Medicare Part A, Part B, Part D, and D-SNP encounter data. To measure utilization, crossover activity generating claims or encounters in both Medicaid and Medicare data systems was unduplicated where necessary.

### About the Advanced Medication Management Program

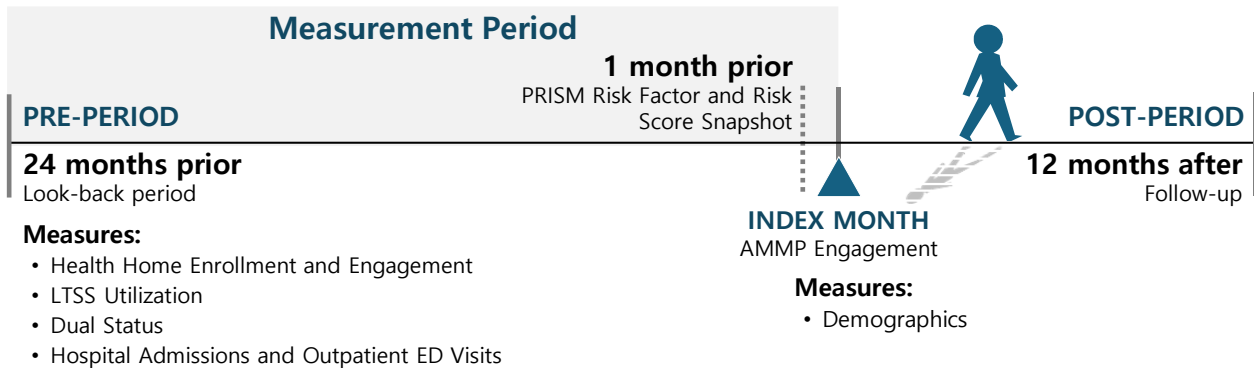
**The Advanced Medication Management Program (AMMP) is an award-winning program developed to address the challenges faced by Medicaid beneficiaries in Washington who manage complex medication regimens.** Many adults in this population take multiple prescription drugs leading to a higher risk of adherence challenges, adverse drug events, medication interactions, falls, and hospitalizations. Traditional medical and long-term care systems have struggled to find effective, sustainable interventions to mitigate these risks.

**The AMMP pilot combines a specially trained care coordinator focused on medication interventions with pharmacist consultations via telehealth.** Using comprehensive medication reviews, motivational interviewing, and close coordination with primary care providers, the program aims to increase patient engagement, identify and resolve medication-related problems, and improve health outcomes and quality of life.

**Developed with Waters Meet Foundation (formerly Empire Health Foundation) funding and implemented by Aging and Long Term Care of Eastern Washington (ALTCEW) and Rural Resources Community Action, the program reflects over 7 years of design, testing, and evaluation in partnership with the Alliance for Integrated Medication Management, WSU School of Pharmacy, Apple Health payers, Area Agencies on Aging, and other community-based organizations.** The AMMP program was recognized with the 2022 USAging Aging Innovations Award.

Figure 2 illustrates the study timeline both for the baseline descriptive profile included in this report and a 12-month post-engagement outcome period in potential future outcome evaluation analyses. Health service utilization and medical coverage measures were analyzed over the 24-month period leading up to the month of engagement in the AMMP pilot. Diagnosis- and pharmacy-based risk categories were derived from the most recent PRISM extract prior to the participant’s engagement in the AMMP program. Age was measured as of the month of engagement in the AMMP program.

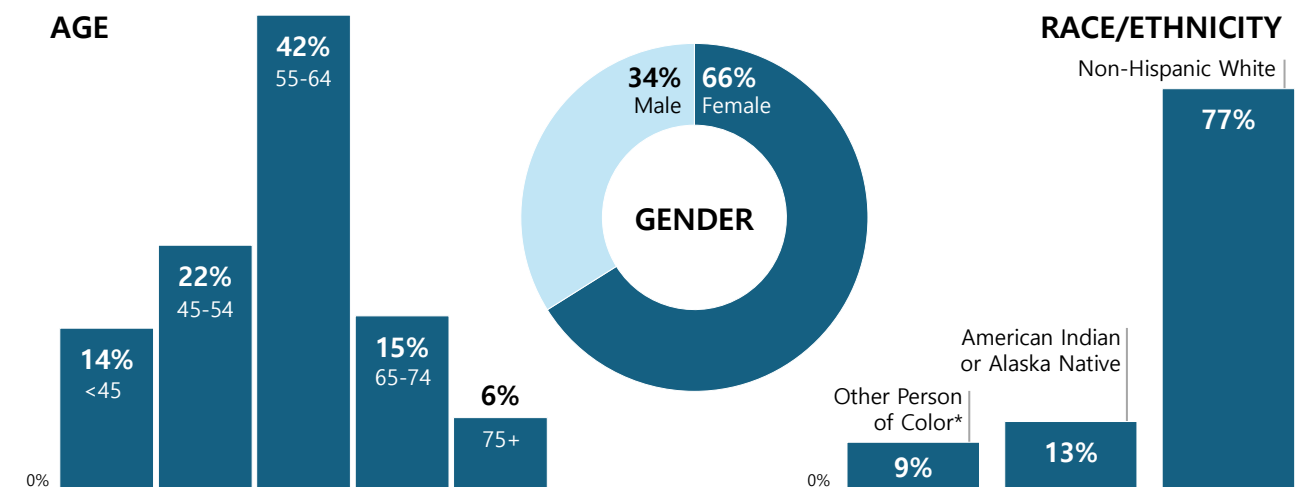
FIGURE 2.  
Study Timeline



## Baseline Characteristics of AMMP Participants

As reported in Figure 3, the largest share (42 percent) of participants was in the 55 to 64 age range. Seventy-nine percent of participants were 50 years or older. Two-thirds (66 percent) were female, and more than three-quarters (77 percent) identified as non-Hispanic White, while 13 percent identified as American Indian or Alaska Native.

FIGURE 3.  
Study Sample Demographics  
TOTAL = 175



\* Other person of color includes Asian, Native Hawaiian or Pacific Islander, Hispanic or Latino (combined to protect privacy).

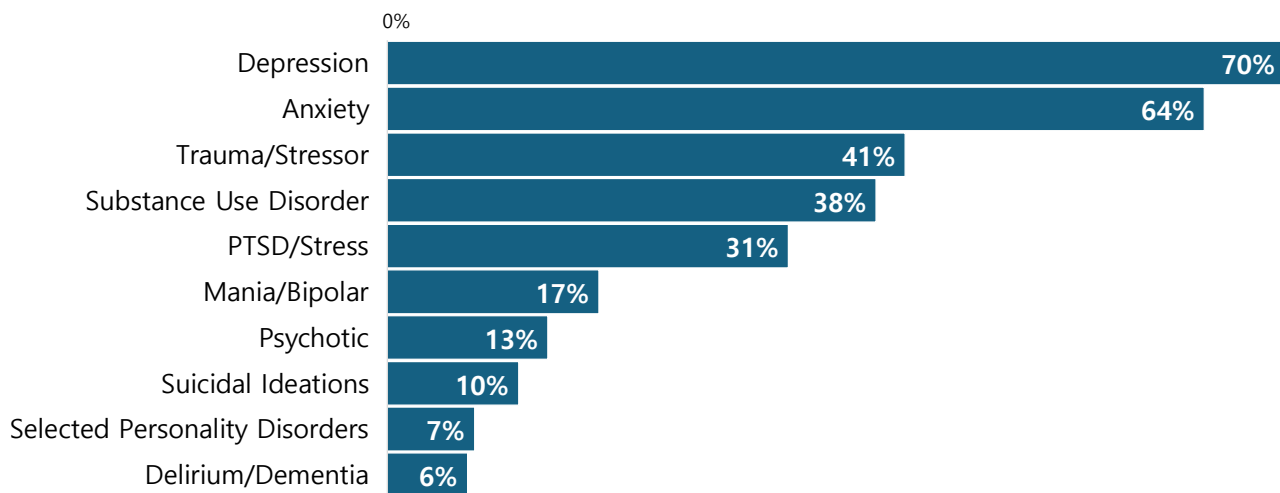
Figure 4 shows that participants were primarily located in Spokane County (53 percent) at the time of pilot engagement, followed by Stevens (24 percent) and Pend Oreille (7 percent) counties. A smaller number resided in southeastern Washington counties; these locations are not depicted on the map to protect participant privacy.

FIGURE 4.  
Location of Participants at Pilot Engagement



Behavioral health conditions were highly prevalent among AMMP participants, suggesting substantial interaction between mental and physical health needs in driving medication-related risk (Figure 5). Seventy percent of participants were diagnosed with depression, 64 percent with anxiety disorders, and 41 percent with trauma or stressor-related conditions. More than one-third were diagnosed with a substance use disorder, often co-occurring with a mental health diagnosis. Smaller but noteworthy proportions experienced mania/bipolar or psychotic disorders.

FIGURE 5.  
Most Common Behavioral Health Diagnoses  
Diagnosed in the 24 months prior to pilot engagement



Chronic physical condition burden was similarly extensive (Table 1). The most common PRISM physical condition risk categories included cardiovascular, pulmonary, gastrointestinal, diabetes, and skeletal conditions. The average AMMP participant experienced conditions associated with six different body systems, highlighting the chronic, multi-system nature of health challenges in this group. Note that Chronic Illness and Disability Payment System (CDPS) risk categories are organized based on condition group (category) as well as relative severity, ranging from “very low” to “very high.”<sup>1</sup>

Relative severity is indicated in Table 1 in parenthesis next to the risk category. Even “low” risk categories include severe chronic conditions that may require ongoing management and care. The example diagnoses within a given risk category may not reflect the specific conditions observed among AMMP participants. Note that participants with D-SNP coverage during the look-back period were excluded from the analysis reported in Table 1.

TABLE 1.

### 10 Most Commonly Occurring Physical Condition Risk Categories and Example Diagnoses

Based on last PRISM extract prior to month of pilot engagement

| RISK CATEGORY              | EXAMPLE DIAGNOSES  | PERCENT |
|----------------------------|--|---------|
| Cardiovascular (extra low) | Hypertension   | 65.2%   |
| Pulmonary (low)            | Viral pneumonias, chronic bronchitis, asthma, COPD             | 50.9%   |
| Gastrointestinal (low)     | Ulcer, hernia, GI hemorrhage, intestinal infectious disease    | 49.7%   |
| Cardiovascular (low)       | Endocardial disease, myocardial infarction, angina             | 46.6%   |
| Diabetes (type 2 low)      | Type 2 or unspecified diabetes w/out complications             | 41.6%   |
| Skeletal (low)             | Rheumatoid arthritis, osteomyelitis, systemic lupus            | 37.9%   |
| Skeletal (very low)        | Osteoporosis, musculoskeletal anomalies                        | 32.3%   |
| CNS (low)                  | Epilepsy, Parkinson's disease, cerebral palsy, migraine        | 29.2%   |
| Diabetes (type 2 medium)   | Type 2 or unspecified diabetes with complications              | 28.0%   |
| Renal (low)                | Kidney infection, kidney stones, hematuria, urethral stricture | 27.3%   |

Polypharmacy was a defining characteristic of the AMMP population (Figure 6). Most participants were prescribed multiple medications addressing both physical and behavioral health conditions. Cardiac medications were prescribed to 79 percent of participants, and antidepressants or anxiolytics to 70 percent. More than half were prescribed medications for seizure disorders, pain management, and infections. Additional high-use medication classes included gastric acid disorder (55 percent), hyperlipidemia (49 percent), asthma or chronic obstructive pulmonary disease (47 percent), multiple sclerosis or paralysis (44 percent), and diabetes (39 percent). These overlapping treatment regimens underscore the extent to which participants manage interrelated physical and mental health conditions simultaneously.

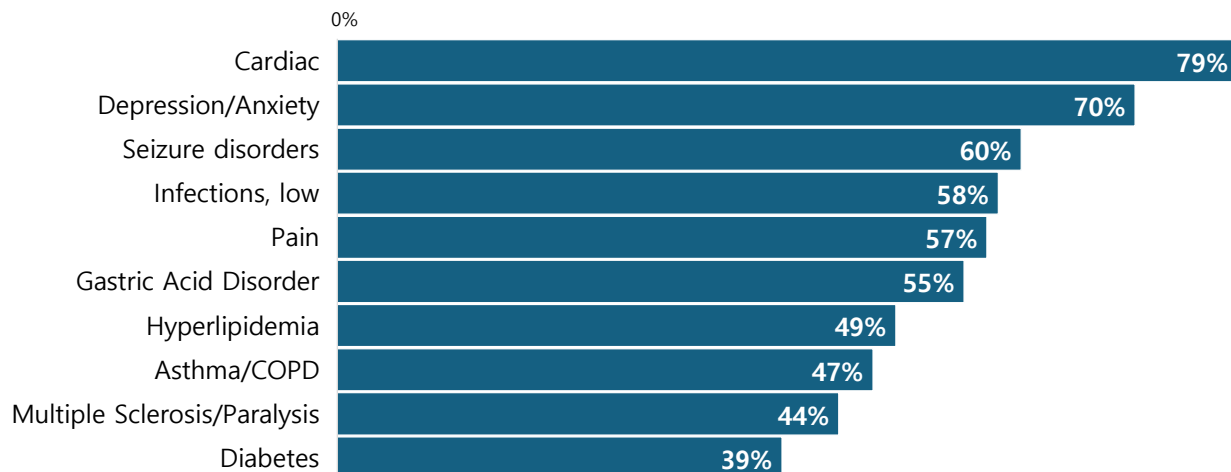
Most participants (58 percent) were prescribed between 6 and 10 distinct drug classes, while 27 percent were prescribed 11 or more, increasing risk of adverse drug interactions, medication fatigue, and non-adherence (Figure 1). The magnitude of polypharmacy highlights the importance of AMMP’s structured medication review and pharmacist involvement.

<sup>1</sup> Kronick, R., Gilmer, T., Dreyfus, T., & Lee, L. (2000). Improving health-based payment for Medicaid beneficiaries: CDPS. Health Care Financing Review 21(3), 29-64.

FIGURE 6.

### 10 Most Commonly Prescribed Medication Categories

Based on last PRISM extract prior to month of pilot engagement



**NOTE:** Participants who had D-SNP coverage during the look-back period were excluded from the analysis.

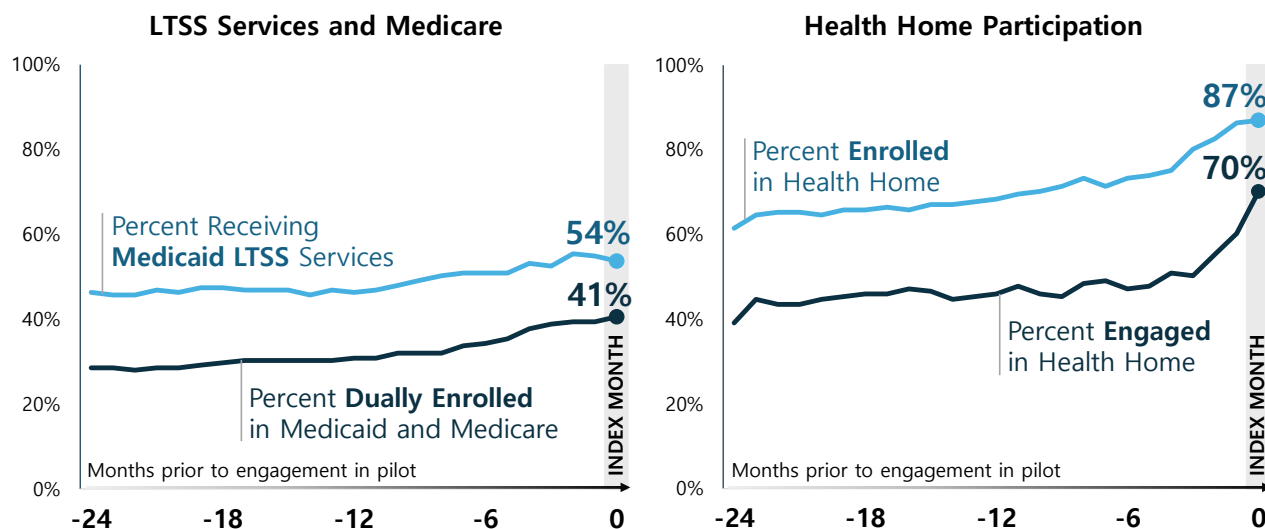
## Pre-Engagement Medical Coverage and Utilization Trends

Service utilization patterns prior to AMMP enrollment provide further evidence of clinical complexity and the intensity of health care needs (Figure 7). Over half (54 percent) of participants were dually enrolled in Medicare and Medicaid, and about 41 percent were receiving Medicaid-funded long-term services and supports (LTSS) when they engaged in AMMP services. Enrollment and engagement in Health Home rose sharply in the months immediately preceding AMMP participation, highlighting the interaction between Health Home program participation and AMMP pilot engagement. Health Home engagement reached 70 percent in the initial month of AMMP engagement. Evaluation of the AAMP pilot will need to control for high rates of concurrent engagement by the AMMP population in the Health Home intensive care management program.

FIGURE 7.

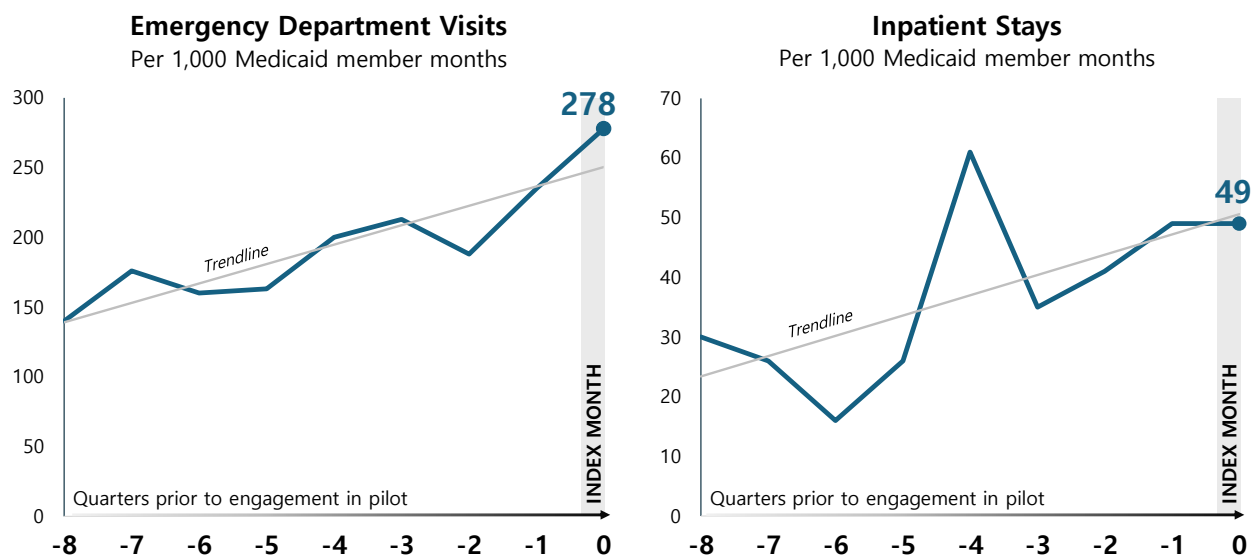
### Monthly Service Trends

Prior to and month of pilot engagement



Hospital utilization data reveal rapidly increasing outpatient emergency department (ED) utilization and inpatient admission volume in the months prior to AMMP engagement (Figure 8). In the month of initial AMMP engagement, outpatient ED utilization reached a level of 278 visits per 1,000 member months, while the inpatient utilization reached 49 admissions per 1,000 member months. These rates represent very high baseline utilization – approximately five times the utilization rates observed in the overall adult Medicaid population. The sharp increase in use of hospital-based services during the months immediately preceding program enrollment may reflect clinical instability, crisis episodes, or medication-related complications that precipitated referral into the AMMP program. Understanding these pre-engagement dynamics will be critical in evaluating the program’s effects on inpatient and outpatient hospital utilization.

FIGURE 8.  
Pre-Engagement Hospital Visit Trends  
Prior to and month of pilot engagement



We also examined baseline scores on a set of quality measures maintained by the National Committee for Quality Assurance (NCQA) as part of the Healthcare Effectiveness Data and Information Set (HEDIS), with a focus on pharmacy-related measures. These baseline scores can provide a snapshot of the participants’ medication use and care needs prior to the program. The set of measures examined included:

- Antidepressant Medication Management (AMM),
- Asthma Medication Ratio (AMR),
- Plan All-Cause Readmission (PCR),
- Adherence to Antipsychotic Medications for Individuals with Schizophrenia (SAA), and
- Statin Therapy for Patients with Cardiovascular Disease (SPC).

Qualification for these HEDIS quality measures requires that participants meet specific clinical and utilization criteria. Except for PCR, fewer than 10 AMMP participants qualified for measurement for each HEDIS quality measure in the 12 months prior to the calendar quarter when the patient initially engaged in the AMMP pilot. Given the small number of patients qualifying for measurement, it is unlikely to be feasible to evaluate the impact of the AMMP pilot on these care standards. Given this finding, we would expect future evaluation analyses to focus on health service utilization (e.g., outpatient ED visit and inpatient admission volume) rather than impacts on pharmacy-related HEDIS quality measures.

## Discussion

The baseline profile of AMMP participants describes a population experiencing high polypharmacy rates, overlapping chronic conditions, and widespread behavioral health comorbidity. The program's design, combining pharmacist expertise with motivational interviewing and care coordination, appears to be well suited to the needs of this population.

By integrating comprehensive medication reviews and patient engagement strategies, AMMP aims to address not only the pharmacologic dimensions of care but also the behavioral and environmental factors influencing medication adherence. Increasing medication adherence for this population with complex needs could be important steps in improving their overall wellbeing. In addition, given the increasing trajectory of utilization leading into the month of engagement in the AMMP pilot, this program could generate cost savings and reduce burden on an already strained health care system through reduced outpatient emergency department and inpatient hospital utilization.

Future work to evaluate the AMMP program will need to control for high rates of concurrent engagement by the AMMP population in the Health Home intensive care management program. Further, this analysis indicates that estimating impacts on medication-related health care quality measures likely will not be feasible due to the small number of persons qualifying for specific NCQA HEDIS metrics. Addressing these challenges will strengthen the rigor and interpretability of the evaluation and, in turn, provide insights to guide emerging care management models.



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