FINANCIAL ALIGNMENT INITIATIVE

Washington Health Home MFFS Demonstration: Fourth Evaluation Report

Summer 2021

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FINANCIAL ALIGNMENT INITIATIVE
WASHINGTON HEALTH HOME MFFS DEMONSTRATION:
FOURTH EVALUATION REPORT

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Glossary of Acronyms

AAA	Area Agencies on Aging
ACSC	Ambulatory care sensitive condition
AHRQ	Agency for Healthcare Research and Quality
BHO	Behavioral Health Organization
CAHPS	Consumer Assessment of Healthcare Providers and Systems
CCO	Care coordination organization
CMS	Centers for Medicare & Medicaid Services
DinD	Difference-in-differences
E&M	Evaluation and management
ED	Emergency department
FAI	Financial Alignment Initiative
FFS	Fee-for-service
HAP	Health Action Plan
HAT	Health Home Advisory Team
HCBS	Home and community-based services
HCC	Hierarchical Condition Category
HEDIS	Healthcare Effectiveness Data and Information Set
ITT	Intent-to-treat
LTSS	Long-term services and supports
MARx	Medicare Advantage Prescription Drug System
MDM	Master Data Management file
MDS	Nursing Home Minimum Data Set
MFFS	Managed fee-for-service
MSA	Metropolitan statistical area

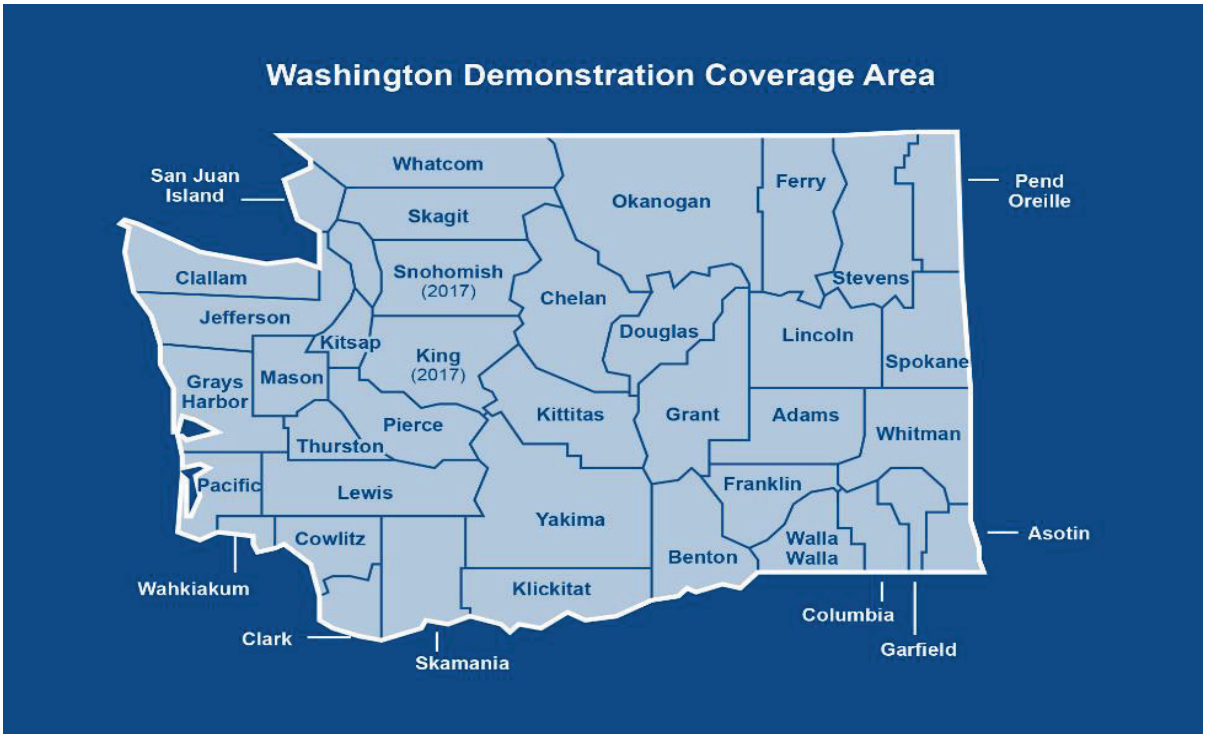
NF	Nursing facility
PMPM	Per member per month
PQI	Prevention Quality Indicator
PRISM	Predictive Risk Intelligence System
SDRS	State Data Reporting System
SET	Service Experience Team
SNF	Skilled nursing facility
SPMI	Serious and persistent mental illness

Executive Summary

The Medicare-Medicaid Coordination Office and the Innovation Center at the Centers for Medicare & Medicaid Services (CMS) have created the Medicare-Medicaid Financial Alignment Initiative (FAI) to test, in partnerships with States, integrated care models for Medicare-Medicaid enrollees.

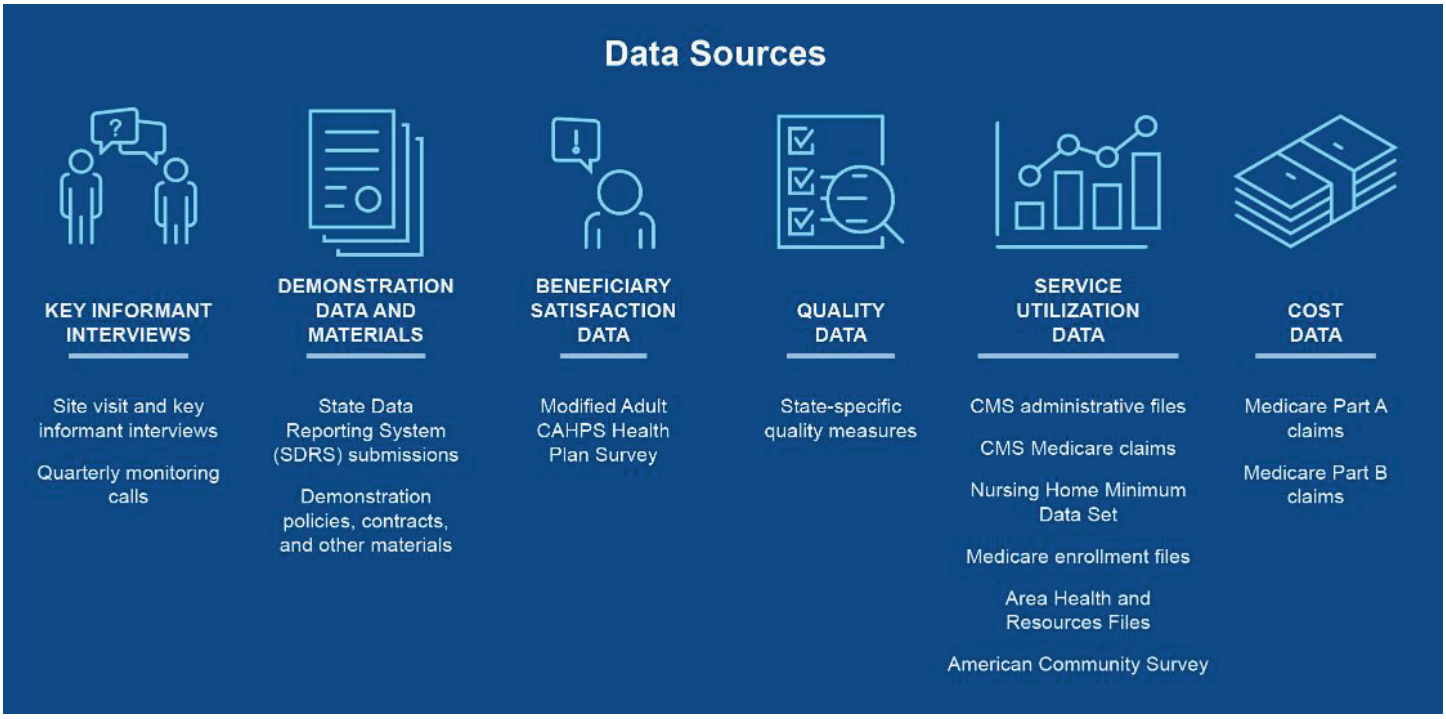
Washington and CMS launched the Health Home Managed Fee-for-Service (MFFS) Demonstration in July 2013 to integrate care for Medicare-Medicaid beneficiaries. Within the State, health homes provide care coordination services to Medicare-Medicaid enrollees. Washington has targeted the demonstration to high-cost, high-risk Medicare-Medicaid enrollees based on the principle that focusing intensive care coordination on those with the greatest needs provides the greatest potential for improved health outcomes and cost savings. In the course of integrating care for enrollees across primary care, long-term services and supports (LTSS), and behavioral health delivery systems, health home care coordinators engage enrollees to set health action goals and increase self-management skills to achieve optimal physical and cognitive health. The demonstration did not create any new or expanded benefits beyond those provided as part of the health home program (i.e., comprehensive care management, care coordination, health promotion, comprehensive transitional care and follow-up, individual and family support, and referrals for community and social services support).

Initially, health homes were competitively selected by the State to operate the demonstration across the State in all counties except for King and Snohomish counties. In 2017, the demonstration service area was extended to King and Snohomish counties, making the demonstration statewide.



To account for the addition of these new areas and beneficiaries, we designed a new comparison group that includes beneficiaries with similar health and demographic characteristics, from areas with similar characteristics. As such, this evaluation report describes quantitative findings from only demonstration years 4 and 5 (2017 and 2018), using the new comparison group. Results for the previous demonstration years (2013–2016) were from an earlier analysis that involved a different comparison group and demonstration group. For more information on the comparison group methodology, see ***Appendix B***.

CMS contracted with RTI International to monitor the implementation of the demonstrations under the FAI and to evaluate their impact on beneficiary experience, quality, utilization, and cost. The evaluation includes individual State-specific evaluation reports like this one. This Fourth Evaluation Report describes implementation of the Washington demonstration and analysis of the demonstration's impacts. The report includes findings based on qualitative data collected during calendar year 2018 with key updates through mid-2019 and quantitative data collected from January 2017 to December 2018 (demonstration years 4 and 5). We used a variety of data sources to prepare this report (see below).



Highlights

Enrollment	As of December 2018, 38 percent (12,848) of the total 33,500 eligible Medicare-Medicaid beneficiaries participating in the Washington MFFS Demonstration were enrolled in a health home.[1]
	Due to the exit of the health home with the largest share of enrollment and changes in the State's eligibility policy, enrollment in a health homes dropped by about one-third between 2017 and 2018 (from 19,170 in December 2017 to 12,848 in December 2018).
Care Coordination	During interviews conducted in 2019, State officials reported an engagement rate—the percentage of enrollees receiving active assistance from a health home—of 44 percent, which they described as a "home run" and comparable to other similar heath home programs nationwide.
	The introduction of new performance metrics provided an incentive for health homes to increase outreach to eligible beneficiaries. But some State officials and health home representatives expressed concern about the impact these requirements were having on care coordinators' ability to adequately serve clients who are actively engaged in their own care.
Stakeholder Engagement	In 2017, the Health Home Advisory Team (HAT) was folded into a broader stakeholder engagement committee, the Service Experience Team (SET). Because the SET serves multiple home-and-community based programs, it had not yet discussed matters pertaining to the health home program during the time period covered by this report.

[1] Although States may consider enrollees receiving comprehensive benefits in other Medicare products (e.g., Medicare Advantage) eligible to opt in, the RTI evaluation does not consider these enrollees eligible for the demonstration while they are enrolled in another product.

Financing and Payment	According to State officials, a 20 percent payment increase adopted in July 2018 improved financial stability for participating health homes and allowed the State to build capacity by contracting with four additional health homes.
	Despite receiving a payment increase, State and health home representatives reported ongoing challenges with maintaining sufficient care coordination capacity. The State faces competition for care coordination staff from other Federal and State initiatives and other health care systems.
	The Washington Health Home MFFS Demonstration achieved a total of $232.2 million in gross Medicare Parts A & B savings in the first five demonstration periods (2013–2018) based on separate actuarial savings analyses conducted for performance payment purposes. Under the FAI model, the State shares in up to one-half of the total Medicare savings subject to considerations of increases in federal Medicaid spending.
Service Utilization	***Table ES-1*** illustrates that over the course of the demonstration, there have been decreases in skilled nursing facility (SNF) admissions, long-stay nursing facility use, and physician visits for the overall demonstration eligible population. Follow-up after a mental health discharge billed to Medicare also went down, but may be due to Washington's concurrent implementation of behavioral health managed care plans under its Medicaid program.

Service Utilization (continued)	***Table ES-1*** also shows how the demonstration impacted beneficiaries with any LTSS use differently than non-LTSS users. Specifically, the demonstration effect for LTSS users was an increase in the probability of inpatient admissions and emergency department (ED) visits and in the number of physician visits, relative to the effect for non-LTSS users. The demonstration impacted those with a serious and persistent mental illness (SPMI) differently than the non-SPMI population (***Table ES-1***). The demonstration effect for those with SPMI was a decrease in the probability of any SNF admissions and in the number of physician visits, relative to the demonstration effect for the non-SPMI population.
Cost Savings	***Table ES-2*** summarizes the regression-based cost savings analyses and indicates significant gross Medicare Parts A & B savings as a result of the Washington demonstration. The savings are estimated at over 8 percent during the first 3 demonstration years [2] and the savings increased to over 11 percent over demonstration years 4 and 5 (see ***Table E-2*** for details).

Table ES-1 summarizes the cumulative impact estimates for the Washington demonstration during demonstration years 4 and 5. The table lists these estimates for each outcome and population, including the eligible population, relative to the comparison group, and the difference in the demonstration effect for the LTSS special population and the SPMI special population, relative to the demonstration effect for the non-LTSS and non-SPMI special population, respectively.

[2] This reflects a revised estimate, which is lower than the previous estimate of over 11 percent savings during the first 3 demonstration years as shown in the Third Evaluation Report (posted on September 24, 2019). This difference is due to corrections made to our analytic sample (see ***Appendix E*** for more details). Results for the first 3 demonstration years and for demonstration years 4 and 5 are reported separately due to the different comparison and demonstration groups used for each analysis (see ***Appendix B*** for more details).

Table ES-1
Summary of Washington demonstration impact estimates for demonstration years 4 and 5 (January 1, 2017–December 31, 2018)

Measure	All demonstration eligible beneficiaries	Difference in demonstration effect (LTSS versus non-LTSS)	Difference in demonstration effect (SPMI versus non-SPMI)
Probability of inpatient admission	NS	Increase R	NS
Probability of ambulatory care sensitive condition (ACSC) admission, overall	NS	NS	NS
Probability of ACSC admission, chronic	NS	NS	NS
Count of all-cause 30-day readmissions	NS	NS	NS
Probability of emergency department (ED) visits	NS	Increase R	NS
Number of preventable ED visits	NS	NS	NS
Probability of 30-day follow-up after mental health discharge	Decrease R	NS	N/A
Probability of skilled nursing facility admission	Decrease G	NS	Decrease G
Probability of any long-stay nursing facility use	Decrease G	N/A	N/A
Number of physician evaluation and management visits	Decrease R	Increase G	Decrease R

LTSS = long-term services and supports; N/A = not applicable; NS = not statistically significant, SPMI = serious and persistent mental illness.

NOTES: Statistical significance is defined at the α = 0.05 level. Green and red color coded shading indicates where the direction of the difference-in-differences (DinD) estimate was favorable or unfavorable; green indicates favorable, red indicates unfavorable. To ensure accessibility for text readers and individuals with sight disabilities, cells shaded green or red receive, respectively, a superscript "G" or "R". Long-stay nursing facility use means stays lasting 101 days or more in a year. In the column for "All demonstration eligible beneficiaries," an *Increase* or *Decrease* refers to the *relative* change in an outcome for the demonstration group compared to the comparison group, based on the DinD regression estimate of the demonstration effect during the demonstration period. The results shown in the two columns for "Difference in demonstration effect (LTSS versus non-LTSS)" and "Difference in demonstration effect (SPMI versus non-SPMI)" compare two separate DinD estimates of the demonstration effect—one for the LTSS and SPMI special populations and another for the non-LTSS and non-SPMI special populations—and indicate whether the difference between the two effect estimates is statistically significant (regardless of whether there is an overall demonstration effect for the entire eligible population). In these two columns, an *Increase* or *Decrease* measures the *relative* change in an outcome for the LTSS/SPMI special population compared to the non-LTSS/SPMI special population. For a given outcome, the result shown for the entire eligible population and that separately for the LTSS or SPMI special population can be different from each other.

SOURCE: RTI analysis of Medicare and Minimum Data Set data.

Table ES-2 summarizes the demonstration effects on total Medicare expenditures.

Table ES-2
Demonstration effects on total Medicare expenditures among eligible beneficiaries—Difference-in-differences regression results

Measure	Measurement period	Effect
Medicare Part A & B cost	Cumulative (demonstration years 4-5)	Decrease [G]
	Demonstration year 4	Decrease [G]
	Demonstration year 5	Decrease [G]

NOTES: Statistical significance is defined at the α = 0.05 level. Green color coded shading indicates where the direction of the difference-in-differences (DinD) estimate was favorable. To ensure accessibility for text readers and individuals with sight disabilities, cells shaded green receive a superscript "G." In the column for "Effect," an *Increase* or *Decrease* refers to the *relative* change in an outcome for the demonstration group compared to the comparison group, based on the DinD regression estimate of the demonstration effect during the demonstration period.
SOURCE: RTI analysis of Medicare fee-for-service claims (program: warar292).

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SECTION 1

Demonstration and Evaluation Overview

1.1 Demonstration Description and Goals

The Medicare-Medicaid Coordination Office and the Innovation Center at CMS have created the Medicare-Medicaid FAI to test, in partnerships with States, integrated care models for Medicare-Medicaid enrollees.

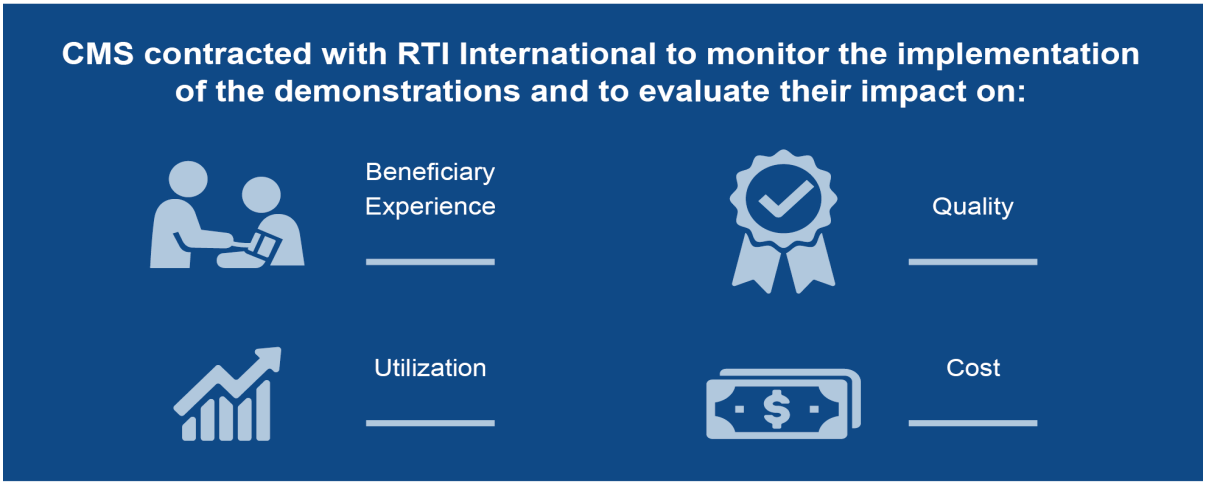
Under Section 2703 of the Patient Protection and Affordable Care Act, Washington established health home services as an optional Medicaid State Plan service. Health homes coordinate care for Medicaid enrollees with chronic conditions. The goals for the Washington Health Home MFFS Demonstration are to integrate care for Medicare-Medicaid enrollees, alleviate fragmentation, and improve coordination of services for high-cost, high-risk Medicare-Medicaid enrollees served primarily in fee-for-service (FFS) systems of care. The demonstration uses health homes to accomplish these goals. The Washington Health Home MFFS Demonstration began July 1, 2013, and is currently scheduled to continue until December 31, 2020.

In the Washington demonstration, health homes serve as the vehicle for coordinating primary care, acute care, LTSS, and behavioral health services for Medicare-Medicaid beneficiaries. Participating enrollees continue to receive regular FFS Medicare and Medicaid-funded LTSS and behavioral health services and can elect to receive additional Medicaid health home services. The demonstration did not create any new or expanded benefits beyond those provided as part of the health home program (i.e., comprehensive care management, care coordination, health promotion, comprehensive transitional care and follow-up, individual and family support, and referrals for community and social services support).

In early and mid-2019, State officials indicated that because of the demonstration's success in producing overall Medicare savings and thus shared savings for the State for years 2013 through 2016 (see ***Section 3.5, Financing and Payment***), they would like to continue the initiative longer-term after its scheduled end, currently in December 2022. The State identified this as its most important program goal. According to State officials, long-term sustainability would help facilitate the recruitment and retention of additional health home organizations and allow the State to expand capacity to serve more enrollees. An extension of the demonstration will be evaluated by CMS based on cost and quality criteria.

The First Annual Report includes extensive background information about the demonstration. The Second Evaluation Report and Third Evaluation Report include prior implementation updates and results of impact analyses prior to 2017.

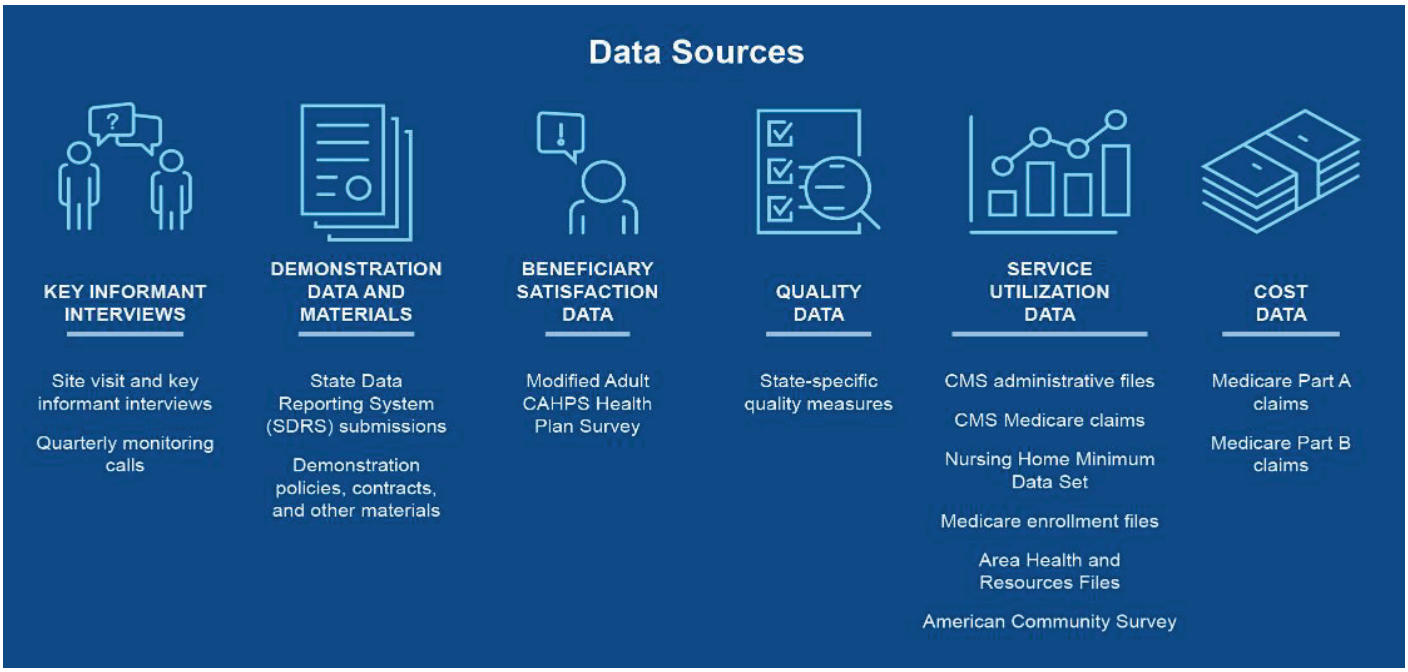
1.2 Purpose of this Report



This report includes qualitative evaluation information from 2018 with key updates through mid-2019. The report provides updates to previous evaluation reports in key areas, including enrollment, care coordination, beneficiary experience, and stakeholder engagement activities, and discusses the challenges, successes, and emerging issues identified during the reporting period. We also present results on quality of care, service utilization, and costs for the demonstration period spanning January 1, 2016 to December 31, 2018.

1.3 Data Sources

We used a variety of data sources to prepare this report (see below). See ***Appendix A*** for additional detail on data sources.



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SECTION 2

Demonstration State Context

Washington has targeted the demonstration to high-cost, high-risk Medicare-Medicaid enrollees based on the principle that focusing intensive care coordination on those with the greatest need provides the greatest potential for improved health outcomes and cost savings. Its positive experience with the State's previous Chronic Care Management program led Washington to adopt a comparable model for the demonstration, organized around the principles of patient activation and engagement, supporting enrollees to take steps to improve their own health.[3]

[3] See the First Annual Report for more detail on the State context in which the demonstration is operating or was implemented.

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SECTION 3

Update on Demonstration Implementation

In this section we provide implementation updates on important aspects of the demonstration since the Third Evaluation Report. These updates are related to the integration of Medicare and Medicaid, enrollment, care coordination, stakeholder engagement, financing and payment, and quality of care strategies.

As noted above, in early 2019, the State requested that CMS consider making the demonstration permanent. According to State officials, long-term sustainability would help facilitate recruitment and retention of additional health home organizations and allow the State to expand capacity to serve more enrollees. CMS officials expressed support for continuing the initiative longer-term, as long as cost and quality criteria are met.

3.1 Integration of Medicare and Medicaid

As of May 2019, the State had 11 health home entities serving all of its 39 counties.

Competition for care coordination staff from hospitals and other Federal and State initiatives hinders the State's ability to expand demonstration capacity.

In the Washington Health Home MFFS Demonstration, enrollees' health care needs are primarily addressed by Medicare-funded services, whereas their LTSS and behavioral health needs are primarily addressed by Medicaid-funded services. Health homes do not directly deliver health care, LTSS, and behavioral health services, nor do they finance them or authorize their provision. Rather, health home care coordinators work to identify enrollee needs that are not currently being addressed. They are charged with acting as a bridge to integrate care across existing health delivery systems.

3.1.1 Joint Management of the Demonstration

In contrast to capitated model demonstrations under the FAI, in which the State and CMS jointly contract with managed care organizations, Washington and CMS do not share management of the health homes participating in the Washington demonstration. Instead, health homes have contracts with the State to provide health home services to demonstration enrollees as well as Medicaid-only beneficiaries, and there is no contractual relationship between health homes and CMS.

In early 2019, health home representatives and State officials reported strong, collaborative relationships with one another. Health homes praised State officials for helping to move a 20 percent payment increase through the legislature and appreciated the monthly meetings organized by the State to share best practices and deliver updates on policy and program changes. State officials noted that they were impressed with health homes' willingness to assist new agencies transforming into health homes with implementation and capacity building.

3.1.2 Integrated Delivery System

Washington has designated Medicaid health homes to be the lead local entities to organize primary, acute, LTSS, and behavioral health services for Medicare-Medicaid enrollees participating in the demonstration. Participating entities include Area Agencies on Aging (AAAs), community-based organizations, and managed care organizations. In light of a 20 percent payment increase adopted by the State legislature in July 2018, the State added four additional health homes. As of May 2019, the State had 11 health home entities serving all of its 39 counties.

Each health home is required to establish a network of care coordination organizations (CCOs) representing primary care, mental health, LTSS, chemical dependency providers, and specialty providers; the network must include the local agencies that authorize Medicaid LTSS and behavioral health services. Each health home or CCO hires care coordinators to conduct outreach to eligible beneficiaries, develop individualized health action plans (HAP) with enrollees, connect beneficiaries to needed clinical and community-based services, and assist with care transitions when necessary.

As reported in the Third Evaluation Report, in April 2017 the State received approval from CMS to extend its coverage area to King and Snohomish counties. An existing health home agreed to serve eligible beneficiaries in Snohomish County and the State was able to contract with a new community-based organization to cover King County.

As discussed in more detail in ***Section 3.2, Eligibility and Enrollment***, a sharp drop in enrollment occurred with the exit of the demonstration's largest health home in December 2018. According to State officials, this health home elected to terminate its participation when the county in which it was operating transitioned to a fully integrated Medicaid managed care model. With this shift in care delivery, the organization decided it could no longer financially sustain the health home model.

In 2019, State officials and health home representatives noted that expanding capacity is a fundamental challenge for the demonstration. The State's ability to expand health home capacity is constrained by the high cost of labor in King County—an urban county that includes Seattle—and by competition for care coordinators from other public initiatives and health systems. These challenges have made it difficult for the State to find organizations willing to serve as health homes and for CCOs to recruit qualified care coordinators (see ***Section 3.3, Care Coordination***). The State intends to contract with another health home to serve beneficiaries in King County if and when another entity with sufficient capacity comes forward. As discussed in the next section, State officials indicate these limitations impede their ability to enroll all of those eligible for the demonstration.

3.2 Eligibility and Enrollment

As of December 2018, a total of 12,848 (or 38 percent) of the 33,500 beneficiaries eligible to participate in the demonstration were enrolled in a health home.

The departure of the largest health home in the program led to a substantial drop in enrollment between December 2017 and December 2018.

Recent changes in the State's eligibility policy and enrollment approach are helping to ensure that health homes have sufficient capacity for performing their required outreach and engagement activities.

This section provides updates on eligibility and enrollment processes. This section also outlines significant events affecting enrollment patterns during the timeframe covered by this report, including the exit of the health home with the largest share of enrollment.

Participation in the demonstration is open to Medicare-Medicaid enrollees of all ages who:

- do not have other comprehensive health insurance;
- are not enrolled in Medicare Advantage or the Program of All-Inclusive Care for the Elderly;
- are not receiving hospice service; and
- meet specified clinical eligibility criteria.

Enrollees must meet the State's health home eligibility criteria of having one chronic condition and being at risk of developing another, measured by a risk score of 1.5 generated by the Predictive Risk Intelligence System (PRISM).[4] PRISM incorporates Medicare and Medicaid claims information in an individual profile for each enrollee. All eligible beneficiaries are auto-enrolled in health homes, dependent upon capacity, unless they opt out prior to enrollment or choose a different health home provider.

After enrollment, the health home and CCO work to "engage" the enrollee. An engaged enrollee is one who has received at least one health home service.[5] ***Table 1*** shows the number of ever engaged enrollees (accounting for 44 percent of all enrolled) who received one or more services as of January 2019.[6] As shown, 4 percent had received one health home service and 59

[4] A risk score of 1.5 reflects a chronic care need that is 1.5 times higher than that of an average Supplemental Security Income recipient. More detail on PRISM is provided in the First Evaluation Report.
[5] See ***Section 1.1, Demonstration Description and Goals*** for a definition of "health home services."
[6] Although States may consider enrollees receiving comprehensive benefits in other Medicare products (e.g., Medicare Advantage) eligible to opt in, the RTI evaluation does not consider these enrollees eligible for the demonstration while they are enrolled in another product.

percent of enrollees had received 13 or more services since joining the demonstration (Washington State HCA, 2019).

Table 1
Number and percentage of beneficiaries ever engaged who received one or more health home services as of January 2019

Number of services	Number of beneficiaries ever engaged	Percentage of beneficiaries ever engaged
1	246	4
2–6	1,097	20
7–12	960	17
13+	3,253	59
TOTAL	5,556	100

SOURCE: Washington State HCA, 2019.

As noted in the Third Evaluation Report, the State revised its eligibility policy for health homes in 2017. As revised, health home enrollees lose their health home eligibility and may be disenrolled if their PRISM risk score drops below 1.0 for 6 continual months and they have not been engaged in the program during those 6 months.[7] Disenrollment may be temporary; if the beneficiary's risk score rises again the individual will be automatically reenrolled.

State representatives indicated that this change in policy improves the return on investment by allowing health homes to focus resources on those at high risk and engaged, rather than making repeated and unsuccessful attempts to reach those who are nonresponsive.

The program was initiated based on the fact that if we serve the highest risk, they're the ones that are going to give us the best bang for our buck, the return on investment. So we want to make sure we're constantly serving those at the highest [risk]. So those people that fall below the 1.5 PRISM score, down to the 1.0 or below, trying to find those people is not as great a return on our investment than trying to find the ones with the higher scores and higher risk because they're the ones that will stay with the program and prove that we can save dollars on our medical [costs] as well as all of our services.

— Washington State Official

In addition, this policy change had the added benefit of improving health home engagement rates. As discussed in ***Section 3.5, Financing and Payment***, health homes receive an incentive payment for engaging a larger share of their enrollees.

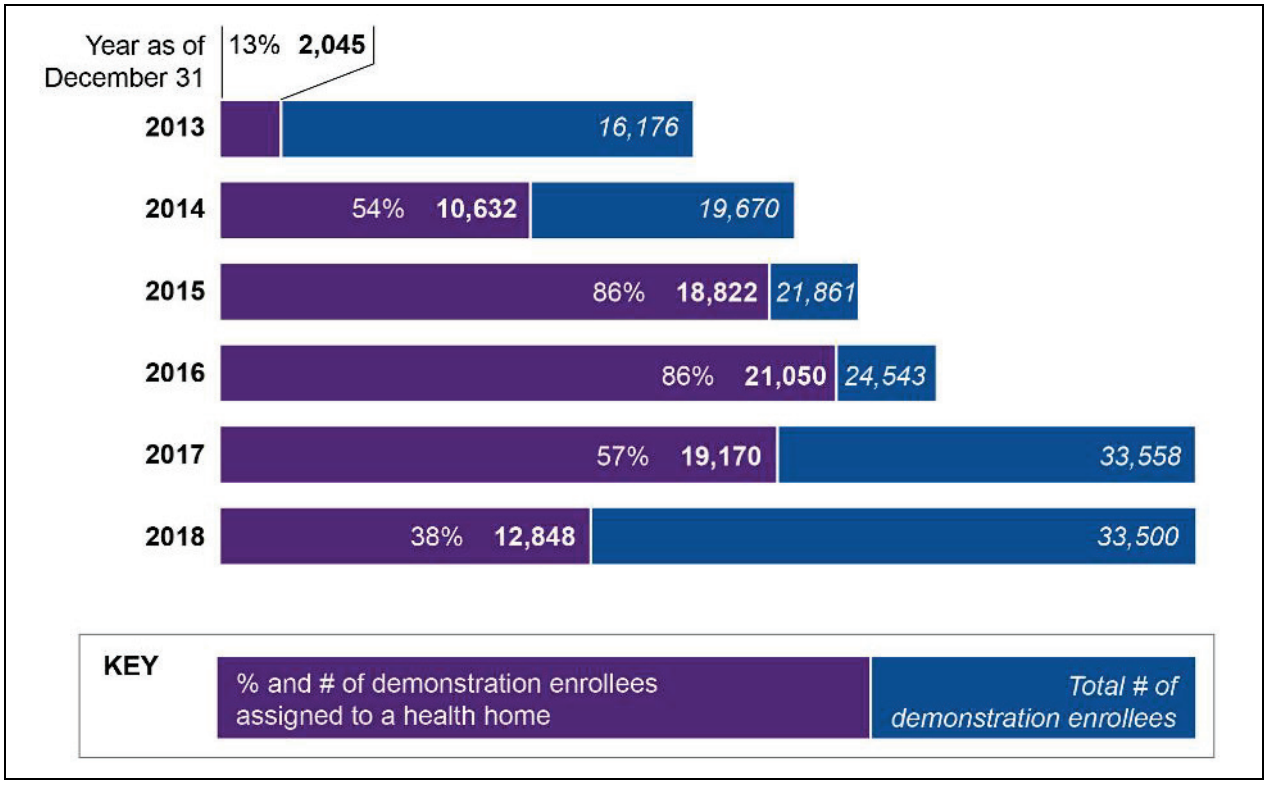
By itself, this change in policy has not significantly changed the number enrolled. One health home reported that often a person will be disenrolled only to become eligible again.

[7] Enrollees who remain engaged do not lose eligibility if their risk score drops below 1.0.

However, the enrollee's level of engagement did play a significant role in reducing enrollment counts after the withdrawal of a large health home. Prior to its withdrawal, this health home had accounted for approximately 46 percent of all enrollees. When this health home exited the demonstration, the State opted to reenroll only those beneficiaries who were actively engaged in care coordination activities (approximately 1,600).[8] The remaining beneficiaries who had been enrolled but not engaged were disenrolled from the health home program. Between November and December 2018, enrollment dropped 30 percent, from 18,447 to 12,848 (RTI, SDRS, 2019).

Yearly eligibility and enrollment data for the Washington demonstration are presented in ***Figure 1***.

Figure 1
Eligibility and enrollment data for Washington Health Home MFFS Demonstration



MFFS = Managed fee-for-service.
SOURCE: RTI International: State Data Reporting System (SDRS). 2013–2019.

State and health home representatives characterized enrollment growth as largely driven by the capacity of participating CCOs to conduct outreach and provide service coordination. As discussed in ***Section 3.5, Financing and Payment***, a rate increase effective July 2018 has had a positive impact on health home capacity. However, the health homes continue to experience labor shortages exacerbated by competition from other programs for the same workers (see

[8] According to State officials, the transition of enrollees from the exiting health home to a new one went smoothly because most were able to retain their previously assigned care coordinator in their new health home.

Section 3.1.2, Integrated Delivery System). The State reported that, as of December 2018, it had not enrolled 36 percent of those eligible for the demonstration (Washington State HCA, 2019).

As noted in the Third Evaluation Report, the State implemented a new approach to align enrollment more closely with capacity. Each month, the health homes give the State the number of referrals they have the capacity to serve, narrowed to a specific geographic region. The State uses that information to identify eligible Medicare-Medicaid beneficiaries for auto-enrollment in those geographic areas. In 2018, a representative for one health home reported that the new process allows for a more measured approach for matching enrollees to care coordinators based on their geographical proximity.

3.3 Care Coordination

Finding and engaging beneficiaries in health home activities is time-consuming and labor intensive.

New performance metrics provide an incentive to perform more outreach to "hard-to-reach" beneficiaries, but stakeholders are concerned these requirements will impact health homes' ability to effectively serve engaged beneficiaries.

Competition for care coordination staff from hospitals and other Federal and State initiatives hinders the State's ability to expand demonstration capacity.

Health homes identified two particularly successful strategies for finding and engaging beneficiaries: (1) connecting with individuals during hospital stays, and (2) visiting community sites where potential beneficiaries receive social services.

This section provides a summary of the Washington health home care coordination model. It highlights successes and challenges associated with the State's care coordination activities, responsibilities, and functions. This section also includes selected quotes that reflect key informants' perspectives on these activities.

Washington's health home care coordinators complement the roles of existing LTSS and behavioral health case managers and serve as a bridge connecting individual service delivery systems. Health home care coordinators are employed by CCOs or by health homes themselves. Coordinators' responsibilities are broad and include performing outreach to enrollees, assessing beneficiary needs, and helping enrollees develop person-centered care plans. Health home care coordinators also work with beneficiaries to coordinate care across delivery systems and assist with transitions and referrals.

Many of these duties are similar to those performed by care coordinators in other States that are trying to integrate care across delivery systems. However, Washington's care

coordination system is unique in its focus on engaging enrollees to create a HAP and increase self-management skills to achieve optimal physical and cognitive functioning.

In early 2019, State officials and health home representatives reported that finding and engaging beneficiaries in care coordination activities continued to be an ongoing challenge. Locating enrollees can be difficult, because many beneficiaries do not have permanent addresses and move around from place to place. When an individual does agree to participate, it can still take several in-person visits to motivate an enrollee to build a rapport and develop a HAP.

Partnerships with local hospitals, community agencies, and social service entities were considered critical to effectively locating and engaging beneficiaries in care coordination services.

We have good relationships with the agencies and the health care clinics. We meet with community clinics on a quarterly basis. We update each other on changes … or new services that we have. There's a lot of collaboration.

— Health Home Representative

Health homes also reported success with engaging beneficiaries when they are in the hospital. One health home representative described having access to daily lists of emergency department (ED) admissions and visiting beneficiaries during hospital stays to discuss the health home program. For particularly hard-to-reach populations such as homeless individuals, some key informants identified "meeting people where they are" as a best practice. One health home representative described a care coordinator who successfully enrolled homeless adults by visiting them at community sites and locations.

Despite experiencing obstacles to locating enrollees, State officials reported in early 2019 an engagement rate of 44 percent, which they consider a "home run."

We're getting to be in the healthy range [compared to] other care coordination programs nationally. If you look at programs like this, some of the highest [engagement rates] I've seen are maybe 45 percent.

— Washington State Official

State officials pointed to beneficiary success stories as a measure of satisfaction with the demonstration. In addition, as noted in ***Section 3.2, Eligibility and Enrollment***, the State's May 2019 Demonstration Monthly Report indicated that as of April 2019, 59 percent of dual eligible beneficiaries enrolled in January 2019 had received 13 or more health home services since their initial enrollment date. This indicates that more than one-half of enrollees with at least one

contact with a health home are highly engaged and are active participants in the program (Washington State HCA, 2019).

Health home representatives and State officials also reported challenges related to the introduction of two new performance metrics that measure health homes' ability to engage participants and complete HAPs within 90 days of enrollment. To calculate these metrics, care coordinators must track and document every outreach attempt for each enrollee (see ***Section 3.6, Quality of Care*** for additional information). Interviewees voiced concerns about the added strain that requiring more outreach and data collection places on care coordinators' ability to serve presently engaged patients. Furthermore, State and health home representatives noted the importance of devoting resources and time to serving beneficiaries who are already engaged in the model, and questioned the value of continuing to contact individuals who may be unresponsive.

The State finds value in keeping in touch with and providing services to people already in the program… it's a balancing act… it's important to keep the engaged population engaged, and that produces results.

— Washington State Official

To help manage the additional workload associated with complying with these new requirements, one health home representative described hiring interns to perform certain tasks such as making phone calls to prospective beneficiaries, sending out educational materials, documenting outreach attempts, and scheduling meetings with care coordinators.

Health home representatives expressed that it was difficult for care coordinators to effectively manage workloads under tight fiscal constraints. To sustain the health home model, health home representatives indicated that care coordinators must be able to manage a caseload of 50–55 enrollees or 60 face-to-face visits per month. Anything less and the health home may not meet its expenses. As one interviewee noted, "The job is very intense due to the amount of face-to-face contacts required per month, so it's hard for care coordinators to take vacation."

Care coordinators may also experience emotional burnout when working with this population, because many enrollees have experienced or will experience trauma during their participation in the program. Health home representatives identified a number of strategies to address burnout, such as:

- providing opportunities for care coordinators to meet and share challenges,
- offering good salaries and benefits,
- providing training and resources to help coordinators manage difficult cases, and
- fostering a supportive and collaborative work environment.

In 2018, State officials also created a quarterly newsletter called the Health Home Herald to support health home staff. The newsletter provides an opportunity for care coordinators to share best practices, resources, and ideas with one another (Health Home Herald Newsletter, July 2019).

As noted in prior RTI evaluation reports, State and health home staff have consistently characterized the labor market for care coordinators as very competitive. At the start of the demonstration, care coordinators were required to have a Registered Nurse or Master in Social Work (MSW) degree. In April 2017, the State granted an exception to this policy allowing health homes to hire care coordinators without a master's degree, provided they have some level of related experience. According to one health home representative, most CCOs are not able to hire RNs to work as care coordinators; they are more likely to hire bachelor's-level social workers and some MSWs because they cannot compete with the nursing salaries offered by neighboring health systems.

Since early in the demonstration, health homes have been required to maintain formal arrangements with hospitals to receive automated notifications of all enrollees' ED visits and inpatient admissions. According to one State official in 2019, the notification system had been effective in facilitating care transitions. Implementation challenges reported by a small number of health homes during the site visit interviews conducted early in 2019 appeared to have been resolved by the time of the RTI evaluation team's quarterly monitoring call in July 2019. However, one health home reported that although the notification system was working well, it lacked sufficient capacity for the intensive care coordination follow-up needed for care transitions. This health home was exploring the possibility of creating a designated care transition team to be co-located in hospitals beginning in 2020, to focus specifically on care transitions.

3.4 Stakeholder Engagement

The Service Experience Team (SET) was created in 2017 to replace the Health Home Advisory Team (HAT). Because the SET serves multiple home- and community-based programs, it had not yet discussed any matters directly relating to implementation of the health home program during the time period covered by this report.

Stakeholder engagement in the Washington demonstration has been conducted largely through participation in meetings and conferences sponsored by key stakeholder groups, by monthly meetings with AAAs and health home directors, and through webinars targeted to providers and other stakeholders to increase awareness of the demonstration.

At the start of the demonstration, the State established the Health Home Advisory Team (HAT), which met quarterly to provide ongoing stakeholder input about the demonstration. Members included consumer advocacy organizations, provider associations, State and county agencies, and the union representing home care workers.

As described in the prior evaluation report, the State replaced the HAT with a new advisory body called the Service Experience Team (SET) in the fall of 2017. The SET is a

statewide consumer advocacy committee created to address issues relevant to all home and community-based support programs—not just those unique to the health home program. Notably, membership consists of individuals who receive any type of LTSS through Medicaid and does not include any State or provider representation.

According to State officials, one reason for the switch to the SET was because the health home demonstration had become more established, requiring less input from enrollees. As of mid-2019, because the SET serves multiple home- and community-based programs, it had not discussed any matters pertaining directly to the health home program, but the State expected to address relevant issues in future meetings. To make meetings accessible, the State organizes webinars that allow beneficiaries to participate from multiple locations, including from their homes or local offices.

3.5 Financing and Payment

The State legislature increased the per member per month (PMPM) for care coordination by 20 percent effective July 2018. The State and health homes credit this increase with helping to sustain health home participation in the demonstration.

Finding and engaging beneficiaries is labor intensive and stakeholders would like financing for outreach activities integrated into the payment model.

The State pays health homes for delivery of health home services on a PMPM basis, using three payment tiers. The first payment is a one-time fee for outreach, engagement, and development of the enrollee's HAP. After the health home has submitted an enrollee's HAP, health homes are paid for intensive care coordination for months in which face-to-face care coordination is provided to an enrollee. For any month when low-level care coordination is provided to an enrollee, the health home is paid at a lower rate.[9] Most health home payments are for intensive care coordination.

Stakeholders agreed that prior to July 2018, the payment rates had been inadequate to cover the costs of health home services. In 2019, one State official acknowledged that the monthly rate was the biggest budgetary challenge and kept health homes and CCOs operating at a deficit.

In previous years, health homes had reported making up for the inadequacy of the rates by cross-subsidizing the demonstration through other programs. The State's 2017 plan amendment included a provision for health homes to receive a 20 percent performance payment if a health home had an engagement rate of 20 percent or more. In 2018, health homes reported using their performance incentive payments to compensate for the rate shortages. A representative for one health home described the incentive payments as "a finger in the dike" that stopped the health home from continuing to hemorrhage funds. Without the incentive payment,

[9] Intensive care coordination involves ongoing face-to-face and telephonic visits with the enrollee to provide one or more health home service. Low-level care coordination may include a phone call or home visit.

this individual said the health home would have had to close its doors due to sizable losses on the demonstration. State and health home representatives believed the inadequate rates were particularly challenging for health homes in rural areas, where travel distances are longer and recruiting service coordinators can be more challenging.

Effective July 1, 2018, the State legislature increased the base payment rate by 20 percent and made health homes eligible for an additional 5 percent incentive payment if they achieved an engagement rate of 20 percent or more. This investment in the health home demonstration was encouraged by strong advocacy from health homes and made possible by the Medicare savings the demonstration had achieved. ***Table 2*** provides a comparison of the health home rates prior to the 20 percent increase, the new rates as of July 1, 2018, and the percent change in rates for each rate tier.

Table 2
Payment rates for health home services

Health home service	Rates prior to July 1, 2018 ($)	Rates effective July 1, 2018 ($)	Rate change (%)
Outreach, engagement and Health Action Plan	252.93	281.28	11
Intensive health home care coordination	172.61	208.36	21
Low-level health home care coordination	67.50	83.34	23

SOURCE: Birrell & Gerstorff, 2018.

State and health home officials perceived that the rate increase had several positive impacts on the demonstration. For example, the State and health homes credited the payment rates with helping to maintain stability in the program. The State reported that health homes no longer threatened to pull out of the demonstration—and, in fact, the State engaged four new health homes. Health homes were able to contract with more CCOs, increasing the demonstration's care coordination capacity and allowing the health homes to expand more into rural areas. The State reported that the higher rates also helped the health homes to reduce care coordinator turnover.

One State official reported that the rate increase had the added benefit of confirming the legislature's support for the demonstration, which was called into question in 2015, when the legislature voted to sunset the demonstration. The increase in payment rates created more confidence that the demonstration would continue, which provided an incentive for health homes and CCOs to participate.

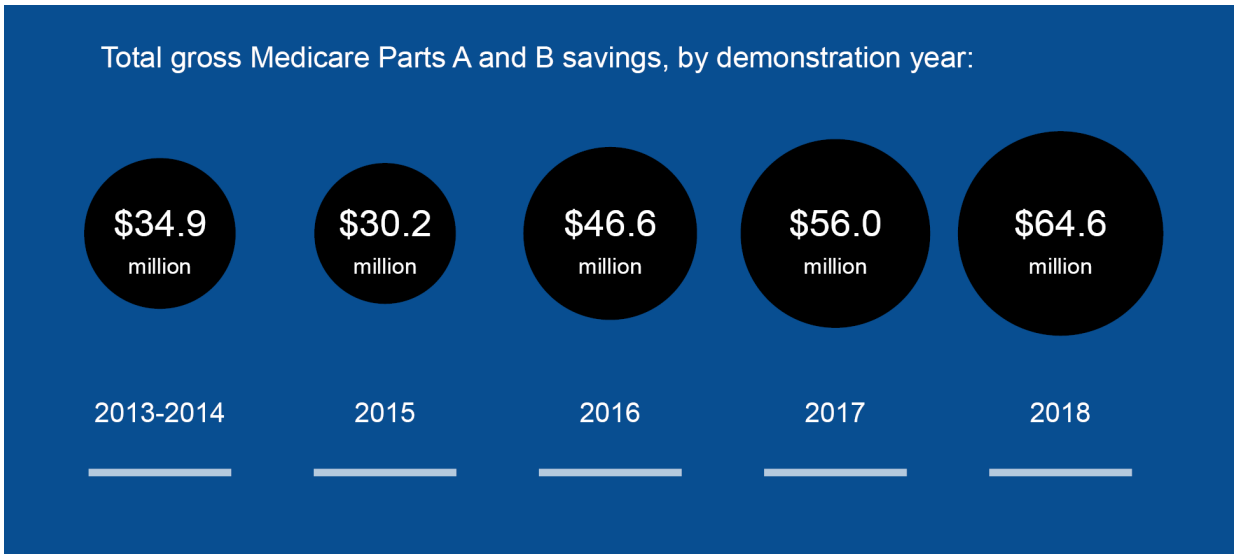
Although the State no longer heard complaints about rates after the rate increase, both health homes and the State identified some ongoing challenges. One health home reported needing an additional 5 percent increase to reduce its care coordinator caseload from 55 to 50 so that it had greater capacity to focus on care transitions. Another reported that the transportation costs for serving rural areas are much higher than in urban areas. Although the rate increase allowed this health home to pay care coordinators for mileage, the single statewide

reimbursement rate does not consider differences in travel expenses given variation in travel distances.[10]

In addition, State and health home officials noted that the rate increase has not resolved a challenge health homes encounter with the way payment is structured. As currently designed, health homes are not paid until they successfully engage enrollees. As a result, health homes are required to build infrastructure using their own resources. Because it can take a long time to successfully engage enrollees, recovering those costs 67can also take a long time. In 2019, one health home reported losing one-half of its net worth between 2011 and 2015 because there was no funding upfront to cover its investments, which included an IT system and the staffing needed to build its network. The State noted that it continues to evaluate its options for revising the rate methodology, and believes the methodology has to take into account both the need to help providers pay for start-up and the need to maintain a strong incentive for health homes to engage their enrollees.

Most health homes are eligible to receive a performance payment each quarter. The State reported that, as of the fourth quarter of 2018, 9 out of 10 health homes were eligible for a payment.

The State has financed the payment increase for health homes with the shared savings it has received from the demonstration. According to separate actuarial analyses conducted for performance payment purposes, the demonstration achieved a total gross Medicare Parts A and B savings of $232.2 million in the first five demonstration years (see below).



NOTE: Actuarial savings reports are available at https://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/FinancialAlignmentInitiative/Washington. The savings amounts as shown are rounded, which sum up to a total of $232.3 million over all demonstration years. The actual amount of total savings is $232.2 million. The difference is due to rounding.

[10] Based on an actuarial study, in early 2020 the Washington legislature approved a substantial increase for health home rates. Further detail will be provided in the next evaluation report.

RTI's actuarial analysis attributes Medicare savings to reduced costs associated with home health, hospital inpatient services, and professional services. The State believed these savings were achieved through service coordination that "[meets] clients where they should be met" and keeps track of hospital discharges and other care transitions, as well as the State's robust home and community-based program. One health home representative suggested that shared savings would increase significantly if engagement rates rose in heavily populated King County.

RTI's analysis of Medicaid savings is pending complete submission of Medicaid claims data. In 2016, the State completed its own analysis of Medicaid savings and found modest net savings for medical and LTSS (Mancuso et al., 2016). The savings resulted from reduced Medicaid expenditures for NF services.

3.6 Quality of Care

Beginning in 2018 health homes were required to report on two new performance metrics related to outreach.

Interview respondents described that creating new data collection tools and processes to calculate these measures was burdensome for health homes.

This section includes updates on the quality measures required for assessing the State's demonstration performance and related quality management and oversight activities. We discuss results of additional quality measures for the demonstration period in ***Section 5, Service Utilization***.

Beginning in 2018, health homes were required to report two new performance metrics to CMS:

- percentage of enrollees with an assessment completed within 90 days, and
- percentage of enrollees with a care plan completed in 90 days.

These measures were added in response to a 2015 report by the U.S. Government Accountability Office recommending that CMS strengthen oversight of care coordination in the health home demonstration and align data measures across its capitated and MFFS models (GAO, 2015).

In 2019, State officials and health home representatives expressed frustrations with reporting these metrics—one of which (percentage of enrollees with an assessment completed within 90 days) requires that care coordinators document every outreach attempt they initiate to an enrollee. Interview respondents described having to create new data collection tools and processes to calculate these measures, which was burdensome.

> *Each health home has its own platform to report this data on and then collect it and submit it to one database. [Creating a] separate platform has been and continues to be a challenge for the program.*
>
> — Washington State Official

State officials also indicated that some of the definitions and calculations for preparing the measures were not clear (i.e., determining what counts as an outreach attempt or assessment). Because HAPs are composed of assessments and care plans, CMS agreed to allow the State to submit the same data for both reporting requirements. However, calculating these metrics still requires reporting at the individual level as opposed to the health home level. This type of data collection is not required for calculating other performance measures, which are nationally recognized, claims-based measures for which health homes had the necessary infrastructure and data collection mechanisms already in place.

Beginning in 2019, CMS updated its benchmark for complying with the new outreach metrics. Health homes are now required to demonstrate that they make at least three outreach attempts to 65 percent of their enrollees within a 90-day timeframe. According to Washington's May 2019 Monthly Demonstration Report, no health home achieved three documented outreach attempts on all newly enrolled beneficiaries (Washington State HCA, 2019).

State officials questioned whether these measures were appropriate for assessing MFFS programs and noted that they appear to be more appropriate for a capitated model, in which providers must make contact with every enrollee because they are at risk for the care delivered to each member. One health home representative explained that in an MFFS model, conducting uncompensated outreach to enrollees who may not need or desire services is not financially advantageous. Additionally, enrollees may not feel ready and able to work on health goals within this time frame.

In 2019, State officials also discussed three quality management issues, related to incomplete documentation, that emerged during their annual review of health home performance. Some health homes were not consistently documenting whether they:

- provided enrollees a copy of their HAP,
- reported hospital admissions to the State, and
- provided transitional care.

To address these deficiencies, the State modified its 2-day care coordinator training to include more detail on documentation requirements and updated its policies to describe reporting guidelines more clearly. The State plans to reassess health home performance in these areas in the fall of 2019.

SECTION 4

Beneficiary Experience

Most 2018 Consumer Assessment of Healthcare Providers and Systems (CAHPS) respondents reported being satisfied with the care coordination services they received and being able to access needed services in a timely manner.

Only 56.1 percent of survey respondents rated their health home as a 9 or 10 on a 10-point scale; this is likely because they did not recognize the term "health home."

This section updates key findings on overall beneficiary satisfaction with the Washington Health Home MFFS Demonstration and beneficiary experience with care coordination and access to care. The data source for this section is the 2018 CAHPS survey, which was conducted in English and Spanish.

4.1 Overall Satisfaction with the Demonstration

Consistent with results in prior years, most respondents to the 2018 CAHPS survey reported being satisfied with the care coordination services they received and being able to access needed services in a timely manner. However, only 56.1 percent of beneficiaries rated their health homes as a 9 or 10 on 10-point scale. Over the past 4 years, beneficiaries have consistently rated their health home markedly lower than they have rated other care coordination measures (see ***Figures 2*** and ***3***).

4.2 New or Expanded Benefits

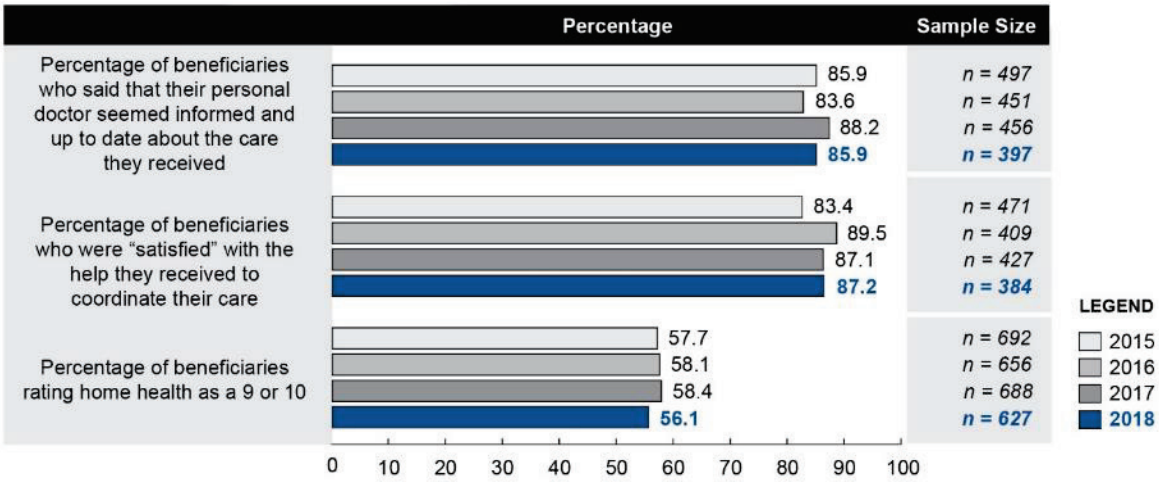
The Washington demonstration did not create any new or expanded benefits beyond those provided as part of the health home program (i.e., comprehensive care management, care coordination, health promotion, comprehensive transitional care and follow-up, individual and family support, and referrals for community and social services support).

4.3 Care Coordination Services

As in prior years, respondents to the 2018 CAHPS survey reported high levels of satisfaction with their care coordination services. Eighty-seven percent reported that they were satisfied with the help they received to coordinate their care, and 86 percent said that their doctor was informed and updated about their care (see ***Figure 2***). Across all three measures presented in ***Figure 2***, the percentages have been similar over the past 4 years (2015–2018).[11]

[11] From focus groups conducted in 2015 and 2016, the RTI evaluation team learned that participants were not familiar with the term "health home," because the health homes do not market themselves to current or prospective enrollees and they deliver care coordination services through community agencies. As such, satisfaction with health homes may be more accurately gauged by the responses to the specific questions related to care coordination.

Figure 2
Beneficiary experience with care coordination, 2015–2018

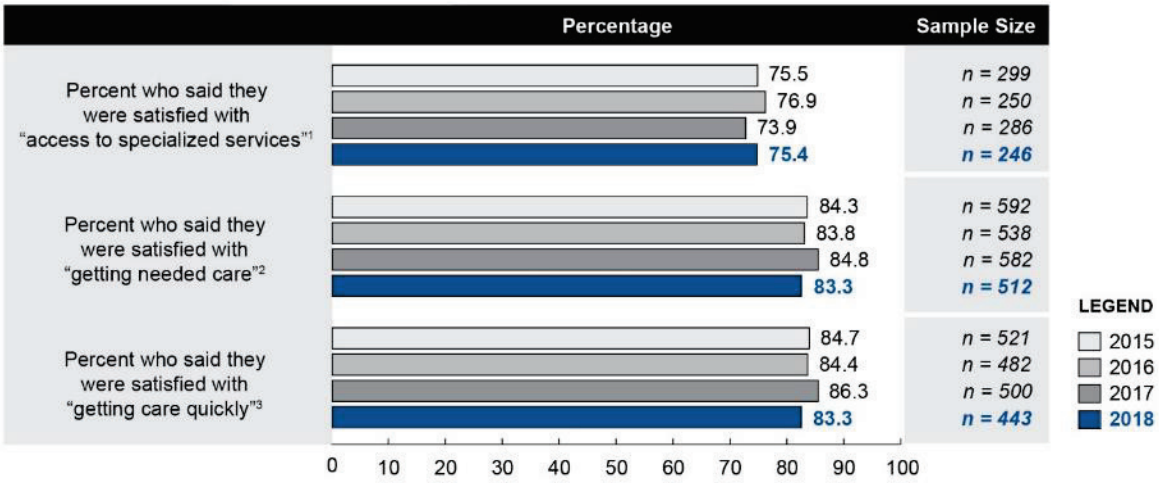


SOURCE: NORC at the University of Chicago. Financial Alignment Initiative CAHPS Quality of Care Survey Aggregate Report. May 2019.

4.4 Access to Care

Also consistent with prior years, approximately 83 percent of 2018 CAHPS respondents said that they were satisfied with their ability to obtain needed care, and about 86 percent said that they were satisfied with how quickly they were able to receive care. About 75 percent of 2018 CAHPS respondents were satisfied with their access to specialized services (see ***Figure 3***).

Figure 3
Beneficiary experience with access to services, 2015–2018



[1] "Access to Specialized Services" is a composite of three items: (1) "In the last 6 months, how often was it easy to get the medical equipment you needed?"; (2) "In the last 6 months, how often was it easy to get the special therapy you needed?"; and (3) "In the last 6 months, how often was it easy to get the treatment or counseling you needed?" The composite response of "satisfied" comprises "Usually/Always" responses.

[2] "Getting Needed Care" is a composite of two items: (1) "In the last 6 months, how often was it easy to get the care, tests, or treatment you needed?"; and (2) "In the last 6 months, how often did you get an appointment to see a specialist as soon as you needed?" The composite response of "satisfied" comprises "Usually/Always" responses.

[3] "Getting Care Quickly" is a composite of two items: (1) "In the last 6 months, when you needed care right away, how often did you get care as soon as you needed?"; and (2) "In the last composite 6 months, how often did you get an appointment for a check-up or routine care at a doctor's office or clinic as soon as you needed?" The composite response of "satisfied" comprises "Usually/Always" responses.

SOURCE: NORC at the University of Chicago. Financial Alignment Initiative CAHPS Quality of Care Survey Aggregate Report. May 2019.

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SECTION 5

Service Utilization

5.1 Overview

The FAI demonstrations are intended to shift utilization from inpatient to ambulatory care, from NF care to home- and community-based services (HCBS), and to improve quality of care by targeting enrollment and active engagement to the highest cost beneficiaries. The analyses in this section evaluate the effects of the Washington demonstration in demonstration years 4 and 5 (calendar years 2017 and 2018) on service utilization and quality of care outcomes among Washington demonstration eligible beneficiaries. Annual impact results for demonstration years 1–3 provided in an earlier report are also provided for reference, although the demonstration and comparison group areas changed beginning in demonstration year 4. Additionally, corrections were made to impact estimates from earlier reports that resulted in differences in our current impact estimates for demonstration years 1–3 (see ***Appendix C*** for additional details).

Methods Snapshot

Study design: Difference-in-differences (DinD) quasi-experimental design using beneficiary months of demonstration eligibility.

Population: Medicare-Medicaid beneficiaries eligible for the demonstration in Washington in demonstration years 4 and 5, approximately 15 percent (***Table C-1)*** of whom were health home users during demonstration year 5. Comparison group beneficiaries are from areas with characteristics similar to the demonstration area.

Data: Medicare fee-for-service claims, Medicare enrollment files, Area Health and Resources Files, and the American Community Survey.

Statistical analysis: Logistic regression (binary) and negative binomial regressions with inverse propensity score weighting.

See ***Appendix C*** for more detail.

Because of the extension of the Washington demonstration to include the urban counties of King and Snohomish in April 2017, RTI developed a new comparison group for these 2 demonstration years and the 2-year predemonstration period to correspond to the current statewide demonstration group. For additional details, see ***Appendix B***.

For this analysis, we used an intent-to-treat (ITT) approach that included all beneficiaries eligible for the demonstration to alleviate concerns of selection bias. We begin by analyzing the cumulative impact of the demonstration on service utilization over demonstration years 4 and 5 and then report the annual effects for each outcome and demonstration year via forest plots. The forest plots present a point estimate by demonstration year for each outcome, along with 95 percent confidence intervals of each point estimate. To interpret the forest plot, each point estimate indicates a statistically significant demonstration effect if neither the upper nor lower bound of the confidence interval crosses zero. We also discuss the impact of the demonstration on the LTSS and SPMI special populations. For a complete list of DinD estimates with 95 and 90 percent confidence intervals, please see ***Appendix D***.

5.2 Demonstration Impact on Service Utilization among Eligible Beneficiaries

Monthly SNF admissions and annual long-stay NF use declined by 22.6 percent and 12.8 percent, respectively, relative to the comparison group. Additionally, monthly physician visits declined by 13.4 percent, relative to the comparison group. These findings may be explained by the demonstration extension into King and Snohomish counties, as well as care coordination efforts focused on transitions from the hospital to home.

5.2.1 Cumulative Impacts over Demonstration Years 4 and 5

The probability of monthly SNF admissions and annual long-stay NF use decreased, relative to the comparison group. There was also a decrease in monthly physician visits in both demonstration years, relative to the comparison group. There was no demonstration effect on inpatient admissions or ED visits. ***Table 3*** shows the cumulative impacts of the demonstration in demonstration years 4 and 5 on service utilization.

- Relative to the comparison group, SNF admissions under the Washington demonstration during demonstration years 4 and 5 declined 0.36 percentage points monthly. This monthly decline represents a relative difference of 22.6 percent.
  - The adjusted mean of the monthly probability of having any SNF admission in the demonstration group declined from 2.4 to 1.4 percent from the predemonstration period to the demonstration period. The adjusted mean probability in the comparison group also decreased, but to a lesser extent, from 2.0 to 1.6 percent, resulting in a 22.6 percent relative difference in the probability of having any SNF admission between the demonstration group and the comparison group.
- The demonstration resulted in 0.2 fewer monthly physician visits over demonstration years 4 and 5, relative to the comparison group.
  - The adjusted mean of monthly physician visits in the demonstration group declined from 1.3 visits per month in the predemonstration period to 1.2 visits in the demonstration period. The adjusted mean in the comparison group increased from 1.3 to 1.5 monthly visits, resulting in a 13.4 percent relative difference in the number of physician visits between the demonstration group and the comparison group.
- Annual long-stay NF use among Washington demonstration eligible beneficiaries declined by 3.0 percentage points, relative to the comparison group. The average probability of any long-stay NF use declined in both the demonstration and comparison groups from the predemonstration to the demonstration period. There was a greater decline in the demonstration group, resulting in a 12.8 percent relative difference in the probability of any long-stay NF use between the demonstration and comparison groups.

Table 3
Adjusted means and impact estimate for eligible beneficiaries in the demonstration and comparison groups in Washington through December 31, 2018

Measure	Group	Adjusted mean for predemonstration period	Adjusted mean for demonstration period	Relative difference (%)	Regression-adjusted DinD estimate (95% confidence interval)	*p*-value
Probability of inpatient admission	Demonstration	0.0573	0.0451	NS	–0.0011 (–0.0037, 0.0014)	0.3913
	Comparison	0.0639	0.0515			
Probability of ED visit	Demonstration	0.0929	0.0924	NS	0.0001 (–0.0037, 0.0040)	0.9546
	Comparison	0.0919	0.0913			
Number of physician E&M visits	Demonstration	1.2821	1.2057	−13.4	–0.1983 (–0.2554, –0.1412)	<0.0001
	Comparison	1.3376	1.4785			
Probability of SNF admission	Demonstration	0.0236	0.0139	−22.6	–0.0036 (–0.0048, –0.0023)	<0.0001
	Comparison	0.0203	0.0159			
Probability of any long-stay NF use	Demonstration	0.2049	0.1543	−12.8	–0.0295 (–0.0391, –0.0200)	<0.0001
	Comparison	0.2428	0.2302			

DinD = difference in differences; ED = emergency department; E&M = evaluation and management; NF = nursing facility; NS = not statistically significant; SNF = skilled nursing facility.
NOTES: This table shows the regression-adjusted predicted probability or number of monthly events for the predemonstration and demonstration periods for the comparison and demonstration groups. The ***relative difference*** is calculated by dividing the DinD estimate (column heading *Regression-adjusted DinD estimate*) by the predicted average for the comparison group in the demonstration period (column heading *Adjusted mean for demonstration period*).
SOURCE: RTI International analysis of Medicare and MDS data.

- The decrease in SNF and NF utilization is consistent with the goals of the Washington demonstration. This impact may reflect various factors: increased focus on hospital transitions to lower use of institutional services and improved communication between LTSS case managers and demonstration care coordinators (Justice et al., 2019).
  - As noted in ***Section 3.3, Care Coordination***, at least some health homes focused on care transitions, receiving daily hospital and ED admission reports from local hospitals, and visiting potential eligible beneficiaries in the hospital. One State official said there had been increased outreach to LTSS case managers in 2018, perhaps contributing to the annual decline in long-stay NF use. There is also a broader national trend of declining SNF stays (MedPAC, 2019); however, recent closures of SNFs in 2017 and 2018 (demonstration years 4 and 5) may suggest that Washington may have a faster decline in SNF admissions among the Medicare-Medicaid eligible population compared to other areas (Jenkins, 2019).
- There was no demonstration effect on inpatient admissions or ED visits. This may be explained in part by the fact that King and Snohomish counties represent about 30 percent of the eligible population, but health home enrollment in these counties was low relative to other counties. Thus, the demonstration may have limited capacity to affect change on measures of acute services. Separately, state officials indicated that it was difficult to find enough CCOs with the capacity to serve the eligible population in these counties (see ***Section 3.1, Integration of Medicare and Medicaid***). Further,

enrollment declined in demonstration year 5 due to the exit of the largest health home and change in the State's eligibility policy.

- Washington also saw a decline in physician visits relative to the comparison group. Although we expected health risk assessments and ongoing care coordination to identify needs for and facilitate physician visits, these results suggest the opposite.
  - This outcome may be explained by the low percentage of beneficiaries with Health Home use among the eligible population (around 14 percent in demonstration years 4 and 5). In addition, one State official indicated that beneficiaries in King and Snohomish counties were already well managed prior to the introduction of the demonstration in those counties. This might suggest that at the population level there may be limited capacity for improvements on some access to care measures. Moreover, the reduced enrollment rate in 2017 and 2018 (***Figure 1***) means that fewer eligible Medicare-Medicaid beneficiaries are pursuing Health Action Plans that could help facilitate physician E&M visits.
  - Indeed, descriptive results indicate this trend (see ***Appendix D, Table D-4***). The monthly average count of physician visits increased in the comparison group from 1,319 to 1,515 visits per 1,000 eligible months from predemonstration year 1 to demonstration year 5.
  - By contrast, the average count of physician visits declined slightly in the demonstration group, from 1,152 to 1,129 visits per 1,000 eligible months from predemonstration year 1 to demonstration year 5. As such, our findings may be driven by larger increases in physician visits in the comparison group, relative to the demonstration group.

5.2.2 Demonstration Impacts in Each Demonstration Year

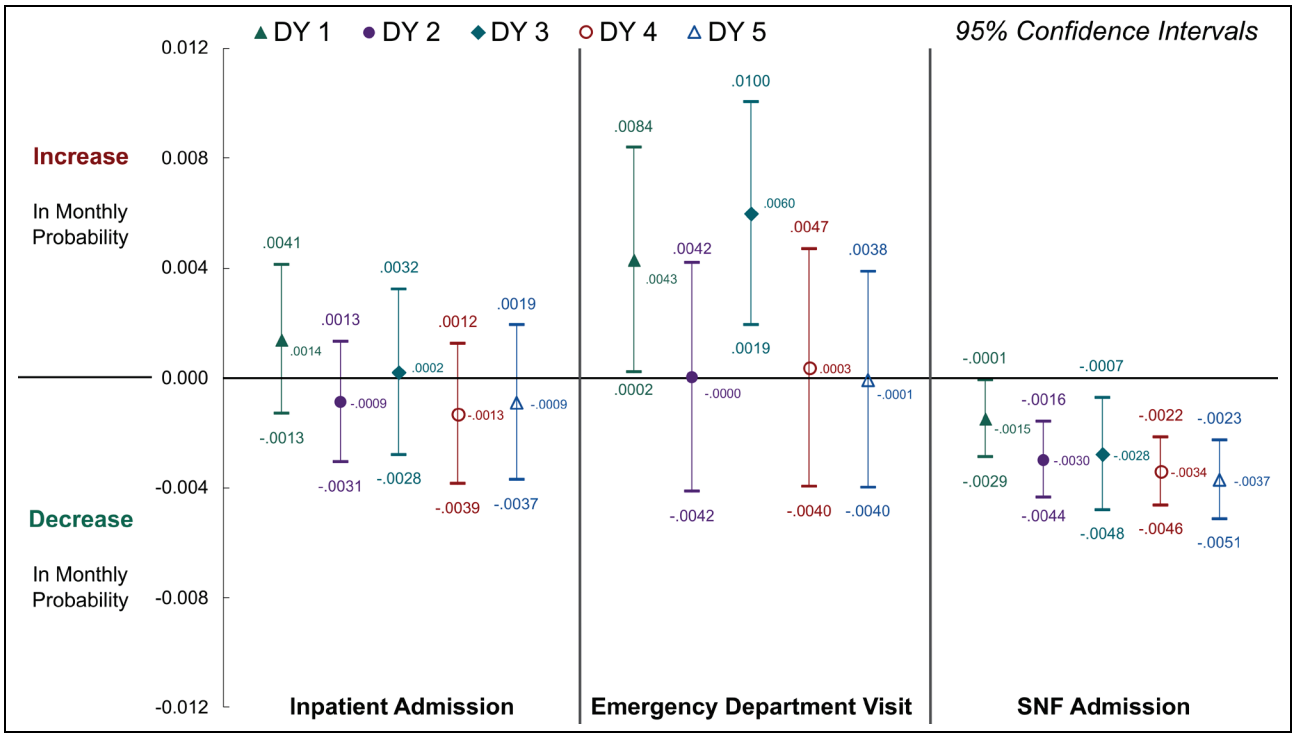
Annual impact estimates indicate that the Washington demonstration decreased the probability of any monthly SNF admission as well as any annual long-stay NF use in each of the 5 demonstration years while also decreasing the number of physician visits in demonstration years 4 and 5. ***Figures 4–6*** show annual effects of the demonstration on all-cause inpatient admissions, ED visits, SNF admissions, physician visits, and long-stay NF use.

- Similar to demonstration years 1 through 3, the probability of having any monthly SNF admission decreased in demonstration years 4 and 5. The decrease was 0.34 percentage points in demonstration year 4 and 0.37 percentage points in demonstration year 5. Moreover, the demonstration decreased long-stay NF use in demonstration years 4 and 5 by approximately 2.9 and 3.0 percentage points, respectively, relative to the comparison group. These findings continue a trend identified in previous years and are consistent with the expectation that more intensive care coordination may help reduce the use of institutional LTSS.
  - As described above, stakeholders indicated a heavy focus on transitioning beneficiaries from the hospital to the community. This effort may help explain reductions in both SNF and long-stay NF use if improved transitions to the community limit readmissions or shorten length of stay and provide the LTSS services needed to stay in the community.

- The Washington demonstration decreased physician visits in demonstration years 4 and 5 by 0.17 and 0.22 visits per month, respectively, relative to the comparison group. These results contrast with results from the first 3 demonstration years wherein there was no significant change in the number of physician visits, relative to the comparison group.
  - The demonstration extended the service area to include King and Snohomish counties in 2017 (demonstration year 4), which includes the greater Seattle area. These results may reflect the drop in the percent of eligible beneficiaries enrolled in a health home since 2017 due to the State's decision to limit enrollment to align with health homes' capacity for care coordination and outreach. The reduced enrollment rate means that fewer eligible Medicare-Medicaid beneficiaries are pursuing HAPs that could help facilitate physician E&M visits and follow-up after mental health discharges. Additionally, the reductions in physician visits may also reflect the reported challenges with care coordination capacity (see ***Section 3.2, Eligibility and Enrollment***).
  - The Washington demonstration had no impact on inpatient admissions or ED visits in demonstration years 4 or 5. Although these findings are consistent with the overall trend in inpatient admissions in previous demonstration years[12], the impact on ED visits has lessened since demonstration years 1 and 3. Even so, this result is still in contrast to the expectation that the Washington demonstration would lead to reduced ED visits.
  - One explanation for this finding may be the extension of the demonstration to King and Snohomish counties in 2017 and the challenges with enrolling beneficiaries and providing care coordination to enrollees in these counties, as discussed previously (see ***Section 3.2, Eligibility and Enrollment***).

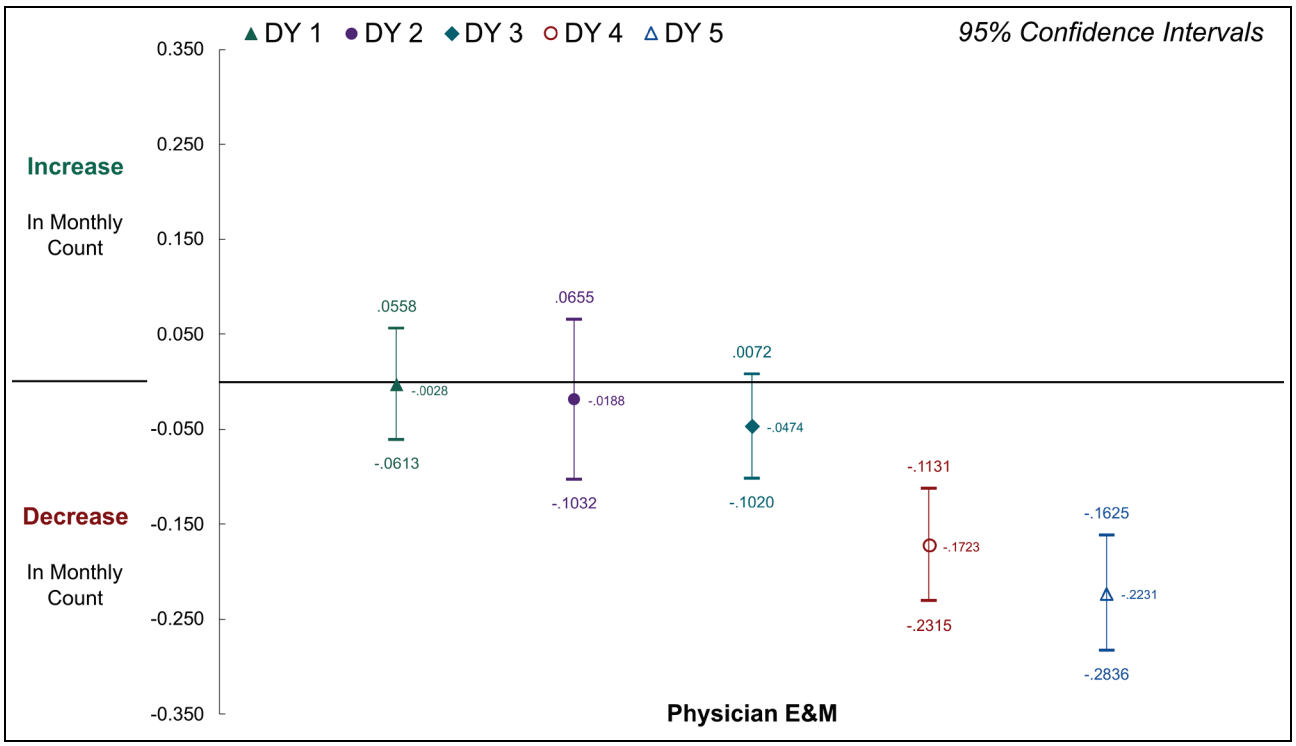
[12] In this report, corrections were made that led to changes in the demonstration years 1–3 impact estimates included in earlier reports (see ***Appendix C*** for additional details). With these corrections, the estimates increased across several service utilization outcomes, including inpatient admissions. The third Washington evaluation report showed statistically significant declines in inpatient admissions in demonstration years 1–3, while the current estimates show no statistically significant impact for those three years.

Figure 4
Annual demonstration effects on inpatient admissions, ED visits, and SNF admissions, July 1, 2013–December 31, 2018



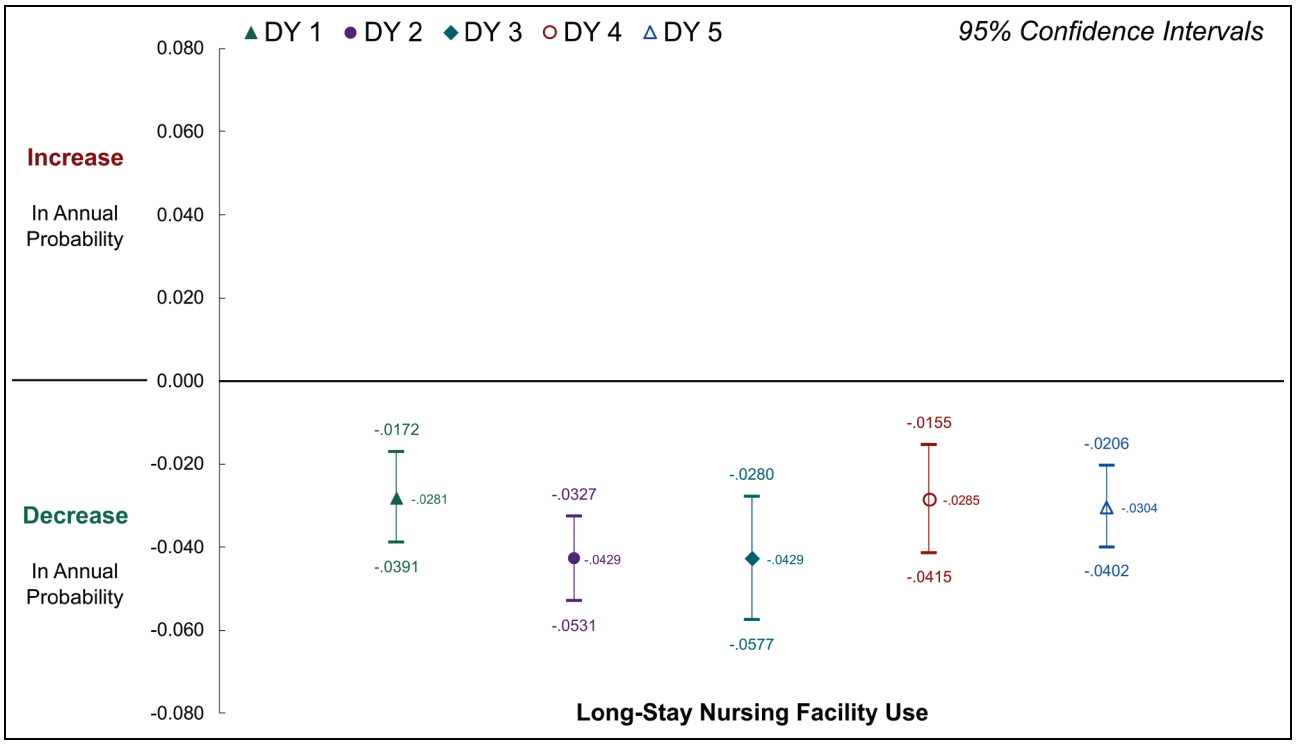
DY = demonstration year; ED = emergency department; SNF= skilled nursing facility.
SOURCE: RTI International analysis of Medicare data.

Figure 5
Annual demonstration effects on physician visits, July 1, 2013–December 31, 2018



DY = demonstration year; E&M = evaluation and management.
SOURCE: RTI International analysis of Medicare data.

Figure 6
Annual demonstration effects on long-stay NF use, July 1, 2013–December 31, 2018



DY = demonstration year; NF= nursing facility.
SOURCE: RTI International analysis of MDS data.

5.3 Demonstration Impact on Quality of Care Measures among the Eligible Beneficiaries

The demonstration resulted in a decline in 30-day follow-up after a mental health discharge, and there were no demonstration impacts on other quality of care measures. These findings may reflect the limited reach of the demonstration in the newly added counties in demonstration year 4, as well as the presence of CCOs with enough capacity to serve the eligible population in these counties.

5.3.1 Cumulative Impacts over Demonstration Years 4 and 5

We analyzed the impact of the demonstration on a set of quality of care measures using Medicare claims data. The Washington demonstration decreased the probability of having a 30-day follow-up visit after a mental health discharge, relative to the comparison group. There was no cumulative effect on preventable ED visits, ambulatory care sensitive condition (ASCS) admissions (overall or chronic), or 30-day readmission over demonstration years 4 and 5. ***Table 4*** illustrates the 2-year impact and adjusted means for these measures.

- The demonstration resulted in a 4.3 percentage point greater decline in the probability of a follow-up visit after a mental health discharge, relative to the comparison group. Caution should be used to interpret these results; it is also possible that many beneficiaries in Washington receive much of their outpatient mental health care from behavioral health organizations paid for by Medicaid, not Medicare. Even so, anecdotal evidence indicated that access to mental health services was a key limitation identified by enrollees through focus groups convened in 2016 and in 2017 (Justice et al., 2019).

Table 4
Adjusted means and impact estimate for eligible beneficiaries in the demonstration and comparison groups in Washington through December 31, 2018

Measure	Group	Adjusted mean for predemonstration period	Adjusted mean for demonstration period	Relative difference (%)	Regression-adjusted DinD estimate (95% confidence interval)	*p*-value
Number of preventable ED visits	Demonstration	0.0551	0.0550	NS	0.0023 (−0.0011, 0.0056)	0.1890
	Comparison	0.0564	0.0540			
Probability of ACSC admission, overall	Demonstration	0.0106	0.0079	NS	−0.0009 (−0.0022, 0.0004)	0.1627
	Comparison	0.0140	0.0115			
Probability of ACSC admission, chronic	Demonstration	0.0063	0.0056	NS	−0.0006 (−0.0015, 0.0003)	0.1819
	Comparison	0.0082	0.0079			
Probability of 30-day follow-up after mental health discharge	Demonstration	0.3382	0.2523	−11.8	−0.0428 (−0.0828, −0.0028)	0.0361
	Comparison	0.4105	0.3627			
Count of all-cause 30-day readmissions	Demonstration	0.3250	0.2762	NS	0.0006 (−0.0223, 0.0235)	0.9571
	Comparison	0.3945	0.3347			

ACSC = ambulatory care sensitive condition; DinD = difference in differences; ED = emergency department; NS = not statistically significant..

NOTES: This table shows the regression-adjusted predicted probability or number of monthly events for the predemonstration and demonstration periods for the comparison and demonstration groups. The ***relative difference*** is calculated by dividing the DinD estimate (column heading *Regression-adjusted DinD estimate*) by the predicted average for the comparison group in the demonstration period (column heading *Adjusted mean for demonstration period*).

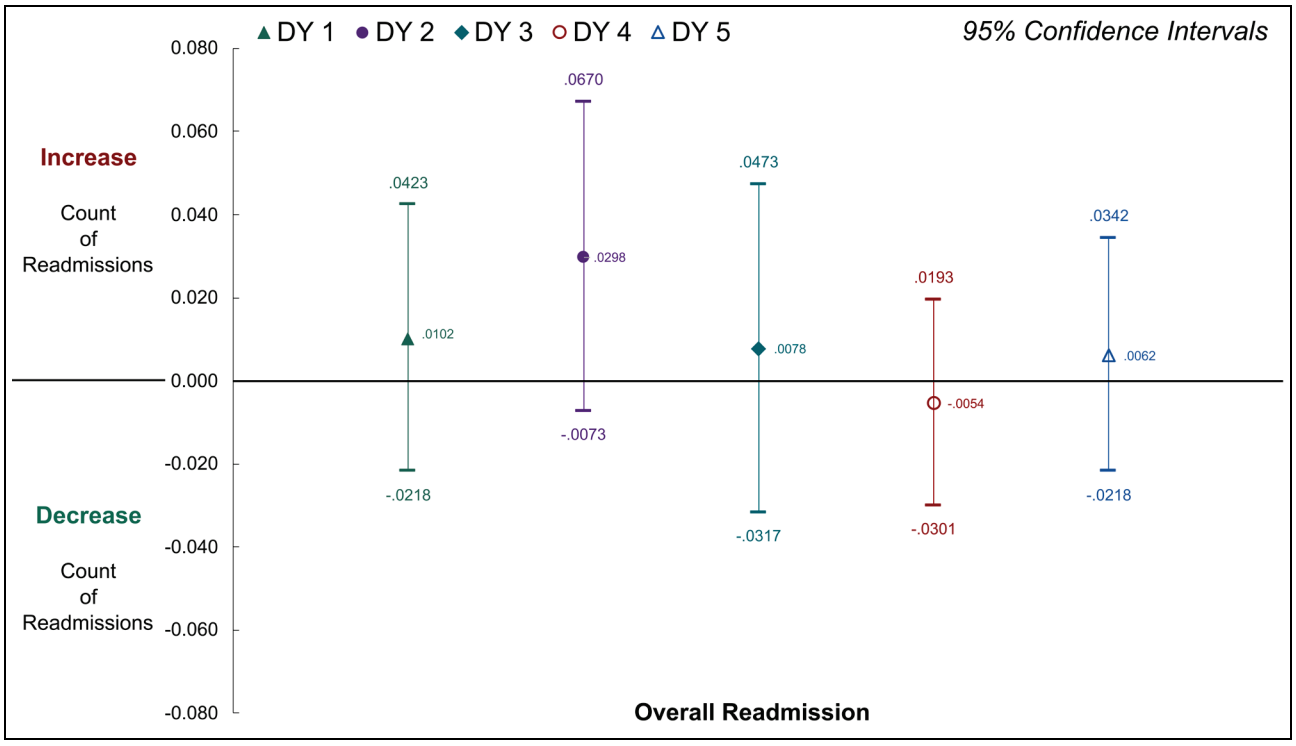
- The finding that there was no impact on other quality of care measures may be reflective of the extension of the demonstration service area into King and Snohomish counties, as mentioned in the previous section of this report. Those two counties represent about 30 percent of the eligible population, but health home enrollment in them was low relative to other counties. Moreover, State officials indicated that it was difficult to find enough CCOs with the capacity to serve the eligible population in these counties (see ***Section 3.1, Integration of Medicare and Medicaid***). Further, health home enrollment declined in demonstration year 5 due to the exit of the largest health home and change in the State's eligibility policy. Indeed, these findings can, in part, be explained by the limited reach of the demonstration among eligible beneficiaries in these counties.

5.3.2 Demonstration Impacts in Each Demonstration Year

In demonstration years 4 and 5, there were no changes in any quality of care measures, relative to the comparison group. For some measures, this represented a change in the direction of the effect, compared to the prior years. ***Figures 7–10*** show annual effects of the demonstration on 30-day readmission, ACSC admissions (overall and chronic), preventable ED visits, and 30-day follow-up post mental health discharge.

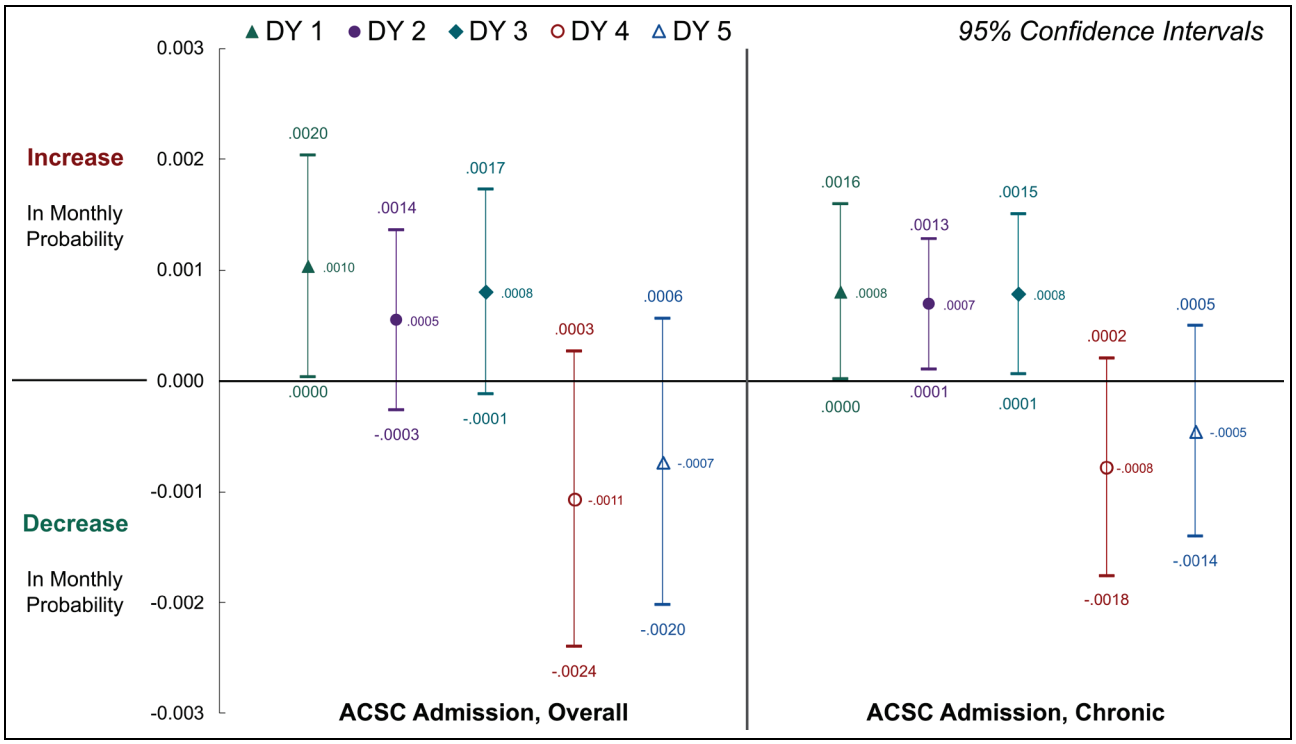
- Our analyses for demonstration years 1 through 3 indicate there was no impact on all-cause 30-day readmission, and there were unfavorable increases in ACSC admissions (overall and chronic), preventable ED visits, and declines in 30-day follow-up after a mental health discharge. But these trends diminished in demonstration years 4 and 5. Specifically, there were no longer statistically significant increases in ACSC admissions and preventable ED visits, nor annual declines in 30-day follow-up post mental health discharge, although there was a cumulative decline. As described above, these findings may in part be explained by limited enrollment in the new demonstration counties.

Figure 7
Annual demonstration effects on the count of 30-day readmissions, July 1, 2013–December 31, 2018



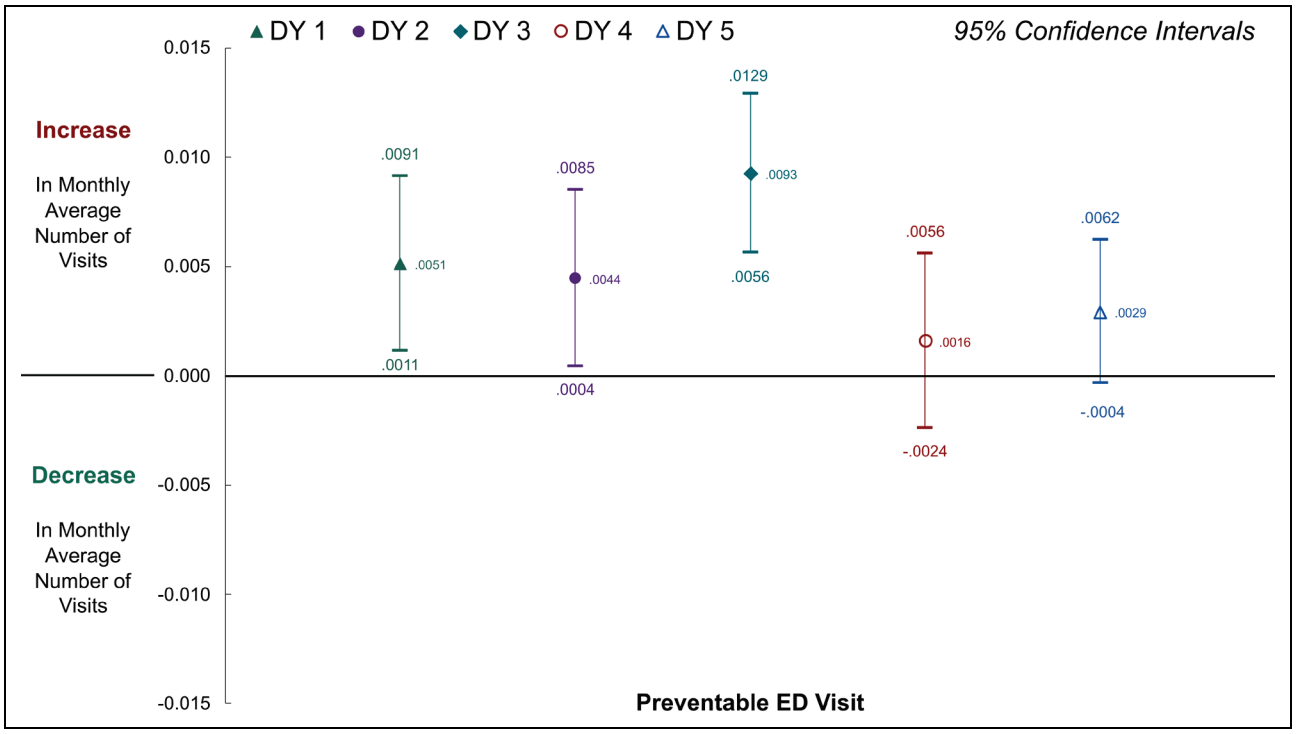
DY = demonstration year.
SOURCE: RTI International analysis of Medicare data.

Figure 8
Annual demonstration effects on the monthly probability of ACSC admissions (overall and chronic), July 1, 2013–December 31, 2018



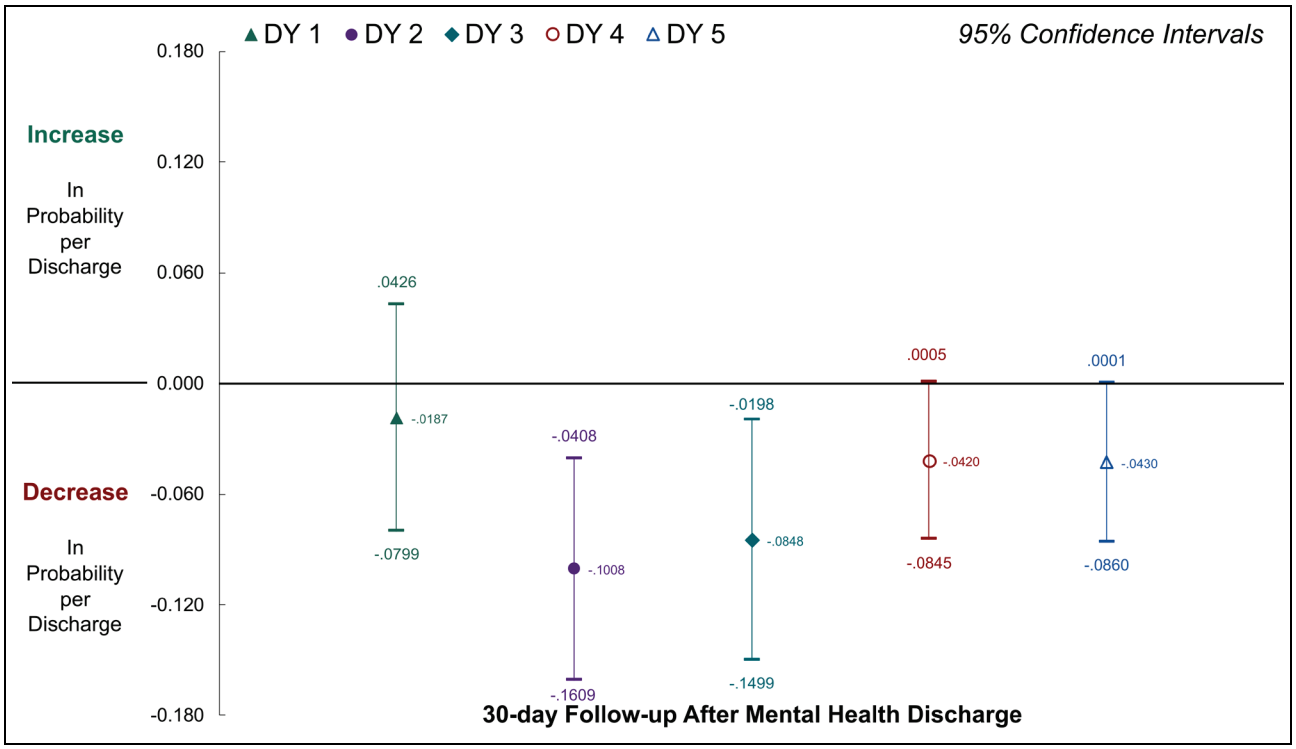
ACSC = ambulatory care sensitive condition; DY = demonstration year.
SOURCE: RTI International analysis of Medicare data.

Figure 9
Annual demonstration effects on the number of preventable ED visits, July 1, 2013–December 31, 2018



DY = demonstration year; ED = emergency department.
SOURCE: RTI International analysis of Medicare data.

Figure 10
Annual demonstration effects on the probability of 30-day follow-up post mental health discharge, July 1, 2013–December 31, 2018



DY = demonstration year.
SOURCE: RTI International analysis of Medicare data.

See ***Appendix D, Tables D-4*** through ***D-8*** for unadjusted descriptive statistics for all service use and quality of care measures for the demonstration eligible population and for beneficiaries who enrolled in health homes.

5.4 Demonstration Impact on Select Beneficiaries

The demonstration impacted the LTSS population differently than the non-LTSS population. The demonstration effect for those with LTSS use was an increase in the probability of inpatient admissions and ED visits and in the number of physician visits, relative to the demonstration effect for the non-LTSS population. The demonstration effect for those with an SPMI was a decrease in the probability of any SNF use and in the number of physician evaluation and management (E&M) visits, relative to the demonstration effect among non-SPMI beneficiaries.

Washington has designated Medicaid health homes to be the lead local entities to organize enhanced integration of primary, acute, LTSS, and behavioral health services for Medicare-Medicaid enrollees participating in the demonstration. Each health home is required to establish a network of CCOs representing primary care, mental health, LTSS, chemical dependency providers, and specialty providers; the network must include the local agencies that

authorize Medicaid LTSS and behavioral health services. This diversity in type of CCOs is intended to ensure that each health home has experience among its affiliates to engage enrollees with diverse service needs and coordinate their health care and other services. As such, it is expected that the demonstration uniquely impacts service utilization and quality of care among eligible beneficiaries with LTSS needs or who have an SPMI, compared to the non-LTSS and non-SPMI special populations (see group definitions in ***Appendix C***).

See ***Tables D-7*** and ***D-8*** in ***Appendix D*** for unadjusted descriptive statistics for health home users and non–health home users.

Additionally, further analysis was conducted to examine unadjusted service utilization results by racial and ethnic groups among the eligible population for six settings of interest: inpatient admissions, ED (non-admit), primary care E&M visits, behavioral health visits, outpatient therapy (physical therapy, occupational therapy, and speech therapy), and hospice (see ***Appendix Figures D-1, D-2,*** and ***D-3*** in ***Appendix D***).

5.4.1 Beneficiaries Receiving Long-Term Services and Supports

As indicated in ***Table C-1*** in ***Appendix C***, about 22.9 percent of the demonstration eligible population in demonstration year 5 had any LTSS use. For some measures, the demonstration impacted those with LTSS use differently than those with no LTSS use (see ***Table D-9*** in ***Appendix D***). For example, the difference in the cumulative demonstration effect for beneficiaries with LTSS use was a 0.4 percentage point greater increase in the probability of any monthly inpatient admission, relative to the demonstration effect for beneficiaries without LTSS use. Similarly, the demonstration impact among beneficiaries with LTSS use was a greater increase in the probability of any ED visit, relative to the demonstration effect among the non-LTSS population. Finally, the demonstration effect for those with LTSS use was a smaller decline[13] in the number of physician visits relative to the demonstration effect among beneficiaries without LTSS use.

There were no statistically significant differences in the effect of the demonstration among those with LTSS on any of the quality of care measures compared to the demonstration effect among those without LTSS use (see ***Table D-10*** in ***Appendix D***).

We also present cumulative and annual estimates of the demonstration effect for those with LTSS use only, relative to the comparison group, in ***Table D-2***, and in ***Figures D-4*** through ***D-9*** in ***Appendix D***.

5.4.2 Beneficiaries with Serious and Persistent Mental Illness

As indicated in ***Table C-1*** in ***Appendix C***, about 57.2 percent of the demonstration population in demonstration year 5 had an SPMI. On some measures, the demonstration

[13] As indicated in ***Table D-9*** in ***Appendix D***, the DinD estimate is a *relative* increase in the number of physician visits of 0.1283 visits per month, relative to the demonstration effect among those without LTSS use. However, both DinD estimates for the LTSS and non-LTSS groups indicate a decline in the number of physician visits, relative to the comparison group. Thus, the interpretation of the DinD is that the demonstration effect for those with LTSS use was a smaller decrease in the number of physician visits, relative to the demonstration effect among those without LTSS use.

impacted those with an SPMI differently than those without an SPMI (as indicated in ***Tables D-11*** and ***D-12*** in ***Appendix D***). For example, the demonstration effect among those with SPMI was a 0.2 percentage point greater decline in the probability of any SNF admission, and 0.0841 decline in the number of monthly physician visits, relative to the demonstration effect among the non-SPMI population. There were no significant differences in the cumulative demonstration effect over demonstration years 4 and 5 among those with an SPMI on quality of care measures relative to those without an SPMI.

We also present cumulative and annual estimates of the demonstration effect for those with SPMI only, relative to the comparison group, in ***Table D-3***, and in ***Figures D-10*** through ***D-14*** in ***Appendix D***.

SECTION 6

Cost Savings

6.1 Introduction

Our analysis found statistically significant Medicare savings for each demonstration year, and savings increased over the demonstration period relative to the savings identified in demonstration year 1.

Savings for inpatient services, outpatient services, and physician services contributed to overall Medicare Parts A and B savings estimates.

Over its first 3 years, the Washington demonstration saved over 8 percent in Medicare Parts A and B expenditures, and for years 4 and 5 the demonstration saved over 11 percent by leveraging Medicaid health homes to integrate care for full-benefit Medicare-Medicaid beneficiaries and by targeting high-cost, high-risk dual eligible enrollees. As described in ***Section 3***, the State's existing delivery systems for primary, acute, behavioral, and LTSS remain unchanged, and health homes serve as the bridge for integrating care across these existing delivery systems. This chapter presents the evaluation's savings analyses. Note that separate actuarial savings analyses have also been conducted to inform shared savings payments between CMS and the State of Washington.[14]

6.2 Evaluation Methodology

To evaluate the cost implications of the demonstration, RTI performed a DinD analysis comparing Medicare expenditures for the population eligible for the Washington demonstration with a comparison group not affected by the demonstration. Medicare costs in the predemonstration period were compared to Medicare costs in the demonstration period.

Methodology: Key Terms

Difference-in-differences (DinD): DinD is a quasi-experimental design allowing researchers to estimate the effect of the demonstration. In applying this research design, RTI identified a comparison group with similar predemonstration trends for outcomes of interest. Changes in trends are attributed to the impact of the demonstration.

Intent-to-treat (ITT): In an ITT approach, all beneficiaries eligible for the demonstration are assigned to the demonstration group, regardless of enrollment status. This approach diminishes the potential for selection bias, where those who enroll in the demonstration are systematically different from those who do not enroll.

As discussed in the service utilization analyses, the cost analyses focus on results for Washington demonstration years 4 and 5 (calendar years 2017 and 2018). Earlier evaluation reports have presented results for demonstrations years 1, 2, and 3.[15] The results from this analysis confirm previous findings

[14] Actuarial savings reports are available at https://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/FinancialAlignmentInitiative/Washington. [The April 2021 savings report, from which the confirmed demonstration years 4 and 5 results are drawn, is not posted yet.]

[15] The First, Second, and Third Evaluation Reports are available at https://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/FinancialAlignmentInitiative/Washington.

indicating significant savings as a result of the Washington demonstration. Additionally, corrections were made to impact estimates from earlier reports that resulted in differences in our current cost-savings impact estimates for demonstration years 1–3 (see ***Appendix E*** for additional details).

For this analysis, we used an ITT approach that included all beneficiaries eligible for the demonstration to alleviate concerns of selection bias. As of December 2018, 38 percent of beneficiaries in the State of Washington were enrolled in the demonstration. Beneficiaries eligible for the demonstration in Washington were identified by the State of Washington. We identified comparison areas based on market characteristics and applied demonstration eligibility criteria using a propensity score model to assign beneficiaries for the comparison group (see ***Appendix B***).

6.3 Analysis of Medicare Expenditures

We gathered monthly Medicare expenditure data for the demonstration and comparison groups from Medicare FFS claims data. FFS claims included all Medicare Parts A and B services. We adjusted monthly Medicare expenditures to reflect geographic payment adjustments and other payment policies (see ***Appendix E***).

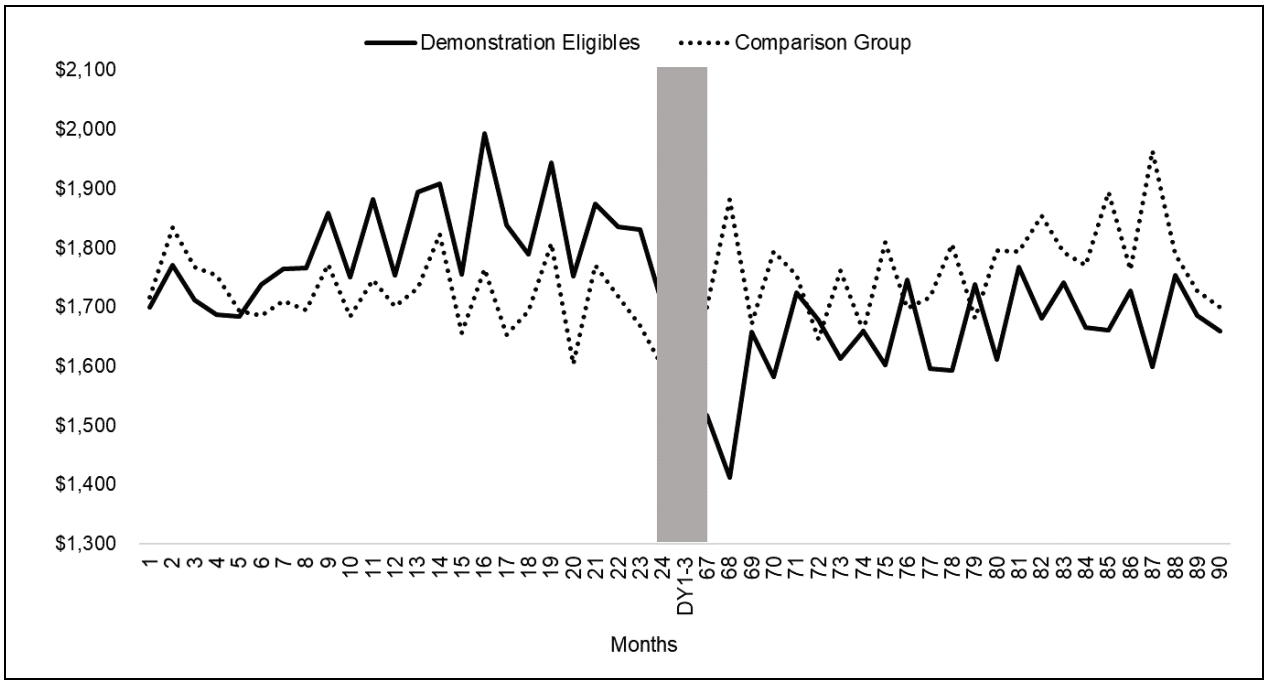
To calculate the impact of the demonstration on Medicare expenditures, we ran a generalized linear model with gamma distribution and log link. This is a commonly used approach in analysis of skewed data. The model included control variables for individual demographic and area-level characteristics (see ***Appendix E***), employed propensity score weighting, and adjusted for clustering of observations at the county level. The key policy variable of interest in the model is an interaction term representing the combined effect of being part of the demonstration eligible group during the demonstration period.

6.4 Results and Discussion

Figure 11 presents the predemonstration and demonstration year 4 and demonstration year 5 trends after the propensity score weights have been applied. The figure shows the parallel trends of the two groups prior to the start of the demonstration, which is a key assumption for the DinD, and indicates that the comparison group is well matched to the demonstration group. Note that the figure does not show monthly expenditures for demonstration years 1, 2, and 3 because they predate the inclusion of King and Snohomish counties, and thus we used a different comparison group in analyses for those years.[16]

[16] See previous reports available at https://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/FinancialAlignmentInitiative/Washington.

Figure 11
Average monthly Medicare payments, Washington demonstration and comparison groups in the predemonstration period and demonstration years 4 and 5



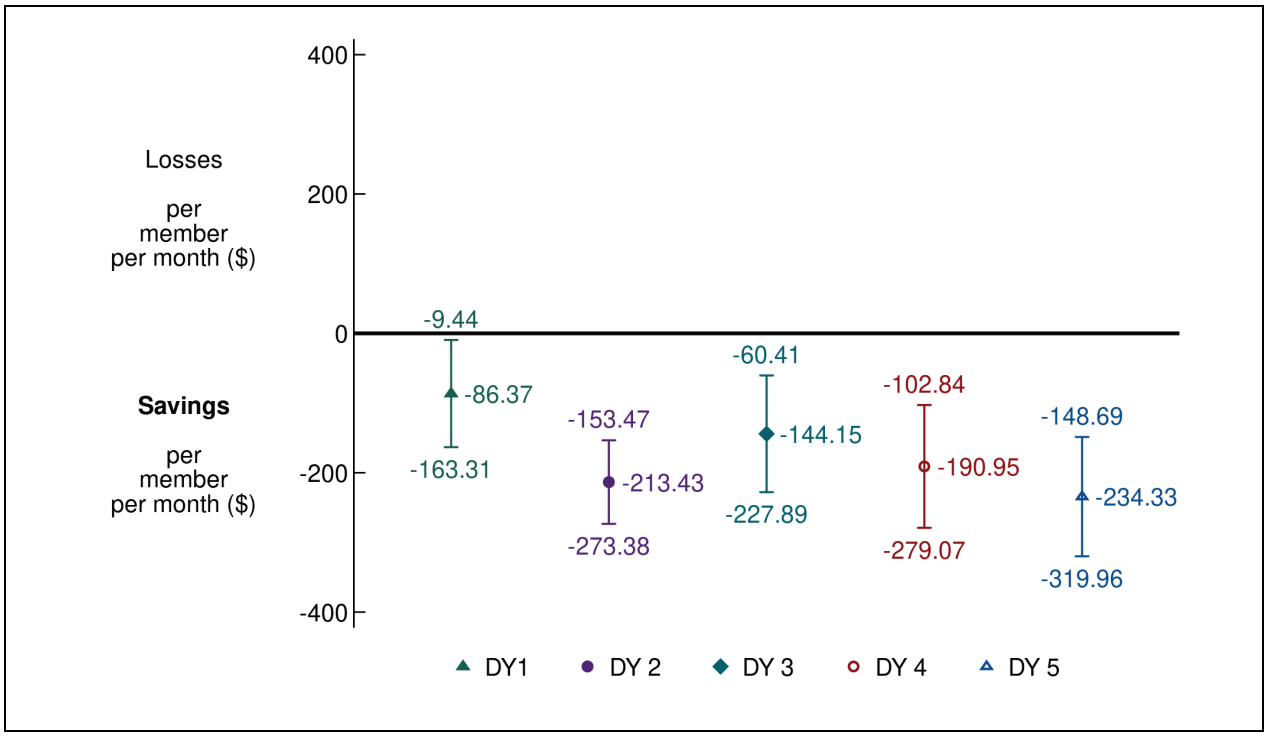
NOTES: This figure shows average monthly Medicare payments (propensity score weighted) in the predemonstration period and in demonstration year 4 and demonstration year 5. Demonstration years 1–3 are not shown in this figure because these years were prior to the inclusion of King and Snohomish counties and therefore a different comparison group applies to demonstration years 1–3.
SOURCE: RTI International analysis of Medicare data (program: warar356 part iii b).

We ran the regression model on the overall demonstration and separately for each demonstration year.

Figure 12 shows the DinD effect on total Medicare Parts A and B costs, PMPM, for each demonstration year. Our analyses showed a statistically significant DinD effect in a negative direction in each demonstration year, suggesting that the demonstration generated Medicare Part A and B savings, relative to the comparison group. Note that the DinD effect for demonstration years 1–3 (prior to the inclusion of King and Snohomish counties) was generated using a different comparison group than the DinD effect for demonstration years 4–5 (statewide demonstration).

Combined savings over demonstration years 4–5 were $212.57 PMPM, representing a relative difference (reduction) of 11.42 percent, compared to what Medicare would have paid in the absence of the demonstration in demonstration years 4 and 5 (***Table 5***). In comparison, combined savings over demonstration years 1–3 were $155.92 PMPM, representing a relative difference (reduction) of 8.25 percent (***Table 6***).

Figure 12
Annual monthly demonstration effect on Medicare Parts A and B costs, July 1, 2013—December 31, 2019



DY = demonstration year.
NOTE: 95% confidence intervals are shown. "Losses/Savings" indicate increased/decreased costs for eligible beneficiaries in the demonstration group, relative to the comparison group.
SOURCE: RTI International analysis of Medicare data (program: warar366, warar411).

Table 5
Adjusted means and overall impact estimate for Washington eligible beneficiaries in the demonstration and comparison groups, demonstration years 4–5

Group	Adjusted mean for predemonstration period	Adjusted mean for demonstration period	Relative difference (%)	Adjusted DinD estimate	*p*-value
Demonstration	$2,026.34	$1,763.79	−11.42	−$212.57	< 0.0001
Comparison	$1,901.14	$1,860.84		—	

— = not applicable; DinD = difference-in-differences.
SOURCE: RTI International analysis of Medicare data (program: warar374).

Table 6
Adjusted means and overall impact estimate for Washington eligible beneficiaries in the demonstration and comparison groups, demonstration years 1–3

Group	Adjusted mean for predemonstration period	Adjusted mean for demonstration period	Relative difference (%)	Adjusted DinD estimate	*p*-value
Demonstration	$1,776.38	$1,649.58	−8.25	−$155.92	< 0.0001
Comparison	$1,864.21	$1,889.40		—	

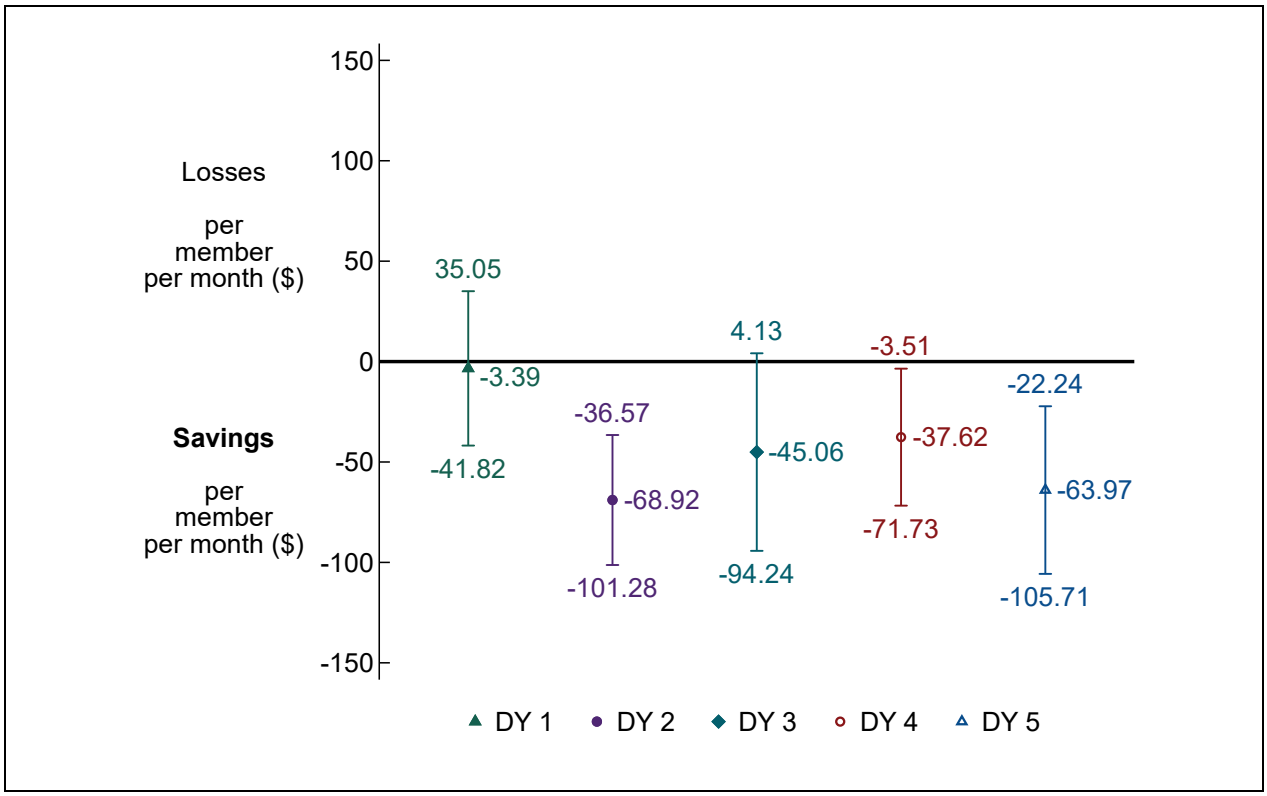
— = not applicable; DinD = difference-in-differences.
SOURCE: RTI analysis of Medicare fee-for-service claims (program: warar419).

In addition to the overall DinD estimates, we generated DinD estimates by type of Medicare service to learn more about the specific service types driving savings. ***Figures 13–19*** show the annual DinD estimates for demonstration years 1–5 on savings for inpatient services, outpatient services, physician services, home health agency services, durable medical equipment, hospice services, and skilled nursing facility services, respectively. For demonstration years 4 and 5, the findings show significant savings for inpatient services, outpatient services, physician services, and skilled nursing facility services.

The findings presented here are consistent with the savings identified in separate actuarial analyses for performance payment purposes using a different methodology.[17] The findings from the actuarial analyses were $170.67 in demonstration year 4, and the preliminary findings for demonstration year 5 savings were $182.78; these estimates are within the 95 percent confidence intervals of the evaluation findings.

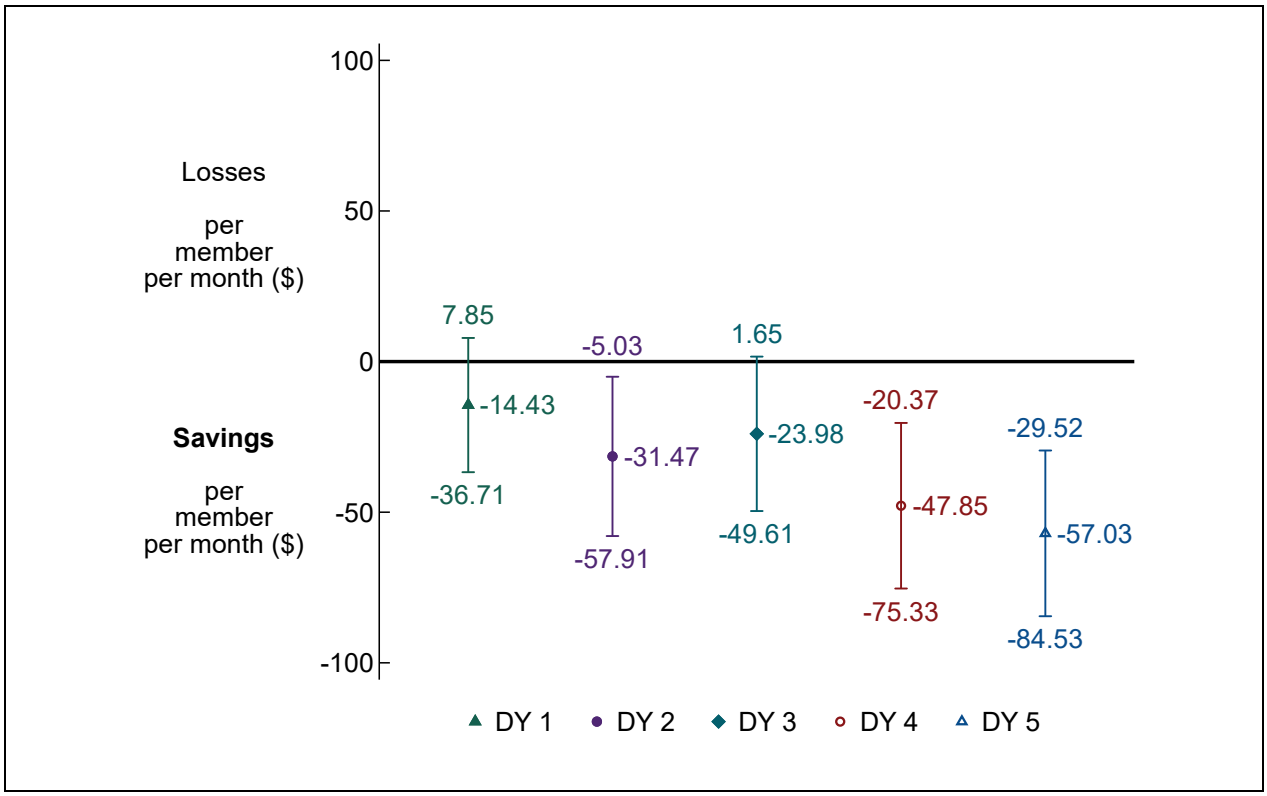
[17] For details in methodology used for actuarial analyses, please see actuarial savings reports available at https://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/FinancialAlignmentInitiative/Washington.

Figure 13
Annual monthly demonstration effect for inpatient services, July 1, 2013—December 31, 2019



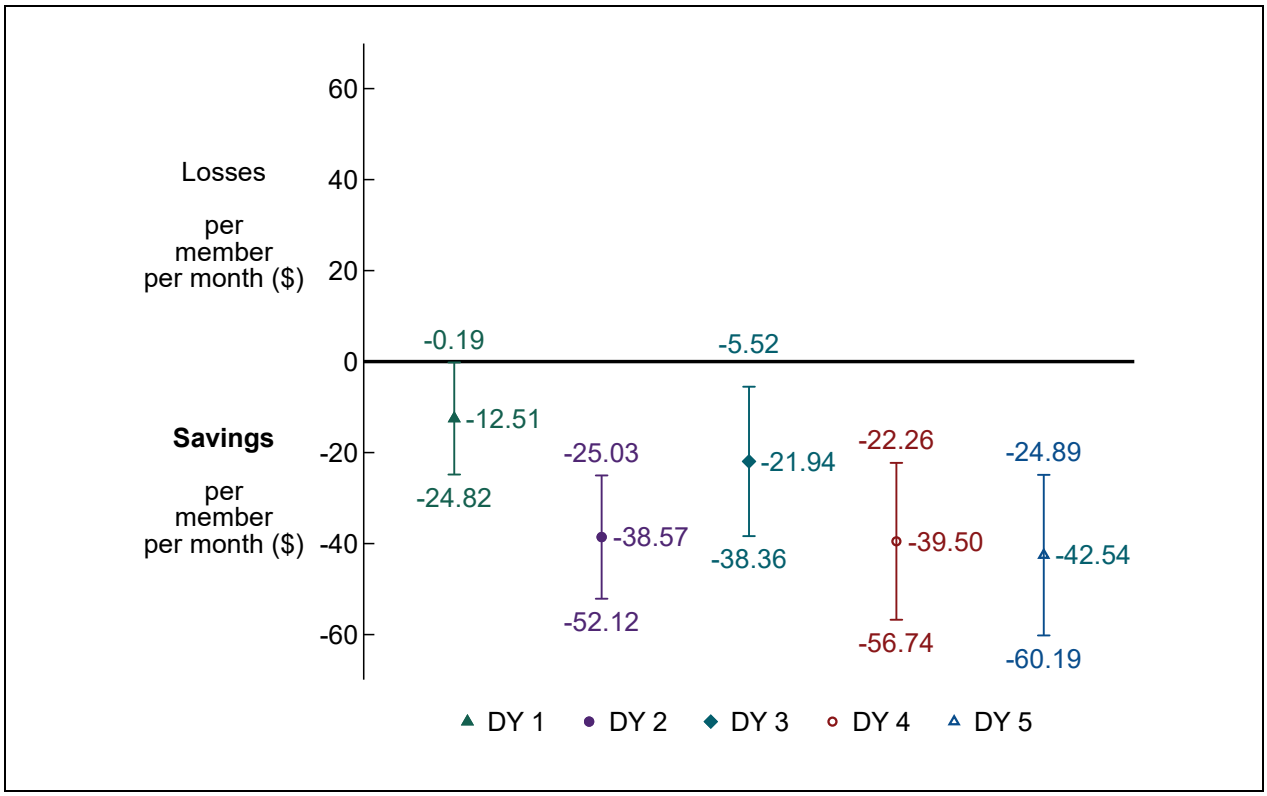
NOTE: 95% confidence intervals are shown.
SOURCE: RTI International analysis of Medicare data (programs: warar370, warar415).

Figure 14
Annual monthly demonstration effect for outpatient services, July 1, 2013—December 31, 2019



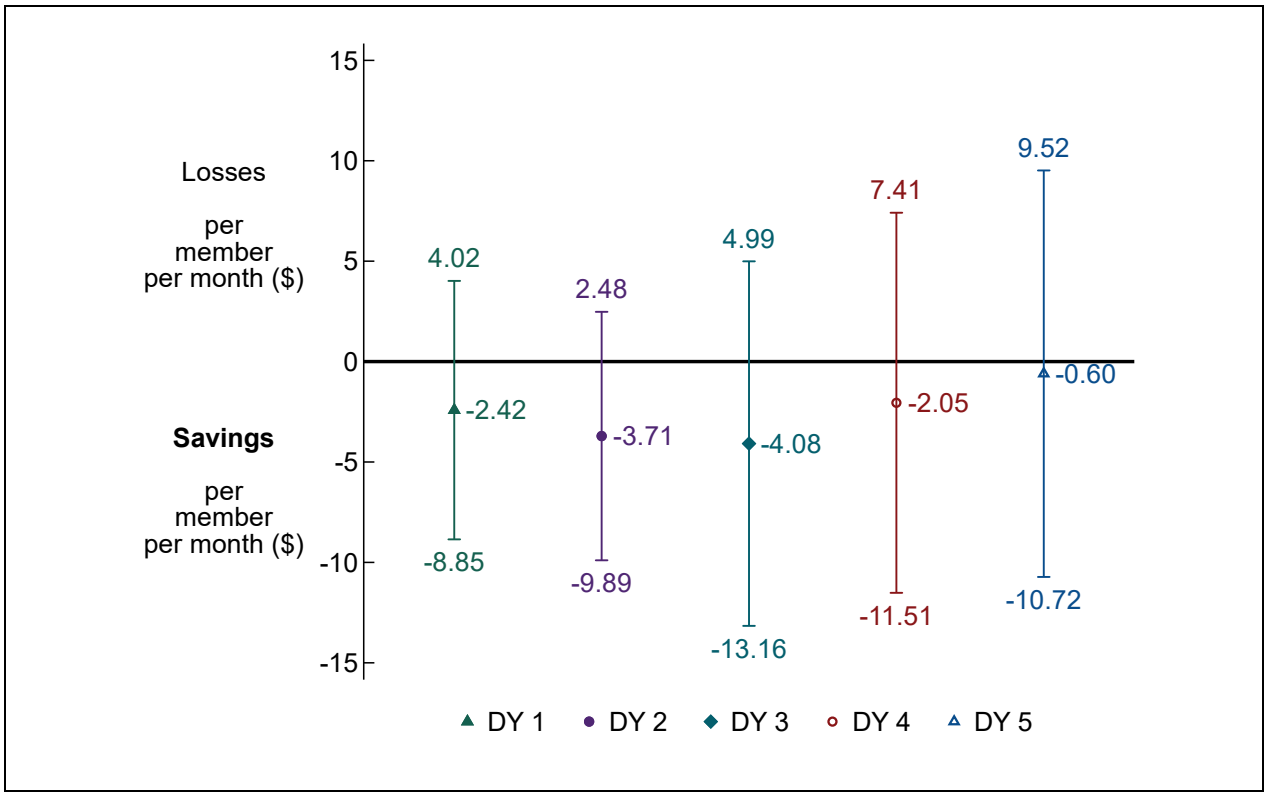
NOTE: 95% confidence intervals are shown.
SOURCE: RTI International analysis of Medicare data (programs: warar371, warar416).

Figure 15
Annual monthly demonstration effect for physician services, July 1, 2013—December 31, 2019



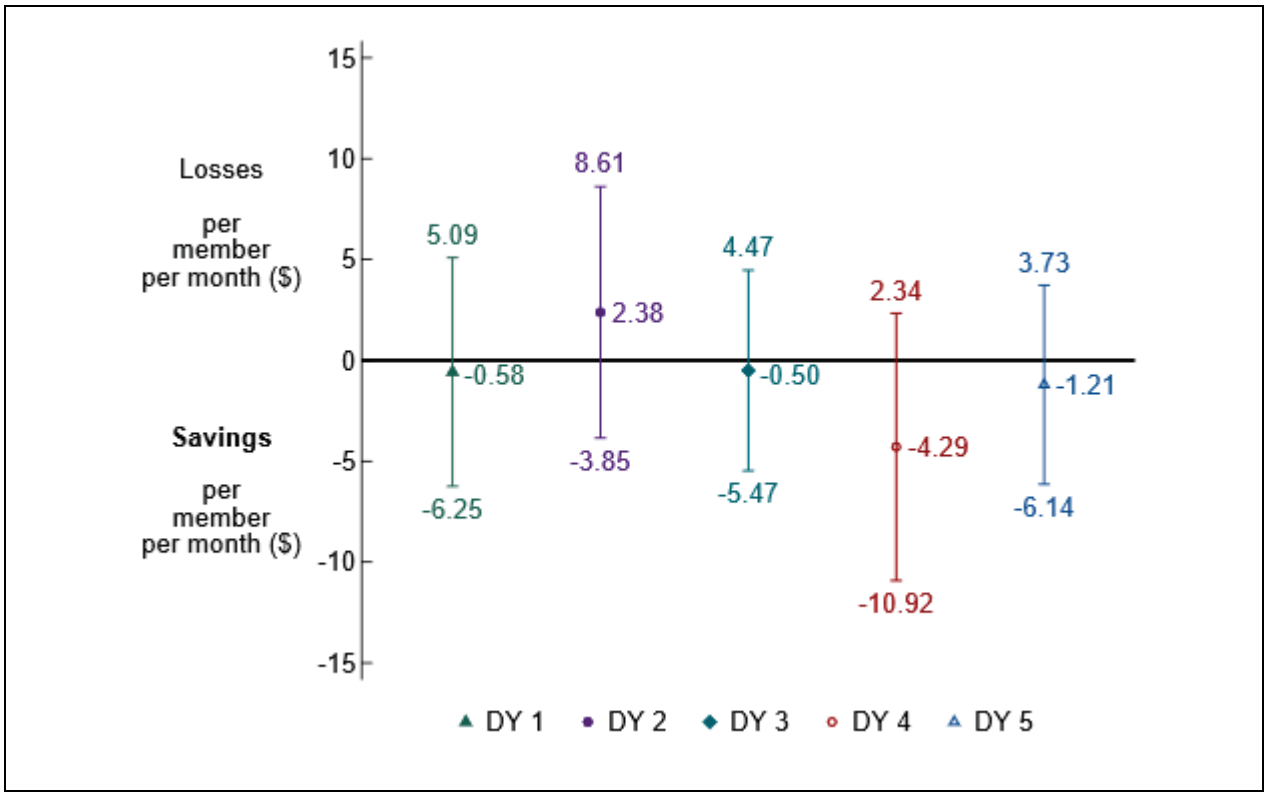
NOTE: 95% confidence intervals are shown.
SOURCE: RTI International analysis of Medicare data (programs:warar372, warar417).

Figure 16
Annual monthly demonstration effect for home health agency services, July 1, 2013—December 31, 2019



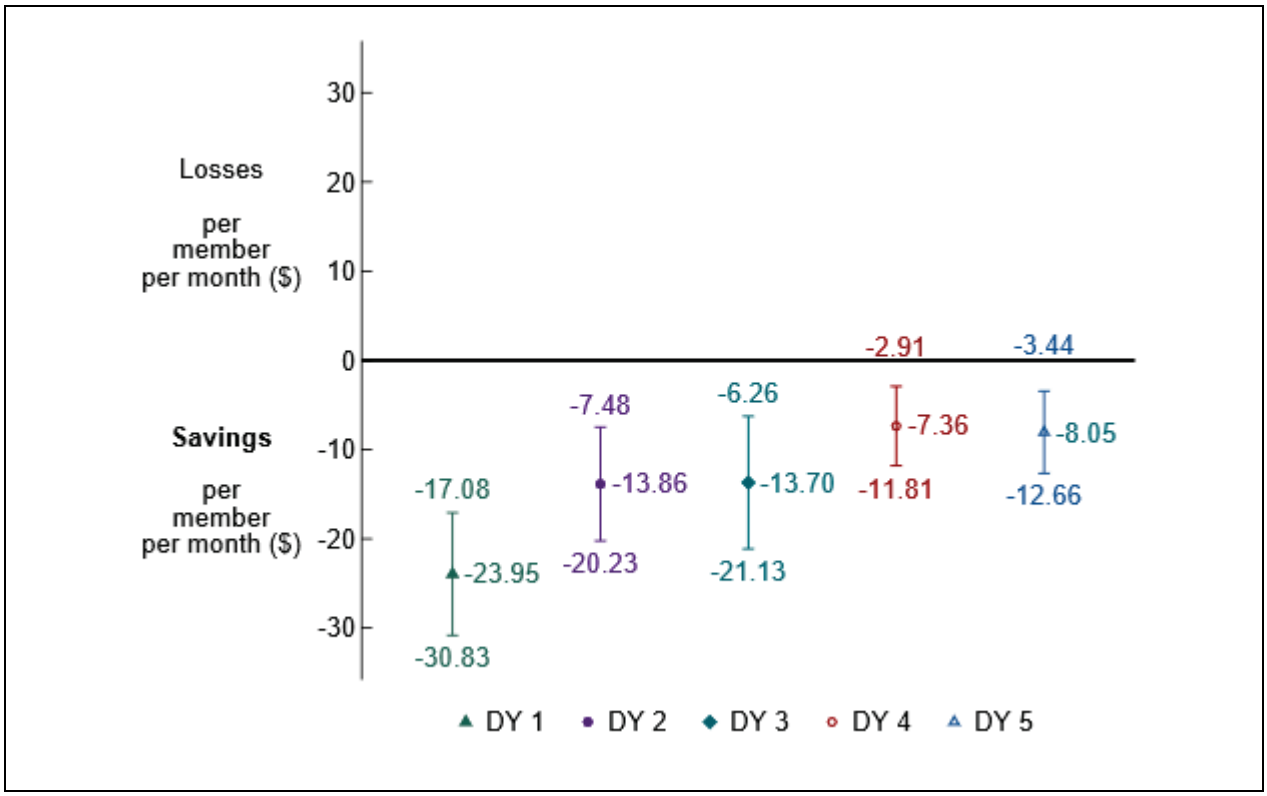
NOTE: 95% confidence intervals are shown.
SOURCE: RTI International analysis of Medicare data (programs:warar368, warar413).

Figure 17
Annual monthly demonstration effect for durable medical equipment, July 1, 2013—December 31, 2019



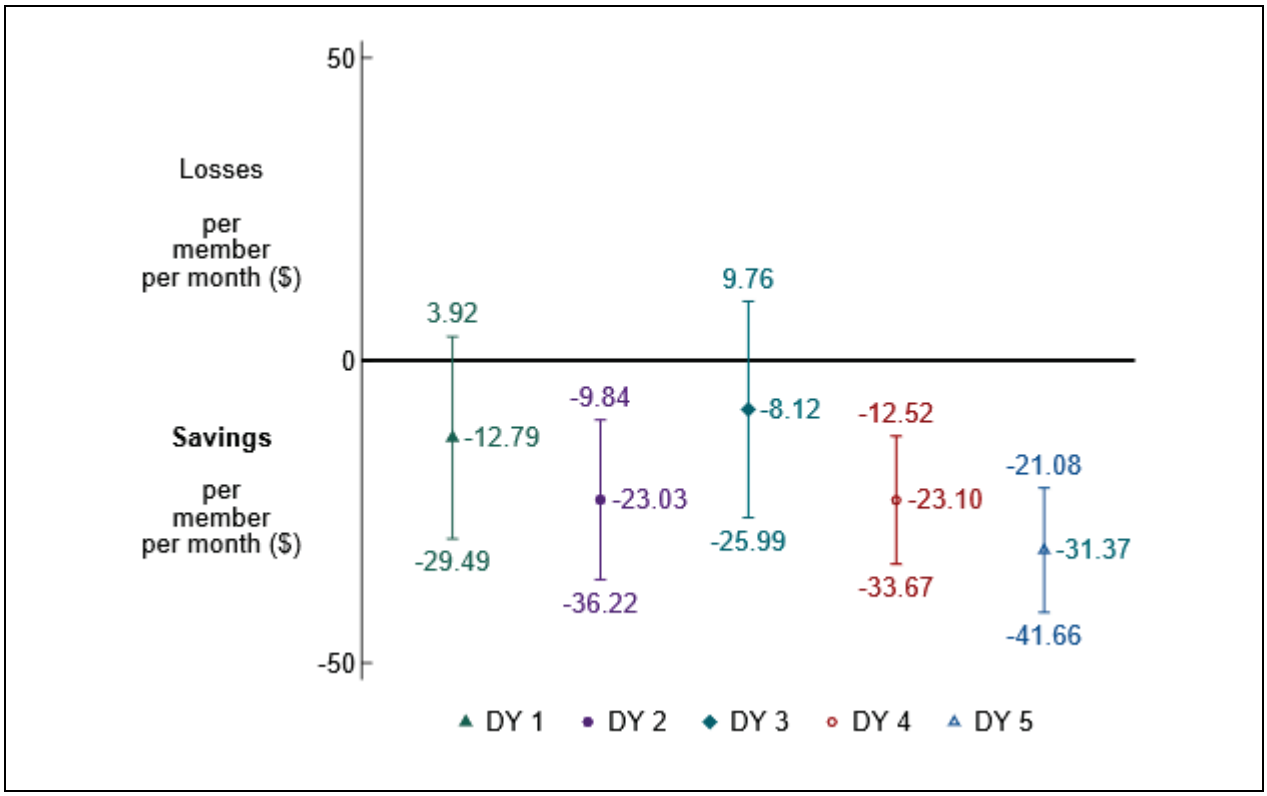
NOTE: 95% confidence intervals are shown.
SOURCE: RTI International analysis of Medicare data (programs: warar367, warar412).

Figure 18
Annual monthly demonstration effect for hospice services, July 1, 2013—December 31, 2019



NOTE: 95% confidence intervals are shown.
SOURCE: RTI International analysis of Medicare data (programs:warar369, warar414).

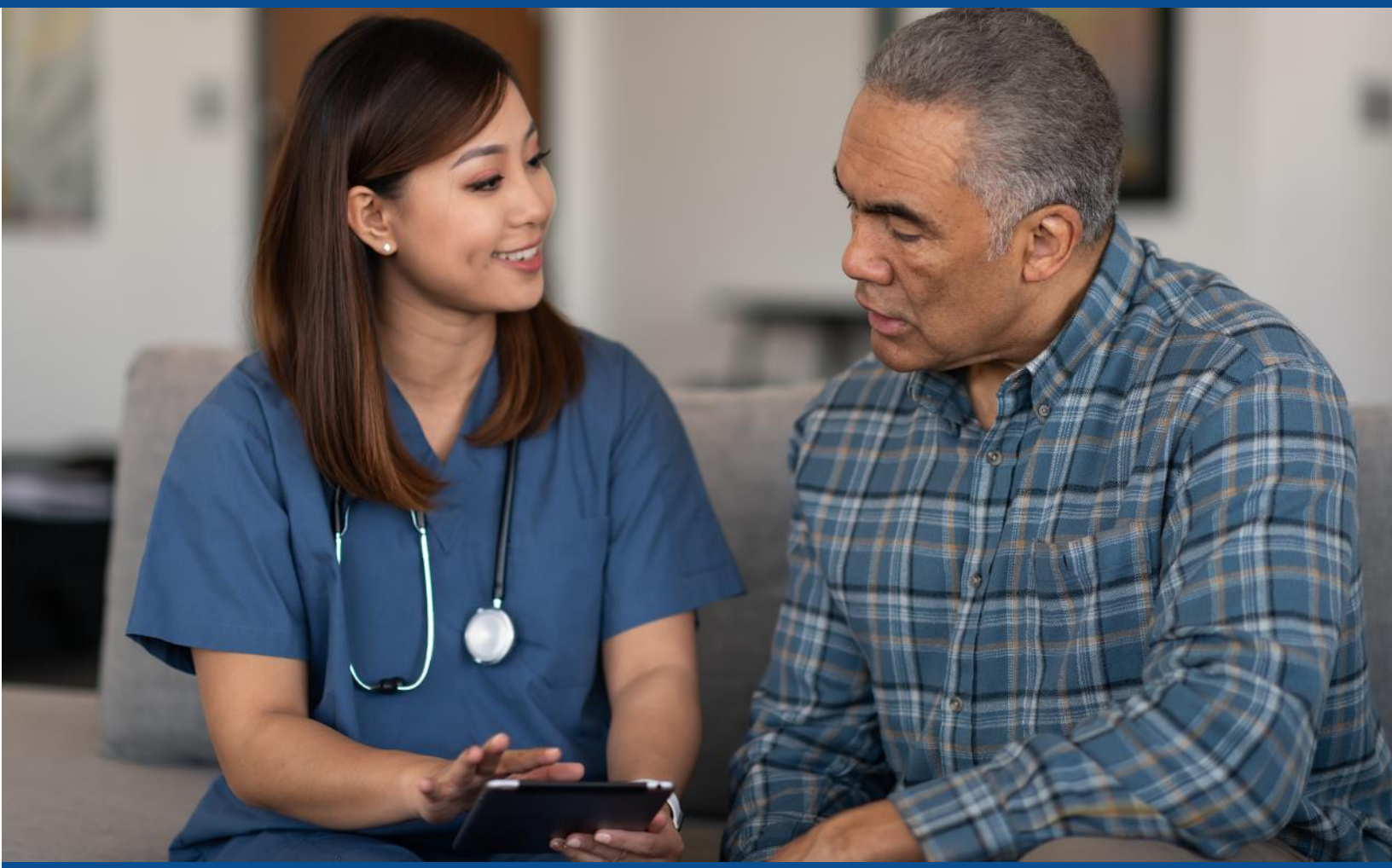
Figure 19
Annual monthly demonstration effect for skilled nursing facility services, July 1, 2013—December 31, 2019



NOTE: 95% confidence intervals are shown.
SOURCE: RTI International analysis of Medicare data (programs:warar373, warar418).

SECTION 7

Conclusions



7.1 Implementation Successes, Challenges, and Lessons Learned

State officials, health home staff, and CMS representatives have viewed the Washington Health Home Managed FFS Demonstration as a successful initiative overall, in light of the actuarial estimate of $232.2 million in gross Medicare savings achieved from 2013 to 2018.[18] For performance years 2013–2016, the State received $36.5 million in shared savings payments. Subsequently, the State legislature increased health home payments beginning in 2018 (Washington State HCA, 2018). This payment boost enabled health homes to achieve financial stability and made it possible to increase the number of health homes participating in the program.

Despite these successes, the demonstration continues to face major challenges in building care coordination capacity. State program leads have faced difficulties finding entities willing to serve as health homes, particularly in high-cost areas such as King County. Workforce shortages—combined with demand for care coordinators in State and Federal initiatives as well as the private sector—have significantly limited health homes' ability to add care coordination staff. Additionally, health home representatives reported that the caseload size needed to make the model financially sustainable creates a heavy burden on care coordinators. As a result, State officials have reduced enrollment to levels that they believe align with health homes' capacity to provide services.

New quality benchmarks introduced in 2018 created additional capacity challenges for the demonstration. Because health homes previously lacked the infrastructure to collect and report required data on enrollee outreach attempts, they had to invest significant resources in developing new systems. Moreover, health homes have had to dedicate additional staff time to outreach efforts. According to State officials, capacity challenges associated with the new measures also have factored into the decision to limit demonstration enrollment.

7.2 Demonstration Impact on Service Utilization and Costs

Impact analyses from the demonstration period reveal mixed findings and only somewhat correspond with overall improvements in beneficiaries' reported experiences. In particular, with respect to the comparison group, there were decreases in SNF admissions and in the probability of any long-stay NF use, both of which were desirable. However, relative to the comparison group, the demonstration also resulted in a decrease in physician E&M visits. The demonstration did not have a cumulative effect on inpatient admissions or ED visits. Moreover, the demonstration resulted in a decrease in 30-day follow-up after a mental health hospitalization; there was no impact of the demonstration on any other service utilization measures.

As described in greater detail in ***Section 5.2.1, Cumulative Impacts over Demonstration Years 4*** and ***5,*** these findings can be explained, in part, by the extension of the demonstration service area to King and Snohomish counties and the difficulty in finding enough CCOs with the capacity to serve the eligible population in these counties. Further, health home enrollment declined in demonstration year 5 due to the exit of the largest health home and change in the

[18] Actuarial savings reports are available at https://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/FinancialAlignmentInitiative/Washington.

State's eligibility policy. Finally, behavioral health services after a mental health hospitalization are likely delivered and financed by BHOs and thus not observed in the Medicare FFS claims.

The year-by-year impact analysis findings in ***Section 5, Service Utilization***, show a reversal in some unfavorable trends, such as an end to statistically significant increases in ED visits, ACSC admissions (chronic), and preventable ED visits. However, physician E&M visits began to decline slightly in demonstration year 3 and more substantially in demonstration years 4 and 5. The proportion of the eligible population enrolled in Washington health homes also declined during this period, limiting health homes' capacity for care coordination and outreach, likely contributing to this new trend.

The demonstration had a differential effect among those with LTSS use and those with an SPMI on some measures, relative to the demonstration effect for the non-LTSS/SPMI special populations. The demonstration effect for LTSS users indicated an increase in the probability of inpatient admissions and ED visits and in the number of physician E&M visits, relative to the effect among non-LTSS users. The demonstration effect for SPMI beneficiaries resulted in a decrease in the probability of SNF admissions and physician E&M visits relative to the demonstration effect for the non-SPMI beneficiaries.

The Washington demonstration has generated significant Medicare Part A and Part B savings, indicating success during the first 5 demonstration years. The results of cost savings analyses using a DinD regression approach indicate significant savings of $212.57 PMPM over demonstration years 4 and 5. These findings are consistent with savings findings identified from separate actuarial analyses to inform performance payments for the demonstration.

7.3 Next Steps

The RTI evaluation team will continue to collect information on a quarterly basis from Washington officials through the online State Data Reporting System; this information covers enrollment statistics and updates on key aspects of implementation. The RTI evaluation team will continue conducting annual site visits with stakeholders and quarterly monitoring calls with the State Washington Health Home MFFS Demonstration staff and will request the results of any evaluation activities conducted by the State or other entities. RTI will conduct additional qualitative and quantitative analyses over the course of the demonstration.

Washington and CMS have extended the demonstration through December 31, 2022, which will provide further opportunities to evaluate the demonstration's performance. The next report will include a qualitative update on implementation and impact analyses of cost, quality, and utilization measures for those eligible for the demonstration and for an out-of-State comparison group.

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Appendix A

Data Sources

We used a variety of data sources to prepare this report.

Key informant interviews. During a virtual (telephonic) site visit in January and February 2019, the RTI evaluation team interviewed State officials, health home representatives, and a beneficiary advocate. In addition, to monitor demonstration progress, the evaluation team held periodic phone conversations with CMS and State demonstration staff. These discussions covered a range of topics, including new policy clarifications designed to improve health home performance and quality improvement activities.

Demonstration data. The RTI evaluation team reviewed data provided quarterly by Washington through the State Data Reporting System. These reports include eligibility, enrollment, opt-out, and disenrollment data; information reported by Washington on its integrated delivery system, care coordination, benefits and services, quality management, stakeholder engagement, financing, and payment; and a summary of successes and challenges.

Demonstration policies, contracts, and other materials. The RTI evaluation team reviewed a wide range of demonstration documents, including demonstration and State-specific information on the CMS website (CMS, 2019); and other publicly available materials on the Washington Health Home MFFS Demonstration website.

Beneficiary satisfaction surveys. We include information from the 2018 modified Adult CAHPS Health Plan Survey administered by NORC at the University of Chicago and Health Services Advisory Group, Inc., to beneficiaries enrolled in the Washington demonstration.

Service utilization data. Our impact analyses used data from many sources. First, the State provided quarterly finder files containing identifying information on all demonstration eligible beneficiaries in the demonstration period. Second, RTI obtained administrative data on beneficiary demographic, enrollment, and service use characteristics from CMS data systems for both demonstration and comparison group members. Third, these administrative data were merged with Medicare claims data, as well as the Nursing Home Minimum Data Set.

Medicaid service data on use of LTSS, behavioral health, and other Medicaid-reimbursed services were either not available or not useable in their current form for the demonstration period and therefore are not included in this report. Future reports will include findings on Medicaid service use once data are available.

Cost savings data. Our cost savings analyses used Medicare Parts A and B FFS claims data. We used these claims to calculate expenditures for all demonstration eligible beneficiaries and comparison group beneficiaries.

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Appendix B

Comparison Group Methodology for Washington Demonstration Years 4 and 5

RTI created a new comparison group for demonstration years 4 and 5 when the demonstration expanded statewide.

CMS contracted with RTI International to monitor the implementation of demonstrations under the FAI and to evaluate their impact on beneficiary experience, quality, utilization, and cost. This appendix presents the comparison group selection and assessment results for the FAI demonstration in the State of Washington for demonstration years 4 and 5 when the demonstration became statewide. Results for comparison group selection and assessment analyses are prepared for each demonstration year.

This appendix lists the geographic comparison areas for Washington, provides propensity model estimates, and shows the similarities between the comparison and demonstration groups in terms of their propensity score distributions. Eligible beneficiaries are identified separately for each time period, and analyses were conducted for each of these periods: predemonstration year 1 (July 1, 2011–June 30, 2012), predemonstration year 2 (July 1, 2012–June 30, 2013), demonstration year 4 (January 1, 2017–December 31, 2017), and demonstration year 5 (January 1, 2018–December 31, 2018).

Because of the extension of the Washington demonstration service area in April 2017, during demonstration year 4, to include the urban counties of King and Snohomish, RTI developed a new comparison group for demonstration years 4 and 5, and the 2-year predemonstration period to correspond to the statewide demonstration group. The new demonstration counties comprise the greater Seattle area, so this largely rural/small town demonstration at inception now contains a major metropolitan area. This change necessitated the identification of a new comparison group area with a more metropolitan focus starting with demonstration year 4 (January 2017) and continuing forward to demonstration year 5. Demonstration years 1 through 3 are not included in these analyses because of the difference in the comparison groups before and after entry of King and Snohomish counties. As such, we present the annual effects for demonstration years 1 through 3 for context, but our findings are focused on the cumulative and annual effects for demonstration years 4 and 5.

We excluded beneficiaries who were enrolled in Medicare Advantage, had other comprehensive health insurance, enrolled in PACE, or received hospice services during the month. The Washington FAI demonstration also excluded dually eligible beneficiaries who qualified for Medicaid via the medically needy eligibility pathway. These beneficiaries are different from other dually eligible beneficiaries and are likely to have different cost patterns. At the time of this analysis, we were unable to identify and account for this category of beneficiaries in the comparison group during both the baseline and demonstration period, and demonstration group in the baseline period, due to Medicaid data limitations.

We included beneficiaries who had been attributed to another Federal Medicare shared savings initiative and control for any non-FAI effect to keep such beneficiaries in the analyses. Attribution to other savings initiatives was ascertained using the beneficiary-level version of CMS's Master Data Management (MDM) file. Beneficiaries in the demonstration group during the demonstration period were identified from quarterly finder files of participants in the Washington Health Home MFFS Demonstration.

Beneficiaries qualified for the demonstration group if they were eligible for at least 1 month during the demonstration period. During the 2 predemonstration years, all beneficiaries meeting metropolitan statistical area (MSA) residency requirements were selected for the demonstration and comparison groups. Beneficiaries were omitted from further analyses if they had missing geography data, passed away before the beginning of the analysis period, had 0 months of eligibility as a dual eligible, lived in both a demonstration area and a comparison area during the analysis period, or were missing Hierarchical Condition Code (HCC) risk scores during a year.

B.1 Comparison Areas

Our guidelines for creating comparison groups were that:

- groups should include at least three States (so that outcomes are not unduly influenced by a single State), and
- no comparison State should contribute more than 50 percent of the total number of comparison beneficiaries.

The Washington demonstration area currently consists of all 39 counties and 13 MSAs in the State. Using our conventional method of prioritizing areas by their distance scores (a statistical measure of the similarity between two areas), we identified a new comparison group that is composed of 124 counties and 20 MSAs from Georgia, Illinois, Michigan, North Carolina, Pennsylvania, Virginia, West Virginia, and Wisconsin. We derived distance scores by computing the standardized difference between demonstration and comparison area values on selected health care market and Medicare- and Medicaid-related measures and combining the difference scores across measures.

The pool of States was limited to those with timely submission of Medicaid data to CMS. These geographic areas have changed since the First Evaluation Report to reflect the exclusion of beneficiaries in Arkansas counties as a result of an Arkansas data issue, as well as the addition of King and Snohomish counties to the demonstration group in April 2017. All comparison MSAs are listed in ***Table B-1***. As described in the previous reports, RTI continues to use a scoring algorithm analogous to Washington's PRISM algorithm to identify beneficiaries within the comparison group areas who are similar to beneficiaries selected for the Washington Health Home MFFS Demonstration.

Table B-2 shows the distribution of beneficiaries by comparison State in the first predemonstration year. Comparison areas within the State of North Carolina contributed the largest share of comparison beneficiaries. State shares were very similar in predemonstration year 2 and demonstration years 4 and 5. The number of beneficiaries in the comparison group ranged between 73,959 (predemonstration year 1) and 88,741 (demonstration year 4) across the predemonstration and demonstration years. The number of demonstration group beneficiaries remained stable over the 2 predemonstration years and the 2 demonstration years included for this evaluation, ranging between 41,552 and 45,031 beneficiaries per year.

Table B-1
Comparison areas in the eight comparison states used for demonstration years 4 and 5

Comparison State	Comparison areas (MSAs)
Georgia	Albany, Athens-Clarke County, Columbus, Macon, Valdosta
Illinois	Carbondale-Marion, St. Louis
Michigan	Muskegon
North Carolina	Charlotte-Concord-Gastonia, Hickory-Lenoir-Morganton, Raleigh
Pennsylvania	Erie
Virginia	Lynchburg, Washington-Arlington-Alexandria, Winchester
West Virginia	Beckley, Charleston, Huntington-Ashland, Parkersburg-Vienna
Wisconsin	Green Bay

MSA = metropolitan statistical area.

Table B-2
Distribution of comparison group beneficiaries for the Washington demonstration years 4 and 5, in predemonstration year 1, by comparison State

Comparison State	Percent of comparison beneficiaries
North Carolina	40.62
West Virginia	25.66
Illinois	13.65
Georgia	9.77
Virginia	6.15
Michigan	3.66
Wisconsin	0.26
Pennsylvania	0.23
Total percent	100.00
Total beneficiaries	73,959

B.2 Propensity Score Estimates

Our methodology uses propensity scores to examine initial differences between the demonstration and comparison groups in each analysis period and then to weight the data to improve the match between them. The comparability of the two groups is examined with respect to both individual beneficiary characteristics as well as the overall distributions of propensity scores. This section describes the results of the model that generates propensity scores and future sections show how weighting eliminates initial differences between the groups.

A propensity score is the predicted probability that a beneficiary is a member of the demonstration group conditional on a set of observed variables. Our propensity score models include a combination of beneficiary- and region-level characteristics measured at the ZIP code (ZIP Code Tabulation Area) level.

The logistic regression coefficients and z-values for the covariates included in the propensity model for each time period are shown in ***Table B-3***. The largest relative differences were that demonstration participants were less likely to be Black, less likely to be participating in other Medicare shared savings programs (other MDM), and in demonstration years 4 and 5, were more likely to be residing in an MSA than the beneficiaries in the comparison group. In addition, there are ZIP code–level group differences associated with rates of marriage, households with members older than 60 years, adults with a college education, and adults with self-care limitations. The magnitude of the group differences for all variables prior to propensity score weighting may also be seen in ***Table B-4***.

Table B-3
Logistic regression estimates for Washington propensity score models

Characteristic	Predemonstration year 1			Predemonstration year 2		
	Coef.	Standard error	z-score	Coef.	Standard error	z-score
Age (years)	0.008	0.001	14.50	0.009	0.001	17.30
Died during year	−0.513	0.026	−19.46	−0.216	0.023	−9.46
Female (0/1)	−0.082	0.015	−5.50	−0.132	0.014	−9.33
Black (0/1)	−1.972	0.025	−80.07	−1.872	0.024	−79.42
Disability as original reason for entitlement (0/1)	0.228	0.018	12.37	0.224	0.018	12.66
ESRD (0/1)	0.434	0.032	13.48	0.546	0.031	17.75
Share mos. elig. during year (prop.)	−0.131	0.024	−5.51	−0.247	0.023	−10.67
HCC risk score	0.079	0.006	13.69	0.033	0.006	5.77
Other MDM	−4.920	0.153	−32.21	−1.365	0.028	−48.96
MSA (0/1)	0.195	0.022	8.87	0.239	0.021	11.35
% of pop. living in married household	−0.002	0.001	−2.39	0.006	0.001	7.24
% of households with member >= 60 yrs.	−0.045	0.001	−38.01	−0.038	0.001	−34.24
% of households with member < 18 yrs.	−0.010	0.001	−9.19	−0.014	0.001	−14.05
% of adults with college education	0.038	0.001	49.00	0.032	0.001	45.11
% of adults with self-care limitation	−0.071	0.004	−18.62	−0.050	0.004	−14.08
Distance to nearest hospital (mi.)	−0.021	0.002	−13.07	−0.024	0.002	−15.50
Distance to nearest nursing facility (mi.)	0.072	0.002	34.40	0.066	0.002	33.41
Intercept	0.193	0.092	2.09	−0.295	0.087	−3.40

ESRD = end-stage renal disease; HCC = Hierarchical Condition Category; MDM = Master Data Management; MSA = metropolitan statistical area.

Table B-4
Logistic regression estimates for Washington propensity score models

Characteristic	Demonstration year 4			Demonstration year 5		
	Coef.	Standard error	z-score	Coef.	Standard error	z-score
Age (years)	0.000	0.001	−0.55	0.001	0.001	2.25
Died during year	−0.549	0.026	−20.92	−0.340	0.027	−12.77
Female (0/1)	−0.056	0.015	−3.78	−0.079	0.015	−5.26
Black (0/1)	−1.909	0.026	−74.79	−1.907	0.026	−73.63
Disability as original reason for entitlement (0/1)	−0.045	0.018	−2.48	−0.082	0.019	−4.39
ESRD (0/1)	0.505	0.034	14.68	0.565	0.035	16.24
Share mos. elig. during year (prop.)	−0.527	0.024	−22.43	−0.112	0.024	−4.61
HCC risk score	−0.007	0.005	−1.63	−0.014	0.005	−3.05
Other MDM	−4.000	0.060	−66.40	−3.090	0.033	−93.57
MSA (0/1)	0.523	0.020	25.81	0.610	0.021	29.61
% of pop. living in married household	0.007	0.001	9.05	0.006	0.001	7.25
% of households with member >= 60 yrs.	−0.025	0.001	−22.93	−0.028	0.001	−24.73
% of households with member < 18 yrs.	0.006	0.001	5.38	0.009	0.001	8.00
% of adults with college education	0.030	0.001	40.59	0.035	0.001	46.46
% of adults with self-care limitation	−0.085	0.004	−22.39	−0.085	0.004	−21.19
Distance to nearest hospital (mi.)	−0.008	0.002	−5.42	−0.005	0.002	−3.37
Distance to nearest nursing facility (mi.)	0.070	0.002	35.79	0.068	0.002	33.90
Intercept	−0.606	0.093	−6.53	−0.921	0.096	−9.63

ESRD = end-stage renal disease; HCC = Hierarchical Condition Category; MDM = Master Data Management; MSA = metropolitan statistical area.

B.3 Propensity Score Overlap

The distributions of propensity scores by group for each time period before and after propensity score weighting are shown in ***Figures B-1a*** through ***B-1d***. Estimated scores for both the demonstration and comparison groups cover nearly the entire probability range. In each time period, demonstration group propensity scores (solid line) were less skewed to the right than the unweighted comparison group scores (dashed line), which show sharp right skew particularly in demonstration years 4 and 5. Inverse probability of treatment weighting pulls the distribution of weighted comparison group propensity scores (dotted line) relatively close to that of the demonstration group.

Any beneficiaries who have estimated propensity scores below the smallest estimated value in the demonstration group are removed from the comparison group. Because of the very broad range of propensity scores found in the Washington demonstration data, 3,485

beneficiaries were removed from the comparison group in demonstration year 4 and 1,308 were removed in demonstration year 5.

Figure B-1a
Distribution of beneficiary-level propensity scores for the Washington demonstration and comparison groups, weighted and unweighted, in predemonstration year 1 (July 1, 2011–June 30, 2012)

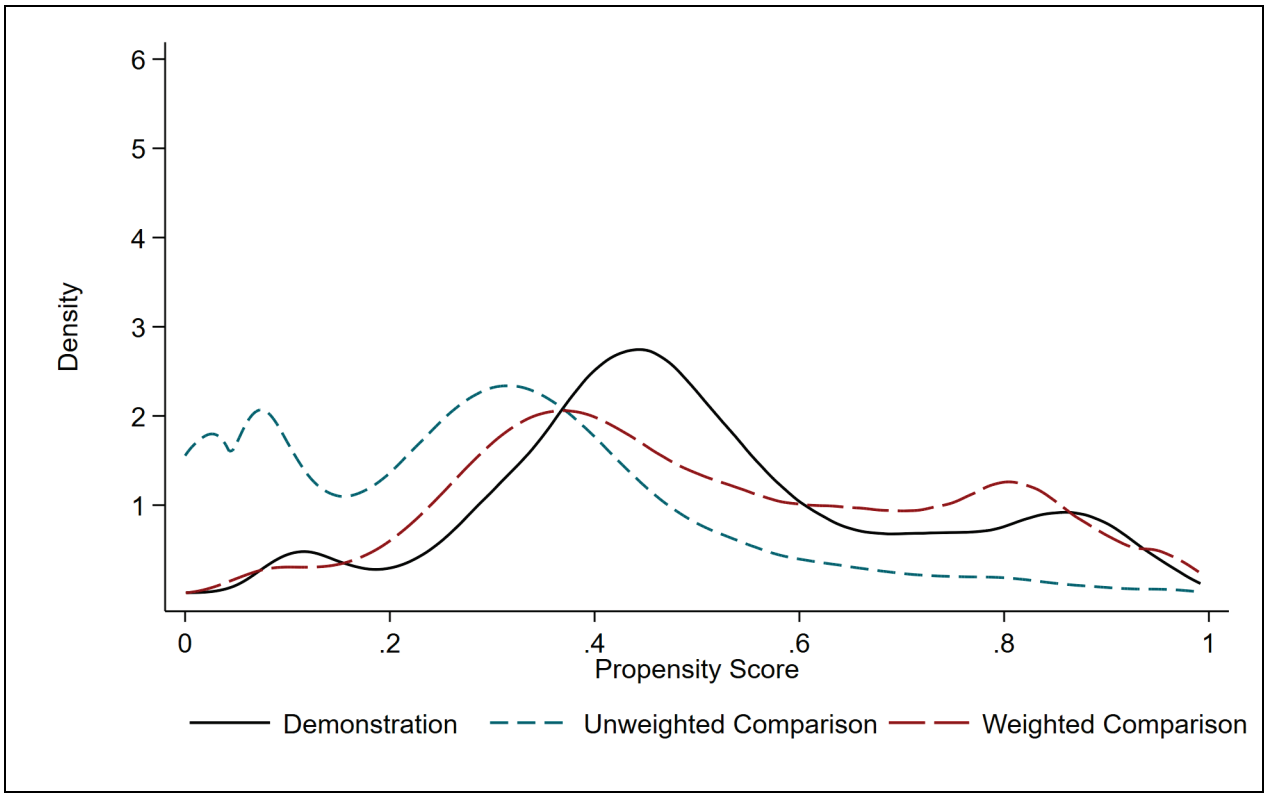


Figure B-1b
Distribution of beneficiary-level propensity scores for the Washington demonstration and comparison groups, weighted and unweighted, in predemonstration year 2 (July 1, 2012–June 30, 2013)

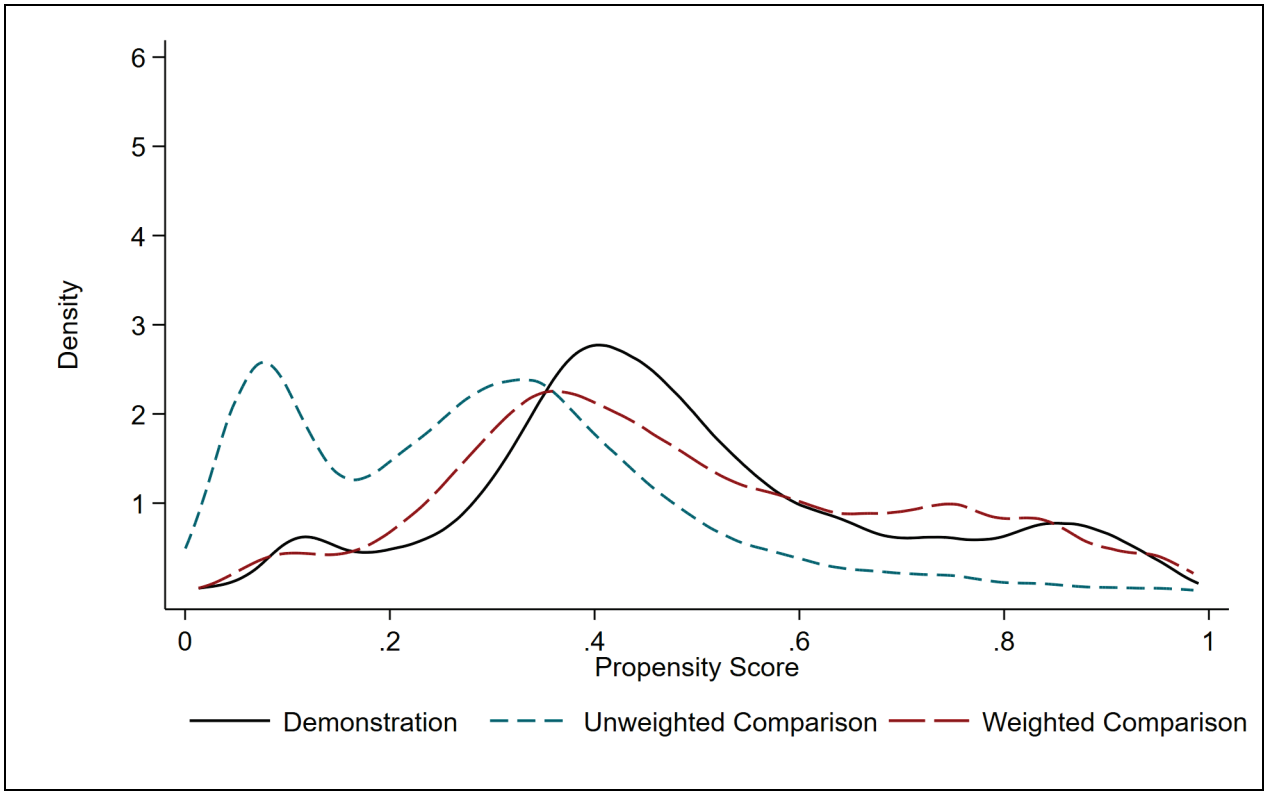


Figure B-1c
Distribution of beneficiary-level propensity scores for the Washington demonstration and comparison groups, weighted and unweighted, in demonstration year 4 (January 1, 2017–December 31, 2017)

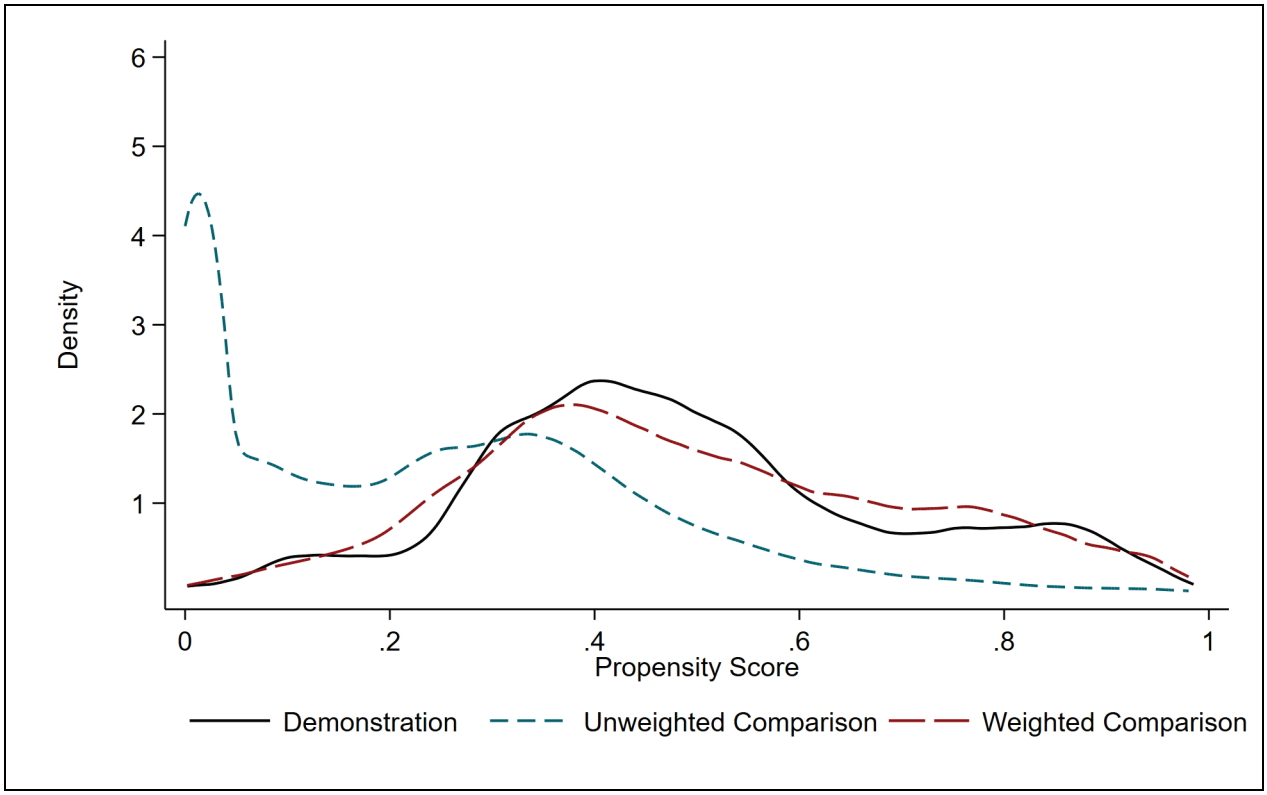
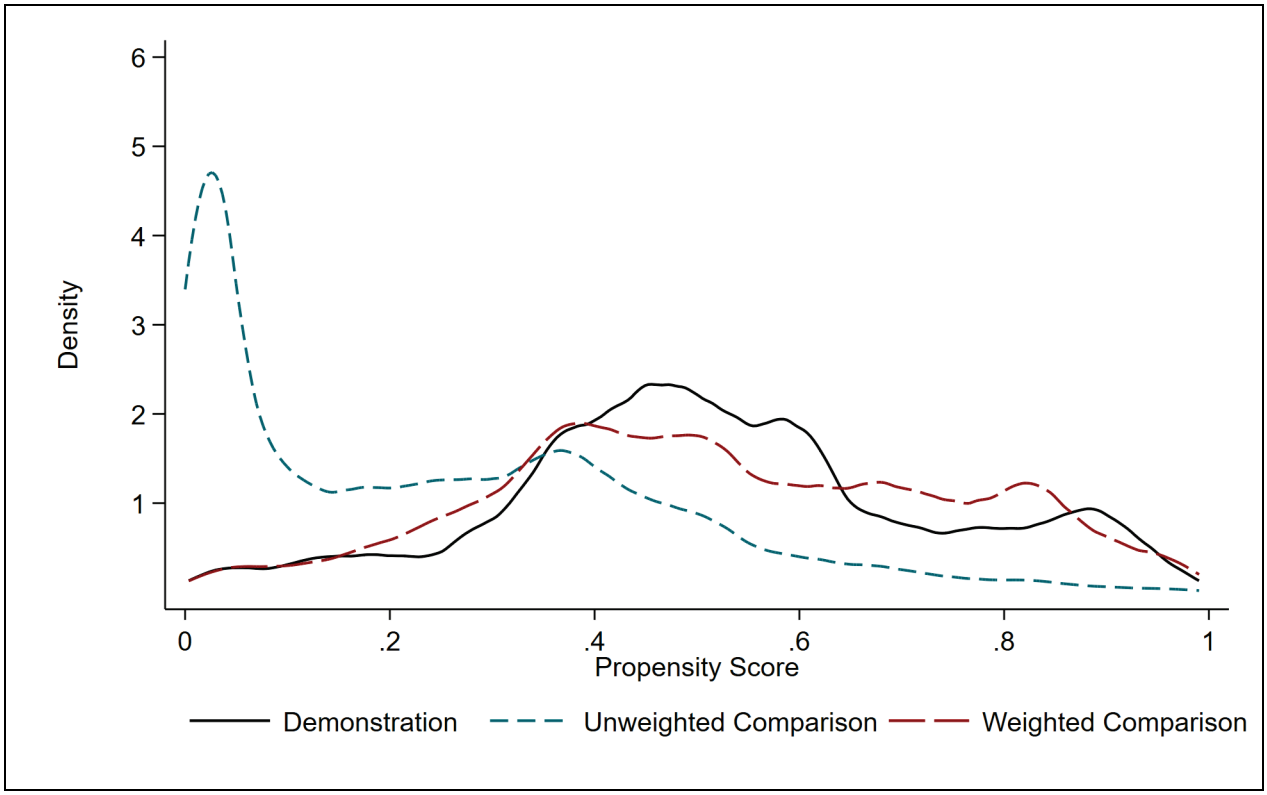


Figure B-1d
Distribution of beneficiary-level propensity scores for the Washington demonstration and comparison groups, weighted and unweighted, in demonstration year 5 (January 1, 2018–December 31, 2018)



B.4 Group Comparability

Covariate balance refers to the extent to which the characteristics used in the propensity score are similar (or "balanced") for the demonstration and comparison groups. Group differences are measured by a standardized difference (the difference in group means divided by the pooled standard deviation of the covariate). An informal standard has developed that groups are considered comparable if the standardized covariate difference is less than 0.10 standard deviations.

The group means and standardized differences for all beneficiary characteristics are shown for each time period in ***Tables B-4a*** through ***B-4d***. The column of unweighted standardized differences indicates that several of these variables were not balanced before running the propensity model. In demonstration year 5, for example, eight variables (percent Black, disability as original reason for entitlement, percent participating in other Medicare shared savings programs, percent residing in an MSA, percent of population living in a married household, percent of households with a member 60 years of age or older, percent of adults with

a college education, and percent of adults with a self-care limitation) all had unweighted standardized differences exceeding 0.10 in absolute value.

Table B-4a
Washington dual eligible beneficiary covariate means by group before and after weighting by propensity score, predemonstration year 1 (July 1, 2011–June 30, 2012)

Characteristic	Demonstration group mean	Comparison group mean	PS-weighted comparison group mean	Unweighted standardized difference	Weighted standardized difference
Age	67.463	65.845	67.495	0.096	−0.002
Died	0.076	0.091	0.079	−0.054	−0.011
Female	0.634	0.665	0.642	−0.066	−0.016
Black	0.063	0.272	0.066	−0.582	−0.013
Disability as original reason for entitlement	0.505	0.521	0.502	−0.031	0.006
ESRD	0.052	0.056	0.051	−0.018	0.005
Share mos. elig. during year	0.777	0.786	0.773	−0.029	0.013
HCC score	1.877	1.787	1.869	0.074	0.006
Other MDM	0.001	0.088	0.001	−0.430	0.002
MSA	0.870	0.835	0.889	0.098	−0.059
% of pop. living in married household	73.385	69.479	73.747	0.353	−0.037
% of households with member >= 60	32.914	34.948	31.393	−0.251	0.182
% of households with member < 18	31.528	32.172	32.518	−0.079	−0.113
% of adults with college education	24.941	18.792	27.105	0.492	−0.146
% of adults with self-care limitation	3.311	4.037	3.056	−0.297	0.134
Distance to nearest hospital	8.063	8.478	7.740	−0.063	0.051
Distance to nearest nursing facility	6.258	5.911	6.087	0.064	0.032

ESRD = end-stage renal disease; HCC = Hierarchical Condition Category; MDM = Master Data Management; MSA = metropolitan statistical area; PS = propensity score.

Table B-4b
Washington dual eligible beneficiary covariate means by group before and after weighting by propensity score, predemonstration year 2 (July 1, 2012–June 30, 2013)

Characteristic	Demonstration group mean	Comparison group mean	PS-weighted comparison group mean	Unweighted standardized difference	Weighted standardized difference
Age	67.989	66.023	68.040	0.117	−0.003
Died	0.116	0.110	0.119	0.018	−0.010
Female	0.629	0.665	0.635	−0.075	−0.012
Black	0.063	0.271	0.064	−0.579	−0.005
Disability as original reason for entitlement	0.495	0.521	0.494	−0.052	0.003
ESRD	0.055	0.053	0.054	0.009	0.003
Share mos. elig. during year	0.776	0.798	0.770	−0.071	0.021
HCC score	1.760	1.714	1.767	0.039	−0.006
Other MDM	0.041	0.142	0.043	−0.355	−0.010
MSA	0.870	0.840	0.885	0.086	−0.045
% of pop. living in married household	73.114	68.656	73.363	0.406	−0.026
% of households with member >= 60	34.018	35.719	32.889	−0.207	0.133
% of households with member < 18	31.115	31.965	31.966	−0.106	−0.101
% of adults with college education	25.569	19.221	26.970	0.497	−0.093
% of adults with self-care limitation	3.357	4.057	3.161	−0.279	0.101
Distance to nearest hospital	8.046	8.456	7.826	−0.063	0.035
Distance to nearest nursing facility	6.244	5.896	6.142	0.065	0.019

ESRD = end-stage renal disease; HCC = Hierarchical Condition Category; MDM = Master Data Management; MSA = metropolitan statistical area; PS = propensity score.

Table B-4c
Washington dual eligible beneficiary covariate means by group before and after weighting by propensity score, demonstration year 4 (January 1, 2017–December 31, 2017)

Characteristic	Demonstration group mean	Comparison group mean	PS-weighted comparison group mean	Unweighted standardized difference	Weighted standardized difference
Age	66.106	65.534	66.003	0.035	0.006
Died	0.079	0.099	0.081	−0.070	−0.008
Female	0.624	0.646	0.630	−0.047	−0.014
Black	0.057	0.243	0.058	−0.541	−0.004
Disability as original reason for entitlement	0.524	0.559	0.523	−0.071	0.000
ESRD	0.048	0.056	0.049	−0.035	−0.006
Share mos. elig. during year	0.730	0.778	0.727	−0.156	0.009
HCC score	2.007	2.093	1.997	−0.056	0.006
Other MDM	0.007	0.249	0.007	−0.778	0.005
MSA	0.844	0.763	0.866	0.205	−0.064
% of pop. living in married household	72.697	68.590	73.089	0.382	−0.041
% of households with member >= 60	37.797	39.616	36.729	−0.209	0.123
% of households with member < 18	30.893	30.379	31.685	0.066	−0.096
% of adults with college education	25.788	20.459	27.480	0.419	−0.116
% of adults with self-care limitation	3.439	4.247	3.235	−0.329	0.111
Distance to nearest hospital	8.872	8.819	8.428	0.008	0.067
Distance to nearest nursing facility	6.820	6.248	6.486	0.102	0.059

ESRD = end-stage renal disease; HCC = Hierarchical Condition Category; MDM = Master Data Management; MSA = metropolitan statistical area; PS = propensity score.

Table B-4d
Washington dual eligible beneficiary covariate means by group before and after weighting by propensity score, demonstration year 5 (January 1, 2018–December 31, 2018)

Characteristic	Demonstration group mean	Comparison group mean	PS-weighted comparison group mean	Unweighted standardized difference	Weighted standardized difference
Age	66.935	65.496	67.008	0.089	−0.004
Died	0.087	0.099	0.092	−0.041	−0.015
Female	0.620	0.640	0.631	−0.041	−0.024
Black	0.056	0.242	0.058	−0.540	−0.010
Disability as original reason for entitlement	0.510	0.564	0.508	−0.109	0.003
ESRD	0.050	0.057	0.049	−0.033	0.006
Share mos. elig. during year	0.783	0.795	0.772	−0.039	0.035
HCC score	2.063	2.126	2.062	−0.040	0.000
Other MDM	0.026	0.325	0.026	−0.855	0.001
MSA	0.844	0.759	0.868	0.216	−0.068
% of pop. living in married household	72.867	68.792	73.238	0.382	−0.039
% of households with member >= 60	38.435	40.558	37.383	−0.239	0.119
% of households with member < 18	30.753	30.052	31.534	0.089	−0.092
% of adults with college education	26.925	20.797	28.738	0.467	−0.120
% of adults with self-care limitation	3.363	4.123	3.161	−0.341	0.114
Distance to nearest hospital	8.867	8.823	8.409	0.006	0.069
Distance to nearest nursing facility	6.839	6.277	6.497	0.100	0.060

ESRD = end-stage renal disease; HCC = Hierarchical Condition Category; MDM = Master Data Management; MSA = metropolitan statistical area; PS = propensity score.

The results of propensity score weighting for Washington are illustrated in the far right column (weighted standardized differences) of ***Tables B-4a*** through ***B-4d***. In each period, propensity weighting reduced standardized differences below the threshold of 0.10 in absolute value for all individual-level covariates in our model. However, standardized differences for three area-level covariates—percent of households with a member 60 years of age or older; percent of adults with a college education; and percent of adults with a self-care limitation in each period—were above the 0.10 threshold, as was percent of households with a member 18 years of age or younger in the first predemonstration year only. Still, the magnitude of these standardized differences is not far above the 0.10 threshold.

B.5 Summary

The Washington demonstration and comparison groups were initially distinguished by differences in both individual-level covariates (percent Black, disability as original reason for entitlement, percent participating in other Medicare shared savings programs, and percent residing in an MSA) as well as in four area-level variables. Propensity score weighting successfully reduced differences below the generally accepted threshold for all individual-level covariates, but some differences remained in area-level covariates (percent of population living in a married household, percent of households with a member 60 years of age or older, percent of adults with a college education, and percent of adults with a self-care limitation). As a result, the weighted Washington groups are adequately balanced with respect to 13 out of 17 of the variables we consider for comparability, with standardized differences of the remaining four area-level covariates only slightly above the threshold.

Appendix C

Service Utilization Methodology

C.1 Methodology

This appendix briefly describes the overall quantitative evaluation design, the data used, and the populations and measures analyzed.

C.1.1 Evaluation Design

RTI International is using an intent-to-treat approach for the quantitative analyses conducted for the evaluation, comparing the eligible population under each State demonstration with a similar population that is not affected by the demonstration (i.e., a comparison group). ITT refers to an evaluation design in which all Medicare-Medicaid enrollees eligible for the demonstration constitute the evaluation sample, regardless of whether they actively participated in demonstration models. Thus, under the ITT framework, analyses include all beneficiaries eligible for the demonstration, including those who are eligible but are not contacted by the State or participating providers to enroll in the demonstration or care model; those who enroll but do not engage with the care model; and a group of similar eligible individuals in the comparison group.

Results for special populations within each of the demonstration and comparison groups are also presented in this section (e.g., those with any LTSS use in the demonstration and comparison groups; those with any behavioral health claims in the demonstration and comparison groups). In addition, one group for which results are also reported in this section are *not* compared to the comparison group because this group does not exist within the comparison group: Washington health home users. For this group, we compare them to in-State non–health home users.

C.1.2 Comparison Group Identification

The comparison group serves to provide an estimate of what would have happened to the demonstration group in the absence of the demonstration. Thus, the comparison group members should be similar to the demonstration group members in terms of their characteristics and health care and LTSS needs, and they should reside in areas that are similar to the demonstration State in terms of the health care system and the larger environment. For this evaluation, identifying the comparison group members entailed two steps: (1) selecting the geographic area from which the comparison group would be drawn, and (2) identifying the individuals who would be included in the comparison group.

To construct Washington's comparison group, we used out-of-State areas. We compared demonstration and potential comparison areas on a range of measures, including spending per Medicare-Medicaid enrollee by each program, the shares of LTSS delivered in facility-based and community settings, and the extent of Medicare and Medicaid managed care penetration. Using statistical analysis, we selected the individual comparison MSAs that most closely match the values found in the demonstration area on the selected measures. We also considered other factors when selecting comparison States, such as timeliness of Medicaid data submission to CMS. We identified a comparison group from MSAs in Georgia, Illinois, Michigan, North Carolina, Pennsylvania, Virginia, West Virginia, and Wisconsin, that is at least as large as the eligible population in Washington. To account for the addition of these new areas and

beneficiaries, we designed a new comparison group that include beneficiaries with similar health and demographic characteristics, from areas with similar characteristics. For details of the comparison group identification strategy, see ***Appendix B***.

To identify beneficiaries for the comparison group and the predemonstration period that had characteristics similar to those of the demonstration eligible population, it was important for the RTI evaluation team to develop an algorithm that closely replicated the PRISM algorithm used by the State to identify individuals eligible for the demonstration. After consultation with Washington State staff, we developed an algorithm that required beneficiaries to have scores of 1.5 or greater for at least one quarter to qualify for inclusion. When comparing the results of the RTI scoring algorithm with results generated by Washington, we found that beneficiaries had similar chronic condition prevalence as those persons identified by Washington.

C.1.3 Data

Evaluation report analyses used data from several sources. First, the State provided quarterly finder files containing identifying information on all demonstration eligible beneficiaries in the demonstration period. Second, RTI obtained administrative data on beneficiary demographic, enrollment, and service use characteristics from CMS data systems for both demonstration and comparison group members. Third, these administrative data were merged with Medicare claims data on utilization and costs of Medicare services, as well as the MDS.

Although Medicaid service data on use of LTSS, behavioral health, and other Medicaid-reimbursed services were not available for the demonstration period and therefore are not included in this report, CMS administrative data identifying eligible beneficiaries who used *any* Medicaid-reimbursed LTSS or *any* Medicare behavioral health services were available, so that their Medicare service use could be presented in this report. Future reports will include findings on Medicaid service use once data are available.

C.1.4 Populations and Services Analyzed

The populations analyzed in the report include all demonstration eligible beneficiaries, as well as the following special populations: those receiving any LTSS; those with any behavioral health service use in the last 2 years for an SPMI; health home service users; and three demographic groups (age, gender, and race).

For each group and service type analyzed, we provide estimates of five access to care, utilization, and cost measures: the percent of demonstration eligible beneficiaries with any use of a service; counts of service use for both all eligible beneficiaries and users of the respective service; and costs per eligible beneficiary and users of the respective service.

The 16 service settings analyzed include both institutional (inpatient, inpatient psychiatric, inpatient substance use, ED visits not leading to admission, ED psychiatric visits, observation stays, SNF, and hospice) and community settings (primary care, specialist care, behavioral health visits, outpatient as well as independent physical, speech, and occupational therapy, home health, durable medical equipment, and other hospital outpatient services).

In addition, seven quality measures representing specific utilization types of interest are presented: 30-day all-cause risk-standardized readmission rate; preventable ED visits; rate of 30-day follow-up after hospitalization for mental illness; ACSC overall composite rate (Agency for Healthcare Research and Quality [AHRQ] Prevention Quality Indicator [PQI] #90); ACSC chronic composite rate (AHRQ PQI #92); pneumococcal vaccination rate for those age 65 and older; and depression screening rate.

Five NF-related measures are presented from the MDS: two measures of annual NF utilization (admission rate and percentage of long-stay NF users) and three characteristics of new long-stay NF residents at admission (functional status, percent with severe cognitive impairment, percent with a low level of care need).

The analyses were conducted for each year in the 2-year predemonstration period (July 1, 2011, to June 30, 2013) and for the fourth and fifth demonstration years (January 1, 2017, to December 31, 2017, and January 1, 2018, to December 31, 2018) for both the demonstration and comparison group in each of the four analytic periods. We present annual estimates for demonstration years 1–3 for context, but our analysis focuses on demonstration years 4 and 5. Additionally, corrections were made to impact estimates from earlier reports that resulted in differences in our current impact estimates for demonstration years 1–3. We attribute the differences in the estimates to changes in the definition of the intervention group and removing erroneous zeros in the dependent variable, and implementing monthly exclusion criteria. Specifically, we made the following corrections: (1) confirmed dual status for state-identified FAI eligible beneficiaries against IDR data, removing erroneous zeros in the dependent variable, and (2) applied IDR-based exclusion criteria for all monthly observations in the comparison group during the predemonstration period and demonstration period, and to the demonstration group during the predemonstration period. Because the original estimates contained observations in the demonstration group in the demonstration period with erroneous values of zero for the dependent variable for those not meeting dual status, this resulted in a downward bias in the average monthly utilization for the demonstration group in the demonstration period. With the correction of this error, we see that effect estimates increased across several key service utilization outcomes.

Table C-1 presents descriptive statistics on the independent variables used in multivariate DinD regressions for impact analyses. Independent variables include demographic and health characteristics and market- and area-level characteristics. Results are presented for six groups: all demonstration eligible beneficiaries in the FAI State, its comparison group, all health home service users, all non–health home service users, demonstration eligible beneficiaries with any LTSS use, and demonstration eligible beneficiaries with an SPMI.

Under age 65 was the most prevalent age group, ranging from 39.8 percent in the LTSS user group to 45.9 percent in the group with SPMI. In the comparison group, 33.7 percent were 75 years and older, whereas 31.9 percent were 75 years and older in the demonstration group. Across all groups, the majority of eligible beneficiaries were female (61.4 to 65.6 percent), White (72.0 to 87.3 percent in those not in a health home and the comparison groups, respectively), and did not have end-stage renal disease. The HCC score is a measure of the predicted relative annual cost of a Medicare beneficiary based on the diagnosis codes present in recent Medicare claims. HCC scores did not vary much by group, ranging from 2.0 to 2.3.

Beneficiaries with a score of 1 are predicted to have average cost in terms of annual Medicare expenditures. Beneficiaries with HCC scores less than 1 are predicted to have below average costs, whereas beneficiaries with scores of 2 are predicted to have twice the average annual cost. The majority of eligible beneficiaries resided in metropolitan areas, compared to nonmetropolitan areas.

Table C-1
Characteristics of demonstration eligible beneficiaries in demonstration year 5 by group

Characteristics	Demonstration	Comparison	Health home users	Non–health home users	LTSS users	SPMI diagnosis
Number of beneficiaries	42,495	83,607	6,331	36,164	9,749	24,323
Demographic characteristics						
Age						
Less than 65	40.2	42.5	41.7	39.9	39.8	45.9
65 to 74	27.9	23.8	30.6	27.4	23.6	28.1
75 and older	31.9	33.7	27.7	32.7	36.6	26
Female	61.9	63.1	65.1	61.4	63.1	65.6
Race						
White	72.9	87.3	78.1	72.0	81.8	79.6
African American	5.6	5.8	5.1	5.7	5.4	5.4
Hispanic	4.3	1.9	6.2	4.0	3.1	3.5
Asian	8.4	2.4	4.3	9.1	4.6	4.7
Other	3.1	1.1	2.5	3.2	2.1	2.3
Disability						
No (0)	49.9	50.3	43.6	51.0	38.0	41.9
Yes (1)	50.1	49.7	56.4	49.0	62.0	58.1
ESRD status						
No (0)	95.3	95.5	94.4	95.4	96.6	96.0
Yes (1)	4.7	4.5	5.6	4.6	3.4	4.0
MSA						
Non-metro (0)	15.6	13.2	13.2	16.0	14.1	15.8
Metro (1)	84.4	86.8	86.8	84.0	85.9	84.2
HCC score	2.1	2.1	2.3	2.0	2.3	2.2
Shared Savings Program participation	2.5	2.5	1.1	2.8	2.3	2.5

(continued)

Table C-1 (continued)
Characteristics of demonstration eligible beneficiaries in demonstration year 5 by group

Characteristics	Demonstration	Comparison	Health home users	Non-health home users	LTSS users	SPMI diagnosis
Market characteristics						
Medicare spending per dual, ages 19+	14,557	15,913	14,688	14,534	14,545	14,556
MA penetration rate	0.3	0.2	0.3	0.3	0.3	0.3
Medicaid-Medicare fee index, all services	0.7	0.7	0.7	0.7	0.7	0.7
Medicaid spending per dual elig. beneficiary, ages 19+	14,053	13,420	13,827	14,092	14,126	14,059
Fraction of dual elig. beneficiaries using NF, ages 65+	0.2	0.3	0.2	0.2	0.2	0.2
Fraction of duals using HCBS, ages 65+	0.4	0.2	0.4	0.3	0.4	0.4
Fraction of dual elig beneficiaries using personal care, ages 19+	0.1	0.1	0.1	0.2	0.2	0.1
Fraction of dual elig. beneficiaries with Medicaid managed care, ages 19+	0.0	0.0	0.0	0.0	0.0	0.0
Population per square mile, all ages	316.4	313.9	203.4	336.1	323.0	308.2
Patient care physicians per 1,000 population	0.8	0.7	0.8	0.8	0.8	0.8
Area characteristics						
% of pop. living in married households	72.9	73.2	72.6	72.9	73.3	72.8
% of adults with college education	26.9	28.8	23.9	27.4	27.6	26.9
% of adults unemployed	6.0	6.0	6.0	5.9	5.8	5.9
% of adults with self-care limitations	3.4	3.2	3.5	3.3	3.4	3.4
Distance to nearest hospital	8.9	8.4	10.6	8.6	8.9	9.0
Distance to nearest nursing facility	6.8	6.5	7.9	6.7	6.8	6.9
% of household with individuals younger than 18	30.7	31.5	31.2	30.7	31.0	30.5
% of household with individuals older than 60	38.4	37.4	39.2	38.3	38.2	38.6

ESRD = end-stage renal disease; HCC = Hierarchical Condition Category; LTSS = long-term services and supports; NF = nursing facility; MA = Medicare Advantage; MSA = metropolitan statistical area; SPMI = serious and persistent mental illness.

There were limited differences in area- and market-level characteristics. Those who were in the comparison group resided in counties with a similar fraction of dual eligible beneficiaries using personal care services, relative to those in the demonstration group (0.1). Additionally, those in the comparison group resided in counties with slightly higher Medicare spending per dual eligible beneficiary, relative to counties in the demonstration group ($15,913 versus $14,557). Those with health home service use resided in counties with a smaller population per square mile, relative to those not using health home services (203.4 versus 336.1).

C.1.5 Detailed Population Definitions

Demonstration eligible beneficiaries. Beneficiaries are identified in a given month if they were a Medicare-Medicaid enrollee and met any other specific demonstration eligibility criteria (e.g., qualifying PRISM score). Beneficiaries in the demonstration period are identified from quarterly State finder files, whereas beneficiaries in the 2-year predemonstration period preceding the demonstration implementation date are identified by applying the eligibility criteria in each separate predemonstration quarter.

Additional special populations were identified for the analyses as follows:

- *Health home service user*. A beneficiary was defined as having used health home services if they were enrolled in the demonstration and had any health home service use during the demonstration period.
- *Age*. Age was defined as a categorical variable where beneficiaries were identified as *under 65*, *65 to 74*, and *75 years and older* during the observation year (e.g., predemonstration period 1, predemonstration period 2, and demonstration period).
- *Gende*r. Gender was defined as binary variable where beneficiaries were either male or female.
- *Race*. Race was defined as a categorical variable where beneficiaries were categorized as *White*, *African American*, *Hispanic*, or *Asian*.
- *LTSS*. A beneficiary was defined as using LTSS if there was any use of institutional or home and community-based services during the observation year.
- *SPMI.* A beneficiary was defined as having an SPMI if there were any inpatient or outpatient mental health visits for schizophrenia or episodic mood disorder during the observation year.

C.1.6 Detailed Utilization and Expenditure Measure Definitions

For any health care service type, the methodology for estimating average monthly utilization, the percentage of users, and spending during the year (for MFFS States) takes into account differences in the number of eligibility months across beneficiaries. Because full-benefit dual eligibility status for the demonstration can vary by month over time for any individual, the methodology used determines dual eligibility status for the demonstration for each person on a monthly basis during a predemonstration or demonstration period. That is, an individual is capable of meeting the demonstration's eligibility criteria for 1, 2, 3, or up to 12 months during the observation year. The methodology adds the total months of full-benefit dual eligibility for

the demonstration across the population of interest and uses it in the denominator in the measures in ***Section 1.3***, creating average monthly utilization and expenditure information for each service type. The methodology effectively produces average monthly use and expenditure statistics for each year that account for variation in the number of dual eligible beneficiaries in each month of the observation year. Months where dual eligible beneficiaries were enrolled in Medicare Advantage are excluded because of the lack of encounter data to use in developing the utilization and cost measures.

The utilization and costs measures, below, were calculated as the aggregate sum of the unit of measurement (counts, payments, etc.) divided by the aggregated number of eligible member months (and user months) within each group (g) where group is defined as (1) Washington predemonstration year 1; (2) comparison predemonstration year 1; (3) Washington predemonstration year 2; (4) comparison predemonstration year 2; (5) Washington demonstration year 4; (6) comparison demonstration year 4; (7) Washington demonstration year 5; and (8) comparison demonstration year 5.

We calculated the average number of services per 1,000 eligible months and per 1,000 user months by beneficiary group (g). We defined *user month* as an eligible month where the number of units of utilization used (for a given service) was greater than zero. We weighted each observation using yearly propensity weights. The average yearly utilization outcomes are measured as:

$$Y_g = \frac{\Sigma_{ig} Z_{ig}}{\left(\frac{1}{1{,}000}\right) * \Sigma_{ig} n_{ig}}$$

Where

Y_g = average count of the number services used [for a given service] per eligible or user month within group g.

Z_{ig} = the total units of utilization [for a given service] for individual i in group g.

n_{ig} = the total number of $\frac{1}{1{,}000}$ eligible/user months for individual i in group g.

The denominator above is scaled such that the result is interpreted in terms of average monthly utilization per 1,000 eligible beneficiaries. This presentation is preferable, compared with per eligible, because some of the services are used less frequently and would result in small estimates.

The average percentage of users [of a given service] per eligible month during the predemonstration or demonstration year is measured as follows:

$$U = \frac{\Sigma_{ig} X_{ig}}{\Sigma_{ig} n_{ig}} \quad \text{x } 100$$

Where

U_{ig} = average percentage of users [for a particular service] in a given month among beneficiaries in group g.

X_{ig} = the total number of eligible months of service use for an individual *i* in group *g*
n_{ig} = the total number of eligible or user months for an individual *i* in group *g*.

The average yearly expenditures for a given service per eligible month [and user month] was calculated as

$$S = \frac{\Sigma_{ig} V_{ig}}{\Sigma_{ig} n_{ig}}$$

Where

S_{ig} = average Medicare expenditures per eligible [or user] month for a given service among beneficiaries in group *g*.
V_{ig} = the total amount of Medicare expenditures for in individual *i* in group *g*.
n_{ig} = the total number of eligible or user months for an individual *i* in group *g*.

C.1.7 Quality of Care and Care Coordination Measures

Similar to the utilization and expenditure measures, the quality of care and care coordination measures were calculated as the aggregated sum of the numerator divided by the aggregated sum of the denominator for each respective outcome within each beneficiary group.

1. Average 30-day all-cause risk-standardized readmission was calculated as follows:

$$30\ Day - Risk\ Standardized\ Readmission = \frac{\left(\frac{\sum_{ig} x_{ig}}{\sum_{ig} n_{ig}} * C\right)}{Prob_g} * 100$$

Where

C = the national average of 30-day readmission rate, .238.
x_{ig} = the total number of readmissions for individual *i* in group *g*.
n_{ig} = the total number of hospital admissions for individual *i* in group *g*.
$Prob_g$ = the annual average adjusted probability of readmission for individuals in group *g*. The average adjusted probability equals:

Average adjusted probability of readmission by demonstration group	
Demonstration group	**Average adjusted probability of readmission**
Predemonstration year 1	
Washington	0.218634674
Comparison	0.218657899
Predemonstration year 2	
Washington	0.216854097
Comparison	0.21753218
Demonstration year 4	
Washington	0.207601795
Comparison	0.217805956
Demonstration year 5	
Washington	0.207812394
Comparison	0.216971355

2. Average 30-day follow-up in a physician or outpatient setting after hospitalization for mental illness was calculated as follows:

$$MHFU = \frac{\Sigma_{ig} x_{ig}}{\Sigma_{ig} n_{ig}}$$

Where

$MHFU$ = the average rate of 30-day follow-up care after hospitalization for a mental illness for individuals *in* group *g*.

X_{ig} = the total number of discharges from a hospital stay for mental health that had a follow-up for mental health within 30 days of discharge for individual *i* in group *g*.

n_{ig} = the total number of months where there was a discharge from a hospital stay for mental health for individual *i* in group *g*.

3. Average ACSC admissions per eligible month, overall and chronic composite (PQI #90 and PQI #92) was calculated as follows:

$$ACSC_{ig} = \frac{\Sigma_{ig} x_{ig}}{\Sigma_{ig} n_{ig}}$$

Where

$ACSC_g$= the average number of ACSC admissions per eligible months for overall/chronic composites for individuals in group *g*.

X_{ig} = the total number of discharges that meet the criteria for AHRQ PQI #90 [or PQI #92] for individual *i* in group *g*.
n_{ig} = the total number of eligible months for individual *i* in group *g*.

4. Preventable ED visits per eligible month was calculated as follows:

$$ER_{ig} = \frac{\Sigma_{ig} x_{ig}}{\Sigma_{ig} n_{ig}}$$

Where

ER_g = the average number of preventable ED visits per eligible months for individuals in group *g*.
X_{ig} = the total number ED visits that are considered preventable based in the diagnosis for individual *i* in group *g*.
n_{ig} = the total number of eligible months for individual *i* in group *g*.

5. Average number of beneficiaries who received a pneumococcal vaccination during the observation year was calculated as follows:

$$PN_g = \frac{\sum_{ig} x_{ig}}{\sum_{ig} n_{ig}}$$

Where

PN_g = the average number of beneficiaries per eligible month who received a pneumococcal vaccination in group *g*.
X_{ig} = the total number eligible beneficiaries age 65+ who ever received a pneumococcal vaccination in group *g*.
n_{ig} = the total number of eligible months among beneficiaries 65 years and older in group *g*.

6. Average number of beneficiaries per eligible month who received depression screening during the observation year was calculated as follows:

$$D_g = \frac{\Sigma_{ig} x_{ig}}{\Sigma_{ig} n_{ig}}$$

Where

D_g = the average number of beneficiaries per eligible month who received depression screening in group *g*.
X_{ig} = the total number eligible beneficiaries who ever received depression screening in group *g*.
n_{ig} = the total number of eligible months among beneficiaries in group *g*.

C.1.8 Nursing Home Minimum Data Set Measures

Two measures of annual NF-related utilization are derived from the MDS. The rate of new long-stay NF admissions per 1,000 eligible beneficiaries is calculated as the number of NF admissions for whom there is no record of NF use in the 100 days prior to the current admission and who subsequently stay in the NF for 101 days or more. Individuals are included in this measure only if their NF admission occurred after their first month of demonstration eligibility. The percentage of long-stay NF users is calculated as the number of individuals who have stayed in an NF for 101 days or more, who were long-stay in their last quarter of demonstration eligibility. The probability of any long-stay NF use includes both new admissions from the community and continuation of a stay in an NF.

Characteristics of new long-stay NF residents at admission are also included to monitor nursing facility case mix and acuity levels. Functional status and low level of care need are determined by the Resource Utilization Groups Version IV (RUG-IV). Residents with low care need are defined as those who did not require physical assistance in any of the four late-loss activities of daily living and who were in the three lowest RUG-IV categories. Severe cognitive impairment is assessed by the Brief Interview for Mental Status, poor short-term memory, or severely impaired decision-making skills.

C.1.9 Regression Outcome Measures

Five utilization measures are used as dependent variables in regression analysis to estimate the DinD effect for the entire demonstration period as well as the effect in each demonstration year. These measures are derived from Medicare inpatient, outpatient, carrier, and SNF claims and encounter data and MDS long-stay NF use. All dependent variables are provided on a monthly basis except for the MDS long-stay NF measure and 30-day inpatient readmission measure, which are annual.

The outcome measures include the following:

- *Monthly inpatient admissions:* The monthly probability of having any inpatient admission in which a beneficiary has an admission date within the observed month. We combined admissions for acute, inpatient rehabilitation, and long-term care hospital admissions.
- *Monthly ED use:* The monthly probability of having any ED visit that occurred during the month that did not result in an inpatient admission.
- *Monthly physician visits*: The count of any E&M visit within the month where the visit occurred in the outpatient or office setting, NF, domiciliary, rest home, or custodial care setting, a federally qualified health center or a rural health center.
- *Monthly SNF admissions:* The monthly probability of having any SNF admission within the month.
- *Long-stay NF use*: The annual probability of residing in a facility for 101 days or more during the year.

In addition to the five measures above, this evaluation estimates the demonstration effects on quality of care. The following quality of care and care coordination measures use claims/encounter-level information and are adopted from standardized Health Effectiveness Information and Data Set and National Quality Forum (NQF) measures. The outcomes are reported monthly, with the exception of the 30-day all-cause risk-standardized readmission rate, which is annual.

- *30-day all-cause risk-standardized readmissions (NQF #1768)*: This is calculated both as the rate of risk-standardized readmission, defined above, as well as the count of the number risk-standardized readmissions that occurs during the year.
- *Preventable ED visits*: This is estimated as a continuous variable of weighted ED visits that occur during the month. The lists of diagnoses that are considered as either preventable/avoidable, or treatable in a primary care setting were developed by researchers at the New York University Center for Health and Public Service Research.[18]
- *30-day follow-up after hospitalization for mental illness (NQF #576)*: This is estimated as the monthly probability of any follow-up visits within 30-days post-hospitalization for a mental illness.
- *ACSC admissions—overall composite (AHRQ PQI #90)*: The monthly probability of any acute admissions that meet the AHRQ PQI #90 (Prevention Quality Overall Composite) criteria within the month.
- *ACSC admissions—chronic composite (AHRQ PQI #92)*: The monthly probability of any admissions that meet the AHRQ PQI #92 criteria within the month.

C.1.10 Regression Methodology for Determining Demonstration Impact

The regressions across the entire demonstration period compare all demonstration eligible beneficiaries in the FAI State to its comparison group. The regression methodology accounts for both those with and without use of the specific service (e.g., for inpatient services, both those with and without any inpatient use). A restricted DinD equation will be estimated as follows:

$$\text{Dependent variable}_i = F(\beta_0 + \beta_1 \text{PostYear} + \beta_2 \text{Demonstration} + \beta_3 \text{PostYear} * \text{Demonstration} + \beta_4 \text{Demographics} + \beta_{5\text{-}j}\, \text{Market} + \varepsilon)$$

where separate models will be estimated for each dependent variable. *PostYear* is an indicator of whether the observation is from the pre- or postdemonstration period, *Demonstration* is an indicator of whether the beneficiary was in the demonstration group, and *PostYear * Demonstration* is an interaction term. *Demographics* and *Market* represent vectors of beneficiary and market characteristics, respectively.

Under this specification, the coefficient β_0 reflects the comparison group predemonstration period mean adjusted for demographic and market effects, β_1 reflects the average difference between post period and predemonstration period in the comparison group, β_2

[18] https://wagner.nyu.edu/faculty/billings/nyued-background

reflects the difference in the demonstration group and comparison group at predemonstration, and β_3 is the overall average demonstration effect during the demonstration period. This last term is the DinD estimator and the primary policy variable of interest, but in all regression models, because of nonlinearities in the underlying distributions, postregression predictions of demonstration impact are performed to obtain the marginal effects of demonstration impact.

In addition to estimating the model described in the prior equation, a less restrictive model was estimated to produce year-by-year effects of the demonstration. The specification of the unrestricted model is as follows:

$$\text{Dependent variable} = F\ (\beta_0 + \beta_{1\text{-}k}\text{PostYear}_{1\text{-}n} + \beta_2\text{Demonstration} + \beta_{3\text{-}k}\text{PostYear}_{1\text{-}n} * \text{Demonstration} + \beta_4\,\text{Demographics} + \beta_{5\text{-}j}\,\text{Market} + \varepsilon)$$

This equation differs from the previous one in that separate DinD coefficients are estimated for each year. Under this specification, the coefficients $\beta_{3\text{-}k}$ would reflect the impact of the demonstration in each respective year, whereas the previous equation reflects the impact of the entire demonstration period. This specification measures whether changes in dependent variables occur in the first year of the demonstration only, continuously over time, or in some other pattern. Depending on the outcome of interest, we estimated the equations using logistic regression, Generalized Linear Models with a log link and gamma distribution, or count models such as negative binomial or Poisson regressions (e.g., for the number of monthly physician visits). We used regression results to calculate the marginal effects of demonstration impact.

Impact estimates across the entire demonstration period are determined using the DinD methodology and presented in figures for all demonstration eligible beneficiaries, and then for two special populations of interest—demonstration eligible beneficiaries with any LTSS use, and demonstration eligible beneficiaries with SPMI. A triple interaction term is used to estimate the differential effect of the demonstration on each special population (i.e., Demonstration * Post * LTSS). We present a table displaying the cumulative estimate along with the adjusted means for each group and time period for the eligible population. We present tables showing the DinD estimates for the LTSS and SPMI special populations, and their non-LTSS and non-SPMI counterparts, along with tests of significance on the difference in the demonstration effect for those two respective special populations. We also display figures showing the annual effects of the demonstration among the overall eligible population and separately for LTSS users and those diagnosed with an SPMI, relative to the comparison group. In each figure, the point estimate is displayed for each measure, as well as the 95 percent confidence interval. If the confidence interval includes the value of zero, it is not statistically significant at that confidence level.

The adjusted means tables presented for the full demonstration eligible population in the report provide both DinD results as well as accompanying adjusted mean values that allow direct comparisons regarding service utilization and costs across the predemonstration and demonstration periods, separately for the demonstration and comparison groups. To make meaningful comparisons for the adjusted mean value results, we needed to take into account any differences in population characteristics across the four groups. To do this, we replaced the data values for all demographic, health, and area-related characteristics in each group to be those of the comparison group in the demonstration period, which we selected as the reference group.

The steps involved in this process for each type of outcome measure are:

1. *Run* the regression estimating the probability or level of service use or costs

2. *Predict* DinD (last two columns in each adjusted means table)

3. *Replace* the data values for three of the four groups to be those of the comparison group in the demonstration period so all four groups have the same population characteristics.

4. *Predict* the weighted mean for each of the four groups using the regression results stored in computer memory.

The DinD estimate is also provided for reference, along with the *p*-value and the relative percent change of the DinD estimate compared to an average mean value for the comparison group in the entire demonstration period. The relative percent annual change for the DinD estimate for each outcome measure is calculated as [Overall DinD effect] / [Adjusted mean outcome value of comparison group in the demonstration period].

Table C-2 provides an illustrative example of the regression output for each independent variable in the logistic regression on monthly inpatient admissions across the entire demonstration period.

Table C-2
Logistic regression results on monthly inpatient admissions
(n = 4,579,805person months)

Independent variables	Coefficient	Standard error	z-value	*p*-value
Post period	−0.2358	0.0186	−12.65	< 0.001
Demonstration group	−0.1189	0.0422	−2.82	0.005
Interaction of post period x demonstration group	−0.0258	0.0297	−0.87	0.385
Age (continuous)	0.0023	0.0005	4.54	< 0.001
Female	−0.0096	0.0095	−1.01	0.313
Black	0.0208	0.0198	1.05	0.292
Hispanic	−0.1786	0.0347	−5.14	< 0.001
Asian	−0.2837	0.0375	−7.57	< 0.001
Other race/ethnicity	−0.1687	0.037	−4.56	< 0.001
Disability as reason for Medicare entitlement	−0.0166	0.0131	−1.27	0.204
End-stage renal disease	1.3678	0.0253	54.00	< 0.001
Participation in other Shared Savings Program	0.1157	0.0532	2.18	0.03
Hierarchical Condition Category score	0.3046	0.004	75.85	< 0.001
Metropolitan statistical area residence	−0.0061	0.032	−0.19	0.849
Medicare spending per dual, ages 19+	0.0000	0.0000	3.19	0.001
Percent of population married	−0.0006	0.0007	−0.82	0.413
Medicare Advantage penetration rate	−0.0312	0.1117	−0.28	0.78
Medicaid-Medicare fee index	−0.5365	0.3274	−1.64	0.101
Medicaid spending per dual elig. beneficiary, ages 19+	0.0000	0.0000	4.31	< 0.001
Fraction of dual elig. beneficiaries using nursing facility, ages 65+	−1.2930	0.3368	−3.84	< 0.001
Fraction of dual elig. beneficiaries using personal care, ages 19+	−0.7659	0.302	−2.54	0.011
Fraction of dual elig. beneficiaries with Medicaid managed care, ages 19+	−2.9545	3.0085	−0.98	0.326
Population per square mile, all ages	0.0001	0.0001	0.75	0.455
Patient care physicians per 1,000 population	0.0125	0.0627	0.20	0.843
Percent of adults with college education	−0.0029	0.0008	−3.76	< 0.001
Percent of adults who are unemployed	−0.0006	0.0016	−0.35	0.723
Percent of adults with self-care limitation	0.0077	0.0023	3.26	0.001
Distance to nearest hospital (mi.)	0.0023	0.0013	1.83	0.067
Distance to nearest nursing facility (mi.)	−0.0081	0.0019	−4.35	< 0.001
Percent of households with individuals younger than 18	0.0005	0.0011	0.51	0.607
Percent of households with individuals older than 60	−0.0001	0.0008	−0.12	0.907
Intercept	−3.6698	0.3871	−9.48	< 0.001

Appendix D

Descriptive and Special Population Supplemental Analysis

Tables D-1, ***D-2***, and ***D-3*** provide the regression adjusted DinD estimates cumulatively and for each demonstration year, for all measures and populations, relative to the comparison group. We provide both the 95 and 90 percent confidence intervals for a clearer understanding of the estimate's precision.

Table D-1
Demonstration effects on service utilization and quality of care among eligible beneficiaries—Difference-in-differences regression results

Measure	Adjusted DinD estimate	*p*-value	95% confidence interval	90% confidence interval
Probability of inpatient admission				
Cumulative (DY4–DY5)	–0.0011	0.3913	(–0.0037, 0.0014)	(–0.0033, 0.0010)
Demonstration year 4	–0.0013	0.3107	(–0.0039, 0.0012)	(–0.0035, 0.0008)
Demonstration year 5	–0.0009	0.5210	(–0.0037, 0.0019)	(–0.0033, 0.0014)
Count of all-cause 30-day readmissions				
Cumulative (DY4–DY5)	0.0006	0.9571	(–0.0223, 0.0235)	(–0.0186, 0.0199)
Demonstration year 4	–0.0054	0.6694	(–0.0301, 0.0193)	(–0.0261, 0.0154)
Demonstration year 5	0.0062	0.6638	(–0.0218, 0.0342)	(–0.0173, 0.0297)
Probability of ACSC admission, overall				
Cumulative (DY4–DY5)	–0.0009	0.1627	(–0.0022, 0.0004)	(–0.0020, 0.0002)
Demonstration year 4	–0.0011	0.1161	(–0.0024, 0.0003)	(–0.0022, 0.0001)
Demonstration year 5	–0.0007	0.2640	(–0.0020, 0.0006)	(–0.0018, 0.0003)
Probability of ACSC admission, chronic				
Cumulative (DY4–DY5)	–0.0006	0.1819	(–0.0015, 0.0003)	(–0.0014, 0.0001)
Demonstration year 4	–0.0008	0.1166	(–0.0018, 0.0002)	(–0.0016, 0.0000)
Demonstration year 5	–0.0005	0.3433	(–0.0014, 0.0005)	(–0.0013, 0.0003)
Probability of ED visit				
Cumulative (DY4–DY5)	0.0001	0.9546	(–0.0037, 0.0040)	(–0.0031, 0.0033)
Demonstration year 4	0.0003	0.8753	(–0.0040, 0.0047)	(–0.0033, 0.0040)
Demonstration year 5	–0.0001	0.9683	(–0.0040, 0.0038)	(–0.0034, 0.0032)
Count of preventable ED visits				
Cumulative (DY4–DY5)	0.0023	0.1890	(–0.0011, 0.0056)	(–0.0006, 0.0051)
Demonstration year 4	0.0016	0.4366	(–0.0024, 0.0056)	(–0.0018, 0.0049)
Demonstration year 5	0.0029	0.0820	(–0.0004, 0.0062)	(0.0002, 0.0057)

(continued)

Table D-1 (continued)
Demonstration effects on service utilization and quality of care among eligible beneficiaries—Difference-in-differences regression results

Measure	Adjusted DinD estimate	*p*-value	95% confidence interval	90% confidence interval
Probability of SNF admission				
Cumulative (DY4–DY5)	–0.0036	<0.0001	(–0.0048, –0.0023)	(–0.0046, –0.0025)
Demonstration year 4	–0.0034	<0.0001	(–0.0046, –0.0022)	(–0.0044, –0.0024)
Demonstration year 5	–0.0037	<0.0001	(–0.0051, –0.0023)	(–0.0049, –0.0025)
Probability of any long-stay NF use				
Cumulative (DY4–DY5)	–0.0295	<0.0001	(–0.0391, –0.0200)	(–0.0375, –0.0215)
Demonstration year 4	–0.0285	<0.0001	(–0.0415, –0.0155)	(–0.0394, –0.0176)
Demonstration year 5	–0.0304	<0.0001	(–0.0402, –0.0206)	(–0.0386, –0.0222)
Probability of 30-day follow-up after mental health discharge				
Cumulative (DY4–DY5)	–0.0428	0.0361	(–0.0828, –0.0028)	(–0.0764, –0.0092)
Demonstration year 4	–0.0420	0.0526	(–0.0845, 0.0005)	(–0.0777, –0.0064)
Demonstration year 5	–0.0430	0.0503	(–0.0860, 0.0001)	(–0.0791, –0.0069)
Count of physician E&M visits				
Cumulative (DY4–DY5)	–0.1983	<0.0001	(–0.2554, –0.1412)	(–0.2462, –0.1504)
Demonstration year 4	–0.1723	<0.0001	(–0.2315, –0.1131)	(–0.2220, –0.1226)
Demonstration year 5	–0.2231	<0.0001	(–0.2836, –0.1625)	(–0.2739, –0.1723)

ACSC = ambulatory care sensitive condition; DinD = difference in differences; DY = demonstration year; E&M = evaluation and management; ED = emergency department; NF = nursing facility; SNF = skilled nursing facility.
Note: These results correspond with estimates presented in Tables 3 and 4, as well as annual effect estimates presented in figures in ***Section 5, Service Utilization***.
SOURCE: RTI analysis of Medicare data.

Table D-2
Demonstration effects on service utilization and quality of care among LTSS beneficiaries—Difference-in-differences regression results

Measure	Adjusted DinD estimate	*p*-value	95% confidence interval	90% confidence interval
Probability of inpatient admission				
Cumulative (DY4–DY5)	0.0016	0.2863	(–0.0013, 0.0046)	(–0.0009, 0.0041)
Demonstration year 4	0.0023	0.1802	(–0.0011, 0.0057)	(–0.0005, 0.0052)
Demonstration year 5	0.0009	0.6318	(–0.0028, 0.0047)	(–0.0022, 0.0041)
Count of all-cause 30-day readmissions				
Cumulative (DY4–DY5)	0.0140	0.4820	(–0.0250, 0.0530)	(–0.0187, 0.0467)
Demonstration year 4	0.0108	0.6615	(–0.0376, 0.0592)	(–0.0298, 0.0514)
Demonstration year 5	0.0174	0.4611	(–0.0288, 0.0636)	(–0.0214, 0.0562)

(continued)

Table D-2 (continued)
Demonstration effects on service utilization and quality of care among LTSS beneficiaries—Difference-in-differences regression results

Measure	Adjusted DinD estimate	*p*-value	95% confidence interval	90% confidence interval
Probability of ACSC admission, overall				
Cumulative (DY4–DY5)	–0.0007	0.3270	(–0.0022, 0.0007)	(–0.0019, 0.0005)
Demonstration year 4	–0.0007	0.4167	(–0.0023, 0.0009)	(–0.0020, 0.0007)
Demonstration year 5	–0.0008	0.3973	(–0.0026, 0.0010)	(–0.0023, 0.0007)
Probability of ACSC admission, chronic				
Cumulative (DY4–DY5)	–0.0004	0.4612	(–0.0015, 0.0007)	(–0.0013, 0.0005)
Demonstration year 4	–0.0005	0.4606	(–0.0017, 0.0008)	(–0.0015, 0.0006)
Demonstration year 5	–0.0003	0.6095	(–0.0016, 0.0010)	(–0.0014, 0.0007)
Probability of ED visit				
Cumulative (DY4–DY5)	0.0047	0.1061	(–0.0010, 0.0103)	(–0.0001, 0.0094)
Demonstration year 4	0.0078	0.0035	(0.0026, 0.0131)	(0.0034, 0.0122)
Demonstration year 5	0.0015	0.6560	(–0.0052, 0.0083)	(–0.0041, 0.0072)
Count of preventable ED visits				
Cumulative (DY4–DY5)	0.0045	0.0509	(–0.0000, 0.0090)	(0.0007, 0.0083)
Demonstration year 4	0.0063	0.0060	(0.0018, 0.0108)	(0.0025, 0.0101)
Demonstration year 5	0.0028	0.3088	(–0.0026, 0.0081)	(–0.0017, 0.0072)
Probability of SNF admission				
Cumulative (DY4–DY5)	–0.0019	0.0717	(–0.0039, 0.0002)	(–0.0035, –0.0002)
Demonstration year 4	–0.0016	0.1073	(–0.0035, 0.0003)	(–0.0032, 0.0000)
Demonstration year 5	–0.0021	0.1135	(–0.0047, 0.0005)	(–0.0043, 0.0001)
Probability of any long-stay NF use				
Cumulative (DY4–DY5)	N/A	N/A	N/A	N/A
Demonstration year 4	N/A	N/A	N/A	N/A
Demonstration year 5	N/A	N/A	N/A	N/A
Probability of 30-day follow-up after mental health discharge				
Cumulative (DY4–DY5)	–0.0464	0.0944	(–0.1007, 0.0080)	(–0.0920, –0.0008)
Demonstration year 4	–0.0533	0.0978	(–0.1163, 0.0098)	(–0.1062, –0.0003)
Demonstration year 5	–0.0385	0.2844	(–0.1091, 0.0320)	(–0.0977, 0.0207)

(continued)

Table D-2 (continued)
Demonstration effects on service utilization and quality of care among LTSS beneficiaries—Difference-in-differences regression results

Measure	Adjusted DinD estimate	*p*-value	95% confidence interval	90% confidence interval
Count of physician E&M visits				
Cumulative (DY4–DY5)	–0.0806	0.0947	(–0.1751, 0.0139)	(–0.1599, –0.0013)
Demonstration year 4	–0.0567	0.2440	(–0.1522, 0.0387)	(–0.1368, 0.0234)
Demonstration year 5	–0.1039	0.0428	(–0.2045, –0.0034)	(–0.1883, –0.0196)

ACSC = ambulatory care sensitive condition; DinD = difference in differences; DY = demonstration year; E&M = evaluation and management; ED = emergency department; LTSS = long-term services and supports; NF = nursing facility; SNF = skilled nursing facility.
SOURCE: RTI analysis of Medicare data.
N/A = not applicable

Table D-3
Demonstration effects on service utilization and quality of care among SPMI beneficiaries—Difference-in-differences regression results

Measure	Adjusted DinD estimate	*p*-value	95% confidence interval	90% confidence interval
Probability of inpatient admission				
Cumulative (DY4–DY5)	–0.0010	0.6138	(–0.0051, 0.0030)	(–0.0044, 0.0024)
Demonstration year 4	–0.0007	0.7624	(–0.0049, 0.0036)	(–0.0042, 0.0029)
Demonstration year 5	–0.0014	0.5241	(–0.0055, 0.0028)	(–0.0049, 0.0021)
Count of all-cause 30-day readmissions				
Cumulative (DY4–DY5)	0.0011	0.9396	(–0.0279, 0.0301)	(–0.0232, 0.0255)
Demonstration year 4	0.0021	0.8890	(–0.0278, 0.0320)	(–0.0230, 0.0272)
Demonstration year 5	0.0000	0.9991	(–0.0348, 0.0348)	(–0.0292, 0.0292)
Probability of ACSC admission, overall				
Cumulative (DY4–DY5)	–0.0009	0.2784	(–0.0027, 0.0008)	(–0.0024, 0.0005)
Demonstration year 4	–0.0010	0.2618	(–0.0028, 0.0008)	(–0.0025, 0.0005)
Demonstration year 5	–0.0009	0.3388	(–0.0027, 0.0009)	(–0.0024, 0.0006)
Probability of ACSC admission, chronic				
Cumulative (DY4–DY5)	–0.0008	0.2120	(–0.0022, 0.0005)	(–0.0020, 0.0003)
Demonstration year 4	–0.0010	0.1596	(–0.0025, 0.0004)	(–0.0022, 0.0002)
Demonstration year 5	–0.0007	0.3348	(–0.0020, 0.0007)	(–0.0018, 0.0005)

(continued)

Table D-3 (continued)
Demonstration effects on service utilization and quality of care among SPMI beneficiaries—Difference-in-differences regression results

Measure	Adjusted DinD estimate	*p*-value	95% confidence interval	90% confidence interval
Probability of ED visit				
Cumulative (DY4–DY5)	–0.0015	0.6831	(–0.0087, 0.0057)	(–0.0075, 0.0045)
Demonstration year 4	–0.0020	0.6214	(–0.0098, 0.0058)	(–0.0085, 0.0046)
Demonstration year 5	–0.0010	0.7759	(–0.0082, 0.0061)	(–0.0071, 0.0050)
Count of preventable ED visits				
Cumulative (DY4–DY5)	0.0018	0.5612	(–0.0043, 0.0079)	(–0.0033, 0.0069)
Demonstration year 4	0.0012	0.7100	(–0.0053, 0.0078)	(–0.0043, 0.0068)
Demonstration year 5	0.0024	0.4534	(–0.0038, 0.0085)	(–0.0028, 0.0075)
Probability of SNF admission				
Cumulative (DY4–DY5)	–0.0043	<0.0001	(–0.0059, –0.0027)	(–0.0057, –0.0030)
Demonstration year 4	–0.0040	<0.0001	(–0.0057, –0.0023)	(–0.0054, –0.0026)
Demonstration year 5	–0.0046	<0.0001	(–0.0063, –0.0029)	(–0.0061, –0.0031)
Probability of any long-stay NF use				
Cumulative (DY4–DY5)	N/A	N/A	N/A	N/A
Demonstration year 4	N/A	N/A	N/A	N/A
Demonstration year 5	N/A	N/A	N/A	N/A
Probability of 30-day follow-up after mental health discharge				
Cumulative (DY4–DY5)	N/A	N/A	N/A	N/A
Demonstration year 4	N/A	N/A	N/A	N/A
Demonstration year 5	N/A	N/A	N/A	N/A
Count of physician E&M visits				
Cumulative (DY4–DY5)	–0.1925	<0.0001	(–0.2699, –0.1150)	(–0.2575, –0.1275)
Demonstration year 4	–0.1630	<0.0001	(–0.2410, –0.0850)	(–0.2284, –0.0975)
Demonstration year 5	–0.2194	<0.0001	(–0.3010, –0.1377)	(–0.2879, –0.1509)

ACSC = ambulatory care sensitive condition; DinD = difference in differences; DY = demonstration year; E&M = evaluation and management; ED = emergency department; N/A = not available. NF = nursing facility; SNF = skilled nursing facility; SPMI = serious and persistent mental illness.
SOURCE: RTI analysis of Medicare data.

Table D-4 presents descriptive results on the average percentage of demonstration eligible beneficiaries using selected Medicare service types during the months in which they met demonstration eligibility criteria in the predemonstration and demonstration periods. In addition, average counts of service use and payments are presented across all such eligible months, and for the subset of these months in which eligible beneficiaries were users of each respective service type. Data are shown for the predemonstration and demonstration period for both Washington eligible beneficiaries (i.e., the demonstration group) and the comparison group. We also provide

tables for the RTI quality of care and care coordination measures (***Table D-5***) and NF-related measures derived from the MDS (***Table D-6***). We did not test for statistically significant differences between groups or years. These descriptive results reflect the unadjusted averages in outcomes between the two groups; changes over time are not intended to be interpreted as caused by the demonstration.

The demonstration and comparison groups were similar across many of the service utilization measures in each of the predemonstration (baseline) years and the demonstration years (***Table D-4***). However, there were a few outcomes where some differences were apparent. For example, inpatient use, SNF admissions, and primary care E&M visits were higher for the comparison group compared to the demonstration group. However, payments per eligible month were higher in the demonstration group for inpatient use, compared to the comparison group.

As with the service utilization measures, the Washington demonstration eligible beneficiaries were similar to the comparison group in many, but not all, of the descriptive RTI quality of care and care coordination measures (***Table D-5***). In general, the comparison group had more 30-day follow-up visits after mental health discharges, admissions for overall and chronic ACSC diagnoses, and screening for clinical depression over the predemonstration and demonstration periods. No clear pattern was evident for the rate of 30-day all-cause readmission, number of preventable ED visits, or the pneumococcal vaccination rate.

Finally, during the demonstration period, the comparison group outpaced the demonstration group in new long-stay NF admissions, while demonstration eligible beneficiaries had a lower percentage of long-stay NF users relative to the comparison group (***Table D-6***). There were differences in some characteristics of long-stay NF residents at admission: relative to the comparison group, demonstration eligible beneficiaries had worse functional status and a lower proportion of beneficiaries with severe cognitive impairment.

Table D-4
Proportion and utilization for institutional and non-institutional services for the Washington demonstration eligible beneficiaries and comparison groups

Measures by setting	Group	Predemonstration year 1	Predemonstration year 2	Demonstration year 4	Demonstration year 5
Number of demonstration beneficiaries		42,700	44,400	41,203	42,495
Number of comparison beneficiaries		71,736	79,416	85,272	83,607
Institutional setting					
Inpatient admissions[1]	Demonstration				
% with use		5.4	5.5	4.7	4.7
Utilization per 1,000 user months		1,126.1	1,121.5	1,108.8	1,105.3
Utilization per 1,000 eligible months		60.6	62.1	51.9	51.5
Payments per user month		13,524	14,576	15,075	15,526
Payments per eligible month		728	807	706	724
Inpatient admissions[1]	Comparison				
% with use		6.2	5.7	5.2	5.1
Utilization per 1,000 user months		1,121.5	1,119.7	1,125.3	1,119.7
Utilization per 1,000 eligible months		69.5	64.4	58.4	57.2
Payments per user month		11,056	11,545	12,255	12,578
Payments per eligible month		685	664	637	643
Inpatient psychiatric	Demonstration				
% with use		0.4	0.4	0.3	0.3
Utilization per 1,000 user months		1,180.9	1,171.9	1,191.9	1,191.5
Utilization per 1,000 eligible months		4.6	4.6	3.4	3.5
Payments per user month		10,703	10,753	12,771	13,869
Payments per eligible month		42	42	37	41
Inpatient psychiatric	Comparison				
% with use		0.7	0.6	0.6	0.6
Utilization per 1,000 user months		1,117.6	1,131.0	1,128.9	1,142.6
Utilization per 1,000 eligible months		7.5	7.0	6.7	7.1
Payments per user month		7,274	7,928	8,185	9,270
Payments per eligible month		49	49	48	58

(continued)

Table D-4 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration eligible beneficiaries and comparison groups

Measures by Setting	Group	Predemonstration year 1	Predemonstration year 2	Demonstration year 4	Demonstration year 5
Inpatient substance abuse	Demonstration				
% with use		0.1	0.1	0.1	0.0
Utilization per 1,000 user months		1,078.6	1,093.9	1,058.5	1,046.4
Utilization per 1,000 eligible months		0.6	0.7	0.6	0.5
Payments per user month		5,490	6,596	8,628	8,669
Payments per eligible month		3	4	5	4
Inpatient substance abuse	Comparison				
% with use		0.1	0.1	0.1	0.1
Utilization per 1,000 user months		1,027.2	1,079.8	1,035.0	1,077.2
Utilization per 1,000 eligible months		0.7	0.7	0.7	0.6
Payments per user month		4,770	4,772	5,907	6,333
Payments per eligible month		3	3	4	4
Emergency department use (non-admit)	Demonstration				
% with use		8.7	8.6	9.3	9.0
Utilization per 1,000 user months		1,347.0	1,306.9	1,305.5	1,305.7
Utilization per 1,000 eligible months		117.4	112.8	121.7	117.0
Payments per user month		597	626	722	773
Payments per eligible month		52	54	67	69
Emergency department use (non-admit)	Comparison				
% with use		9.1	8.7	9.3	9.0
Utilization per 1,000 user months		1,329.8	1,305.2	1,291.3	1,272.3
Utilization per 1,000 eligible months		120.5	114.2	119.7	114.5
Payments per user month		511	544	628	661
Payments per eligible month		46	48	58	60

(continued)

Table D-4 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration eligible beneficiaries and comparison groups

Measures by Setting	Group	Predemonstration year 1	Predemonstration year 2	Demonstration year 4	Demonstration year 5
Emergency department use (psychiatric)	Demonstration				
% with use		0.6	0.6	0.6	0.6
Utilization per 1,000 user months		1,266.0	1,237.1	1,187.7	1,218.7
Utilization per 1,000 eligible months		7.2	7.0	7.0	7.0
Payments per user month		479	487	532	565
Payments per eligible month		3	3	3	3
Emergency department use (psychiatric)	Comparison				
% with use		0.5	0.4	0.5	0.5
Utilization per 1,000 user months		1,118.9	1,118.3	1,112.1	1,155.4
Utilization per 1,000 eligible months		5.4	4.8	5.6	5.4
Payments per user month		403	432	424	451
Payments per eligible month		2	2	2	2
Observation stays	Demonstration				
% with use		0.9	1.0	0.8	0.8
Utilization per 1,000 user months		1,043.5	1,045.0	1,040.4	1,029.4
Utilization per 1,000 eligible months		9.6	9.9	8.7	8.3
Payments per user month		1,750	1,973	2,413	2,410
Payments per eligible month		16	19	20	19
Observation stays	Comparison				
% with use		1.1	1.2	1.2	1.2
Utilization per 1,000 user months		1,040.5	1,039.7	1,050.8	1,040.9
Utilization per 1,000 eligible months		11.1	12.0	13.0	13.0
Payments per user month		1,561	1,593	1,902	1,952
Payments per eligible month		17	18	24	24

(continued)

Table D-4 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration eligible beneficiaries and comparison groups

Measures by Setting	Group	Predemonstration year 1	Predemonstration year 2	Demonstration year 4	Demonstration year 5
Skilled nursing facility	Demonstration				
% with use		1.7	1.7	1.1	1.1
Utilization per 1,000 user months		1,095.5	1,088.9	1,078.9	1,067.2
Utilization per 1,000 eligible months		18.4	19.0	11.6	11.3
Payments per user month		12,702	12,440	13,476	14,188
Payments per eligible month		213	218	145	150
Skilled nursing facility	Comparison				
% with use		1.9	1.9	1.6	1.6
Utilization per 1,000 user months		1,093.5	1,088.9	1,084.7	1,087.5
Utilization per 1,000 eligible months		21.2	20.2	17.2	17.3
Payments per user month		9,713	9,957	10,553	11,094
Payments per eligible month		188	185	167	176
Hospice	Demonstration				
% with use		1.1	1.7	0.6	0.7
Utilization per 1,000 user months		1,047.9	1,038.8	1,011.5	1,009.4
Utilization per 1,000 eligible months		11.9	17.5	5.8	6.8
Payments per user month		3,661	3,782	3,264	3,276
Payments per eligible month		42	64	19	22
Hospice	Comparison				
% with use		1.5	2.4	1.5	1.8
Utilization per 1,000 user months		1,038.0	1,020.3	1,012.1	1,009.4
Utilization per 1,000 eligible months		16.0	24.8	15.6	17.9
Payments per user month		3,427	3,535	3,486	3,564
Payments per eligible month		53	86	54	63

(continued)

Table D-4 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration eligible beneficiaries and comparison groups

Measures by Setting	Group	Predemonstration year 1	Predemonstration year 2	Demonstration year 4	Demonstration year 5
Non-institutional setting					
Specialist E&M visits	Demonstration				
% with use		5.9	5.9	6.3	6.1
Utilization per 1,000 user months		1,101.5	1,103.7	1,097.4	1,093.1
Utilization per 1,000 eligible months		64.9	64.7	68.8	66.9
Payments per user month		105	106	104	105
Payments per eligible month		6	6	7	6
Specialist E&M visits	Comparison				
% with use		6.0	5.8	6.3	5.9
Utilization per 1,000 user months		1,107.5	1,108.8	1,114.6	1,106.3
Utilization per 1,000 eligible months		65.9	64.5	69.9	64.8
Payments per user month		96	95	95	94
Payments per eligible month		6	6	6	6
Primary care E&M visits	Demonstration				
% with use		62.4	62.4	60.1	59.9
Utilization per 1,000 user months		1,846.4	1,883.7	1,877.1	1,883.7
Utilization per 1,000 eligible months		1,151.9	1,174.7	1,127.6	1,129.0
Payments per user month		124	128	119	122
Payments per eligible month		77	80	71	73
Primary care E&M visits	Comparison				
% with use		66.9	66.5	69.2	69.9
Utilization per 1,000 user months		1,972.0	1,967.0	2,099.2	2,167.4
Utilization per 1,000 eligible months		1,318.8	1,307.6	1,452.2	1,514.8
Payments per user month		115	115	123	129
Payments per eligible month		77	76	85	90

(continued)

Table D-4 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration eligible beneficiaries and comparison groups

Measures by Setting	Group	Predemonstration year 1	Predemonstration year 2	Demonstration year 4	Demonstration year 5
Behavioral health visits	Demonstration				
% with use		6.4	5.0	2.9	2.8
Utilization per 1,000 user months		1,627.7	2,087.9	2,246.8	2,240.7
Utilization per 1,000 eligible months		104.1	103.7	65.4	63.1
Payments per user month		62	88	140	147
Payments per eligible month		4	4	4	4
Behavioral health visits	Comparison				
% with use		8.9	6.5	7.3	7.9
Utilization per 1,000 user months		1,698.9	1,871.7	2,204.5	2,232.4
Utilization per 1,000 eligible months		150.6	121.4	159.9	177.0
Payments per user month		66	77	122	126
Payments per eligible month		6	5	9	10
Outpatient therapy (PT, OT, ST)	Demonstration				
% with use		5.9	5.6	4.6	4.8
Utilization per 1,000 user months		13,802.8	12,620.3	12,107.3	11,919.3
Utilization per 1,000 eligible months		808.5	708.8	554.7	569.3
Payments per user month		532	481	344	355
Payments per eligible month		31	27	16	17
Outpatient therapy (PT, OT, ST)	Comparison				
% with use		7.4	7.0	8.8	9.9
Utilization per 1,000 user months		24,313.8	23,998.5	25,897.9	26,117.2
Utilization per 1,000 eligible months		1,798.0	1,677.6	2,269.0	2,586.3
Payments per user month		813	773	736	789
Payments per eligible month		60	54	65	78

(continued)

Table D-4 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration eligible beneficiaries and comparison groups

Measures by Setting	Group	Predemonstration year 1	Predemonstration year 2	Demonstration year 4	Demonstration year 5
Independent therapy (PT, OT, ST)	Demonstration				
% with use		2.0	2.0	2.7	2.7
Utilization per 1,000 user months		8,490.4	8,198.5	8,553.6	8,694.6
Utilization per 1,000 eligible months		173.5	163.6	228.9	235.9
Payments per user month		264	248	210	216
Payments per eligible month		5	5	6	6
Independent therapy (PT, OT, ST)	Comparison				
% with use		1.1	1.0	1.2	1.2
Utilization per 1,000 user months		8,651.3	8,539.6	10,977.8	11,143.6
Utilization per 1,000 eligible months		91.8	88.8	128.9	137.5
Payments per user month		264	254	264	266
Payments per eligible month		3	3	3	3
Home health episodes	Demonstration				
% with use		2.4	2.4	2.4	2.4
Utilization per 1,000 user months		1,002.4	1,002.6	1,002.4	1,001.9
Utilization per 1,000 eligible months		24.3	24.5	23.6	24.2
Payments per user month		2,776	2,787	3,037	3,097
Payments per eligible month		67	68	72	75
Home health episodes	Comparison				
% with use		3.1	2.8	3.0	3.0
Utilization per 1,000 user months		1,004.7	1,004.5	1,003.7	1,004.1
Utilization per 1,000 eligible months		31.6	28.4	29.6	29.8
Payments per user month		2,454	2,418	2,485	2,521
Payments per eligible month		77	69	73	75

(continued)

Table D-4 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration eligible beneficiaries and comparison groups

Measures by Setting	Group	Predemonstration year 1	Predemonstration year 2	Demonstration year 4	Demonstration year 5
Durable medical equipment	Demonstration				
% with use		32.1	30.7	26.5	25.8
Utilization per 1,000 user months		—	—	—	—
Utilization per 1,000 eligible months		—	—	—	—
Payments per user month		245	241	205	235
Payments per eligible month		79	74	54	61
Durable medical equipment	Comparison				
% with use		30.9	28.6	24.7	24.0
Utilization per 1,000 user months		—	—	—	—
Utilization per 1,000 eligible months		—	—	—	—
Payments per user month		249	238	205	236
Payments per eligible month		77	68	51	57
Other hospital outpatient services	Demonstration				
% with use		41.2	40.8	42.9	41.3
Utilization per 1,000 user months		—	—	—	—
Utilization per 1,000 eligible months		—	—	—	—
Payments per user month		695	713	736	824
Payments per eligible month		287	291	316	340
Other hospital outpatient services	Comparison				
% with use		39.0	38.1	38.5	37.2
Utilization per 1,000 user months		—	—	—	—
Utilization per 1,000 eligible months		—	—	—	—
Payments per user month		557	556	672	691
Payments per eligible month		217	212	259	257

— = data not available. E&M = evaluation and management; OT = occupational therapy, PT = physical therapy, ST = speech therapy.
[1] Includes acute admissions, inpatient rehabilitation, and long-term care hospital admissions.
SOURCE: RTI International analysis of Medicare data.

Table D-5
Quality of care and care coordination outcomes for demonstration eligible and comparison beneficiaries for the Washington demonstration

Quality and care coordination measures	Group	Predemonstration year 1	Predemonstration year 2	Demonstration year 4	Demonstration year 5
30-day all-cause risk-standardized readmission rate (%)	Demonstration	18.0	18.4	17.9	18.2
	Comparison	19.7	19.3	18.7	18.7
Preventable emergency department visits per eligible month	Demonstration	0.0542	0.0519	0.0547	0.0512
	Comparison	0.0567	0.0539	0.0550	0.0507
Rate of 30-day follow-up after hospitalization for mental illness (%)	Demonstration	40.7	39.2	25.6	26.4
	Comparison	45.8	41.0	35.4	37.0
Ambulatory care sensitive condition admissions per eligible month—overall composite (AHRQ PQI #90)	Demonstration	0.0114	0.0115	0.0097	0.0095
	Comparison	0.0143	0.0127	0.0123	0.0118
Ambulatory care sensitive condition admission per eligible months—chronic composite (AHRQ PQI #92)	Demonstration	0.0070	0.0070	0.0072	0.0067
	Comparison	0.0085	0.0075	0.0088	0.0079
Pneumococcal vaccination for patients age 65 and older per eligible month	Demonstration	0.0009	0.0075	0.0057	0.0019
	Comparison	0.0007	0.0056	0.0046	0.0060
Screening for clinical depression per eligible month	Demonstration	0.0000	0.0001	0.0004	0.0017
	Comparison	0.0002	0.0003	0.0082	0.0034

AHRQ PQI = Agency for Healthcare Research and Quality Prevention Quality Indicator.
SOURCE: RTI International analysis of Medicare data.

Table D-6
MDS long-stay NF utilization and characteristics at admission for the Washington demonstration and comparison groups

Measures by setting	Group	Predemonstration year 1	Predemonstration year 2	Demonstration year 4	Demonstration year 5
Annual NF utilization					
Number of demonstration beneficiaries	Demonstration group	28,340	29,532	27,546	29,866
New long-stay NF admissions per 1,000 eligible beneficiaries		23.6	24.8	14.1	12.8
Number of comparison beneficiaries	Comparison group	42,323	46,917	49,108	49,347
New long-stay NF admissions per 1,000 eligible beneficiaries		23.6	24.7	20.8	21.2
Number of demonstration beneficiaries	Demonstration group	33,176	34,459	30,079	32,897
Long-stay NF users as % of eligible beneficiaries		15.3	15.4	8.7	9.3
Number of comparison beneficiaries	Comparison group	55,446	61,113	62,000	63,765
Long-stay NF users as % of eligible beneficiaries		25.1	24.6	22.0	23.4
Characteristics of new long-stay NF residents at admission					
Number of admitted demonstration beneficiaries	Demonstration group	668	731	387	383
Number of admitted comparison beneficiaries	Comparison group	998	1,158	1,022	1,045
Functional status (RUG-IV ADL scale)	Demonstration group	9.1	9.8	9.7	9.7
Functional status (RUG-IV ADL scale)	Comparison group	8.2	8.1	8.4	8.4
Percent with severe cognitive impairment	Demonstration group	31.6	29.9	29.2	30.3
Percent with severe cognitive impairment	Comparison group	39.1	36.5	29.7	33.6
Percent with low level of care need	Demonstration group	1.8	1.1	1.3	0.5
Percent with low level of care need	Comparison group	1.2	2.7	1.2	0.9

MDS = Nursing Home Minimum Data Set; NF = nursing facility; RUG = resource utilization group.
SOURCE: RTI International analysis of Minimum Data Set data.

Tables D-7 and ***D-8*** present descriptive statistics for the health home user population, compared to those demonstration eligible beneficiaries who were not health home users, for each service by demonstration year, to help understand the utilization experience over time.

Health home users generally had higher utilization than the eligible non–health home group across most service settings (***Table D-7***). For the quality of care and care coordination measures, health home users had a higher probability of ACSC admissions (***Table D-8***). Preventable ED visits and rates of follow-up care after a mental health discharge were also higher for health home users.

Table D-7
Proportion and utilization for institutional and non-institutional services for the Washington demonstration health home and non–health home users

Measures by setting	Group	Demonstration year 4	Demonstration year 5
Number of health home users		5,650	6,307
Number of non–health home users		35,536	36,164
Institutional setting			
Inpatient admissions[1]	Health home users		
% with use		5.7	5.7
Utilization per 1,000 user months		1,119.3	1,115.6
Utilization per 1,000 eligible months		64.2	64.1
Payments per user month		15,090	14,174
Payments per eligible month		866	815
Inpatient admissions[1]	Non–health home users		
% with use		4.5	4.4
Utilization per 1,000 user months		1,106.0	1,102.2
Utilization per 1,000 eligible months		49.6	49.0
Payments per user month		15,095	15,766
Payments per eligible month		677	700
Inpatient psychiatric	Health home users		
% with use		0.3	0.3
Utilization per 1,000 user months		1,128.7	1,125.0
Utilization per 1,000 eligible months		3.0	3.1
Payments per user month		10,795	13,568
Payments per eligible month		29	38
Inpatient psychiatric	Non–health home users		
% with use		0.3	0.3
Utilization per 1,000 user months		1,200.9	1,200.6
Utilization per 1,000 eligible months		3.4	3.4
Payments per user month		13,325	13,695
Payments per eligible month		38	39

(continued)

Table D-7 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration health home and non–health home users

Measures by setting	Group	Demonstration year 4	Demonstration year 5
Inpatient substance abuse	Health home users		
% with use		0.0	0.0
Utilization per 1,000 user months		1,000.0	1,052.6
Utilization per 1,000 eligible months		0.4	0.5
Payments per user month		11,428	9,014
Payments per eligible month		5	4
Inpatient substance abuse	Non–health home users		
% with use		0.1	0.0
Utilization per 1,000 user months		1,064.1	1,044.0
Utilization per 1,000 eligible months		0.6	0.5
Payments per user month		8,500	8,395
Payments per eligible month		4	4
Emergency department use (non-admit)	Health home users		
% with use		11.4	11.0
Utilization per 1,000 user months		1,346.7	1,319.4
Utilization per 1,000 eligible months		153.6	145.7
Payments per user month		750	814
Payments per eligible month		86	90
Emergency department use (non-admit)	Non–health home users		
% with use		8.9	8.5
Utilization per 1,000 user months		1,291.8	1,296.6
Utilization per 1,000 eligible months		114.4	110.3
Payments per user month		713	761
Payments per eligible month		63	65
Emergency department use (psychiatric)	Health home users		
% with use		0.7	0.6
Utilization per 1,000 user months		1,253.0	1,187.7
Utilization per 1,000 eligible months		8.4	7.6
Payments per user month		565	614
Payments per eligible month		4	4
Emergency department use (psychiatric)	Non–health home users		
% with use		0.6	0.5
Utilization per 1,000 user months		1,177.4	1,203.8
Utilization per 1,000 eligible months		6.6	6.6
Payments per user month		530	543
Payments per eligible month		3	3

(continued)

Table D-7 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration health home and non–health home users

Measures by setting	Group	Demonstration year 4	Demonstration year 5
Observation stays	Health home users		
% with use		1.1	1.1
Utilization per 1,000 user months		1,030.7	1,031.3
Utilization per 1,000 eligible months		11.6	11.5
Payments per user month		2,750	2,603
Payments per eligible month		31	29
Observation stays	Non–health home users		
% with use		0.8	0.7
Utilization per 1,000 user months		1,041.5	1,030.0
Utilization per 1,000 eligible months		8.1	7.6
Payments per user month		2,344	2,377
Payments per eligible month		18	18
Skilled nursing facility	Health home users		
% with use		1.3	1.3
Utilization per 1,000 user months		1,084.5	1,059.9
Utilization per 1,000 eligible months		14.4	13.6
Payments per user month		13,978	15,324
Payments per eligible month		185	196
Skilled nursing facility	Non–health home users		
% with use		1.0	1.0
Utilization per 1,000 user months		1,079.3	1,067.4
Utilization per 1,000 eligible months		11.1	10.7
Payments per user month		13,375	14,011
Payments per eligible month		138	141
Hospice	Health home users		
% with use		0.4	0.5
Utilization per 1,000 user months		1,015.2	1,024.9
Utilization per 1,000 eligible months		3.6	4.8
Payments per user month		3,146	3,111
Payments per eligible month		11	15
Hospice	Non–health home users		
% with use		0.6	0.7
Utilization per 1,000 user months		1,011.7	1,008.5
Utilization per 1,000 eligible months		6.3	7.2
Payments per user month		3,294	3,316
Payments per eligible month		21	24

(continued)

Table D-7 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration health home and non–health home users

Measures by setting	Group	Demonstration year 4	Demonstration year 5
Non-institutional setting			
Specialist E&M visits	Health home users		
% with use		7.5	7.5
Utilization per 1,000 user months		1,090.1	1,098.1
Utilization per 1,000 eligible months		81.5	82.2
Payments per user month		100	104
Payments per eligible month		8	8
Specialist E&M visits	Non–health home users		
% with use		6.0	5.8
Utilization per 1,000 user months		1,098.9	1,092.1
Utilization per 1,000 eligible months		66.0	63.9
Payments per user month		105	105
Payments per eligible month		6	6
Primary care E&M visits	Health home users		
% with use		67.6	67.6
Utilization per 1,000 user months		1,993.9	2,024.8
Utilization per 1,000 eligible months		1,347.3	1,368.5
Payments per user month		125	130
Payments per eligible month		84	88
Primary care E&M visits	Non–health home users		
% with use		58.7	58.6
Utilization per 1,000 user months		1,851.0	1,852.6
Utilization per 1,000 eligible months		1,087.0	1,085.3
Payments per user month		118	121
Payments per eligible month		69	71
Behavioral health visits	Health home users		
% with use		4.5	4.6
Utilization per 1,000 user months		2,307.0	2,292.0
Utilization per 1,000 eligible months		104.1	105.8
Payments per user month		144	152
Payments per eligible month		7	7
Behavioral health visits	Non–health home users		
% with use		2.6	2.5
Utilization per 1,000 user months		2,238.7	2,219.7
Utilization per 1,000 eligible months		58.5	55.2
Payments per user month		139	145
Payments per eligible month		4	4

(continued)

Table D-7 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration health home and non–health home users

Measures by setting	Group	Demonstration year 4	Demonstration year 5
Outpatient therapy (PT, OT, ST)	Health home users		
% with use		6.3	6.4
Utilization per 1,000 user months		10,222.3	10,323.7
Utilization per 1,000 eligible months		640.6	656.6
Payments per user month		287	299
Payments per eligible month		18	19
Outpatient therapy (PT, OT, ST)	Non–health home users		
% with use		4.3	4.5
Utilization per 1,000 user months		12,513.7	12,309.6
Utilization per 1,000 eligible months		540.6	553.2
Payments per user month		357	368
Payments per eligible month		15	17
Independent therapy (PT, OT, ST)	Health home users		
% with use		4.1	4.0
Utilization per 1,000 user months		8,191.3	7,954.1
Utilization per 1,000 eligible months		337.5	317.9
Payments per user month		199	196
Payments per eligible month		8	8
Independent therapy (PT, OT, ST)	Non–health home users		
% with use		2.4	2.5
Utilization per 1,000 user months		8,727.4	8,895.8
Utilization per 1,000 eligible months		210.7	220.0
Payments per user month		214	222
Payments per eligible month		5	6
Home health episodes	Health home users		
% with use		3.7	3.6
Utilization per 1,000 user months		1,004.3	1,001.9
Utilization per 1,000 eligible months		37.4	36.5
Payments per user month		3,052	3,093
Payments per eligible month		114	113
Home health episodes	Non–health home users		
% with use		2.1	2.2
Utilization per 1,000 user months		1,002.2	1,001.9
Utilization per 1,000 eligible months		21.2	22.1
Payments per user month		3,026	3,086
Payments per eligible month		64	68

(continued)

Table D-7 (continued)
Proportion and utilization for institutional and non-institutional services for the Washington demonstration health home and non–health home users

Measures by setting	Group	Demonstration year 4	Demonstration year 5
Durable medical equipment	Health home users		
% with use		36.2	35.1
Utilization per 1,000 user months		—	—
Utilization per 1,000 eligible months		—	—
Payments per user month		210	245
Payments per eligible month		76	86
Durable medical equipment	Non–health home users		
% with use		24.8	24.1
Utilization per 1,000 user months		—	—
Utilization per 1,000 eligible months		—	—
Payments per user month		203	230
Payments per eligible month		51	55
Other hospital outpatient services	Health home users		
% with use		53.1	52.4
Utilization per 1,000 user months		—	—
Utilization per 1,000 eligible months		—	—
Payments per user month		741	836
Payments per eligible month		393	438
Other hospital outpatient services	Non–health home users		
% with use		41.0	39.3
Utilization per 1,000 user months		—	—
Utilization per 1,000 eligible months		—	—
Payments per user month		732	824
Payments per eligible month		300	324

— = data not available. E&M = evaluation and management; OT = occupational therapy; PT = physical therapy; ST = speech therapy.
[1] Includes acute admissions, inpatient rehabilitation, and long-term care hospital admissions.
SOURCE: RTI International analysis of Medicare data.

Table D-8
Quality of care and care coordination outcomes for health home and non–health home users for the Washington demonstration

Quality and care coordination measures	Group	Demonstration year 4	Demonstration year 5
30-day all-cause risk-standardized readmission rate (%)	Health home users	18.8	19.3
	Non–health home users	19.3	19.3
Preventable ED visits per eligible month	Health home users	0.0698	0.0640
	Non–health home users	0.0512	0.0482
Rate of 30-day follow-up after hospitalization for mental illness (%)	Health home users	31.4	29.9
	Non–health home users	24.5	25.7
Ambulatory care sensitive condition admissions per eligible month—overall composite (AHRQ PQI #90)	Health home users	0.0127	0.0122
	Non–health home users	0.0092	0.0089
Ambulatory care sensitive condition admissions per eligible month—chronic composite (AHRQ PQI #92)	Health home users	0.0092	0.0088
	Non–health home users	0.0068	0.0062
Pneumococcal vaccination for patients age 65 and older per eligible month	Health home users	0.0030	0.0021
	Non–health home users	0.0062	0.0018
Screening for clinical depression per eligible month	Health home users	0.0004	0.0017
	Non–health home users	0.0004	0.0017

AHRQ PQI = Agency for Healthcare Research and Quality Prevention Quality Indicator; ED = emergency department.
SOURCE: RTI International analysis of Medicare data.

Tables D-9 and ***D-10*** include the DinD regression results that show the differences in the cumulative (demonstration years 4 and 5) demonstration effects on service utilization and quality of care measures for beneficiaries with LTSS use, relative to the demonstration effects for those without LTSS use.

Table D-9
Cumulative demonstration effects on service utilization measures by LTSS users versus non-LTSS users

Measure	Group	Demonstration effect relative to the comparison group	*p*-value	Difference in demonstration effect (LTSS users versus non-LTSS users)
Probability of inpatient admission	LTSS users	0.0016 (–0.0013, 0.0046)	0.286	0.0042**
	Non-LTSS users	–0.0026 (–0.0049, 0.0004)	0.022	
Probability of ED visit	LTSS users	0.0047 (–0.0009, 0.0103)	0.103	0.0092**
	Non-LTSS users	–0.0046 (–0.0106, 0.0014)	0.132	
Count of physician E&M visits	LTSS users	–0.0826 (–0.1774, 0.0122)	0.088	0.1283*
	Non-LTSS users	–0.2093 (–0.2708, –0.1477)	0.000	
Probability of SNF admission	LTSS users	–0.0019 (–0.0039, 0.0001)	0.066	–0.0011
	Non-LTSS users	–0.0007 (–0.0012, –0.0003)	0.003	

E&M = evaluation and management; ED = emergency department; SNF = skilled nursing facility; SPMI = serious and persistent mental illness.
NOTE: 95% confidence intervals in parentheses.
* p < 0.05; ** p < 0.01; *** p < 0.001
SOURCE: RTI analysis of Medicare fee-for-service claims.

Table D-10
Cumulative demonstration effects on quality of care measures by LTSS users versus non-LTSS users

Measure	Group	Demonstration effect relative to the comparison group	*p*-value	Difference in demonstration effect (LTSS users versus non-LTSS users)
Count of preventable ED visits	LTSS users	0.0045 (–0.0000, 0.0090)	0.051	0.0051
	Non-LTSS users	–0.0006 (–0.0059, 0.0047)	0.824	
Probability of ACSC admission, overall	LTSS users	–0.0007 (–0.0022, 0.0007)	0.327	–0.0001
	Non-LTSS users	–0.0006 (–0.0019, 0.0007)	0.347	
Probability of ACSC admission, chronic	LTSS users	–0.0004 (–0.0015, 0.0007)	0.461	–0.0001
	Non-LTSS users	–0.0003 (–0.0013, 0.0007)	0.548	
Probability of 30-day follow-up after mental health discharge	LTSS users	–0.0464 (–0.1007, 0.0080)	0.094	0.0174
	Non-LTSS users	–0.0637 (–0.1189, –0.0086)	0.024	
Count of all-cause 30-day readmissions	LTSS users	0.0140 (–0.0250, 0.0530)	0.482	0.0213
	Non-LTSS users	–0.0073 (–0.0450, 0.0304)	0.705	

ACSC = ambulatory care sensitive condition; ED = emergency department; SPMI = serious and persistent mental illness.
NOTE: 95% confidence intervals in parentheses.
* p < 0.05; ** p < 0.01; *** p < 0.001
SOURCE: RTI analysis of Medicare fee-for-service claims.

Tables D-11 and ***D-12*** include DinD regression results that show the differences in the cumulative (demonstration years 4 and 5) demonstration effects on service utilization and quality of care measures for beneficiaries with SPMI, relative to the demonstration effects for those without SPMI.

Table D-11
Cumulative demonstration effect on service utilization measures for beneficiaries with SPMI versus beneficiaries without SPMI

Measure	Group	Demonstration effect relative to the comparison group	*p*-value	Difference in demonstration effect (SPMI versus non-SPMI)
Probability of inpatient admission	SPMI	–0.0010 (-0.0051, 0.0030)	0.614	0.0006
	Non-SPMI	–0.0017 (–0.0046, 0.0012)	0.251	
Probability of ED visit	SPMI	–0.0015 (–0.0087, 0.0057)	0.683	–0.0019
	Non-SPMI	0.0004 (–0.0033, 0.0041)	0.819	
Count of physician E&M visits	SPMI	–0.1925 (–0.2699, –0.1150)	0.000	–0.0841**
	Non-SPMI	–0.1084 (–0.1405, –0.0763)	0.000	
Probability of SNF admission	SPMI	–0.0043 (–0.0059, –0.0027)	0.000	–0.0022**
	Non-SPMI	–0.0021 (–0.0032, –0.0010)	0.000	

E&M = evaluation and management; ED = emergency department; SNF = skilled nursing facility; SPMI = serious and persistent mental illness.
NOTE: 95% confidence intervals in parentheses.
* p < 0.05; ** p < 0.01; *** p < 0.001
SOURCE: RTI analysis of Medicare fee-for-service claims.

Table D-12
Cumulative demonstration effects on quality of care measures for beneficiaries with SPMI versus beneficiaries without SPMI

Measure	Group	Demonstration effect relative to the comparison group	*p*-value	Difference in demonstration effect (SPMI versus non-SPMI)
Count of preventable ED visits	SPMI	0.0018 (–0.0043, 0.0079)	0.561	–0.0002
	Non-SPMI	0.0020 (–0.0008, 0.0047)	0.158	
Probability of ACSC admission, overall	SPMI	–0.0009 (–0.0027, 0.0008)	0.278	0.0002
	Non-SPMI	–0.0012 (–0.0024, 0.0001)	0.069	
Probability of ACSC admission, chronic	SPMI	–0.0008 (–0.0022, 0.0005)	0.212	0.0001
	Non-SPMI	–0.0009 (–0.0019, 0.0001)	0.065	
Count of all-cause 30-day readmissions	SPMI	0.0011 (–0.0279, 0.0301)	0.940	–0.0002
	Non-SPMI	0.0013 (–0.0260, 0.0285)	0.927	

ACSC = ambulatory care sensitive condition; ED = emergency department; SPMI = serious and persistent mental illness.
NOTE: 95% confidence intervals in parentheses.
SOURCE: RTI analysis of Medicare fee-for-service claims.

D.1 Service Use by Demographic Characteristics of Eligible Beneficiaries

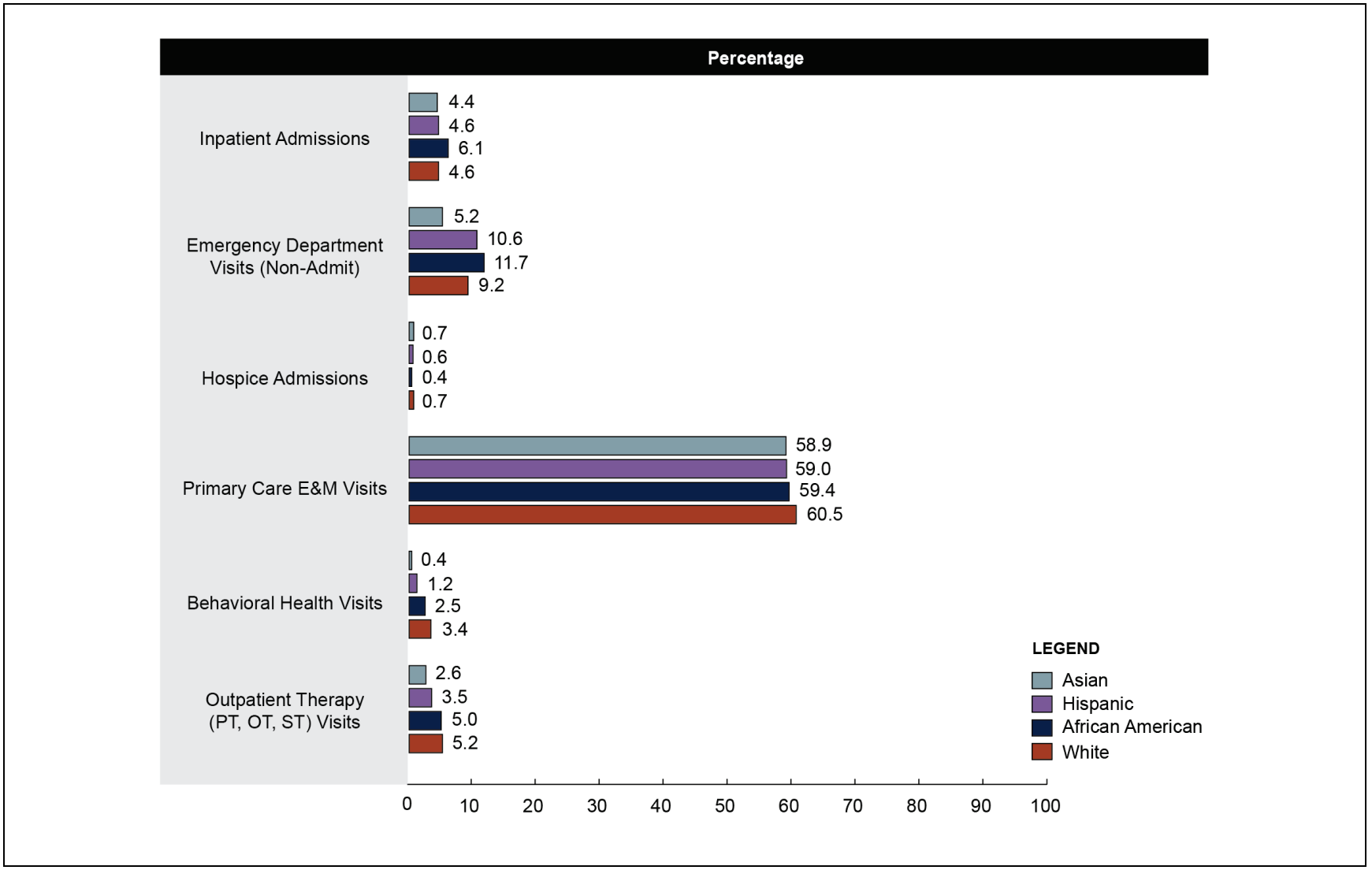
To examine any differences in racial and ethnic groups, ***Figures D-1, D-2,*** and ***D-3*** provide month-level results for six settings of interest for Washington eligible beneficiaries: inpatient admissions, ED visits (non-admit), hospice admissions, primary care E&M visits, behavioral health visits, and outpatient therapy (physical therapy, occupational therapy, and speech therapy visits. These descriptive results across these six settings are displayed using three measures: percentage with any use of the respective service, counts per 1,000 eligible beneficiaries with any use of the respective service, and counts per 1,000 demonstration eligible beneficiaries.

Figure D-1 presents the percentage of use of selected Medicare services. African American beneficiaries had slightly higher inpatient admissions and ED visits, relative to other racial categories. A slightly higher percentage of White beneficiaries had monthly primary care visits, relative to other races. White beneficiaries also received more outpatient therapy visits and behavioral health visits, compared to other races.

Regarding counts of services used among users of each respective service, as presented in ***Figure D-2***, there were limited differences across racial groups for inpatient admissions, hospice use, and primary care E&M visits. However, African American beneficiaries had more ED visits and received more behavioral health visits relative to other racial groups in months when there was any use, while White beneficiaries had the highest number of outpatient therapy visits.

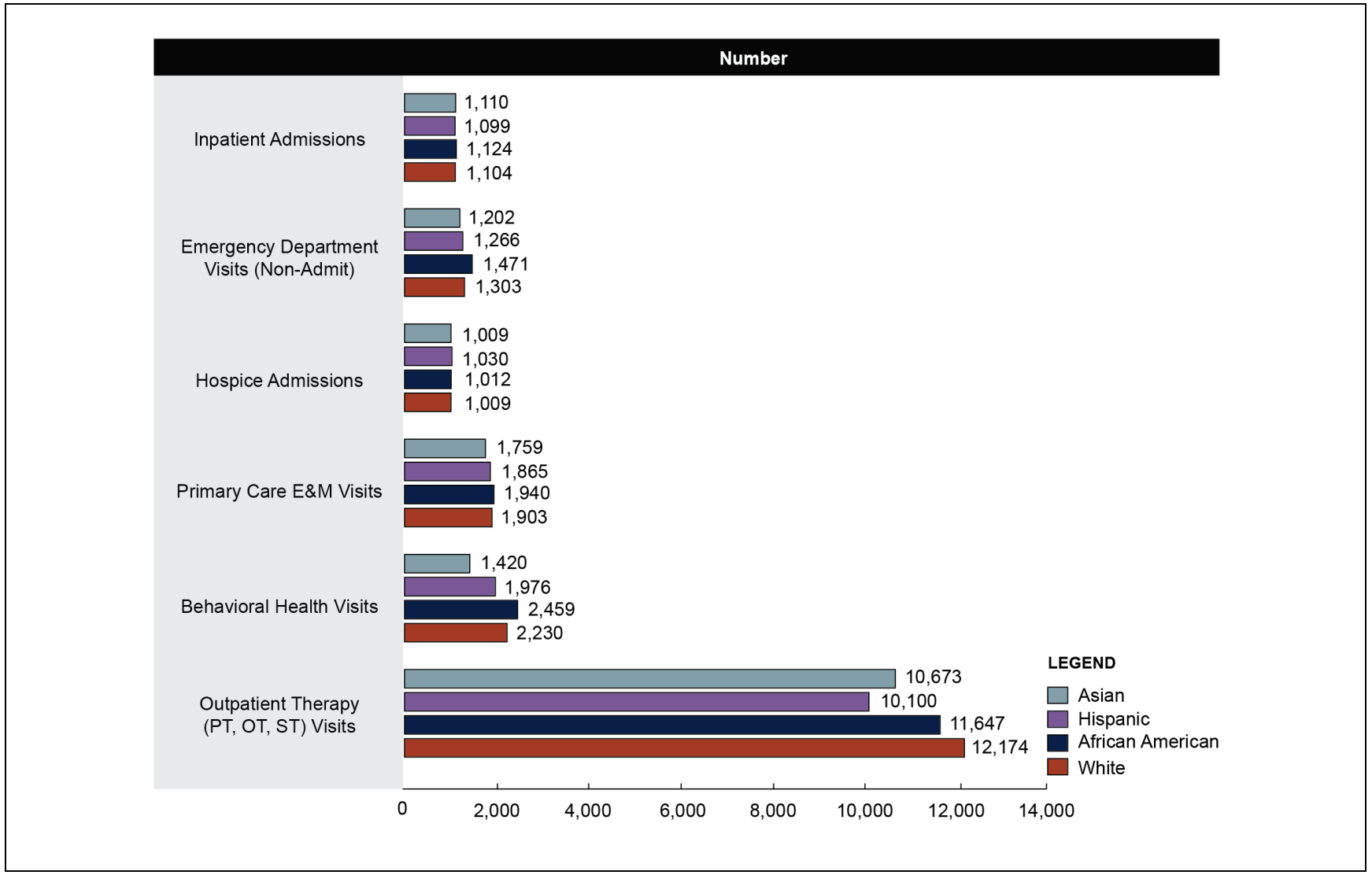
Figure D-3 presents counts of services across all Washington demonstration eligible beneficiaries regardless of having any use of the respective services. When looking at use for all eligible beneficiaries in all eligible months, the results are quite different from those of users of services in ***Figure D-2***. African American beneficiaries had more inpatient admissions and ED visits relative to the other racial groups. White and African American beneficiaries had more primary care E&M visits relative to the other racial groups, while White beneficiaries received more behavioral health visits and outpatient therapy visits.

Figure D-1
Percent with use of selected Medicare services



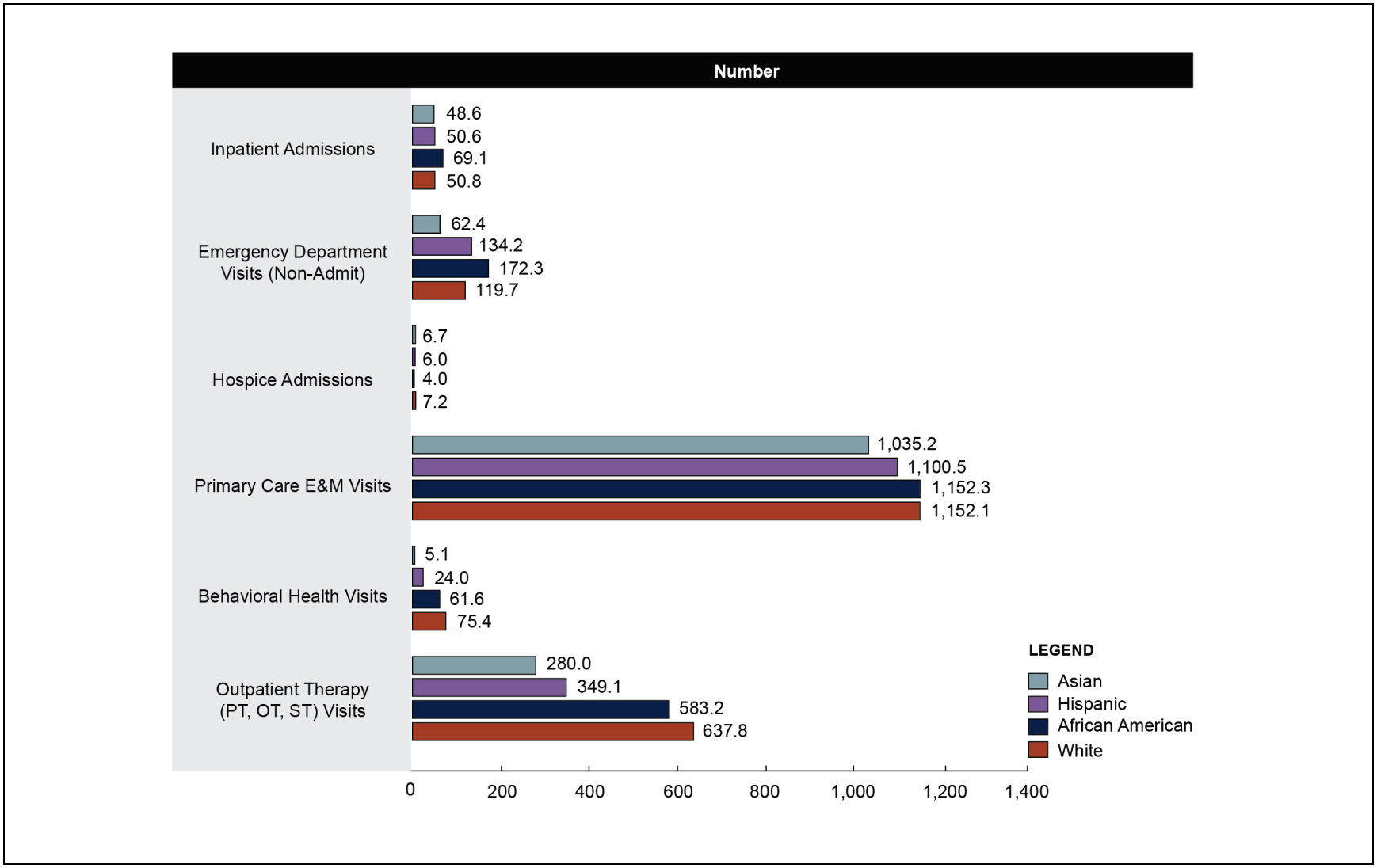
E&M = evaluation and management; OT = occupational therapy; PT = physical therapy; ST = speech therapy.

Figure D-2
Service use among all demonstration eligible beneficiaries with use of service per 1,000 user months



E&M = evaluation and management; OT = occupational therapy; PT = physical therapy; ST = speech therapy.

Figure D-3
Service use among all demonstration eligible beneficiaries per 1,000 eligible months

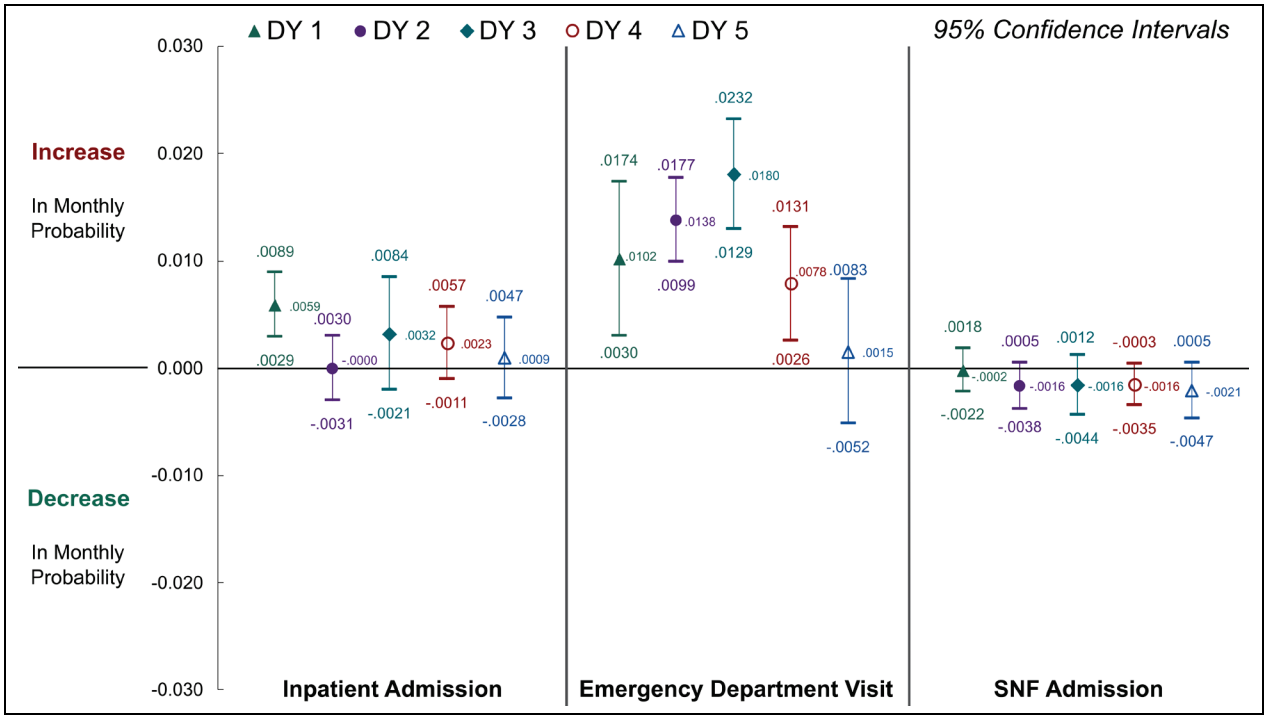


E&M = evaluation and management; OT = occupational therapy; PT = physical therapy; ST = speech therapy.

Figures D-4 through ***D-9*** include DinD regression results that show the annual effect of the demonstration on the demonstration eligible population with LTSS use on all service utilization and quality of care outcomes, relative to LTSS users in the comparison group.

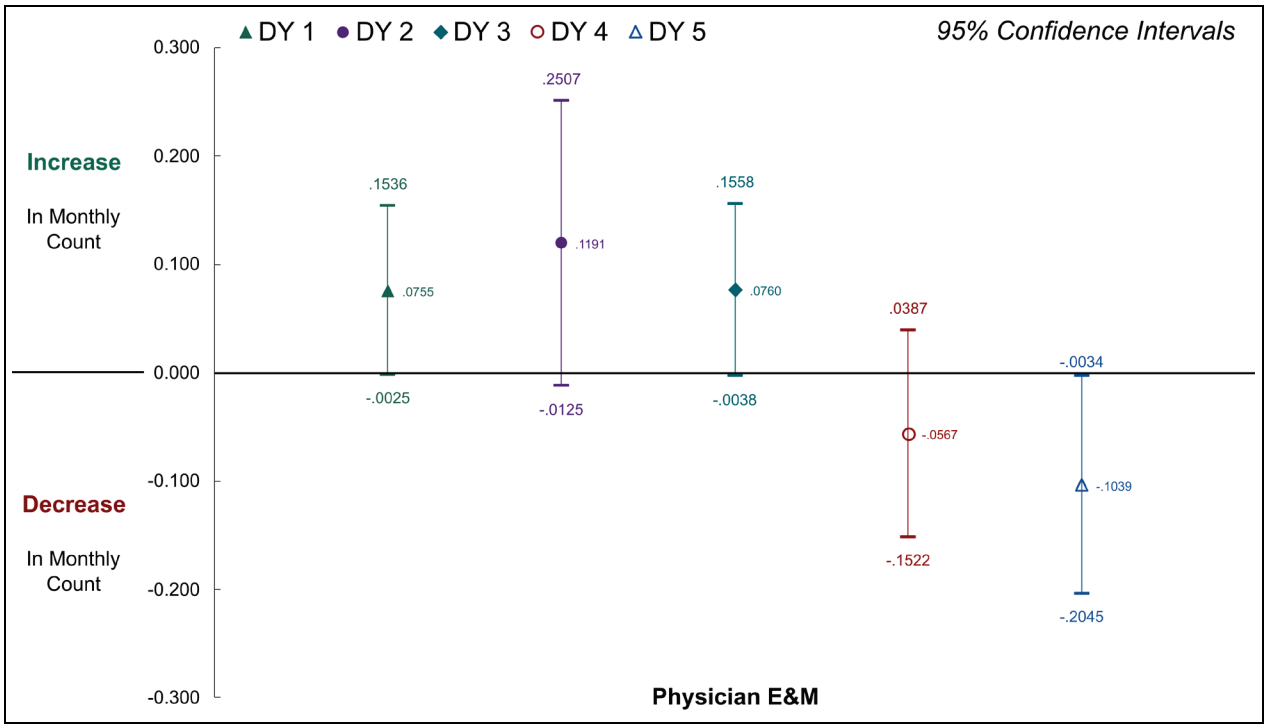
- The Washington demonstration increased the monthly probability of any ED visit in demonstration year 4, relative to LTSS users in the comparison group (***Figure D-4***).
- In contrast to demonstration years 1 through 3, the Washington demonstration reduced physician E&M visits in demonstration year 5, relative to LTSS users in the comparison group (***Figure D-5***).
- The Washington demonstration had no effect on all cause 30-day readmission ACSC admissions (Overall and Chronic) in demonstration years 4 or 5, attenuating the trend identified in demonstration years 1 through 3 (***Figure D-7***). Preventable ED visits increased in demonstration year 4, continuing the trend in demonstration year 1 through 3 (***Figure D-8***), relative to those in the comparison group with LTSS.
- There was no impact of the demonstration on 30-day follow-up after a mental health discharge among those with LTSS (***Figure D-9***).

Figure D-4
Annual demonstration effects on inpatient admissions, ED visits, and SNF admissions for beneficiaries with LTSS use, January 1, 2013–December 31, 2018 (difference-in-differences regression results)



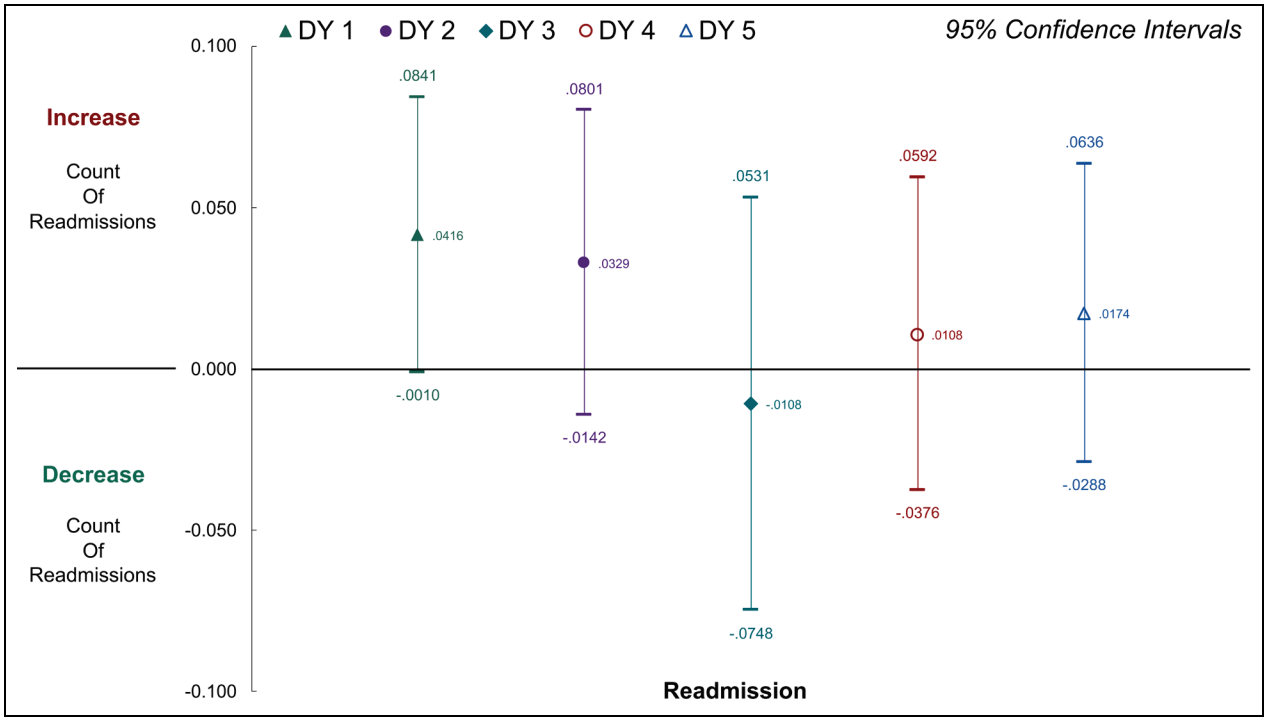
DY = demonstration year; ED = emergency department; LTSS = long-term services and supports; SNF = skilled nursing facility.
SOURCE: RTI International analysis of Medicare data.

Figure D-5
Annual demonstration effects on physician visits for beneficiaries with LTSS use, January 1, 2013–December 31, 2018
(difference-in-differences regression results)



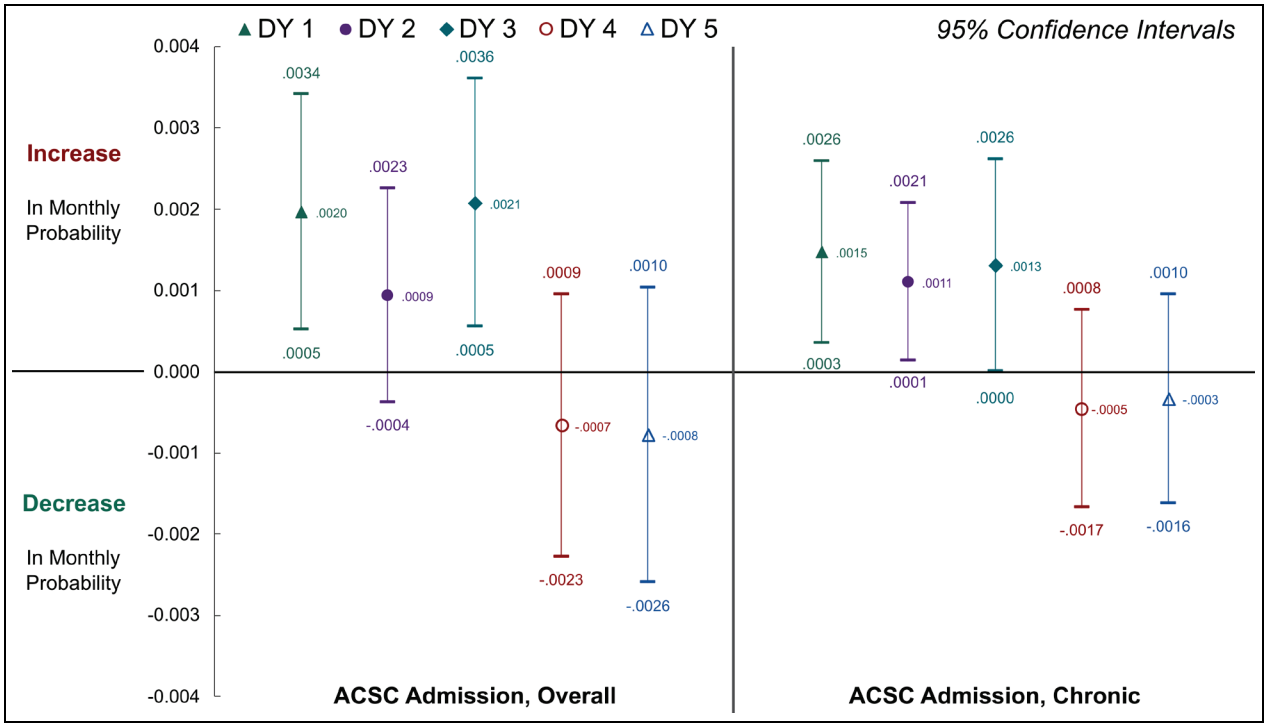
DY = demonstration year; E&M = evaluation and management; LTSS = long-term services and supports.
SOURCE: RTI International analysis of Medicare data.

Figure D-6
Annual demonstration effects on the count of 30-day readmissions for beneficiaries with LTSS use, July 1, 2013–December 31, 2018 (difference-in-differences regression results)



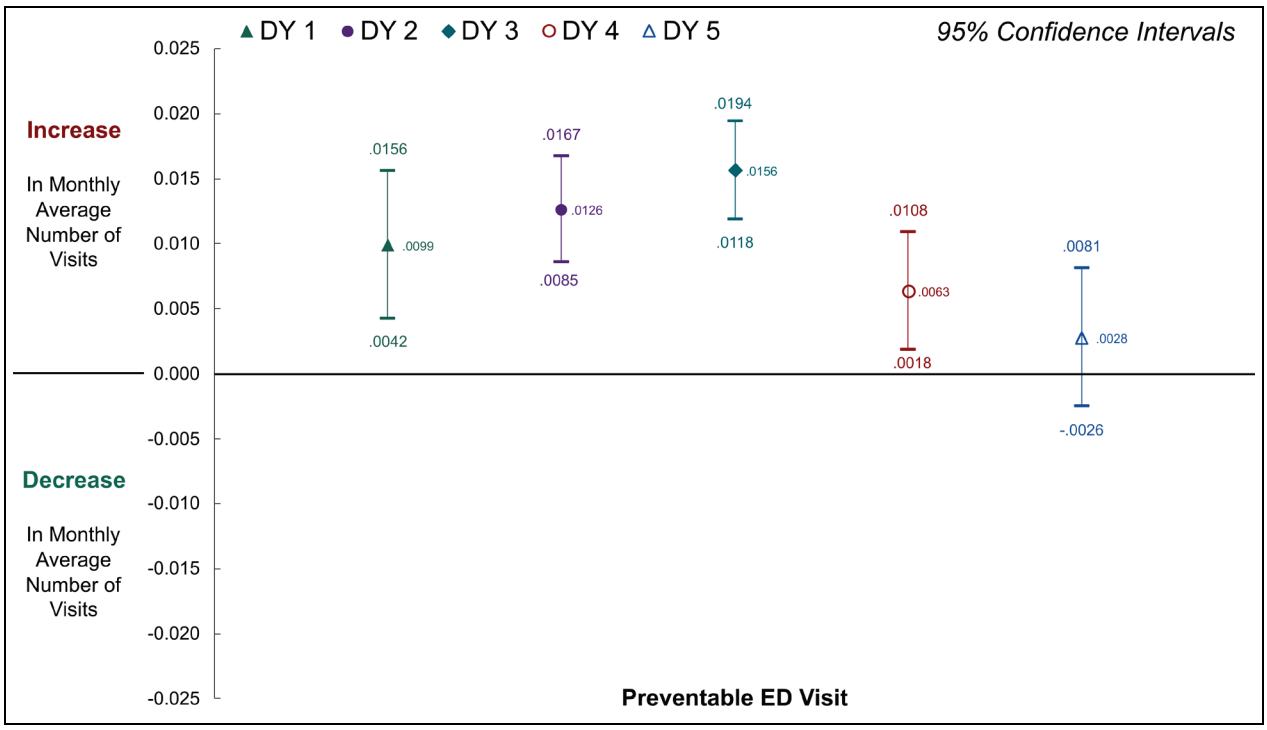
DY = demonstration year; LTSS = long-term services and supports.
SOURCE: RTI International analysis of Medicare data.

Figure D-7
Annual demonstration effects on the monthly probability of ACSC admissions (overall and chronic) for beneficiaries with LTSS use, July 1, 2013–December 31, 2018 (difference-in-differences regression results)



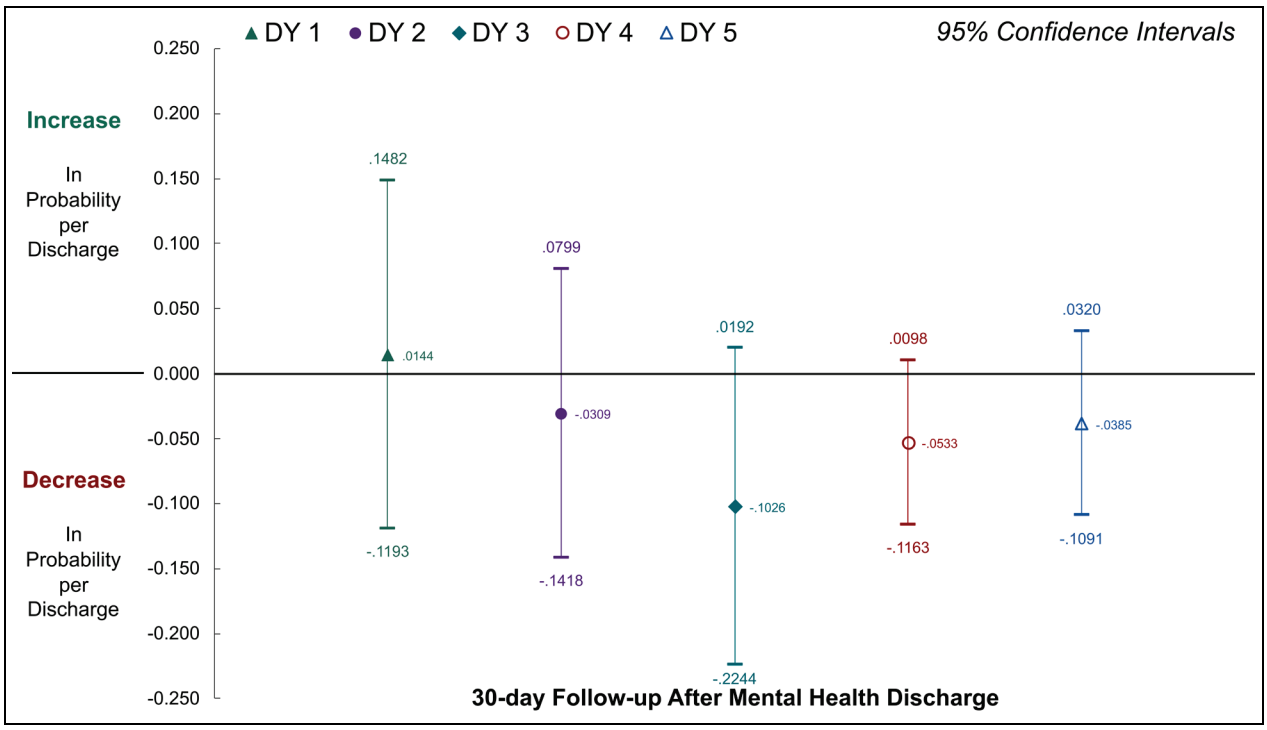
ACSC = ambulatory care sensitive condition; DY = demonstration year; LTSS = long-term services and supports.
SOURCE: RTI International analysis of Medicare data.

Figure D-8
Annual demonstration effects on the number of preventable ED visits for beneficiaries with LTSS use, July 1, 2013–December 31, 2018 (difference-in-differences regression results)



DY = demonstration year; ED = emergency department; LTSS = long-term services and supports.
SOURCE: RTI International analysis of Medicare data.

Figure D-9
Annual demonstration effects on the probability of 30-day follow-up post mental health discharge for beneficiaries with LTSS use, July 1, 2013–December 31, 2018 (difference-in-differences regression results)

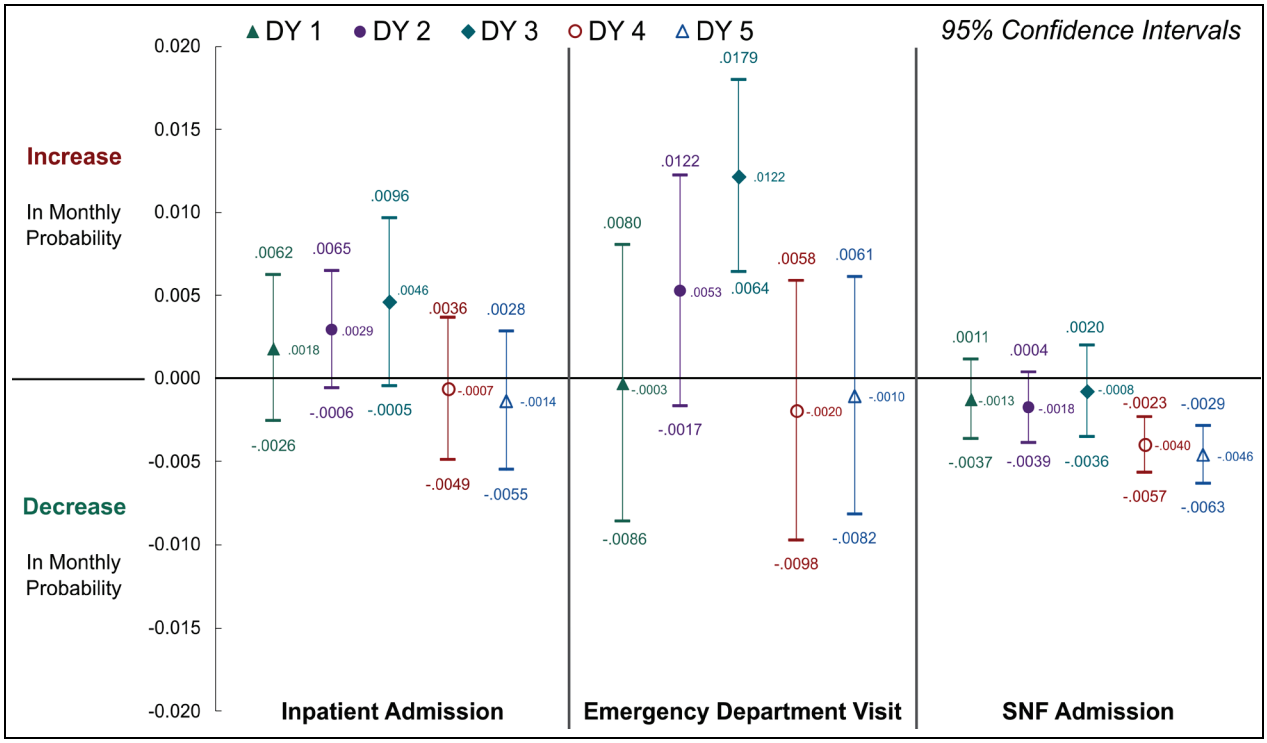


DY = demonstration year; LTSS = long-term services and supports.
SOURCE: RTI International analysis of Medicare data.

Figures D-10 through ***D-14*** include DinD regression results that show the annual effect of the demonstration on the demonstration eligible population with SPMI on all service utilization and quality of care outcomes, relative to those with SPMI in the comparison group.

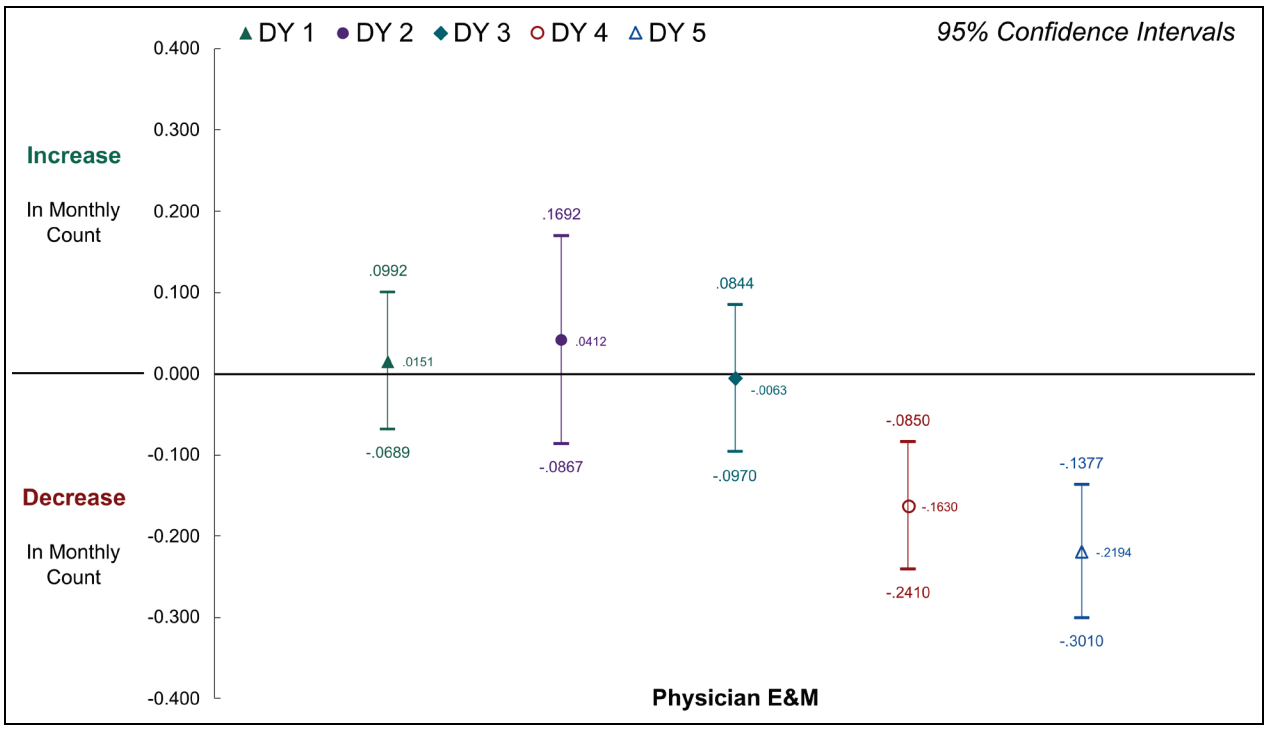
- Among those with an SPMI, the Washington demonstration decreased the probability of an SNF admission (demonstration years 4 and 5), relative to those with an SPMI in the comparison group (***Figure D-10***). Among those with an SPMI, the Washington demonstration decreased monthly physician visits in demonstration years 4 and 5, but not in years 1 through 3, relative to those with SPMI in the comparison group (***Figure D-11***).
- Among those with an SPMI, there was no impact of the demonstration on 30-day all cause readmissions (***Figure D-12***) or ACSC admissions (Overall or Chronic) in demonstration years 4 and 5, attenuating the trend observed in demonstration years 1 through 3 (***Figure D-13***). Similarly, there was no demonstration effect on preventable ED visits in years 4 and 5; by contrast, there were observed increases in preventable ED visits in years 2 and 3, relative to the comparison group beneficiaries with an SPMI (***Figure D-14***).

Figure D-10
Annual demonstration effects on inpatient admissions, ED visits, and SNF admissions for beneficiaries with SPMI, January 1, 2013–December 31, 2018 (difference-in-differences regression results)



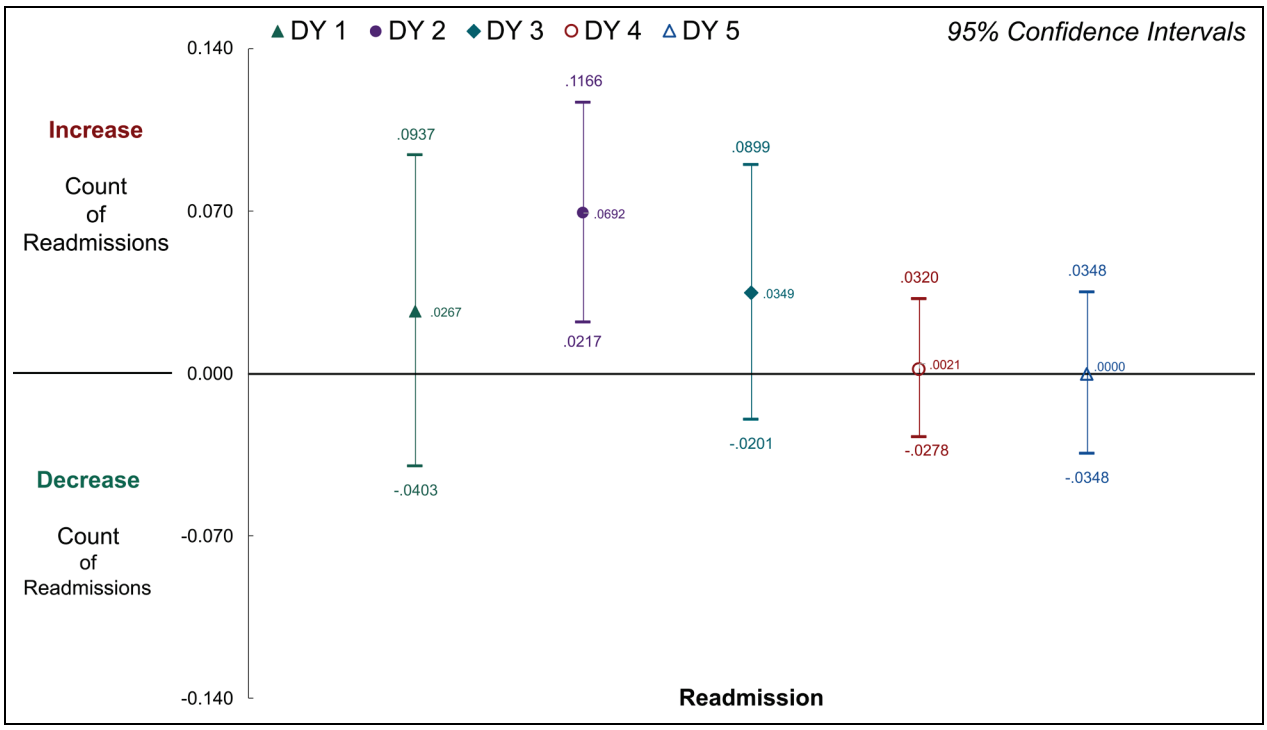
DY = demonstration year; ED = emergency department; SNF = skilled nursing facility; SPMI = serious and persistent mental illness.
SOURCE: RTI International analysis of Medicare data.

Figure D-11
Annual demonstration effects on physician visits for beneficiaries with SPMI, January 1, 2013–December 31, 2018 (difference-in-differences regression results)



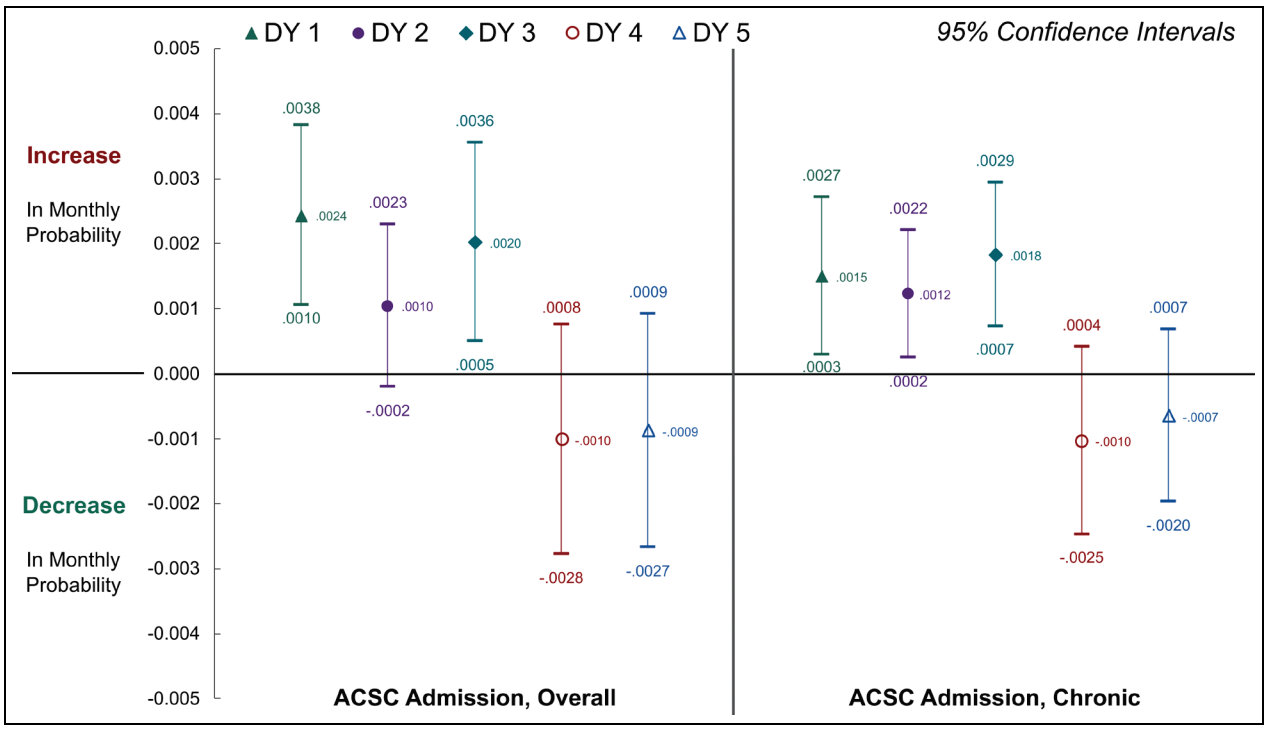
DY = demonstration year; E&M = evaluation and management; SPMI = serious and persistent mental illness.
SOURCE: RTI International analysis of Medicare data.

Figure D-12
Annual demonstration effects on the count of 30-day readmissions for beneficiaries with SPMI, July 1, 2013–December 31, 2018
(difference-in-differences regression results)



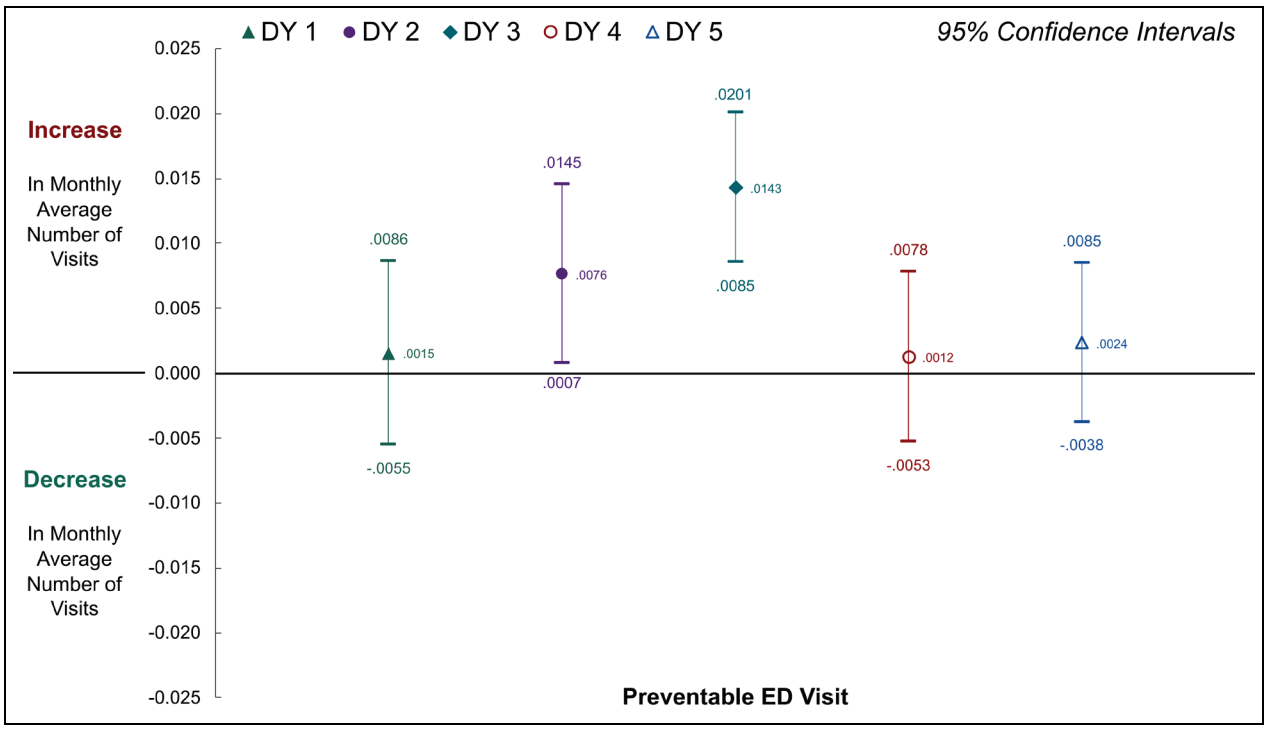
DY = demonstration year; SPMI = serious and persistent mental illness.
SOURCE: RTI International analysis of Medicare data.

Figure D-13
Annual demonstration effects on the monthly probability of ACSC admissions (overall and chronic) for beneficiaries with SPMI, July 1, 2013–December 31, 2018 (difference-in-differences regression results)



ACSC = ambulatory care sensitive condition; DY = demonstration year; SPMI = serious and persistent mental illness.
SOURCE: RTI International analysis of Medicare data.

Figure D-14
Annual demonstration effects on the number of preventable ED visits for beneficiaries with SPMI July 1, 2013–December 31, 2018 (difference-in-differences regression results)



ED = emergency department; DY = demonstration year; SPMI = serious and persistent mental illness.
SOURCE: RTI International analysis of Medicare data.

Appendix E

Cost Savings Methodology

Two adjustments were made to the monthly Medicare expenditures. The first was to account for Medicare sequestration reductions starting April 1, 2013. The second was the average geographic adjustment to ensure that observed expenditure variations are not caused by differences in Medicare payment policies in different areas of the country. ***Table E-1*** summarizes each adjustment in greater detail.

After applying all adjustments, beneficiary-level monthly expenditures were Winsorized (capped) at the 99th percentile across all comparison group and demonstration group observations to limit the effect of extreme outliers in the data. ***Table E-2*** provides the results of our analyses for each demonstration year.

Additionally, corrections were made to impact estimates from earlier reports that resulted in differences in our current impact estimates for demonstration years 1–3. We attribute the differences in the estimates to changes in the definition of the intervention group and removing erroneous zeros in the dependent variable; implementing monthly exclusion criteria; and winsorizing the PMPM Medicare expenditure variable on the corrected analytic sample. Specifically, we made the following corrections: (1) confirmed dual status for state-identified FAI eligible beneficiaries against IDR data, removing erroneous zeros in the dependent variable, (2) applied IDR-based exclusion criteria for all monthly observations in the comparison group during the predemonstration period and demonstration period, and to the demonstration group during the predemonstration period, and (3) winsorized the PMPM Medicare expenditure variable on beneficiary months meeting all of the eligibility criteria (whereas previously it was on all beneficiary months regardless of eligibility). Because the original estimates contained observations in the demonstration group in the demonstration period with erroneous values of zero for the dependent variable for those not meeting dual status, this resulted in a downward bias in the average costs for the demonstration group in the demonstration period. We found that the revised (current) estimates continue to indicate statistically significant savings for demonstration years 1–3, though the magnitude of the savings is less than previously reported.

Table E-1
Adjustments to Medicare expenditures variable

Adjustment description	Reason for adjustment	Adjustment detail
Medicare sequestration payment reductions	Under sequestration, Medicare payments were reduced by 2% starting April 1, 2013. Because the predemonstration period includes months prior to April 1, 2013, it is necessary to apply the adjustment to these months of data.	Reduced FFS claim payments incurred before April 2013 by 2%.
Average geographic adjustments (AGAs)	FFS claims also reflect geographic payment adjustments. To ensure that change over time is not related to differential change in geographic payment adjustments, payments were "unadjusted" using the appropriate county-specific AGA factor.	Medicare payments were divided by the appropriate county-specific full AGA factor for each year.

FFS = fee-for-service.

Table E-2 is a summary of the overall impact estimates by demonstration year. Although the regression models show the impact of the demonstration on the unit of analysis, a

beneficiary-month, it is also valuable to understand the total impact across all eligible beneficiary-months. For example, over demonstration years 4 and 5 combined, the total impact of the demonstration on Medicare per-beneficiary per-month expenditures (***Table E-3***) was a statistically significant decrease (savings) of $212.57, relative to the comparison group. There were 755,709 eligible beneficiary-months in the demonstration group over the same period, which translates to just over $160.6 million in estimated gross Medicare Parts A and B savings. Subtracting the performance payments that CMS made to Washington State for the same period ($32.9 million) from this gross savings, the net savings to Medicare for demonstration years 4 and 5 combined is over $127 million.[19]

Over demonstration years 1, 2, and 3 combined, the impact on gross Medicare Parts A and B spending was a statistically significant decrease (savings) of $155.92 PMPM, relative to the comparison group. There were 750,624 eligible beneficiary-months in the demonstration group during that period, which translates to $117 million in gross estimated Medicare Parts A and B savings. Subtracting the performance payments that CMS made to Washington State for the same period ($36.5 million) from this gross savings, the net savings to Medicare for demonstration years 1, 2 and 3 combined is over $80 million (***Table E-3***).[20]

Table E-2
Demonstration effects on total Medicare expenditures among eligible beneficiaries—Difference-in-differences regression results

Period	Adjusted coefficient DinD	p-value	95% confidence interval	90% confidence interval
Demo Year 1 (July 2013–December 2014)	−86.37	0.0278	(−163.31, −9.44)	(−150.94, −21.81)
Demo Year 2 (January 2015–December 2015)	−213.43	<0.0001	(−273.38, −153.47)	(−263.74, −163.11)
Demo Year 3 (January 2016–December 2016)	−144.15	0.0007	(−227.89, −60.41)	(−214.43, −73.87)
Demo Year 4 (January 2017–December 2017)	−190.95	<0.0001	(−279.07, −102.84)	(−264.90, −117.00)
Demo Year 5 (January 2018–December 2018)	−234.33	< 0.0001	(−319.96, −148.69)	(−306.20, −162.46)

DinD = difference in differences.
Note: These results correspond with ***Figure 12*** in ***Section 6, Cost Savings Calculation***.

[19] Under the managed fee-for-service model, the State is eligible to share in up to one-half of the total Medicare savings, minus any significant increases in federal Medicaid spending. Pending availability of Medicaid cost results, CMS has issued approximately two-thirds of the maximum potential performance payments to Washington State through demonstration year 5. Thus, final net Medicare savings are anticipated to be less than $88 million.
[20] Pending availability of Medicaid cost results, CMS has issued approximately two-thirds of the maximum potential performance payments to Washington State; final net Medicare savings are anticipated to be less than $61 million.

Table E-3
Aggregate gross and net Medicare savings

Period	Number of eligible person-months	Average effect PMPM ($)	Total gross savings ($)	Total Medicare payments ($)[a]	Total net savings ($)	Total net savings ($): 95% CI
DY1 (2013–2014)	248,736	−86.37	−21,483,328	11,600,000	−9,883,328	(−29,021,076, 9,251,932)
DY2 (2015)	234,565	−213.43	−50,063,208	10,700,000	−39,363,208	(−53,425,380, −25,298,691)
DY3 (2016)	267,323	−144.15	−38,534,610	14,200,000	−24,334,610	(−46,720,238, −1,948,982)
Total (DY1–DY3)[b]	750,624	−155.92	−117,037,294	36,500,000	−80,537,294	(−120,748,222, −40,318,860)
DY4 (2017)	360,947	−190.95	−68,922,830	15,500,000	−53,422,830	(−85,229,479, − 21,619,789)
DY5 (2018)	394,762	−234.33	−92,504,579	17,400,000	−75,104,579	(−108,908,050, −41,297,162)
Total (DY4–DY5)[b]	755,709	−212.57	−160,641,062	32,900,000	−127,741,062	(−190,464,909, −65,024,772)
Total to date (DY1–DY5)[b]	1,506,333	−184.34	−277,677,425	69,400,000	−208,277,425	(−282,780,655, −133,774,195)

CI = confidence interval; DY = demonstration year; PMPM = per member per month.
[a] Actual payment amount, assuming 2/3 of possible maximum allowed (provided by CMS).
[b] The multi-DY totals for "Total gross savings ($)," "Total net savings ($)," and "Total net savings ($): 95% CI" are based on "Average effect PMPM ($)" that is either regression estimated (for DY1–DY3 and DY4–DY5) or calculated as a weighted average (for DY1–DY5), and as such, they are not equal to the simple sum of the corresponding numbers over individual DYs.
SOURCE: WADY1-5_gross_net_savings.xlsx.

E.1 Model Covariates

Model covariates included the following variables, which were also included in the comparison group selection process. Variables were included in the model after variance inflation factor testing.

Demographic variables included in the savings model were:

- Gender
- Race
- End-stage renal disease status
- HCC risk score

Area-level variables included in the savings model were:

- Medicare spending per Medicare-Medicaid enrollee age 19 or older

- Medicare Advantage penetration rate
- Medicaid-to-Medicare FFS index for all services
- Medicaid spending per Medicare-Medicaid enrollee age 19 or older
- Proportion of Medicare-Medicaid enrollees age 65 or older using NFs
- Proportion of Medicare-Medicaid enrollees age 65 or older using personal care
- Proportion of Medicare-Medicaid enrollees age 19 or older with Medicaid managed care
- Population per square mile
- Physicians per 1,000 population