EVALUATION OF THE WISCONSIN SENIORCARE PROGRAM
CMS § 1115 WAIVER DEMONSTRATION

2016-18 Waiver Period

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iii. ABBREVIATIONS & GLOSSARY OF TERMS

CMR/A	Comprehensive Medication Review and Assessment. Private consultations between a SeniorCare member and a pharmacist to review and discuss that patient's entire medication regimen
Competing Risks Regression Model	A statistical alternative to the Cox proportional hazards model that allows for competing events that impede the occurrence of the event of interest
Cox Regression Model	A way of statistically modeling the time that passes before an event occurs and its association with covariates
Cumulative Incidence	Cumulative incidence: probability of an event of interest happening before a given time
EBD	Elderly, Blind or Disabled
Enrollment spell	A period of enrollment in SeniorCare or another program
FPL	Federal Poverty Level
Hazard ratio	Relative risk of an event happening, holding constant the other characteristics included in the model
IBS	Intervention-Based Services, a consultation between a member and a pharmacist resulting in patient education or a change in drug therapy
MTM	Medication Therapy Management, consultative and other services provided to patients by pharmacists to improve health outcomes and prevent problems with prescription medications
Non-waiver population	SeniorCare enrollees with income > 200% of the federal poverty level (FPL)
PDC	Proportion of days covered, the preferred method to assess medication adherence to important chronic drug therapies
PQA	Pharmacy Quality Alliance, a quality measure organization that works in partnership with CMS to develop medication use measures and Medicare Part D ratings

Specialty Drug	Typically very high-cost drugs, such as genomic and biotech products. For the purposes of the SeniorCare program, DHS defines specialty drugs as drugs requiring comprehensive patient care services, clinical management, and product support services.
UWPHI	University of Wisconsin Population Health Institute (independent evaluator of this demonstration project)
Waiver Population	SeniorCare enrollees with income ≤ 200% of the FPL. Includes enrollees in the "copayment" group (income ≤ 160% of the FPL), and the "deductible" group (income > 160% and ≤ 200% of the FPL).
WHIO	Wisconsin Health Information Organization, the state's multi-payer claims database

iv. Evaluation Hypotheses Defined by the Wisconsin Department of Health Services

The specific evaluation hypotheses for the 2016-18 waiver period, developed by the Department of Health Services (DHS) and approved by the Centers for Medicare and Medicaid Services (CMS), are as follows:

Hypothesis 1: The rate of Medicaid entry among Wisconsin seniors age 65 and older will be lower after SeniorCare implementation than before SeniorCare.

Hypothesis 2: The rate of hospital admissions among Wisconsin seniors age 65 and older for selected medical conditions such as diabetes and heart disease will be lower after SeniorCare implementation than before SeniorCare.

Hypothesis 3: The rate of Medicaid-funded nursing home admissions among Wisconsin seniors age 65 and older will be lower after SeniorCare implementation than before SeniorCare.

Hypothesis 4: SeniorCare members will report lower levels of financial hardship and prescription non-adherence after enrolling in SeniorCare than for a comparable period prior to program enrollment.

Hypothesis 5: SeniorCare waiver program members who receive Comprehensive Medication Review and Assessment (CMR/A) services will have improved medication adherence, compared to members who do not receive CMR/A.

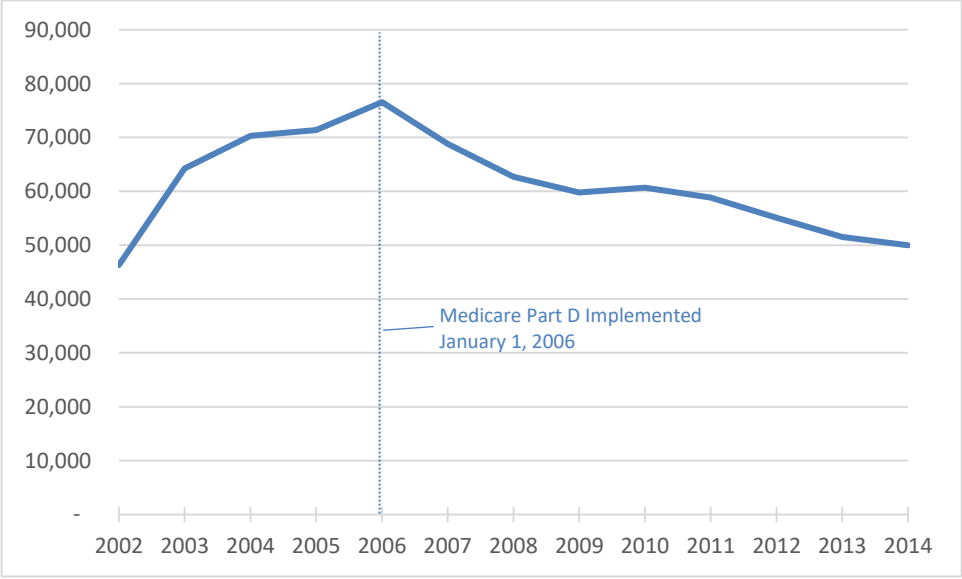
I. EXECUTIVE SUMMARY

The SeniorCare program, initiated in 2002, was designed to assist low-income elderly individuals in Wisconsin with accessing prescription drugs. The UW Population Health Institute (UWPHI) health policy team is the contracted evaluator of the Wisconsin SeniorCare Demonstration Project, as outlined by an evaluation framework developed by the Wisconsin Department of Health Services (DHS) and approved by the federal Centers for Medicare and Medicaid Services (CMS).

This work builds on the understanding of the program developed in previous evaluations of the program that have been completed by Brandeis University and the DHS Office of Policy Initiatives and Budget. The current evaluation was conducted through an analysis of DHS administrative claims and enrollment data, and data obtained through the Wisconsin Health Information Organization (WHIO). Unlike previous SeniorCare evaluations, the current project did not include a member survey component, in part due to a shorter timeframe for the current evaluation compared to past reports. The evaluation focuses on the waiver period covering 2016 through 2018, though it includes data over the period covering 2014 to 2018 for the purpose of comparison and trend analysis.

Overall Program Trends. Total SeniorCare enrollment has increased slightly over time, but the proportion of individuals in the waiver-eligible population has declined, continuing a trend that was seen prior to 2014. The distribution of members in the two waiver subpopulations (≤160% of the federal poverty level (FPL) and 160-200% FPL) has remained stable. One factor that may explain declining enrollment over time is the availability of alternative sources of drug coverage, particularly after the initiation of Medicare Part D in 2006 (see Figure I.1). SeniorCare is the primary or sole source of drug coverage for most of the waiver population. However, SeniorCare is increasingly being used as supplementary coverage to other sources of prescription drug insurance.

Figure I.1: Historical Average Monthly Waiver Enrollment[1]



[1] Wisconsin Department of Health Services. 2016. "Evaluation Report for the Wisconsin SeniorCare Section 1115 Pharmaceutical Benefit Demonstration." Office of Policy Initiatives and Budget, Wisconsin Department of Health Services: p. 33. www.dhs.wisconsin.gov/seniorcare/scwaiver-1315-opib-eval.pdf

Despite this shift, use of the SeniorCare drug benefit among the waiver population remains high. Of note, although total claims for the waiver population declined nearly 20% from 2014-2018, total expenditures and SeniorCare program costs have steadily increased over time. Expensive specialty medications account for much of this increased spending in the SeniorCare program. While SeniorCare expenditures increased over this time period, the proportion of total drug expenditures borne by the program have decreased slightly while other payers have assumed an increasing share of expenditures.

Transition to Medicaid. The overall incidence of Medicaid transition was low for SeniorCare members, at 6% of enrollment spells starting after January 2014 and ending before December 2018. The most important predictors of Medicaid entry were age and income at the time the SeniorCare enrollment spell starts; members who were older and of lower income at the time their spells start were more likely to enter Medicaid. The likelihood of renewing SeniorCare enrollment differed by age, race, and household language, but was similar across income brackets. Due to limits in the data described in the full report the observed difference in Medicaid entry among SeniorCare members does not allow conclusions about the overall contribution of SeniorCare to Medicaid entry.

Hospitalizations. We compared characteristics of Medicaid-funded hospitalizations for SeniorCare members to two comparable older adult populations in Wisconsin: the Medicaid Elderly, Blind, and Disabled (EBD) population and the Medicare Advantage population. Observed differences generally reflect the differences in the underlying enrolled populations in these programs. SeniorCare members had fewer mean annual hospital visits than the comparison groups, and the mean annual length of stay for SeniorCare members was longer than for the Medicare Advantage population but shorter than the EBD Medicaid population. This would be expected, as the EBD population likely has higher overall health needs than the SeniorCare population, while the SeniorCare population may be more comparable to the Medicare Advantage population. Mean annual hospitalization costs for SeniorCare members were lower than the EBD Medicaid population during the waiver period, with a growing difference in costs over time.

Nursing Home Utilization. Medicaid-funded nursing home entry was a very rare occurrence among SeniorCare members, at a rate considerably lower than for comparable older adults in the EBD Medicaid and Medicare populations. Here again, this observation reflects the differences in the underlying enrolled populations in these programs. The mean length of stay for SeniorCare members was relatively similar to the EBD Medicaid population. Although their length of stay was considerably longer than the Medicare group, this reflects the structural differences in coverage for nursing home care between the two programs (Medicaid relative to Medicare). The probability of SeniorCare members remaining outside a nursing home was considerably higher than the EBD Medicaid and Medicare populations, and remained relatively unchanged over the study period. However, no causal relationships between SeniorCare enrollment and nursing home entry can be established.

Prescription Drug Costs. Although total expenditures for prescription drugs in the SeniorCare program have increased over time, member out-of-pocket costs have decreased over time, in part because cost sharing requirements in the program have remained unchanged in recent years. SeniorCare members rarely experienced high financial burden due to prescription drugs, defined as having total out-of-pocket costs exceeding 5% of total income. However, member utilization of specialty drugs has increased over time, and associated member spending has greatly increased. A growing challenge for the SeniorCare program will be balancing the increased costs of these drugs while ensuring member access to new drug therapies.

Medication Adherence. Adherence to medications for important chronic drug therapies is an important performance measure commonly used by public and private payers to assess the quality of medication use. The SeniorCare population shows very high medication adherence. In addition, small but consistent improvements in medication adherence were seen over time.

Medication Therapy Management. SeniorCare members received very few comprehensive medication review and assessment (CMR/A) services, and the rate of CMR/A services declined over time. Most CMR/A services were provided to waiver population members, with SeniorCare paying the majority of the costs for these services. The high level of prescription drug use among those who received a CMR/A service is consistent with the recommended eligibility criteria for these services, suggesting appropriate targeting of these services to eligible SeniorCare members. Given the potential for MTM services to improve medication use among older adults, there is a need to better identify eligible members, and to ensure members receive CMR/A services when appropriate.

II. DEMONSTRATION WAIVER AND EVALUATION BACKGROUND

Wisconsin's SeniorCare Program, administered as a component of the state's Medical Assistance program, provides prescription drug coverage for low-income seniors in Wisconsin. The program was originally implemented in 2002 through a Section 1115 demonstration waiver between the Wisconsin Department of Health Services (DHS) and the federal Centers for Medicare and Medicaid Services (CMS). The DHS application for the 2016-18 waiver period identifies the following objectives of SeniorCare:

- Keeping Wisconsin seniors healthy by continuing to provide a necessary primary health care benefit.
- Helping control overall costs for the senior Medicaid population by preventing seniors from becoming eligible for full Medicaid due to deteriorating health and having to "spend down" to Medicaid eligibility levels.
- Reducing the rate of increase in the use of non-pharmacy-related services provided to this population including hospital, nursing facility and other related medical services.

The waiver agreement has received several renewals from CMS since the initial approval of the waiver; this evaluation report is for the hypotheses developed by DHS for the 2016-18 waiver period.

A. Eligibility. SeniorCare enrollees must meet a set of financial and non-financial eligibility criteria, with a required eligibility review every 12 months. All enrollees must be 65 years of age or older, a resident of Wisconsin, a U.S. citizen or qualifying immigrant, and provide a social security number. SeniorCare enrollees must not be enrolled in full-benefit Medicaid.

Individuals must meet certain income requirements to participate in the program, though there is not an asset test for eligibility. There are several "levels" of SeniorCare participation based on a member's income. The main group of interest for the purposes of this evaluation are enrollees with income at or below 200% of the federal poverty level, referred to in this report as the "waiver population." Individuals with income above 200% of the federal poverty level may also participate in the program with higher levels of cost-sharing (see below), though they are not covered under the waiver agreement between DHS and CMS. Some of the analyses in the evaluation report include this "non-waiver" population to supplement the core analysis of the waiver group, and to provide a group against which to compare changes in costs and utilization among the waiver population.

B. Benefit Structure.

1. Benefit. The program provides comprehensive coverage of prescription drugs for enrollees, but does not cover over-the-counter drugs (except for insulin), drugs administered in a physician's office, or durable medical supplies. SeniorCare does not cover non-drug services such as nursing home and hospitalization costs.

2. Cost-Sharing All program enrollees are subject to an annual $30 enrollment fee. In addition, members must meet certain cost-sharing requirements, specifically a copayment (a fixed amount paid per prescription) and a deductible (a dollar amount that a member must spend out of pocket before SeniorCare begins covering a portion of drug costs). During the deductible period, the member pays the

negotiated SeniorCare rate for covered drugs. These costs borne by the member vary by income level, and are listed in Table II.1. Certain covered services, such as comprehensive medication review and assessment (CMR/A), are not subject to copayments, though a member is responsible for those costs until they satisfy the deductible (see Section IV.E for more information on CMR/A services).

Table II.1: SeniorCare Cost-Sharing Requirements

Member Income	Copayment	Deductible Amount
Waiver Population		
≤ 160% FPL	$5 for generic drugs/$15 for brand name drugs	None
> 160% and ≤ 200% FPL	$5 for generic drugs/$15 for brand name drugs	$500
Non-Waiver Population		
> 200% and ≤ 240% FPL	$5 for generic drugs/$15 for brand name drugs	$850
> 240% FPL	Enrollees at this income level are in a "spend-down" category, where they must pay all drug costs equal to the difference between their income and 240% of the FPL. Once they meet that spend-down requirement, the member is subject to an $850 deductible, and copayments of $5 for generic drugs/$15 for brand name drugs once the deductible is met.	

3. Medicare Part D and Other Coverage. SeniorCare members may have access to prescription drug coverage through other sources, including the Medicare Part D drug benefit, employer-sponsored coverage, or other coverage purchased by the member. In these cases, SeniorCare acts as the payer of last resort, and serves as wrap-around coverage for costs not covered by these other programs or payers. SeniorCare also serves as "creditable coverage" for Medicare Part D, which allows an individual to enroll in Medicare Part D after the age of 65 without paying a penalty for delayed enrollment.

C. Waiver Timeframe and Extension. This evaluation is for the waiver period running January 1, 2016 through December 31, 2018, and analyzes claims, enrollment, and other data this period. In 2018, DHS initiated the process of renewing the SeniorCare program's waiver with CMS, and has proposed a 10-year program renewal. As of the drafting of this evaluation report, those negotiations between DHS and CMS continue, and the current waiver agreement has received a temporary extension through April 30, 2019.

D. Evaluation of Waiver. This evaluation builds on the prior work conducted by research teams at Brandeis University and the DHS Office of Policy Initiatives and Budget (OPIB). Unlike those previous evaluations, the current evaluation does not include a member survey component. The most recent evaluation report, conducted by OPIB for the 2013-15 waiver period, concluded that SeniorCare improves access to prescription drugs and medication adherence for seniors in Wisconsin, but was unable to reach definitive conclusions regarding hospital and nursing home utilization due to limitations in access to data.

III. SENIORCARE PROGRAM DESCRIPTION: ENROLLMENT, UTILIZATION, AND COSTS

Methods and Data Sources. SeniorCare program enrollment and claims data obtained from DHS served as the primary sources of data for these analyses. Descriptive analyses were conducted to describe population-level characteristics of the SeniorCare program related to member enrollment, prescription drug utilization, and program costs. Annual trends in the measures were assessed over calendar years 2014-2018, which was selected to describe the years immediately prior to and during the waiver period (2016-2018).

Information on enrollment, sources of insurance coverage, and program utilization was obtained from SeniorCare program enrollment data, and supplemented by information obtained from paid drug claims. Population-level measures of drug utilization and costs were obtained from SeniorCare drug claims data. Only paid, non-reversed claims were included in the analyses. Additional drug outcomes are provided in Section IV.D addressing Hypothesis 4.

It should be noted that to comply with the federal Covered Outpatient Drugs Final Rule (CMS-2345-FC), Wisconsin Medicaid changed its billing and reimbursement policy for covered outpatient drugs effective April 1, 2017 for several programs including SeniorCare. This reimbursement policy changed ingredient pricing to better reflect the actual acquisition cost of prescription drugs and introduced a new professional dispensing fee structure.[2] Internal evaluations conducted by DHS prior to the change estimated an increase in overall costs to the Medicaid program; however, no information is available specific to the SeniorCare program, or on the fiscal impact following implementation of the changes to reimbursement. This evaluation used the information contained in the paid drug claims to assess trends in actual drug costs, which best reflect the overall trends in total drug costs and SeniorCare program costs regardless of the contributing factors.

Results. The following sections provide detailed analyses of SeniorCare on the following:

A. Enrollment and enrollee characteristics
B. Expenditures by therapeutic category of drugs
C. Expenditures on brand name and generic drugs
D. Expenditures on specialty drugs
E. Cost paid by the SeniorCare program, members (through copayments and deductibles), and other third-party payers

A. Enrollment and Enrollee Characteristics. Table III.A.1 provides an overview of member enrollment in the SeniorCare program from 2014-2018. Total member enrollment increased over this period from approximately 99,000 to 107,000 members in each year, which was a relative increase of 8.4%. This increase was proportional to the increase seen in the general Wisconsin population that is 65 or older (Table III.A.2). As a result, just over 11% of Wisconsin seniors were enrolled in SeniorCare in each year. However, the number and proportion of members in the waiver population decreased by 10.7% over this time, continuing a trend that was seen prior to 2014.[3]

[2] Wisconsin Department of Health Services. "Covered Outpatient Drug Pricing." ForwardHealth. Accessed 4/21/2019. www.forwardhealth.wi.gov/WIPortal/content/Provider/Medicaid/pharmacy/codp/codp.htm.spage

[3] Wisconsin Department of Health Services. 2016. "Evaluation Report for the Wisconsin SeniorCare Section 1115 Pharmaceutical Benefit Demonstration." Office of Policy Initiatives and Budget, Wisconsin Department of Health Services: p. 33. www.dhs.wisconsin.gov/seniorcare/scwaiver-1315-opib-eval.pdf

Table III.A.1: Annual SeniorCare Enrollment

Year	Total Enrollment	Waiver Eligible	Percent of Total	Non-Waiver Eligible	Percent of Total
2014	99,096	57,827	58.4%	41,269	41.6%
2015	100,802	56,142	55.7%	44,660	44.3%
2016	103,797	54,206	52.2%	49,591	47.8%
2017	105,748	52,879	50.0%	52,869	50.0%
2018	107,412	51,276	47.7%	56,136	52.3%

Table III.A.2: SeniorCare Enrollment as Proportion of Eligible Wisconsin Population

Year	Wisconsin Population Age 65+	Annual SeniorCare Enrollment	SeniorCare Enrollment as % of Total 65+ Population
2014	874,415	99,096	11.33%
2015	901,387	100,802	11.18%
2016	927,836	103,797	11.19%
2017	951,828	105,748	11.11%

Total Wisconsin Population age 65+ data obtained from DHS Wisconsin Interactive Statistics on Health. [4]

The SeniorCare waiver population is composed of two groups with different cost sharing requirements, as outlined in the previous section in Table II.1: (a) members with income at or below 160% FPL subject only to a standard copayment amount when obtaining a medication; and (b) members with income between 160% and 200% FPL subject to an annual deductible. For the group subject to a deductible, once the member has paid the full deductible amount out-of-pocket, they are then subject to the standard SeniorCare copayment amounts when obtaining further medications. Table III.A.3 provides an overview of waiver enrollment by income level. Members who have income ≤160% FPL represent about two-thirds of the waiver population, which declined slightly but remained relatively stable over time.

Table III.A.3: SeniorCare Waiver Enrollment by Income Level

Year	Total Waiver Population	Copayment (≤160% FPL)	Percent of Total	Deductible (160-200% FPL)	Percent of Total
2014	57,827	38,098	65.9%	19,729	34.1%
2015	56,142	36,830	65.6%	19,311	34.4%
2016	54,206	34,984	64.5%	19,222	35.5%
2017	52,879	34,100	64.5%	18,779	35.5%
2018	51,276	33,145	64.6%	18,131	35.4%

[4] Wisconsin Department of Health Services. "Wisconsin Interactive Statistics on Health (WISH)." Division of Public Health, Office of Health Informatics. Accessed 4/3/2019. https://www.dhs.wisconsin.gov/wish/index.htm

Table III.A.4 shows a detailed breakdown of the demographics for the overall waiver population in each year; Table III.A.5 provides this analysis separately by income level for the copayment (income ≤160% FPL) and deductible (income 160%-200% FPL) groups. For purposes of comparison, Table III.A.6 shows this demographic information for the non-waiver population (income >200% FPL).

The average age of the waiver population is approximately 80 years, but has shifted over time towards a higher proportion of seniors age 65-74 years. Nearly three-quarters are female, although this proportion has declined slightly over time. The vast majority of waiver enrollees are white and non-Hispanic.

Members in the copayment group were significantly more likely to be older, female, and non-Hispanic white than members in the deductible group ($p<0.00$). The annual couple income, defined as the total annual gross income of the member and their spouse, was approximately 50% higher in the deductible group, which is consistent with the program's eligibility requirements.

Members in the non-waiver population were significantly younger, with a higher proportion of individuals 65-74 years old; they also had a higher proportion of males. The mean annual couple income was 2-3 times higher than in the waiver population, which is consistent with the eligibility requirements for these two groups.

Table III.A.4: SeniorCare Total Waiver Population Demographics

	2014	**2015**	**2016**	**2017**	**2018**
Members (n)	57,827	56,142	54,206	52,879	51,276
Age (mean)	80.2	80.0	79.7	79.5	79.3
Age (%)					
65-74	27.9	29.7	31.5	32.7	33.8
75-84	38.7	37.3	36.3	35.7	35.7
85+	33.5	33.1	32.3	31.5	30.6
Gender (%)					
Male	25.6	26.2	27.0	27.9	28.5
Female	74.4	73.8	73.0	72.1	71.5
Race/Ethnicity (%)					
White, Non-Hispanic	91.8	91.1	90.5	89.6	89.0
Black, Non-Hispanic	1.0	1.1	1.1	1.0	1.0
Other Race, Non-Hispanic	0.9	1.0	1.1	1.2	1.2
Hispanic	0.9	0.9	0.9	1.0	1.0
Multiple race/ethnicity groups reported	0.2	0.2	0.3	0.3	0.3
Missing race/ethnicity	5.2	5.8	6.2	6.9	7.5
Annual Couple Income (mean)	$18,552	$18,859	$19,125	$19,283	$19,569

Table III.A.5: SeniorCare Waiver Population Demographics by Income Level

Copayment (≤160% FPL)					
	2014	**2015**	**2016**	**2017**	**2018**
Members (n)	38,098	36,830	34,984	34,100	33,145
Age (mean)	80.8	80.6	80.3	80.1	80.0
Age (%)					
65-74	25.6	27.4	29.2	30.3	31.5
75-84	38.1	36.5	35.4	35.0	34.7
85+	36.3	36.1	35.4	34.7	33.8
Gender (%)					
Male	23.7	24.5	25.3	26.1	26.8
Female	76.3	75.5	74.7	73.9	73.2
Race/Ethnicity (%)					
White, Non-Hispanic	92.3	91.7	91.0	90.1	89.7
Black, Non-Hispanic	1.1	1.1	1.1	1.1	1.1
Other Race, Non-Hispanic	0.9	1.0	1.1	1.2	1.3
Hispanic	0.9	0.9	1.0	1.1	1.0
Multiple race/ethnicity groups reported	0.2	0.2	0.2	0.3	0.2
Missing race/ethnicity	4.7	5.2	5.7	6.3	6.8
Annual Couple Income (mean)	$15,986	$16,220	$16,416	$16,523	$16,739
Deductible (160-200% FPL)					
	2014	**2015**	**2016**	**2017**	**2018**
Members (n)	19,729	19,311	19,222	18,779	18,131
Age (mean)	79.1	78.8	78.6	78.3	78.1
Age (%)					
65-74	32.3	34.0	35.5	37.1	37.9
75-84	39.8	38.7	37.8	37.1	37.3
85+	28.0	27.4	26.7	25.8	24.8
Gender (%)					
Male	29.1	29.5	30.1	31.1	31.7
Female	70.9	70.5	69.9	68.9	68.3
Race/Ethnicity (%)					
White, Non-Hispanic	90.8	89.9	89.5	88.6	87.8
Black, Non-Hispanic	0.9	1.0	1.0	1.0	0.9
Other Race, Non-Hispanic	1.0	1.1	1.1	1.2	1.1
Hispanic	0.9	0.8	0.8	0.9	1.0
Multiple race/ethnicity groups reported	0.3	0.3	0.4	0.3	0.3
Missing race/ethnicity	6.1	6.9	7.2	8.1	8.9
Annual Couple Income (mean)	$23,507	$23,891	$24,054	$24,296	$24,742

Table III.A.6: SeniorCare Non-Waiver Population Demographics

	2014	2015	2016	2017	2018
Members (n)	41,269	44,660	49,591	52,869	56,136
Age (mean)	73.3	73.1	72.9	72.7	72.6
Age (%)					
65-74	64.5	65.9	67.2	67.9	69.0
75-84	26.5	25.5	24.6	24.5	24.0
85+	9.1	8.6	8.2	7.6	7.1
Gender (%)					
Male	42.1	42.7	43.3	43.9	44.4
Female	57.9	57.3	56.7	56.1	55.6
Race/Ethnicity (%)					
White, Non-Hispanic	88.4	87.9	87.4	86.9	86.3
Black, Non-Hispanic	0.4	0.4	0.4	0.3	0.3
Other Race, Non-Hispanic	1.1	1.0	1.0	1.0	1.0
Hispanic	0.5	0.5	0.5	0.5	0.5
Multiple race/ethnicity groups reported	0.4	0.4	0.4	0.4	0.4
Missing race/ethnicity	9.2	9.7	10.2	10.8	11.4
Annual Couple Income (mean)	$57,334	$59,823	$62,708	$65,407	$68,405

SeniorCare members may be eligible for prescription drug coverage through one or more alternative programs, such as Medicare Part D stand-alone prescription drug plans, Medicare Advantage managed care plans, or private/commercial insurance coverage through a current or former employer.[5] As with other Medicaid programs, SeniorCare is the payer of last resort; pharmacy providers are required to bill Medicare Part D and other payers prior to SeniorCare, or the claim will be denied. Therefore, in cases where members have additional drug coverage, members use SeniorCare as supplemental coverage as the secondary (or tertiary) payer.

Table III.A.7 shows the prevalence of SeniorCare as the primary or sole source of drug insurance coverage in the waiver population and those that have additional drug coverage. This analysis used information contained in the paid drug claims data. These data contain information on paid amounts from other payers, but do not provide detailed information on the source of other coverage. These results show that the waiver population has a high reliance on SeniorCare as their primary or sole source of drug insurance coverage, although a growing proportion of members have additional coverage over time.

[5] It is important to note that many SeniorCare members in the copayment group may be eligible for low-income subsidies (LIS) through Medicare Part D. Members with income at or below 150% of the FPL, and who meet certain asset limits, may qualify for full or partial benefit LIS. In 2018, members who qualified for partial-benefit LIS were subject to an $83 deductible and 15% coinsurance up to the OOP threshold of $405; after this threshold is reached there are copayments of $3.35 for generic/preferred drugs and $8.35 for other drugs. https://www.ncoa.org/wp-content/uploads/part-d-lis-eligibility-and-benefits-chart.pdf).

Table III.A.7: Drug Insurance Coverage Among Entire SeniorCare Waiver Population

	2014	2015	2016	2017	2018	% point change from 2014 to 2018
SeniorCare Only	71.5%	70.9%	70.2%	70.2%	67.5%	-4.0%
SeniorCare + Other Coverage	13.2%	13.8%	13.9%	13.4%	14.3%	1.1%
Unknown Status	15.2%	15.4%	15.9%	16.3%	18.2%	3.0%

SeniorCare members in the waiver-eligible population (income ≤200% FPL) were twice as likely to have at least one paid drug claim in any given year compared to non-waiver members (income >200% FPL), as shown in Table III.A.8 and Figure III.A.1. In addition, although the number of drug claims for both groups declined over time from 2014-2018, the waiver population accounted for 81.3% of the total drug claims over this period.

Table III.A.8: Proportion of Members with Drug Claims by Waiver-Eligible Status

Year	Waiver Eligible	Waiver Enrollees with Drug Claims	%	Non-Waiver Eligible	Non-Waiver Enrollees with Drug Claims	%
2014	57,827	49,010	84.8%	41,269	17,841	43.2%
2015	56,142	47,522	84.6%	44,660	18,972	42.5%
2016	54,206	45,608	84.1%	49,591	20,347	41.0%
2017	52,879	44,235	83.7%	52,869	20,758	39.3%
2018	51,276	41,927	81.8%	56,136	20,106	35.8%

Figure III.A.1: Proportion of Members with Drug Claims

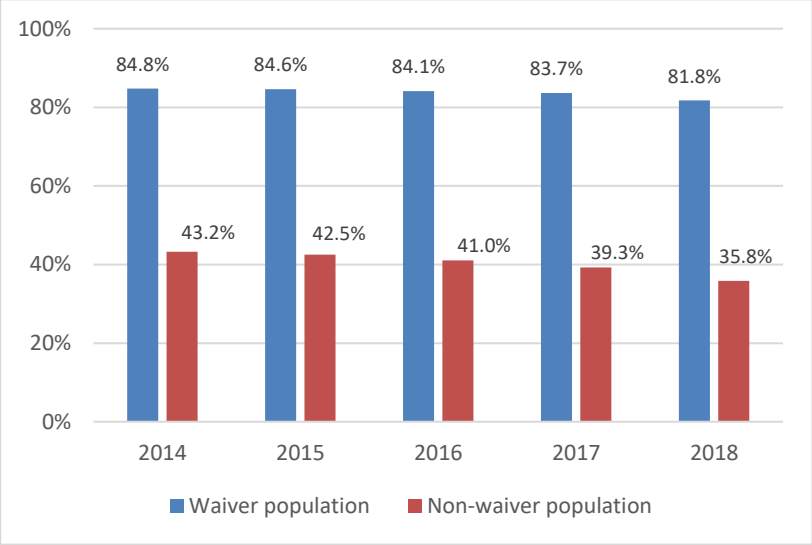
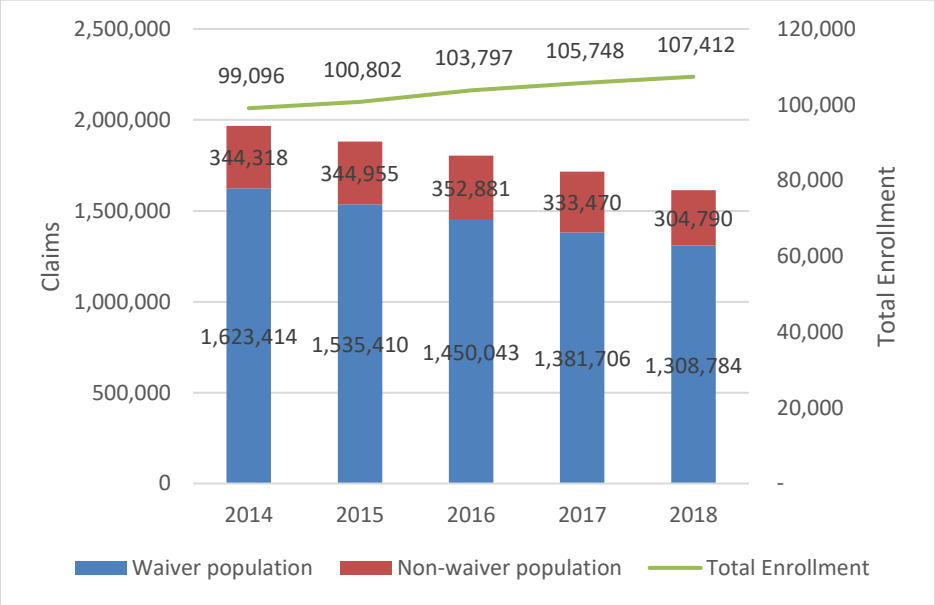


Table III.A.9 and Figure III.A.2 provides information on the distribution of drug claims and claims per enrollee for the waiver and non-waiver populations. In 2018, a total of 41,927 waiver enrollees had a drug claim, with an average of 31.2 claims per enrollee; in that year, a total of 20,106 non-waiver enrollees had drug claims, with 15.2 claims per enrollee. The number of claims per enrollee has remained stable in the waiver population, compared to a steady decline in the non-waiver population. These findings indicate a significantly higher level of use of the drug benefit in the waiver population, and support the finding that the waiver population has a higher likelihood of using SeniorCare as their primary or sole source of drug insurance coverage.

Table III.A.9: Distribution of Drug Claims by Waiver-Eligible Status

Year	Total Enrollees	Waiver Enrollees with Drug Claims	Total Claims, Waiver	Claims per Waiver Enrollee	Non-Waiver Enrollees with Drug Claims	Total Claims, Non-Waiver	Claims per Non-Waiver Enrollee
2014	99,096	49,010	1,623,414	33.1	17,841	344,318	19.3
2015	100,802	47,522	1,535,410	32.3	18,972	344,955	18.2
2016	103,797	45,608	1,450,043	31.8	20,347	352,881	17.3
2017	105,748	44,235	1,381,706	31.2	20,758	333,470	16.1
2018	107,412	41,927	1,308,784	31.2	20,106	304,790	15.2

Figure III.A.2: Annual Total Drug Claims and Total Enrollment



B. Utilization and Costs: Total Costs and Therapeutic Category. The following sections focus exclusively on the waiver population (≤200% FPL). From 2014-2018, the total number of paid drug claims in this population decreased by 19.4%, as shown in Table III.B.1. Over this same time period, total expenditures (including payments from all sources such as the SeniorCare program, members, and other payers) increased by 19.3%. As a result, the average expenditures per claim increased by 47.9% over this time period.

Table III.B.1: Total Drug Claims and Total Expenditures

Year	Total Waiver Enrollees	Total Claims	Claims per Enrollee	Total Expenditures	Average Expenditures per Claim
2014	57,827	1,623,414	16.4	$102,480,081	$63.13
2015	56,142	1,535,410	15.2	$106,176,685	$69.15
2016	54,206	1,450,043	14.0	$107,123,751	$73.88
2017	52,879	1,381,706	13.1	$113,063,877	$81.83
2018	51,276	1,308,784	12.2	$122,212,175	$93.38
% Change 2014-2018	-11.3%	-19.4%	-25.6%	19.3%	47.9%

An important factor affecting these trends is the number of claims for >30 days supply of a medication, which could decrease the number of claims and increase per claim expenditures. Of note, SeniorCare has a mandatory three-month supply requirement for certain drugs, and allows a maximum of three-month supply for other drugs. Over this time period, approximately 31% of all SeniorCare claims were for >30 days supply, with 90 days (25.6%) being the most common amount (See Figure III.B.1). When the drug claims were normalized to the number of 30-day drug fills, slightly smaller changes were seen in the annual trends in utilization and costs. The annual number of 30-day drug fills decreased from 2,295,818 in 2014 to 1,916,660 in 2018, corresponding to a 16.5% decrease (see Figure III.B.2). Correspondingly, the average expenditures per 30-day adjusted drug fill increased from $44.64 in 2014 to $63.76 in 2018, or a 42.8% increase.

Figure III.B.1: Distribution of Drug Fill Supply Length, All Drug Fills from 2014-2018

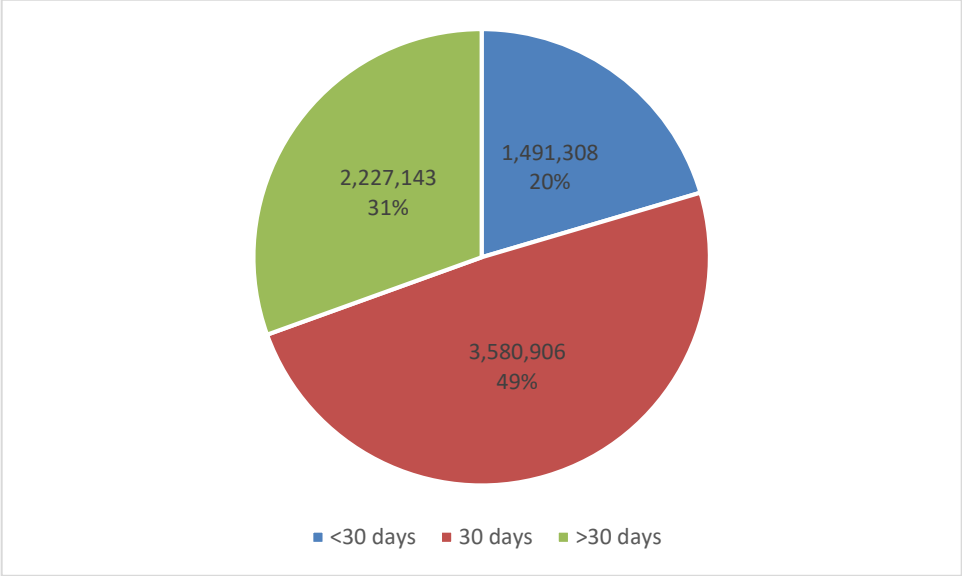


Figure III.B.2: Annual Number of Drug Fills and 30-Day Adjusted Annual Drug Fills

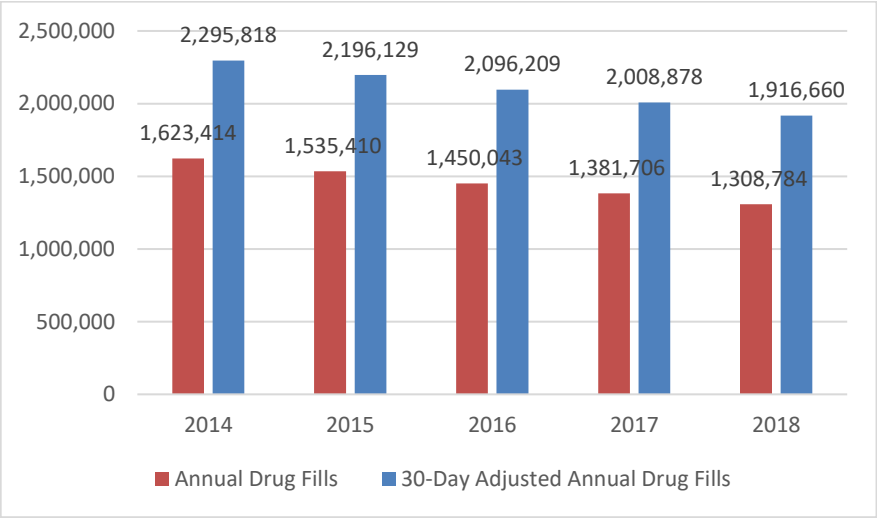


Table III.B.2 provides an overview of the most commonly used therapeutic categories by claims volume and associated expenditures over the time period 2014-2018. The drug claims were normalized to 30-day drug fills to better describe the patterns of drug use in the SeniorCare waiver population and account for fills >30 days supply. AHFS Pharmacologic-Therapeutic Classification codes were used to construct these categories and group drugs into meaningful disease categories from a clinical perspective.

Table III.B.2: Drug Utilization and Expenditures for Common Therapeutic Categories

Therapeutic Category	Percent of Total Claims, 2014-18	Percent of Total Expenditures, 2014-18
Antidiabetics	5.9%	17.0%
Antiinfectives	1.3%	2.1%
Cardiovascular drugs	47.2%	12.2%
Gastrointestinal drugs	5.7%	4.2%
Mental health, ADHD, and SUD drugs	9.8%	5.0%
Opiates	1.9%	1.7%
Blood Formation, Coagulation, and Thrombosis	4.6%	5.7%
Others	23.6%	52.1%

The most common therapeutic categories were cardiovascular drugs, mental health drugs, antidiabetics, gastrointestinal drugs, and drugs related to blood formation, coagulation, and thrombosis. Despite accounting for nearly half the 30-day drug fills, cardiovascular drugs accounted for a comparatively small proportion of drug expenditures (12.2%), reflecting the widespread availability of generic options to treat cardiovascular conditions. In contrast, antidiabetic drugs accounted for 5.9% of 30-day drug fills but 17.0% of expenditures, reflecting the growing use of newer, more expensive therapeutic options to treat diabetes.

C. Utilization and Costs: Brand Name and Generic Drugs. For this analysis, brand name and generic drug classification was determined using the brand/generic indicator in the paid drug claims. Trends in the number of claims for brand name and generic drugs in the SeniorCare waiver population are shown in Table III.C.1. The total number of claims decreased for both brand and generic drugs, although the decrease was considerably larger for brand-name drugs. This could indicate members shifting to more cost-effective options or stopping these medications entirely.

Table III.C.1: Drug Claims for Brand Name and Generic Drugs

	2014	2015	2016	2017	2018
Total Claims	1,623,414	1,535,410	1,450,043	1,381,706	1,308,784
Brand Claims	319,518	261,881	231,445	217,547	206,006
Generic Claims	1,303,896	1,273,529	1,218,598	1,164,159	1,102,778
Brand, Percent of Total	19.7%	17.1%	16.0%	15.7%	15.7%
Generic, Percent of Total	80.3%	82.9%	84.0%	84.3%	84.3%

Tables III.C.2 and III.C.3 show information on total expenditures and average expenditures per claim for brand name and generic drugs in the SeniorCare waiver population. Approximately 80.3% of the drug claims were for generic drugs, which increased to 84.3% in 2018. Yet generic drugs accounted for only 22.2% of total expenditures in 2014, which decreased to 18.4% in 2018. Despite declining brand drug use over time, these agents became significantly more expensive over time, with average brand drug expenditures nearly doubling from $249 to $484 per claim.

Table III.C.2: Overall Drug Expenditures for Brand Name and Generic Drugs

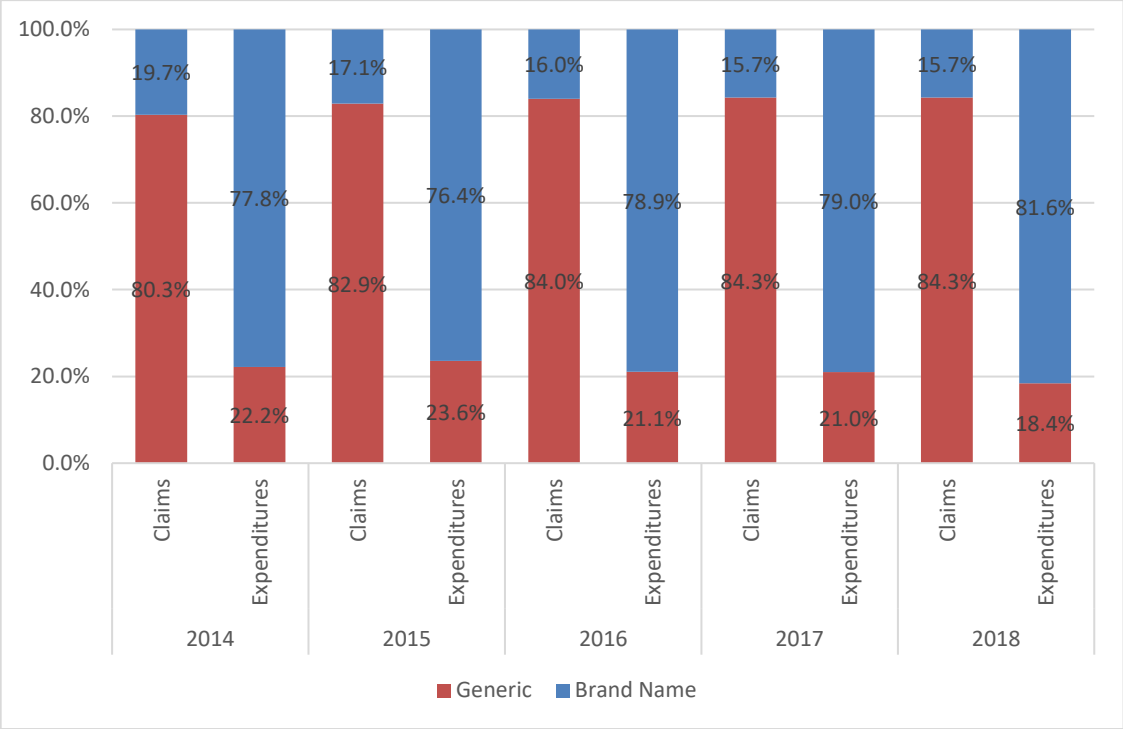
	2014	2015	2016	2017	2018
Total Expenditures	$102,480,081	$106,176,685	$107,123,751	$113,063,877	$122,212,175
Brand Expenditures	$79,692,847	$81,152,030	$84,491,081	$89,291,934	$99,678,772
Generic Expenditures	$22,787,234	$25,024,655	$22,632,669	$23,771,942	$22,533,402
Brand %	77.8%	76.4%	78.9%	79.0%	81.6%
Generic %	22.2%	23.6%	21.1%	21.0%	18.4%

Table III.C.3: Average Drug Expenditures for Brand Name and Generic Drugs at the Claim Level

	2014	2015	2016	2017	2018	% Change from 2014-2018
Average Expenditures per Claim	$63.13	$69.15	$73.88	$81.83	$93.38	47.9%
Average Brand Expenditures	$249.42	$309.88	$365.06	$410.45	$483.86	94.0%
Average Generic Expenditures	$17.48	$19.65	$18.57	$20.42	$20.43	16.9%

Figure III.C.1 summarizes the information on the total share of claims and expenditures for brand name and generic drugs in each year. Brand name drugs account for 15%-20% of total claims in each year, but approximately 80% of total expenditures. This finding is consistent with national trends seen in state Medicaid programs.[6]

Figure III.C.1: Total Claims and Expenditures, Generic and Brand Name Drugs



When the drug claims were normalized to the number of 30-day drug fills, the proportion of drug claims for generic drugs was even higher, increasing from 85.8% in 2014 to 89.4% in 2015. Approximately 34.7% of generic drugs were filled for >30 days supply, compared to only 10.2% for brand drugs. The increases in generic drug costs may be attributed in part to changes in the prices of these drugs over time, as well as the relatively high rate of >30 day fills for these members.

When the drug claims were normalized to the number of 30-day drug fills, the proportion of drug claims for generic drugs was even higher, increasing from 85.8% in 2014 to 89.4% in 2015. Approximately 34.7% of generic drugs were filled for >30 days supply, compared to only 10.2% for brand drugs. The increases in generic drug costs may be attributed in part to changes in the prices of these drugs over time, as well as the relatively high rate of >30 day fills for these members.

D. Utilization and Costs: Specialty Drugs. Specialty drugs are a major driver of increases in prescription drug costs for public and private payers alike. Specialty drugs are typically very high cost, and are unique items such as genomic and biotech products. These drugs often have special handling or storage

[6]Young, K. 2019. "Utilization and Spending Trends in Medicaid Outpatient Prescription Drugs" Kaiser Family Foundation Issue Brief. Issued in February 2019. https://www.kff.org/medicaid/issue-brief/utilization-and-spending-trends-in-medicaid-outpatient-prescription-drugs/

requirements, and may require intensive clinical monitoring to ensure appropriate safety and effectiveness. Although these drugs have traditionally been used to treat rare diseases, they are increasingly being used to treat more common diseases that are often seen in older adult populations.

Specialty drugs were identified using the state's specialty pharmacy drug classification, which defines specialty drugs as those requiring comprehensive patient care services, clinical management, and product support services.

Tables III.D.1, III.D.2 and III.D.3 provide information on specialty drug claims and expenditures. Although specialty drugs accounted for a small proportion of the total SeniorCare claims in the waiver population (approximately 0.1% in each year), they accounted for a substantial and growing proportion of the costs (20.4% of costs in 2018). The number of claims for specialty drugs increased by 67.3% from 2014-2018, while the proportion of total expenditures for specialty drugs increased from 9.2% in 2014 to 20.4% in 2018, which was an increase of 164.7%. In addition, while there has been significant growth in average expenditures per claim for all drugs, average expenditures per claim for specialty drugs increased by 58.2% between 2014 and 2018. This far exceeds the increase in average expenditures per claim for non-specialty drugs of 29.8% over that period.

Table III.D.1: Drug Claims by Specialty Drug Classification

	2014	2015	2016	2017	2018	% Change from 2014-2018
Total Waiver Enrollment	57,827	56,142	54,206	52,879	51,276	-11.3%
Total Claims	1,623,414	1,535,410	1,450,043	1,381,706	1,308,784	-19.4%
Specialty Claims	1,824	2,032	2,398	2,610	3,051	67.3%
Non-Specialty Claims	1,621,590	1,533,378	1,447,645	1,379,096	1,305,733	-19.5%
Specialty %	0.1%	0.1%	0.2%	0.2%	0.2%	-
Non-Specialty %	99.9%	99.9%	99.8%	99.8%	99.8%	-

Table III.D.2: Drug Expenditures by Specialty Drug Classification

	2014	2015	2016	2017	2018	% Change from 2014-2018
Total Waiver Enrollment	57,827	56,142	54,206	52,879	51,276	-11.3%
Total Expenditures	$102,480,081	$106,176,685	$107,123,751	$113,063,877	$122,212,175	19.3%
Specialty Expenditures	$9,417,622	$12,488,915	$15,800,650	$18,805,854	$24,928,153	164.7%
Non-Specialty Expenditures	$93,062,459	$93,687,770	$91,323,101	$94,258,023	$97,284,022	4.5%
Specialty %	9.2%	11.8%	14.7%	16.6%	20.4%	-
Non-Specialty %	90.8%	88.2%	85.3%	83.4%	79.6%	-

Table III.D.3: Average Drug Expenditures per Claim by Specialty Drug Classification

	2014	2015	2016	2017	2018	% Change from 2014-2018
Average Expenditures per Claim	$63.13	$69.15	$73.88	$81.83	$93.38	47.9%
Average Specialty Expenditures	$5,163.17	$6,146.12	$6,589.10	$7,205.31	$8,170.49	58.2%
Average Non-Specialty Expenditures	$57.39	$61.10	$63.08	$68.35	$74.51	29.8%

Table III.D.4 provides a list of the most commonly used specialty drugs, based on the number of paid claims and adjusted to 30-day drug fills. Due to the low prevalence of use of these drugs, the numbers shown include claims from members in both the waiver and non-waiver populations.

Table III.D.4: Most Common Specialty Drugs in the Entire SeniorCare Population

	Drug Name	Monthly Drug Fills	Percent of All Specialty Drug Claims
1	Revlimid	1,764	11.1
2	Gleevec	1,331	8.4
3	Zytiga	1,206	7.6
4	Xtandi	826	5.2
5	Ibrance	806	5.1
6	Mercaptopurine	801	5.0
7	Leucovorin calcium	640	4.0
8	Tasigna	553	3.5
9	Methotrexate	545	3.4
10	Sprycel	448	2.8
11	Imbruvica	400	2.5
12	Jakafi	367	2.3
13	Tarceva	305	1.9
14	Adcirca	259	1.6
15	Capecitabine	256	1.6
16	Afinitor	234	1.5
17	Tracleer	215	1.4
18	Copaxone	203	1.3
19	Sutent	188	1.2
20	Promacta	184	1.2

The proportion of drugs eligible for specialty classification continues to increase over time. Although approximately 99% of 30-day drug claims in the Medicare Part D program are for non-specialty drugs, nearly 20% of all drugs are eligible for specialty classification despite increases in the specialty drug threshold.[7] In addition, the proportion of Part D expenditures for specialty drugs has increased to approximately 20% of total program expenditures.[8,9] In comparison, while the proportion of drug claims for specialty drugs in the SeniorCare program is lower than that seen in the Medicare Part D program (approximately 0.1% and 1% of 30-day drug fills, respectively), the proportion of expenditures spent on specialty drugs have rapidly increased in the SeniorCare program such that they are similar to the Part D population (approximately 20% for both groups).

Given the rapid growth in claims and expenditures on specialty drugs, there is a need for further evaluation of how specialty drugs are covered by the program. In particular, the flat copayment structure of the benefit may promote the unnecessary use of specialty drugs when more cost-effective options may be available (such as generics or non-specialty brand name drugs). Inclusion of an additional specialty tier containing a higher copayment or coinsurance amount may be considered as one possible alternative to control the use of specialty drugs, and is an approach that has been adopted by many public and private payers. In addition, there is need for further assessment of the quality of use of these drugs in the SeniorCare population, and additional cost-containment strategies may be needed to ensure they are being used appropriately.

E. Drug Expenditures: SeniorCare and Member Costs. The following series of tables present a detailed breakdown of annual drug expenditures for the SeniorCare program. Total costs were defined as the sum of all payments for a drug from any source, including SeniorCare, members, and other third-party payers (such as Medicare Part D or other sources of coverage). SeniorCare costs were defined as the amount paid by the SeniorCare program, and excludes any amounts paid by other payers. Member costs included all out-of-pocket costs paid by a member, including copayments and any applicable deductible amount.

Overall, total drug costs increased by nearly 20% from 2014-2018 (Table III.E.1). SeniorCare costs increased by 15.6% over this period while member costs decreased by 17.6%. These changes can be directly attributed to the structure of the SeniorCare benefit, as member copayments are flat and did not change during this time period. Thus, as drug costs have increased over time, the SeniorCare program pays a greater share of these costs. The amounts paid by other payers nearly doubled from 2014-2018, reflecting the increasing use of SeniorCare as supplemental coverage for other sources of drug coverage. These trends are further amplified when evaluated on a per-member-per-year (PMPY) basis (Table III.E.2), except for PMPY member costs which declined by 3.7% over this timeframe. This information is also shown in Figures III.E.1 and III.E.2.

[7] Centers for Medicare and Medicaid Services. "Announcement of Calendar Year (CY) 2018 Medicare Advantage Capitation Rates and Medicare Advantage and Part D Payment Policies and Final Call Letter and Request for Information" Letter to Medicare Advantage Organizations, Prescription Drug Plan Sponsors, and Other Interested Parties. Issued April 3, 2017. https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/Announcement2018.pdf

[8] Ibid.

[9] Cubanski J, Koma W, Neuman T. 2019. "The Out-of-Pocket Cost Burden for Specialty Drugs in Medicare Part D in 2019." Kaiser Family Foundation Issue Brief. Issued in February 2019. https://www.kff.org/medicare/issue-brief/the-out-of-pocket-cost-burden-for-specialty-drugs-in-medicare-part-d-in-2019/

Table III.E.1: Annual Drug Expenditures by Source of Payment

	2014	2015	2016	2017	2018	% Change from 2014 to 2018
Total Waiver Enrollment	57,827	56,142	54,206	52,879	51,276	-11.3%
Total Costs	$102,480,081	$106,176,685	$107,123,751	$113,063,877	$122,212,175	19.3%
SeniorCare Costs	$77,801,361	$80,517,007	$81,770,763	$85,391,817	$89,977,086	15.6%
Member Costs	$13,972,419	$13,217,305	$12,314,173	$12,147,240	$11,514,540	-17.6%
Other Payers Costs	$10,706,301	$12,442,374	$13,038,814	$15,524,820	$20,720,549	93.5%
SeniorCare %	75.9%	75.8%	76.3%	75.5%	73.6%	-
Member %	13.6%	12.4%	11.5%	10.7%	9.4%	-
Other Payers %	10.4%	11.7%	12.2%	13.7%	17.0%	-

Table III.E.2: Drug Expenditures by Source of Payment, Per Member Per Year

	2014	2015	2016	2017	2018	% Change from 2014 to 2018
Total Costs	$2,091.00	$2,234.26	$2,348.79	$2,555.98	$2,914.88	39.4%
SeniorCare Costs	$1,587.46	$1,694.31	$1,792.90	$1,930.41	$2,146.04	35.2%
Member Costs	$285.09	$278.13	$270.00	$274.61	$274.63	-3.7%
Other Payers Costs	$218.45	$261.82	$285.89	$350.96	$494.21	126.2%
SeniorCare %	75.9%	75.8%	76.3%	75.5%	73.6%	-
Member %	13.6%	12.4%	11.5%	10.7%	9.4%	-
Other Payers %	10.4%	11.7%	12.2%	13.7%	17.0%	-

Figure III.E.1: Average Expenditures, Per Member Per Year

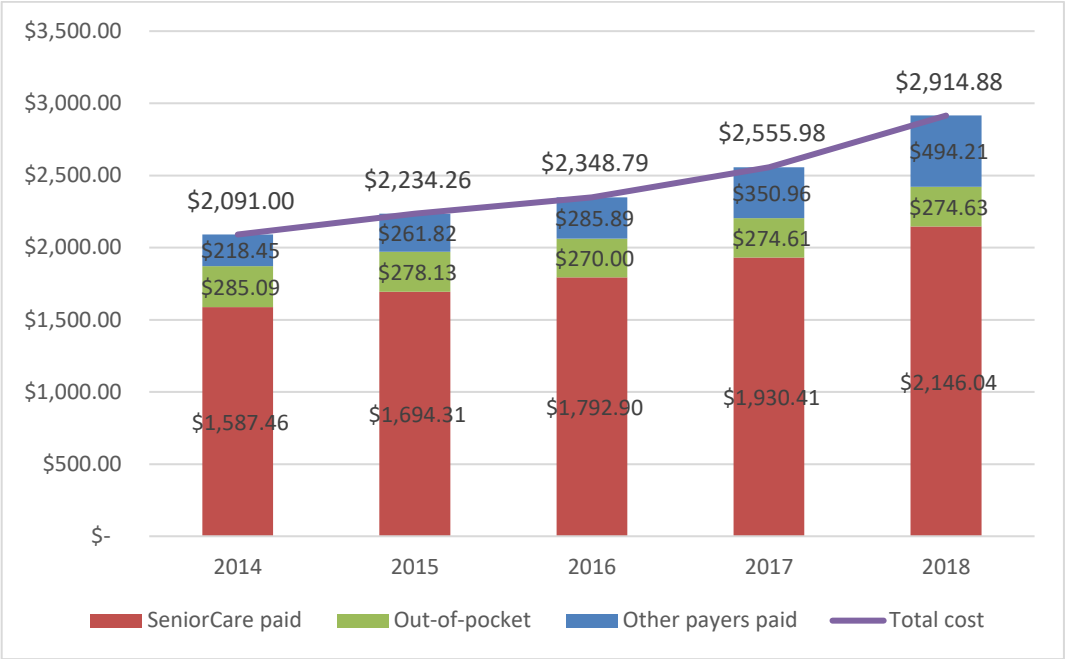
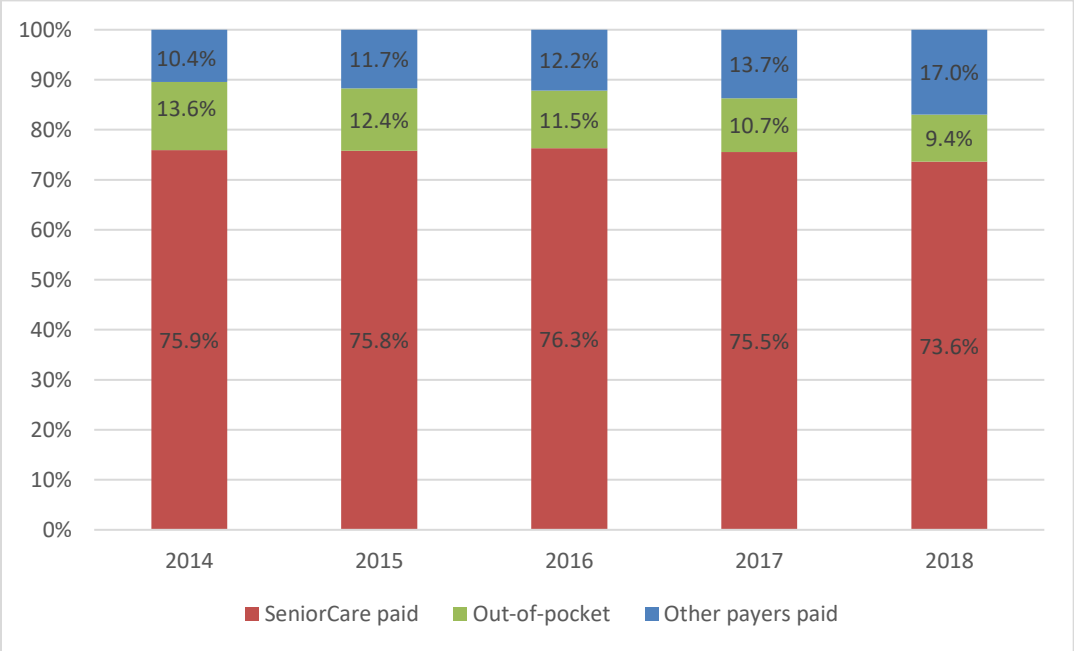


Figure III.E.2: Percentage of Total Costs by Source of Payment, Per Member Per Year



Although there has been a large relative increase in SeniorCare costs for brand name drugs over time (18.7%), the proportion of brand drug costs paid by SeniorCare have decreased slightly (-4.1 percentage points). This trend is shown in Tables III.E.3 and III.E.4. Instead, the cost burden for these drugs has largely shifted to other payers, with costs to other payers more than doubling between 2014 and 2018. Similar trends in costs for were seen for both generic drugs and brand name drugs; however, the proportion of costs for generic drugs by source of payment remained relatively unchanged over this same time period.

Table III.E.3: Annual Drug Expenditures for Brand Name Drugs by Source of Payment

	2014	2015	2016	2017	2018	% Change from 2014 to 2018
Total Waiver Enrollment	57,827	56,142	54,206	52,879	51,276	-11.3%
Total Costs	$79,692,847	$81,152,030	$84,491,081	$89,291,934	$99,678,772	25.1%
SeniorCare Costs	$64,314,955	$65,110,382	$68,215,905	$70,859,581	$76,310,584	18.7%
Member Costs	$6,139,826	$5,397,835	$4,874,086	$4,646,995	$4,405,110	-28.3%
Other Payers Costs	$9,238,066	$10,643,814	$11,401,090	$13,785,359	$18,963,079	105.3%
SeniorCare %	80.7%	80.2%	80.7%	79.4%	76.6%	-
Member %	7.7%	6.7%	5.8%	5.2%	4.4%	-
Other Payers %	11.6%	13.1%	13.5%	15.4%	19.0%	-

Table III.E.4: Annual Drug Expenditures for Generic Drugs by Source of Payment

	2014	2015	2016	2017	2018	% Change from 2014 to 2018
Total Waiver Enrollment	57,827	56,142	54,206	52,879	51,276	-11.3%
Total Costs	$22,787,234	$25,024,655	$22,632,670	$23,771,942	$22,533,403	-1.1%
SeniorCare Costs	$13,486,406	$15,406,625	$13,554,858	$14,532,236	$13,666,501	1.3%
Member Costs	$7,832,593	$7,819,470	$7,440,087	$7,500,246	$7,109,431	-9.2%
Other Payers Costs	$1,468,235	$1,798,560	$1,637,725	$1,739,461	$1,757,471	19.7%
SeniorCare %	59.2%	61.6%	59.9%	61.1%	60.6%	-
Member %	34.4%	31.2%	32.9%	31.6%	31.6%	-
Other Payers %	6.4%	7.2%	7.2%	7.3%	7.8%	-

The distribution of drug expenditures for specialty and non-specialty drugs show vastly different trends than for brand and generic drugs. Table III.E.5 shows that relatively large increases in costs for specialty drugs were seen across all three payment sources; however, the proportion of payments for specialty drugs has shifted over time from the SeniorCare program to other payers. In contrast, Table III.E.6 shows member costs for non-specialty drugs decreasing over time, with almost no changes in SeniorCare costs and large increases in costs to other payers.

Table III.E.5: Annual Drug Expenditures for Specialty Drugs by Source of Payment

	2014	2015	2016	2017	2018	% Change from 2014 to 2018
Total Waiver Enrollment	57,827	56,142	54,206	52,879	51,276	-11.3%
Total Costs	$9,417,622	$12,488,915	$15,800,650	$18,805,854	$24,928,153	164.7%
SeniorCare Costs	$8,199,838	$10,956,517	$14,417,504	$16,530,372	$20,457,944	149.5%
Member Costs	$43,656	$55,342	$76,181	$79,101	$94,962	117.5%
Other Payers Costs	$1,174,128	$1,477,055	$1,306,965	$2,196,381	$4,375,248	272.6%
SeniorCare %	87.1%	87.7%	91.2%	87.9%	82.1%	-
Member %	0.5%	0.4%	0.5%	0.4%	0.4%	-
Other Payers %	12.5%	11.8%	8.3%	11.7%	17.6%	-

Table III.E.6: Annual Drug Expenditures for Non-Specialty Drugs by Source of Payment

	2014	2015	2016	2017	2018	% Change from 2014 to 2018
Total Waiver Enrollment	57,827	56,142	54,206	52,879	51,276	-11.3%
Total Costs	$93,062,459	$93,687,770	$91,323,101	$94,258,023	$97,284,022	4.5%
SeniorCare Costs	$69,601,523	$69,560,490	$67,353,260	$68,861,445	$69,519,141	-0.1%
Member Costs	$13,928,764	$13,161,962	$12,237,992	$12,068,139	$11,419,579	-18.0%
Other Payers Costs	$9,532,172	$10,965,318	$11,731,849	$13,328,438	$16,345,302	71.5%
SeniorCare %	74.8%	74.2%	73.8%	73.1%	71.5%	-
Member %	15.0%	14.0%	13.4%	12.8%	11.7%	-
Other Payers %	10.2%	11.7%	12.8%	14.1%	16.8%	-

IV. EVALUATION FINDINGS

A. Hypothesis 1: The rate of Medicaid entry among Wisconsin seniors age 65 and older will be lower after SeniorCare implementation than before SeniorCare

Methods and Data Sources. The evaluation team did not have access to data prior to SeniorCare implementation in 2002 for this analysis, so the hypothesis could not be evaluated as originally stated by DHS. Rather, the goal of this analysis was to study the time from a member's initial enrollment in SeniorCare to Medicaid entry as a function of various characteristics of interest.

The data source used for this analysis was Medicaid enrollment data obtained from the Wisconsin Department of Health Services. Enrollment data were obtained for SeniorCare participants and beneficiaries in the Medicaid Elderly, Blind, and Disabled (EBD) population.

We defined a transition to Medicaid as simultaneous enrollment in SeniorCare and Medicaid, or Medicaid enrollment in any of the next three months following exit from the SeniorCare program. The main complication was that Medicaid entry was not the only way that someone could exit SeniorCare; individuals may exit SeniorCare to a non-Medicaid plan such as Medicare Part D, or a SeniorCare member may pass away while enrolled in the program.

We took two main statistical approaches to the analysis:

> *Approach 1:* Treats other possibilities as censored by implementing a Cox regression model.[10] This analysis can be interpreted as cause-specific hazard; that is, the instantaneous risk of Medicaid transition given that the subject is still enrolled at a given time ("time t").
>
> *Approach 2:* If competing events (death and exit to other plan types) are dependent on Medicaid entry or vice versa, which is untestable but not implausible, treating the other events as censored is invalid if we want to interpret results as cumulative incidence. We therefore implemented a competing risks regression model[11] that gives the cumulative incidence function (probability of the event of interest occurring before a given time). We also showed the calculated cumulative incidence functions adjusting for observable characteristics.

[10] A Cox proportional-hazards model is a regression model used to investigate the association between the time to a specific event and one or more predictor variables. For this analysis, we longitudinally followed individuals enrolled in SeniorCare and observed when they transitioned to Medicaid (the event of interest). We then used the Cox regression model to estimate the effect of observable characteristics of interest (our predictor variables) to identify those factors that were most predictive of a SeniorCare member transitioning to Medicaid.

[11] A competing risk analysis aims to estimate the probability of an event occurring (entering Medicaid) in the presence of competing events (such as enrollment in Medicaid, exit to a non-Medicaid plan, or the death of a member). The cumulative incidence functions show the likelihood of Medicaid entry occurring at any particular time, adjusting for the possibility of exiting SeniorCare for other reasons and for observable characteristics.

It should be noted that some low-income seniors or the administrative officials helping or reviewing their application may identify some seniors who were eligible for Medicaid but were not previously enrolled (termed the "woodwork effect" in prior evaluations).[12] This is most likely to occur when a senior initially enrolls in SeniorCare or when they submit a renewal application following a 12-month enrollment period. Thus, some of the observed transitions out of SeniorCare may be a result of administrative processes that facilitate the identification of eligibility for other programs to meet the needs of low-income seniors, such as Medicaid or subsidized Medicare Part D coverage.

Results. In the time period of our study (2014-2018) we observed 25,387 enrollment spells starting after January 2014 and ending before December 2018 (meaning the member enrolled in SeniorCare and exited the program for any reason during that time). Of these, 1,467 (nearly 6%) ended their SeniorCare enrollment with a transition to Medicaid. A small number of these individuals (251) were recorded in the CARES data as having passed away during the time of their SeniorCare enrollment spell. Therefore, we considered only the 1,216 individuals who were recorded as both living and ending their SeniorCare spell with Medicaid enrollment as having transitioned to Medicaid. Of the remaining 21,155 spells that ended prior to the end of our study period, an additional 2,765 (13%) are recorded as having passed away, which can be assumed to be the cause of their spell end (representing almost 11% of the total observed spells). The remainder, or 84% of the total exits, ended their SeniorCare enrollment for unknown reasons, such as taking up a Medicare Part D plan or choosing to go without prescription drug insurance.

Table IV.A.1 shows the results from the regression models following Approach 1 (Cox proportional hazard) and Approach 2 (competing risks) for all spells beginning on or after January 2014. In practice, allowing for the possibility of competing risks did not turn out to be an important source bias in the analysis, as the results are very similar in either approach. Each category shows changes to the hazard of Medicaid entry compared to the excluded category, which were as follows: age older than 65 at start of spell, male gender, non-Hispanic white race/ethnicity, non-English language, income < 160% FPL, and non-metro residence. For example, beginning a spell at exactly age 65 is associated with a reduced hazard of transitioning to Medicaid by 34% under the proportional hazard model, and a reduction of 35% under the competing risks framework, as compared to individuals who begin an enrollment spell after age 65.

[12] Shepard, D, et al. 2007 " Evaluation of State Pharmacy Assistance Programs in Illinois and Wisconsin." Schneider Institutes for Health Policy, Brandeis University: p. 60-61. https://www.dhs.wisconsin.gov/seniorcare/scwaiver-0207-brandeis-eval.pdf

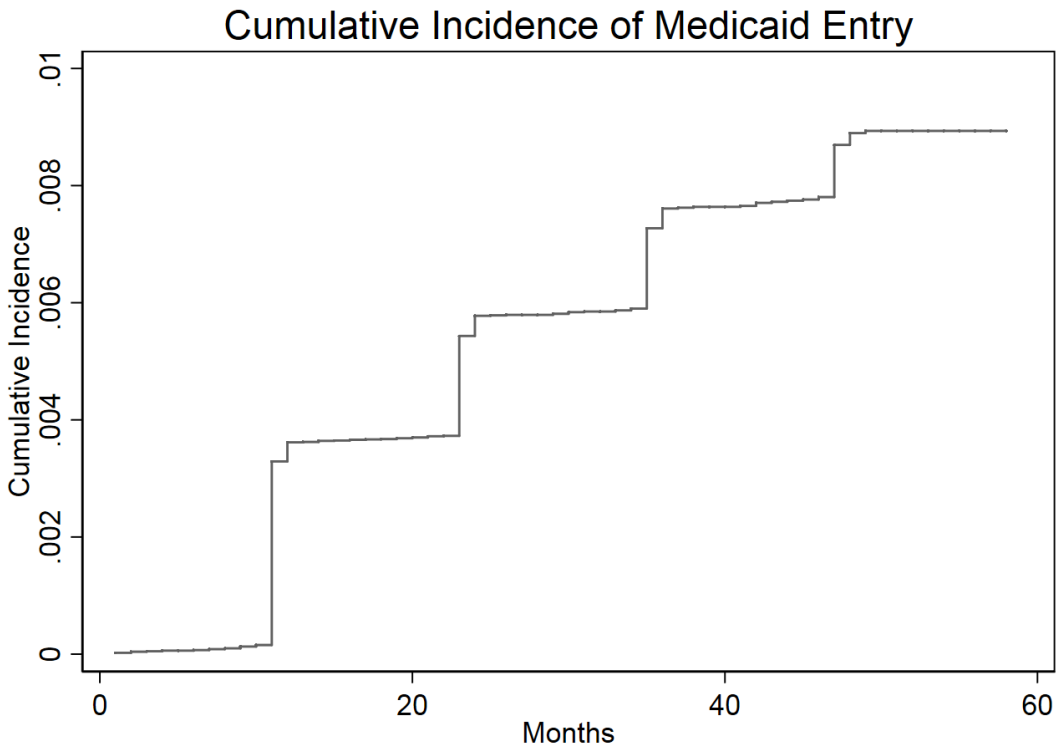
Table IV.A.1: Predictors of Transition to Medicaid, New SeniorCare Members

	Cox Proportional Hazard Model	**Competing Risks Model**
Observations	73,939	73,939
Age (years)	1.095***	1.085***
	-0.00414	-0.00391
Age 65 at Start of Spell	0.661***	0.648***
	-0.0735	-0.0715
Female	0.918	0.963
	-0.0559	-0.0581
Race/Ethnicity		
Black (non-Hispanic)	0.844	0.699
	-0.202	-0.168
Other Race (non-Hispanic)	1.549*	1.431
	-0.295	-0.278
Hispanic	0.995	0.907
	-0.229	-0.202
Missing race/ethnicity	0.480***	0.478***
	-0.0695	-0.0689
Multiple race/ethnicity groups reported	0.33	0.308
	-0.33	-0.307
English spoken in the home	0.410**	0.462**
	-0.112	-0.128
Income		
160-200% FPL	0.704***	0.660***
	-0.0497	-0.0463
200-240% FPL	0.531***	0.490***
	-0.0529	-0.049
Above 240% FPL	0.172***	0.148***
	-0.0216	-0.0196
Geography		
Metro	0.975	0.968
	-0.0789	-0.0784
State Level Agency	0.302***	0.332***
	-0.0227	-0.0249
Missing Geography	0.863	0.848
	-0.0929	-0.0906
Exponentiated coefficients; Standard Errors provided below each hazard ratio.		
** p<0.05; ** p<0.01; *** p<0.001*		

We next show the cumulative incidence functions overall and among certain subgroups of interest that were included in the competing risks model. The cumulative incidence functions show the likelihood of Medicaid entry occurring at any particular time, adjusting for the possibility of exiting SeniorCare for other reasons.

The results in Figures IV.A.1 through 6 show the cumulative incidence of Medicaid entry holding all other regressors at their mean values. The graphs show the proportion of spells that have transitioned to Medicaid as a function of the number of months enrolled, after adjusting for the possibility of leaving SeniorCare for other reasons. The sharp increases occurring every 12 months indicate entries into Medicaid at the SeniorCare program's required annual member renewal. As in the regression model, the graphs include only spells starting after January 2014. In the graphs by covariates, all regressors not included in the figure are held at their mean values.

Figure IV.A.1: Cumulative Incidence of Medicaid Entry



The following figures provide this cumulative incidence function by other factors of interest.

- *Figure IV.A.2*: *Medicaid Entry by Age*. Age at the time the spell starts was an important predictor of Medicaid entry, with those older than 65 more likely to transition to Medicaid at the end of their SeniorCare spell.
- *Figure IV.A.3*: *Medicaid Entry by Sex.* No important differences to Medicaid entry were observed by member sex, indicating a similar likelihood of Medicaid entry for both males and females.

- *Figure IV.A.4: Medicaid Entry by Race/Ethnicity.* SeniorCare households identified as non-Hispanic white have higher incidence of Medicaid transition than non-Hispanic black or Hispanic households.
- *Figure IV.A.5: Medicaid Entry by Geography.* The three categories used for this analysis, based on enrollment data, were members associated with a statewide agency, metropolitan, and non-metropolitan areas. However, geographic information in the data was somewhat limited; 79% of spells had their geography listed as "State-Level Agency". The main difference by geography was that members associated with a state-level agency (rather than categorized as metro or non-metro) were less likely to transition to Medicaid. However, no important differences to Medicaid entry were observed by metro and non-metro residence.
- *Figure IV.A.6*: *Medicaid Entry by Income.* Results in this table are divided into the copayment and deductible waiver groups, and the non-waiver population. Income category at the beginning the spell was an important predictor of Medicaid entry. Those with incomes less than 160% FPL had the highest incidence of Medicaid entry, followed by those with incomes 160-200% FPL, then 200-240% FPL, then those with incomes above 240% FPL.

Figure IV.A.2: Cumulative Incidence of Medicaid Entry by Age at Spell Start

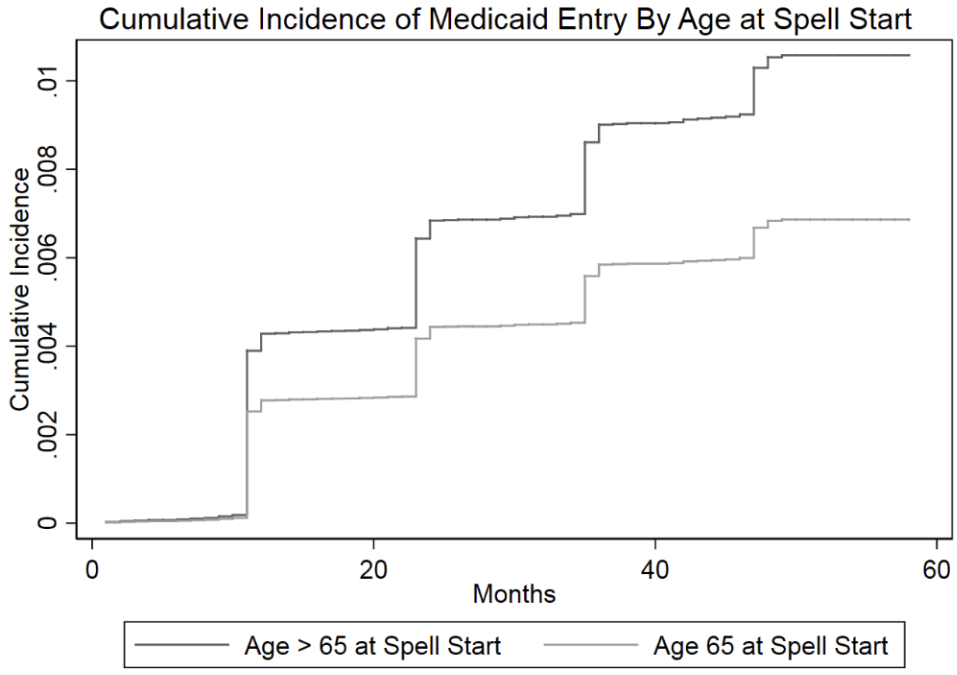


Figure IV.A.3 Cumulative Incidence of Medicaid Entry by Sex

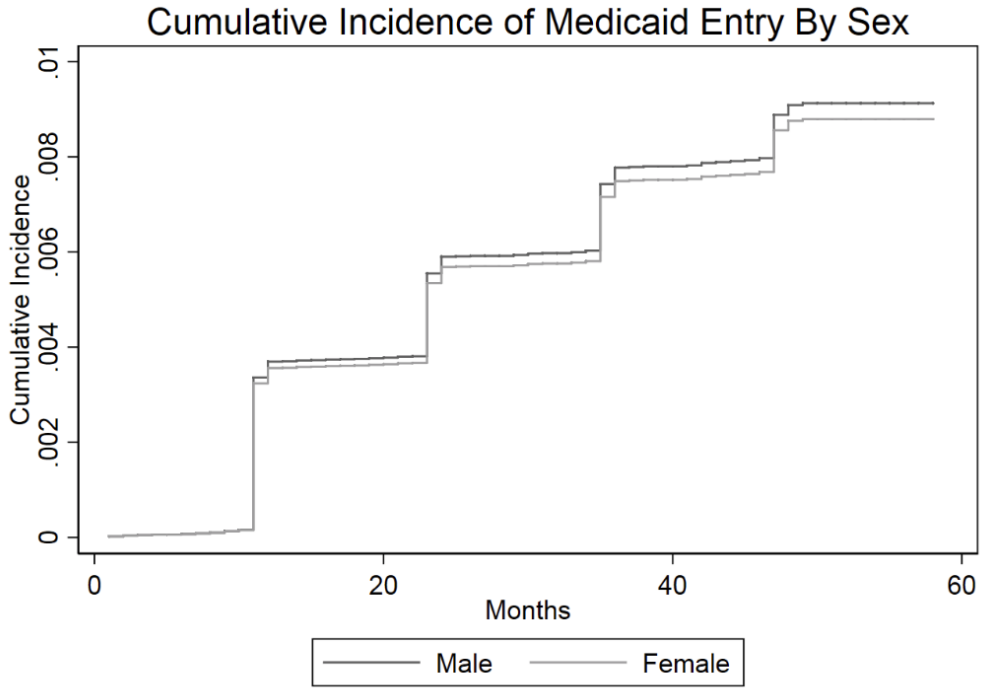


Figure IV.A.4: Cumulative Incidence of Medicaid Entry by Race/Ethnicity

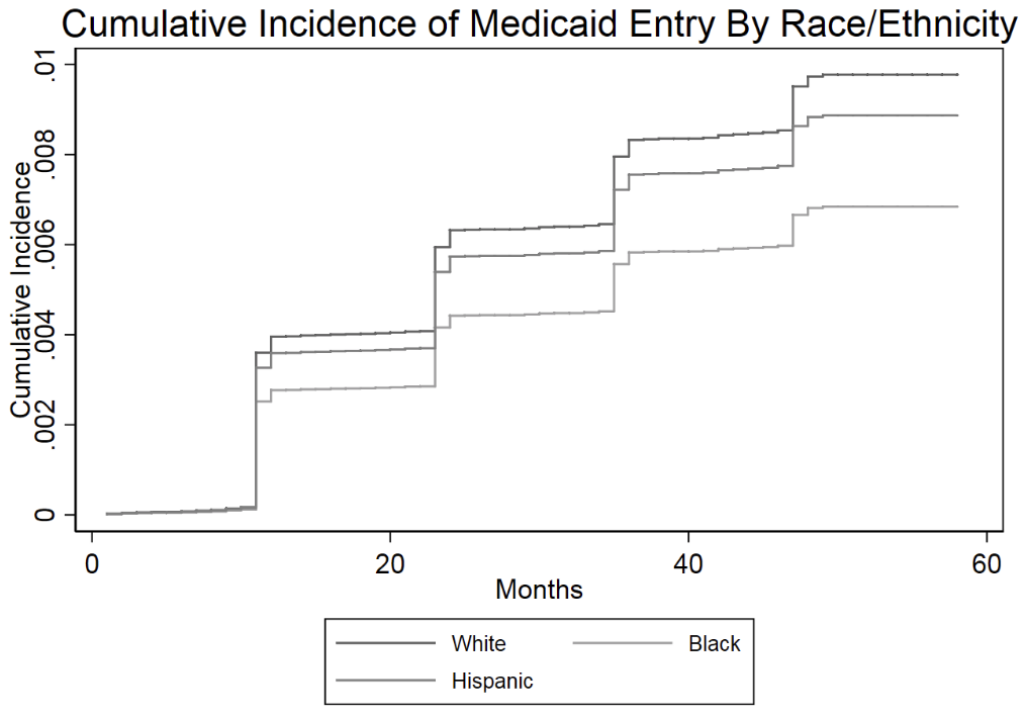


Figure IV.A.5: Cumulative Incidence of Medicaid Entry by Geography

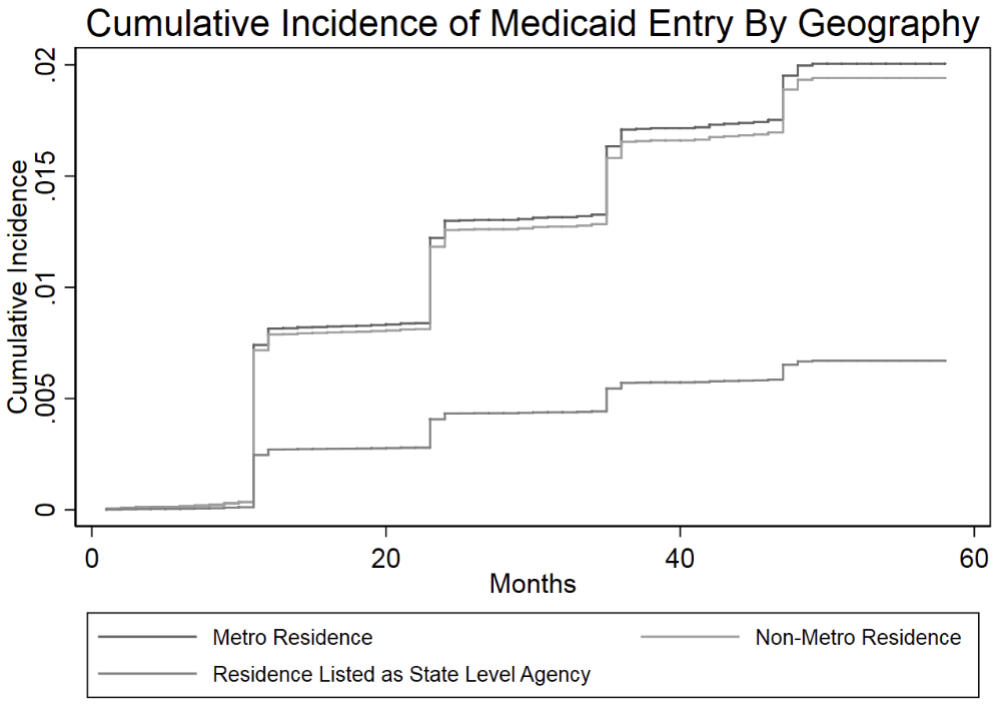
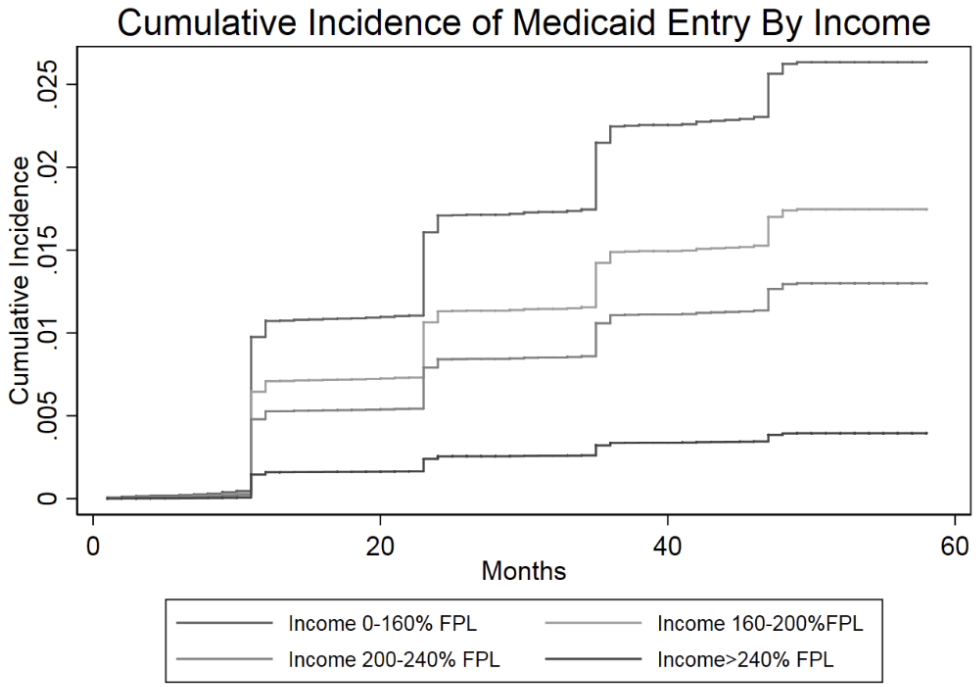


Figure IV.A.6: Cumulative Incidence of Medicaid Entry by Income



Spell Length and Renewal. In addition to the Medicaid transition analysis described above, we also looked at SeniorCare enrollment spell length and renewal trends more broadly. This analysis examined average length of enrollment and probability of enrollment renewal in SeniorCare as a function of available descriptive characteristics: age, sex, income, race, and rurality. Because we did not observe the start dates of any SeniorCare enrollment spells beginning prior to January 2014 (53% of the spells in the data) many of the analyses below considered only new spells, defined as beginning on or after February 2014. Table IV.A.2 compares the characteristics of existing versus new spells.

Table IV.A.2 Characteristics of New and Existing SeniorCare Enrollment Spells

	Existing Spells		**New Spells**	
	Mean	Std. Dev.	Mean	Std. Dev.
Spell Length (months)	43.032	20.894	22.448	15.242
Observations	86,915		76,706	
Age (Years)	77.211	8.415	70.573	7.218
Female (%)	0.686	0.464	0.574	0.494
Race/Ethnicity (%)				
White (non-Hispanic)	0.912	0.284	0.851	0.357
Black (non-Hispanic)	0.008	0.086	0.011	0.105
Other (non-Hispanic)	0.013	0.112	0.017	0.128
Hispanic	0.006	0.080	0.010	0.101
Missing Race Data	0.065	0.246	0.116	0.320
English Spoken in the Home	0.998	0.039	0.997	0.053
Income				
0-160% FPL	0.401	0.490	0.225	0.418
160-200% FPL	0.203	0.402	0.159	0.366
200-240% FPL	0.114	0.318	0.124	0.330
Above 240% FPL	0.282	0.450	0.491	0.500
Geography				
Non-Metro	0.100	0.300	0.129	0.335
Metro	0.078	0.268	0.102	0.302
State-Level Agency	0.771	0.420	0.728	0.445
Missing Geography Data	0.051	0.219	0.042	0.200

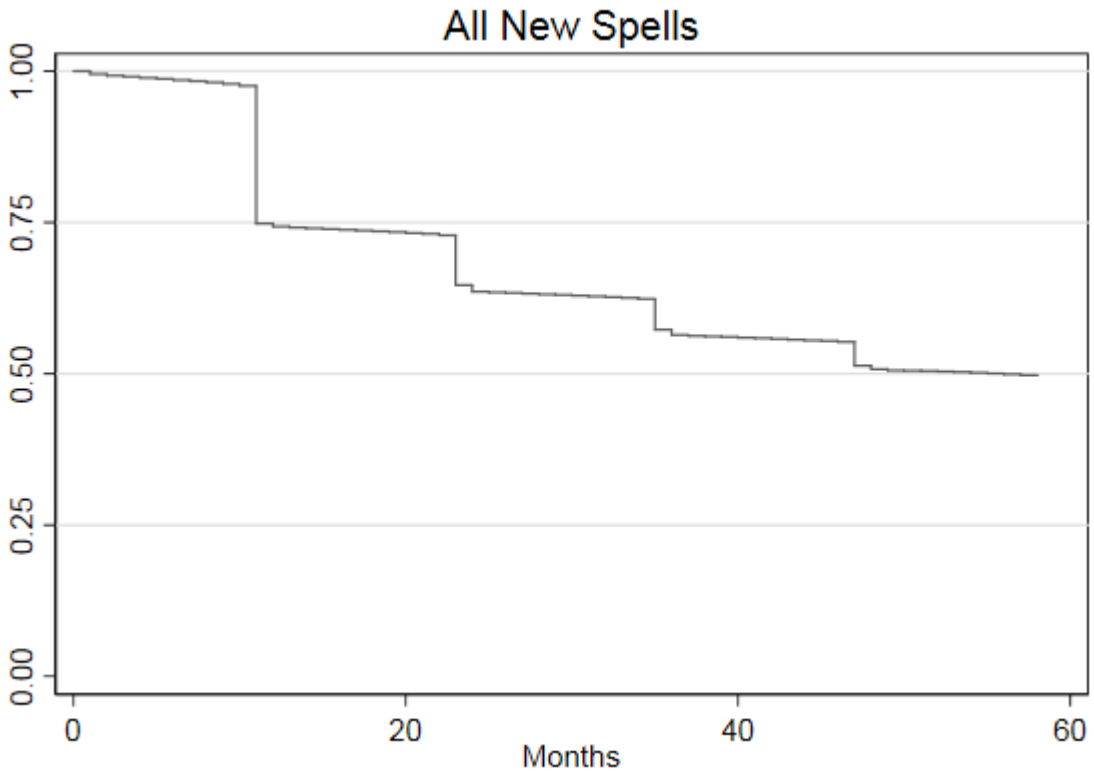
We next examined two key outcomes related to SeniorCare enrollment: the length of the enrollment spell in months, and the probability of renewal for spells lasting longer than 12 months. We examined these outcomes only for new spells since they are unobserved for existing spells. We allowed a one-month gap in enrollment to count as continuous enrollment; spells only end if the member was disenrolled for two or more months. Multiple spells per member were allowed if an individual left SeniorCare and re-enrolled at a later time. Note that all spells end in December 2018, as that was the most recent month of data available for the evaluation. Table IV.A.3 provides a detailed description of the average spell length and probability of renewal broken down by descriptive characteristics of interest.

Table IV.A.3: Average Spell Length and Probability of Renewal, New Spells

	Average Length of Spell (Months)	Probability of Renewal
Over Age 65 at Spell Start	21.79	53.9%
Age 65 at Spell Start	23.49	63.2%
Male	21.81	55.5%
Female	22.92	59.0%
Race/Ethnicity		
White (non-Hispanic)	22.70	58.2%
Black (non-Hispanic)	17.80	38.3%
Other (non-Hispanic)	21.03	53.8%
Hispanic	20.24	48.7%
More than One Race Reported	22.93	64.0%
Missing Race Data	21.34	54.9%
Other Language Spoken in the Home	18.72	50.7%
English Spoken in the Home	22.46	57.5%
Income		
0-160% FPL	23.75	62.1%
160-200% FPL	22.62	57.5%
200-240% FPL	22.35	56.2%
Above 240% FPL	21.82	55.7%
Geography		
Non-Metro	20.47	51.6%
Metro	20.94	53.4%
State-Level Agency	23.03	59.2%
Missing Geography Data	22.12	56.6%

We also illustrate this information descriptively using Kaplan-Meier estimates of the survival functions. These plots show the fraction of participants who remain enrolled in SeniorCare by month. The sharp declines occurring every 12 months indicate nonrenewals. As the graph below illustrates, 75% of new spells continue enrollment after the first renewal, indicating that 1 in 4 new spells ended after one 12-month enrollment period.

Figure IV.A.7: Proportion of Members who Continue Enrollment in SeniorCare, All New Spells



The following figures provide these survival functions for program enrollment by other factors of interest.

- *Figure IV.A.8*: *Age*. Spells beginning when the member is 65 (40% of new spells) were likely to be initial enrollment spells in SeniorCare and may better illustrate enrollment dynamics. Retention at initial renewal was higher for spells that begin when the member is 65.
- *Figure IV.A.9*: *Medicaid Entry by Sex.* Enrollment patterns were not noticeably different for men and women.
- *Figure IV.A.10: Race/Ethnicity.* Overall, households with missing or multiple reported race or ethnicity categories had similar enrollment patterns as white households, while black, Hispanic, and other reported race households have significantly higher exit rates. Most of this pattern is driven by differential renewal patterns. For example, half of the members in non-Hispanic black households did not renew their SeniorCare enrollment at the first renewal opportunity.
- *Figure IV.A.11: Household Language.* Enrollment patterns also differed by reported household language. The small fraction (<1%) of new members in households that were not English speaking had much lower retention probabilities.
- *Figure IV.A.12: Income.* While there were some small differences, overall the renewal likelihoods were similar across income brackets. That is, renewal likelihoods were similar between waiver and non-waiver members.

- *Figure IV.A.13: Geography.* As mentioned previously, geographic information in the data was somewhat limited. Renewal rates were similar for members who we could classify as residing in metro or non-metro areas

Figure IV.A.8: Proportion of Members who Continue Enrollment in SeniorCare, By Age at Spell Start

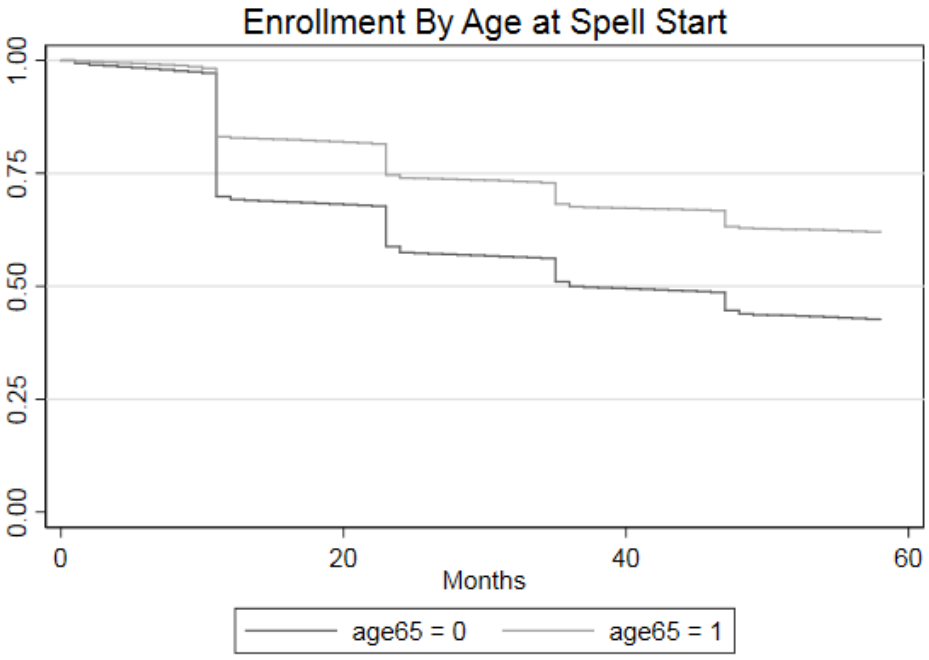


Figure IV.A.9: Proportion of Members who Continue Enrollment in SeniorCare, By Sex

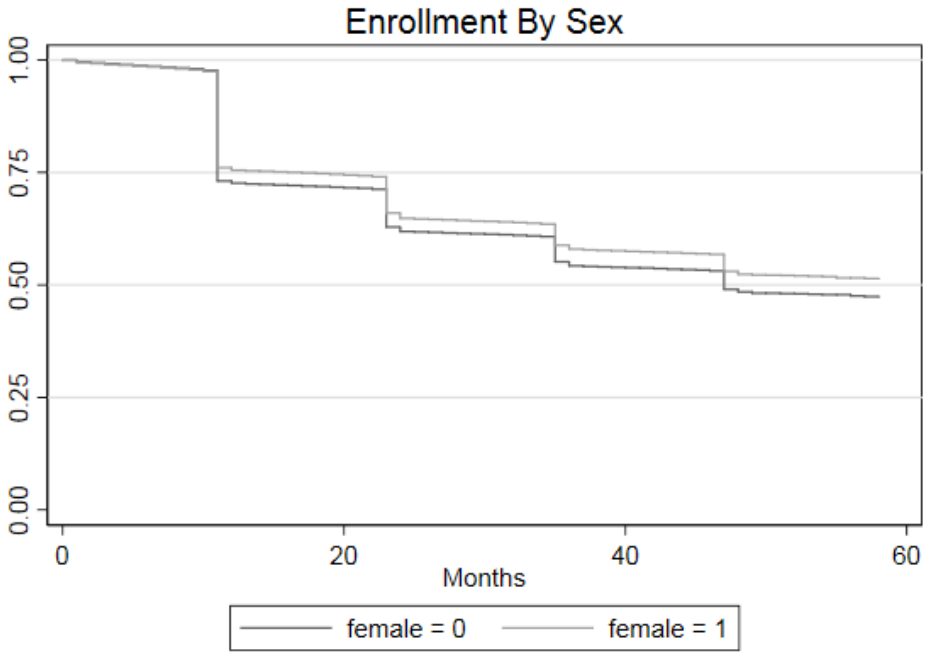


Figure IV.A.10: Proportion of Members who Continue Enrollment in SeniorCare, By Race/Ethnicity

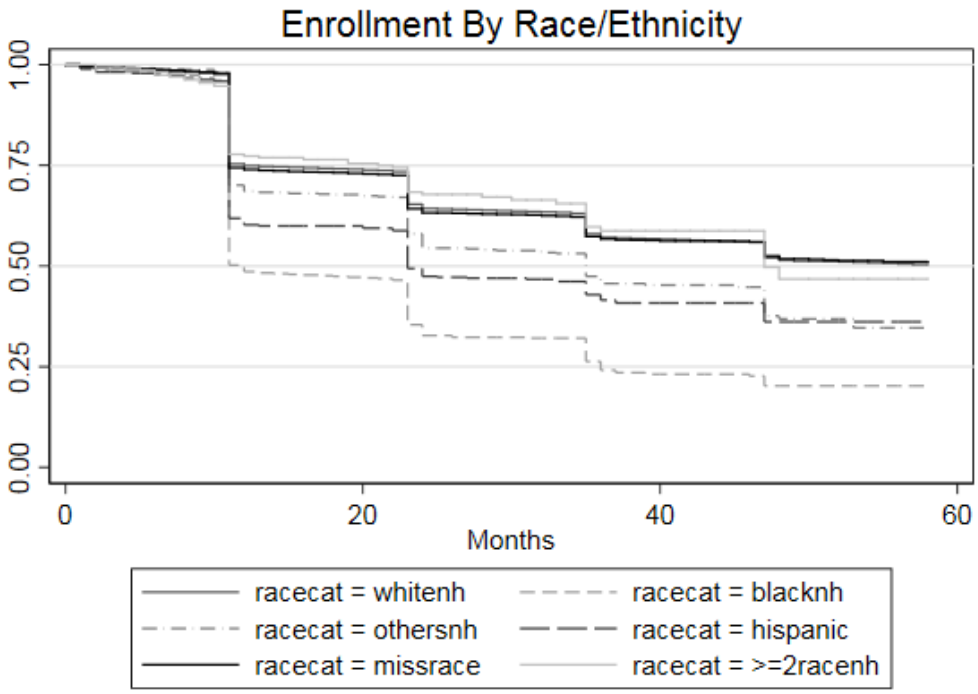


Figure IV.A.11: Proportion of Members who Continue Enrollment in SeniorCare, By Household Language

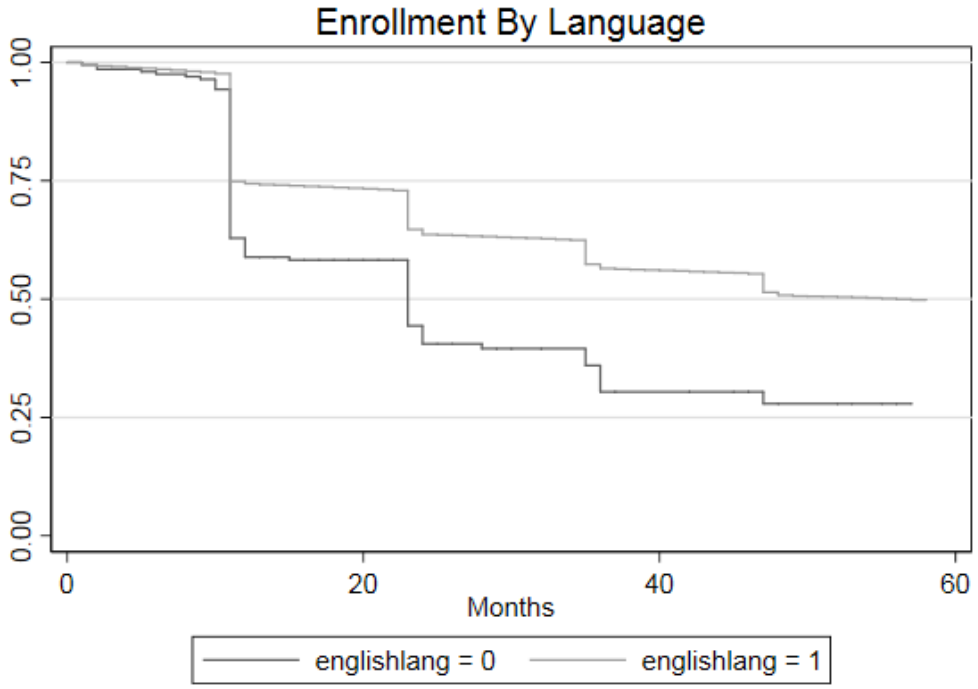


Figure IV.A.12: Proportion of Members who Continue Enrollment in SeniorCare, By Income

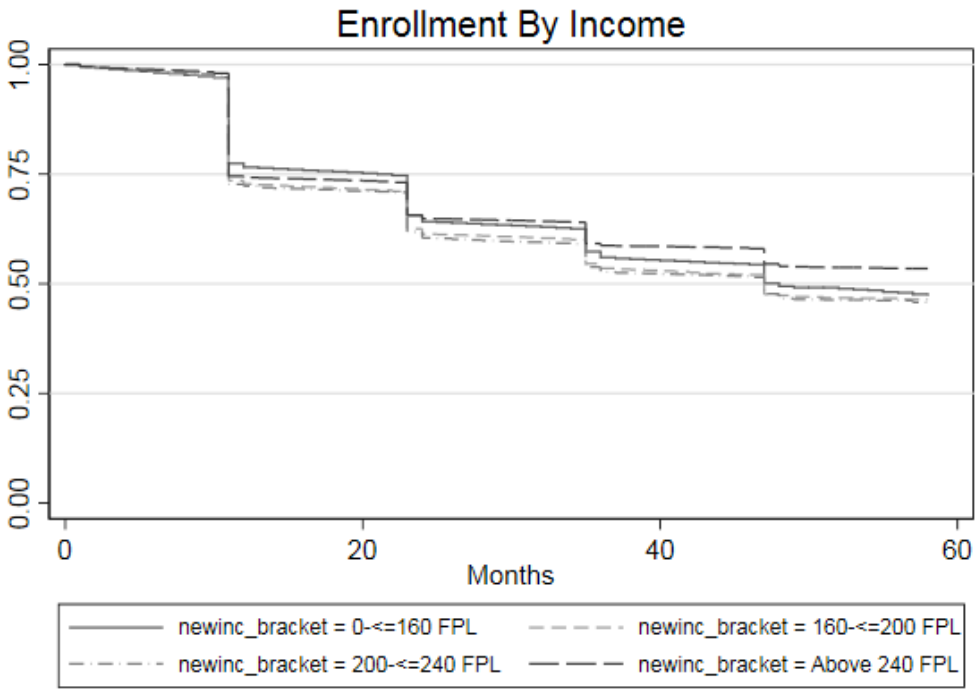
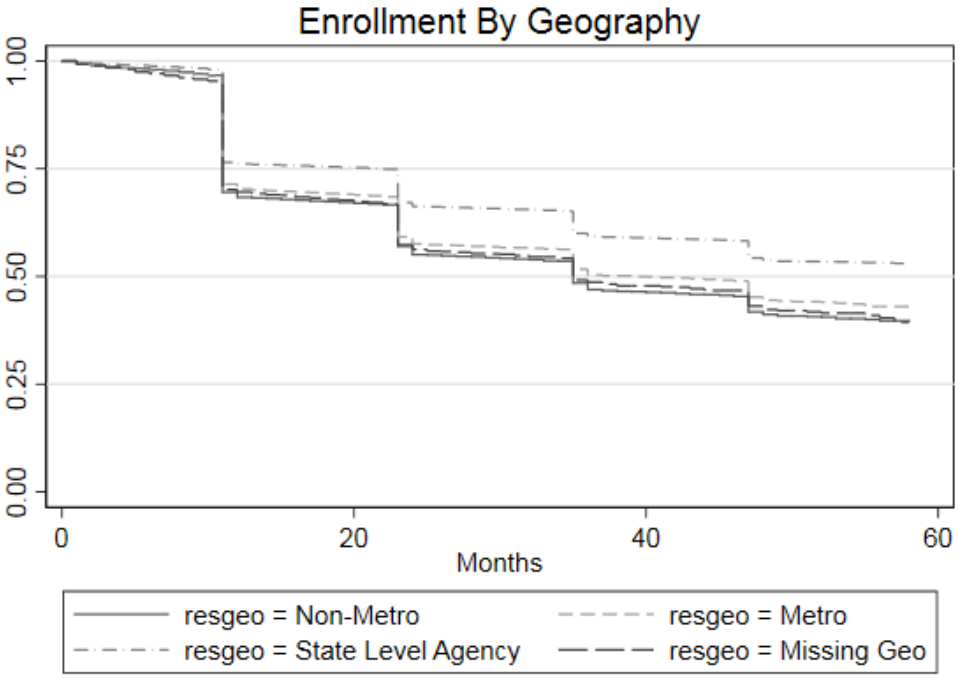


Figure IV.A.13: Proportion of Members who Continue Enrollment in SeniorCare, By Geography



Finally, we provide a multivariate analysis of predictors of exit and retention probability, shown in Table IV.A.4. The exit analysis uses a Cox proportional hazard model; coefficients in the table are provided as hazard ratios and represent the relative risk of disenrollment compared to the excluded category, holding constant the other characteristics included in the model. For example, the first column suggests that each year of age is associated with a 4.5% increase in the exit rate, while being female is associated with a 16.5% decrease in the exit rate relative to being male, conditional on the other variables in the model. We estimate retention probability using a linear probability model. Coefficients should be interpreted as the relative change in probability of renewing SeniorCare enrollment at the 12-month threshold. For example, the third column suggests an association between black members and renewal probabilities that is 17.7 percentage points lower than for white households, while being female is associated with a 4.6 percentage point higher probability of renewal relative to being male, conditional on the other variables in the model. These models account for spells that begin before 2014 or end after December 2018 (that are “left-censored” or “right-censored,” respectively).

Table IV.A.4: Regression Models of Enrollment in SeniorCare

	Hazard of Exit		Probability of Renewal	
	All Spells	**New Spells Only**	**All Spells**	**New Spells Only**
Observations	159,688	73,939	163,621	76,706
Age	1.045***	1.029***	-0.00326***	-0.00496***
	(0.00059)	(0.00106)	(0.000166)	(0.00032)
Age 65 at Start of Spell	1.122***	0.732***	-0.0741***	0.0646***
	(0.0154)	(0.0129)	(0.00323)	(0.00459)
Female	0.835***	0.882***	0.0455***	0.0320***
	(0.00692)	(0.0115)	(0.00231)	(0.00359)
Race/Ethnicity				
Black (non-Hispanic)	1.779***	1.837***	-0.177***	-0.166***
	(0.0621)	(0.0882)	(0.0118)	(0.0174)
Other (non-Hispanic)	1.213***	1.262***	-0.0650***	-0.0415**
	(0.0437)	(0.0654)	(0.0104)	(0.0158)
Hispanic	1.463***	1.400***	-0.103***	-0.0823***
	(0.058)	(0.0782)	(0.0124)	(0.018)
Missing Race Data	1.091***	1.062**	-0.0572***	-0.0396***
	(0.016)	(0.0219)	(0.00388)	(0.00553)
More than 1 Race Reported	1.006	1.039	0.0189	0.0473
	(0.0718)	(0.109)	(0.0191)	(0.0282)
English Spoken in the Home	0.785**	0.802*	0.0247	0.00471
	(0.0601)	(0.0822)	(0.0245)	(0.0345)
Income				
0-160% FPL	1.087***	1.130***	-0.0568***	-0.0558***
	(0.012)	(0.023)	(0.00324)	(0.0058)
200-240% FPL	1.226***	1.278***	-0.100***	-0.0939***
	(0.0163)	(0.0285)	(0.00383)	(0.00636)
Above 240% FPL	1.366***	1.373***	-0.153***	-0.143***
	(0.0155)	(0.0257)	(0.00311)	(0.00507)
Geography				
Metro	0.964*	0.965	0.00322	0.00893
	(0.016)	(0.0245)	(0.00491)	(0.00742)
State Level Agency	0.643***	0.661***	0.145***	0.122***
	(0.00803)	(0.0131)	(0.00367)	(0.00573)
Missing Geography	0.918***	0.930*	0.0472***	0.0689***
	(0.0181)	(0.0306)	(0.00605)	(0.00998)

** p<0.05; ** p<0.01; *** p<0.001*

Overall, these findings indicate the following regarding entry into the Medicaid program among SeniorCare members:

- Lower income groups were more likely to transition from SeniorCare to Medicaid than higher income groups, a finding that aligns with the structure of the income requirements for eligibility in EBD Medicaid. However, the likelihood of renewing SeniorCare enrollment was similar regardless of member income.
- Members older than 65 at the start of a spell were more likely to transition to Medicaid at the end of their SeniorCare spell. SeniorCare households identified as black or Hispanic were less likely to transition to Medicaid, and also had significantly higher exit rates.
- These findings evaluated the characteristics of SeniorCare members that are at particularly high risk of transitioning, but this analysis does not allow conclusions about how SeniorCare may more broadly affect Medicaid enrollment.

B. Hypothesis 2: The rate of hospital admissions among Wisconsin seniors age 65 and older for selected medical conditions such as diabetes and heart disease will be lower after SeniorCare implementation than before SeniorCare.

Methods and Data Sources. As above for Hypothesis 1, the evaluation team did not have access to data prior to SeniorCare implementation in 2002 for this analysis, so the hypothesis could not be evaluated as originally stated by DHS. The team instead examined differences in hospitalizations between SeniorCare enrollees and other similar older adult populations in Wisconsin who were not enrolled in the program.

Nearly all older adults are automatically eligible for Medicare Part A, which is the primary source of hospital insurance for many older adults. Over 90% of Medicare beneficiaries opt to enroll in Part B, which provides supplementary medical insurance and covers inpatient and outpatient physician services, provider-administered drugs, and certain immunosuppressive drugs following transplant.[13] However, Medicare data on SeniorCare enrollees were not available for the current evaluation; therefore, we used two alternative sources of data to assess population-level use of hospital services among SeniorCare members, and compared this to similar populations.

The first data source was Wisconsin Medicaid enrollment and claims data obtained from the Wisconsin Department of Health Services. Enrollment and hospital claims were obtained for continuously enrolled beneficiaries in the Medicaid Elderly, Blind, and Disabled (EBD) population. The main group of interest was individuals who had been enrolled in the SeniorCare program and had a Medicaid-funded hospitalization. The remaining EBD population age 65 or older was selected as a comparison group, as the SeniorCare and elderly EBD populations are both composed of low-income older adults. EBD Medicaid data from calendar years 2014-2018 were used for the analyses.

The second data source was enrollment and claims data obtained from the Wisconsin Health Information Organization (WHIO), which is the state's multi-payer claims database. The WHIO data collect de-identified claims data from private payers and Wisconsin Medicaid, and contain information on the commercially insured, Medicaid, and Medicare Advantage populations in Wisconsin (but does not contain information on the Medicare fee-for-service population). WHIO enrollment and hospital claims

[13] Cubanksi et al; Young.

were obtained for individuals age 65+ and continuously enrolled in Medicare only. The Medicare group was selected as a comparison group to the SeniorCare population, as it reflects the general older adult population in Wisconsin. WHIO data from calendar years 2014-2017 were used for the analyses, which were the most current years of data available.

Descriptive analyses were conducted to describe population-level measures of hospital use among the following groups: former SeniorCare members in the EBD Medicaid population (hereafter SeniorCare members), the EBD Medicaid population, and the WHIO Medicare population. The analysis included three outcomes to describe the use of hospital services: annual number of inpatient hospital days, annual hospital length of stay, and total hospital care costs. The admission date was used as the reference date of the hospitalization, and the admission and discharge dates were used to determine length of stay in days. Length of stay was truncated at the end of the calendar year of the admission date to prevent overcounting, such that the annual length of stay ranged from 1 to 365 days. Proportional adjustments were made to the cost data for each hospitalization. Disease information for the hospitalizations was obtained using the primary diagnosis code for each claim as indicated by International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) or Tenth Revision (ICD-10-CM) codes. Annual trends in the measures were assessed over calendar years 2014-2018.

*Limitation to Hospitalization Analysis***.** It is important to note that the SeniorCare population in these analyses is a very select subgroup of SeniorCare members. Our data only contained information on individuals that were enrolled in SeniorCare and later had a paid claim in the EBD Medicaid population. As described in Hypothesis 1, a very small proportion of individuals transitioned from SeniorCare to Medicaid, which may have occurred due to changes that impact Medicaid eligibility (e.g., income, assets, health expenses, health status, etc.). The findings will reflect utilization by those members who do end up enrolling in Medicaid, but the analysis as structured does not allow findings that generalize to the broader SeniorCare population.

In addition, there were considerable differences between the two data sources in how hospitalization costs were measured. Therefore, we assessed hospitalization costs only in the SeniorCare and EBD Medicaid populations using the Medicaid allowed amount.

Results. As shown in Table IV.B.1, the SeniorCare population with a Medicaid-funded hospitalization had a slightly older age than the EBD Medicaid population, with a lower proportion of individuals age 65-74 and higher proportion 85 years or older. In addition, the SeniorCare population had a higher proportion of females. In contrast, the WHIO Medicare population was considerably younger with a higher proportion of males than the SeniorCare and Medicaid populations.

Table IV.B.1: Hospital Population Demographics

SeniorCare Population					
	2014	**2015**	**2016**	**2017**	**2018**
Sample size (n)	535	502	475	503	407
Age (mean)	82.1	83.2	82.9	83.0	82.9
Age (%)					
65-74	20.9	19.3	20.2	20.3	21.4
75-84	38.3	33.5	34.1	33.4	30.7
85+	40.8	47.2	45.7	46.3	47.9
Gender (%)					
Male	28.8	29.5	28.2	27.2	29.5
Female	71.2	70.5	71.8	72.8	70.5
EBD Medicaid Population					
	2014	**2015**	**2016**	**2017**	**2018**
Sample size (n)	9,705	8,664	7,874	7,851	8,659
Age (mean)	79.2	78.7	78.4	78.1	78.5
Age (%)					
65-74	36.7	39.0	41.1	42.3	40.2
75-84	31.2	30.5	30.7	30.3	30.8
85+	32.1	30.5	28.2	27.3	29.0
Gender (%)					
Male	35.3	36.0	37.7	39.7	37.5
Female	64.7	64.0	62.3	60.3	62.5
WHIO Medicare Population					
	2014	**2015**	**2016**	**2017**	**2018**
Sample size (n)	22,068	24,312	27,143	30,886	n/a
Age (mean)	76.6	77.2	77.9	78.9	n/a
Age (%)					n/a
65-74	43.5	40.8	37.2	31.3	n/a
75-84	40.6	41.0	42.4	44.1	n/a
85+	15.9	18.2	20.5	24.6	n/a
Gender (%)					n/a
Male	44.0	44.7	45.6	46.1	n/a
Female	56.0	55.3	54.4	53.9	n/a

SeniorCare members had fewer mean annual hospital visits than the EBD Medicaid population in each year, as shown in Table IV.B.2. These differences were stable over time and were statistically significant in all years except 2017. To provide additional context, we estimated the mean number of hospital visits for the elderly Medicare population using the WHIO data. The Medicare population had significantly more visits in each year than the SeniorCare and EBD Medicaid populations. Based on this analysis, SeniorCare members had fewer mean annual hospital visits than comparable older adult populations in Wisconsin.

Table IV.B.2: Mean Annual Hospital Visits

	2014	2015	2016	2017	2018	% Change from 2014-2018
SeniorCare	1.17	1.16	1.14	1.19	1.17	-0.8%
EBD Medicaid	1.23	1.21	1.22	1.21	1.22	-0.9%
WHIO Medicare	1.30	1.32	1.31	1.35	n/a	3.8%

SeniorCare members also had a shorter mean annual hospital length of stay than the EBD Medicaid population in each year, as shown in Table IV.B.3. These differences were statistically significant in all years except 2015. SeniorCare members had a similar but slightly longer length of stay as compared to the Medicare population. However, there were upward trends in length of stay in both the EBD Medicaid (9.1% increase) and Medicare (13.2% increase) populations, compared to a relatively unchanged trend in the SeniorCare population (0.6% increase).

Table IV.B.3: Mean Annual Hospital Length of Stay (Days)

	2014	2015	2016	2017	2018	% Change from 2014-2018
SeniorCare	6.0	6.3	6.2	6.3	6.1	0.6%
EBD Medicaid	6.5	6.5	6.9	6.8	7.1	9.1%
WHIO Medicare	5.3	5.4	5.5	6.0	n/a	13.2%

Table IV.B.4 provides information on mean annual hospitalization costs. There was a downward trend in annual hospitalization costs for SeniorCare members, decreasing from $953 in 2014 to $831 in 2018, with a slight jump in 2017. In contrast, there was a strong increasing trend in costs for the EBD Medicaid population, which increased 66.7% from 2014 to 2018. As a result, the difference in hospital costs between the two groups increased over time, from an 18% difference in 2014 to a 125% difference in 2018.

Table IV.B.4: Mean Annual Hospitalization Costs

	2014	2015	2016	2017	2018	% Change from 2014-2018
SeniorCare	$953	$753	$820	$1,114	$831	-12.8%
EBD Medicaid	$1,123	$1,088	$1,308	$1,777	$1,872	66.7%

A disease-specific analysis was not appropriate given the small number of claims within each subgroup for common chronic diseases (e.g., diabetes, heart disease, etc.) Instead, we provide an overview of the most common primary diagnoses in the hospital claims in Table IV.B.5. The diagnoses were similar across the three subpopulations, although with somewhat different prevalence.

Table IV.B.5: Hospital Primary Diagnoses

SeniorCare Population	
Sepsis, unspecified organism	6.0%
Pneumonia, unspecified organism	4.9%
Urinary tract infection, site not specified	3.0%
Acute kidney failure, unspecified	2.9%
Hearing loss	2.0%
Non-ST elevation (NSTEMI) myocardial infarction	1.6%
Chronic obstructive pulmonary disease with (acute) exacerbation	1.6%
Pneumonitis due to inhalation of food and vomit	1.6%
Hypertensive heart disease with heart failure	1.3%
Cerebral infarction, unspecified	1.0%
EBD Medicaid Population	
Sepsis, unspecified organism	5.9%
Pneumonia, unspecified organism	4.4%
Urinary tract infection, site not specified	3.3%
Hearing loss	3.2%
Chronic obstructive pulmonary disease with (acute) exacerbation	2.5%
Acute kidney failure, unspecified	2.6%
Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease	1.4%
Pneumonitis due to inhalation of food or vomitus	2.1%
Non-ST elevation (NSTEMI) myocardial infarction	1.2%
Cerebral artery occlusion, unspecified with cerebral infarction	0.9%
WHIO Medicare Population	
Osteoarthrosis, localized, not specified whether primary or secondary, lower leg	6.4%
Osteoarthrosis, localized, not specified whether primary or secondary, pelvic region and thigh	3.7%
Unspecified septicemia	2.9%
Pneumonia, organism unspecified	2.6%
Atrial fibrillation	2.5%
Subendocardial infarction, initial episode of care	2.1%
Coronary atherosclerosis of native coronary artery	2.0%
Care involving other specified rehabilitation procedure	1.8%
Cerebral artery occlusion, unspecified with cerebral infarction	1.7%
Acute kidney failure, unspecified	1.5%

Overall, these findings demonstrate the following regarding hospital care provided to members in the SeniorCare population:

- SeniorCare members had fewer mean annual hospital visits than comparable older adult EBD Medicaid and Medicare populations in Wisconsin.
- SeniorCare members had a longer mean annual hospital length of stay than Medicare enrollees, but a shorter length of stay compared to EBD Medicaid enrollees. However, increases in length of stay over time were considerably smaller for SeniorCare members than for the EBD Medicaid and Medicare populations.
- Mean annual hospitalization costs for SeniorCare members were lower than the EBD Medicaid population during the waiver period, with a growing difference in costs over time.

- These findings likely reflect the differences in the underlying composition of the enrollees of the different programs – SeniorCare, EBD Medicaid, and Medicare.
- It is important to note that bias due to self-selection cannot be ruled out. In other words, SeniorCare members may require fewer hospital services because healthier individuals may elect to enroll in SeniorCare rather than other programs.

C. Hypothesis 3: The rate of Medicaid-funded nursing home admissions among Wisconsin seniors age 65 and older will be lower after SeniorCare implementation than before SeniorCare.

Methods and Data Sources. As with the previous two hypotheses, the evaluation team did not have access to data prior to SeniorCare implementation in 2002 for this analysis, so the hypothesis could not be evaluated as originally stated by DHS. The team instead examined differences in nursing home utilization between SeniorCare enrollees and other similar older adult populations in Wisconsin who were not enrolled in the program.

Detailed information on all nursing home care provided to SeniorCare enrollees was not available for the current evaluation. However, Medicaid is the primary payer for nursing home care, covering 62% of total nursing home residents in the US.[14] Therefore, we adopted a similar approach as in Hypothesis 2 to estimate population-level use of nursing home care among SeniorCare members, and compared this to similar populations.

Medicaid enrollment and nursing home claims were obtained for beneficiaries in the Wisconsin EBD Medicaid population. The population of interest was individuals who had previously been enrolled in SeniorCare and had a Medicaid-funded nursing home stay. The remaining EBD population age 65 or older was selected as a comparison group. Note that given how uncommon nursing home admissions were for the SeniorCare population, the analyses included all SeniorCare members in both the waiver and non-waiver populations. Wisconsin Health Information Organization (WHIO) data were used to obtain information on the Medicare Advantage population as an additional comparison group. EBD Medicaid data from calendar years 2014-2018 and WHIO data from calendar years 2014-2017 were used for the analyses.

Descriptive analyses were conducted to describe population-level measures of nursing home care among the following groups: former SeniorCare members in the EBD Medicaid population (hereafter SeniorCare members), the EBD Medicaid population, and the WHIO Medicare population. Descriptive outcomes included the proportion of patients with nursing home use and mean length of stay in days. The admission date was used as the reference date of the nursing home stay, and the admission and discharge dates were used to determine length of stay in days. Two additional outcomes based on the existing Medicaid literature were used to describe nursing home care in the three populations: the monthly proportion of study patients residing in nursing homes and the cumulative probability of remaining outside a nursing home.[15]

[14] Kaiser Family Foundation. 2017. “Medicaid’s Role in Nursing Home Care.” Kaiser Family Foundation Infographic. Issued June 20, 2017. www.kff.org/infographic/medicaids-role-in-nursing-home-care/

[15] Soumerai SB, Ross-Degnan D, Avorn J, McLaughlin TJ, Choodnovskiy I. 1991 "Effects of Medicaid drug-payment limits on admission to hospitals and nursing homes." New England Journal of Medicine 325(15):1072-7. https://www.nejm.org/doi/full/10.1056/NEJM199110103251505

Limitations of Nursing Home Analysis. These analyses have similar limitations to those outlined in Hypothesis 3. In short, the SeniorCare population in these analyses is a select subgroup of SeniorCare members that transitioned to Medicaid. The analysis as structured does not allow findings that generalize to the broader SeniorCare population that does not enroll in Medicaid.

In addition, it should be noted that Medicare and Medicaid coverage for nursing homes structurally differ from one another, which impacts the observed outcomes in the two populations. Medicare coverage is typically limited to short-term rehabilitation stays in a skilled nursing facility following a qualifying hospital stay,[16] and does not provide coverage for long-term nursing home care. In contrast, Medicaid provides more comprehensive coverage of nursing facility services, including long-term nursing home care.[17] Thus, caution should be used when comparing the two populations.

Results. Instances of nursing home care were very rate among individuals who were enrolled in SeniorCare, as shown in Table IV.C.1. We assessed the annual proportion of individuals with nursing home admissions among those who were ever enrolled in SeniorCare from 2014-2018. A paid claim for Medicaid-funded nursing home care occurred for 256 individuals in 2014 which equated to a rate of 0.3% of the SeniorCare population; this declined in each year to 105 individuals in 2018 or a rate of approximately 0.1%. Overall during the study period, a total of 777 individuals or 0.5% of the SeniorCare population had a paid claim for a Medicaid-funded nursing home stay. The rates of nursing home care in the EBD Medicaid and Medicare populations were considerably higher in each year, with overall rates during the study period of 2.5% and 10.7%, respectively.

Table IV.C.1: Annual Proportion of Individuals with a Nursing Home Admission

SeniorCare Population						
	2014	**2015**	**2016**	**2017**	**2018**	**2014-2018**
Total Population	99,096	100,802	103,797	105,748	107,412	157,927
Patients Ever Residing in Nursing Home	256	185	168	152	105	777
% of Total	0.3%	0.2%	0.2%	0.1%	0.1%	0.5%
EBD Medicaid Population						
	2014	**2015**	**2016**	**2017**	**2018**	**2014-2018**
Total Population	62,368	60,780	57,949	57,764	63,724	116,966
Patients Ever Residing in Nursing Home	1,003	830	676	569	420	2,924
% of Total	1.6%	1.4%	1.2%	1.0%	0.7%	2.5%
WHIO Medicare Population						
	2014	**2015**	2016	**2017**	**2018**	**2014-2017**
Total Population	212,975	212,975	212,975	212,975	n/a	212,975
Patients Ever Residing in Nursing Home	5,637	6,926	8,244	10,096	n/a	22,780
% of Total	2.6%	3.3%	3.9%	4.7%	n/a	10.7%

[16] Centers for Medicare and Medicaid Services. "Medicare Part A Coverage -- Nursing Home Care." Centers for Medicare and Medicaid Services Webpage. Accessed April 3, 2019. https://www.medicare.gov/what-medicare-covers/what-part-a-covers/medicare-part-a-coverage-nursing-home-care

[17] Centers for Medicare and Medicaid Services. "Nursing Facilities." Centers for Medicare and Medicaid Services Webpage. Accessed April 3, 2019. https://www.medicaid.gov/medicaid/ltss/institutional/nursing/index.html

Table IV.C.2 provides an overview of the demographics of the three populations. For all three groups, individuals that had a nursing home visit were more likely to be older than those without, with a higher proportion of individuals 85 years or older. SeniorCare and Medicare individuals with a nursing home stay were more likely to be female compared to those that did not have a nursing home visit; however, the opposite trend for gender was seen in the EBD Medicaid population.

Table IV.C.2: Nursing Home Population Demographics

SeniorCare Population, 2014-2018			
	No Nursing Home Visit	**Had Nursing Home Visit**	P-value
Sample Size (n)	157,150	777	
Age (mean)	77.7	85.2	<0.01
Age (%)			<0.01
65-74	45.1	11.3	
75-84	29.5	33.3	
85+	25.4	55.3	
Gender (%)			<0.01
Male	36.6	30.0	
Female	63.4	70.0	
EBD Medicaid Population, 2014-2018			
	No Nursing Home Visit	**Had Nursing Home Visit**	P-value
Sample Size (n)	114,042	2,924	
Age (mean)	78.9	79.7	<0.01
Age (%)			<0.01
65-74	34.6	25.4	
75-84	27.1	34.4	
85+	38.3	40.2	
Gender (%)			<0.01
Male	35.9	42.1	
Female	64.1	57.9	
WHIO Medicare Population, 2014-2017			
	No Nursing Home Visit	**Had Nursing Home Visit**	P-value
Sample Size (n)	190,195	22,780	
Age (mean)	77.0	81.9	<0.01
Age (%)			<0.01
65-74	42.2	17.3	
75-84	43.1	41.2	
85+	14.6	41.5	
Gender (%)			<0.01
Male	44.2	35.0	
Female	55.8	65.0	

The mean nursing home length of stay is provided in Table IV.C.3 for each population. Given that Medicare coverage for nursing homes is limited to short-term care following hospitalization, there were systematic differences in the length of stay in this population compared to the two Medicaid populations. Although the mean length of stay between the SeniorCare and EBD Medicaid populations varied, the median length of stay was similar between the two groups.

Table IV.C.3: Mean Nursing Home Length of Stay (Days)

	Mean Length of Stay (days)	Median Length of Stay (days)
SeniorCare	60.1	33
EBD Medicaid	55.6	31
WHIO Medicare	14.1	8

Note: SeniorCare and EBD Medicaid data available from 2014-2018; WHIO Medicare data available from 2014-2017

We also assessed trends in the monthly proportion of individuals residing in a nursing home and the cumulative probability of remaining outside a nursing home among the three populations. The monthly proportion of individuals residing in a nursing home declined over time in the SeniorCare group (Figure IV.C.1), with a similar trend in the EBD Medicaid group (Figure IV.C.2). In contrast, the Medicare group showed a linear increasing trend over time in the proportion of individuals residing in a nursing home, with periodic seasonal fluctuations (Figure IV.C.3). The probability of remaining outside a nursing home (i.e., the probability of not having a nursing home visit) remained relatively flat for SeniorCare members throughout the study period (Figure IV.C.4). A slightly more noticeable downward linear trend was seen in the EBD Medicaid group given the higher proportion of individuals with a nursing home visit (Figure IV.C.5). The Medicare group had a much more noticeable decreasing linear trend during the study period (Figure IV.C.6).

Figure IV.C.1: Monthly Proportion of Individuals Residing in Nursing Homes, SeniorCare Population

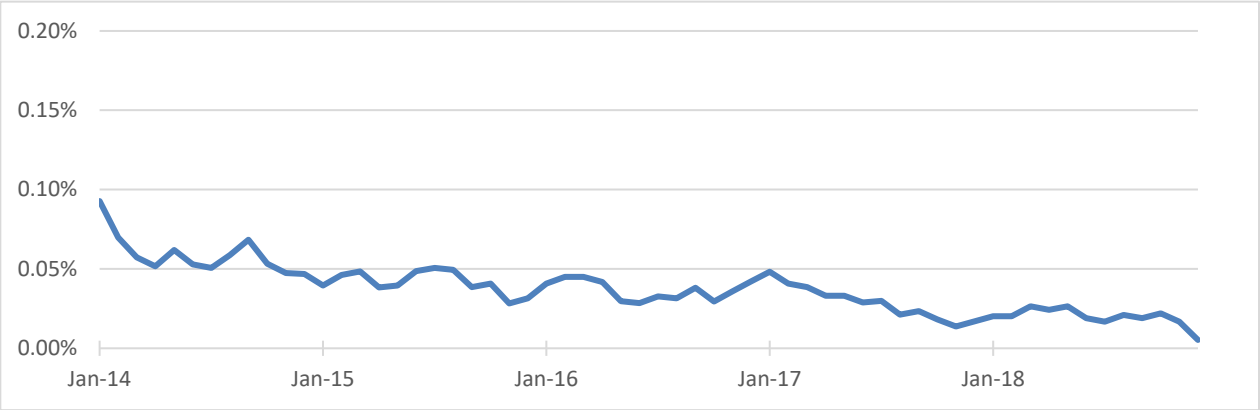


Figure IV.C.2: Monthly Proportion of Individuals Residing in Nursing Homes, EBD Medicaid Population

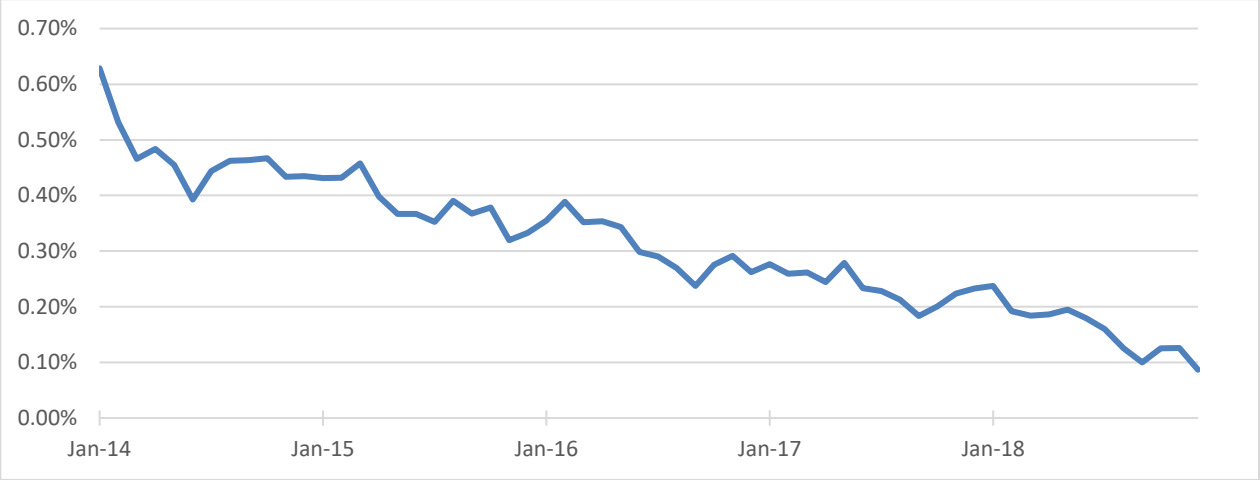


Figure IV.C.3: Monthly Proportion of Individuals Residing in Nursing Homes, WHIO Medicare Population

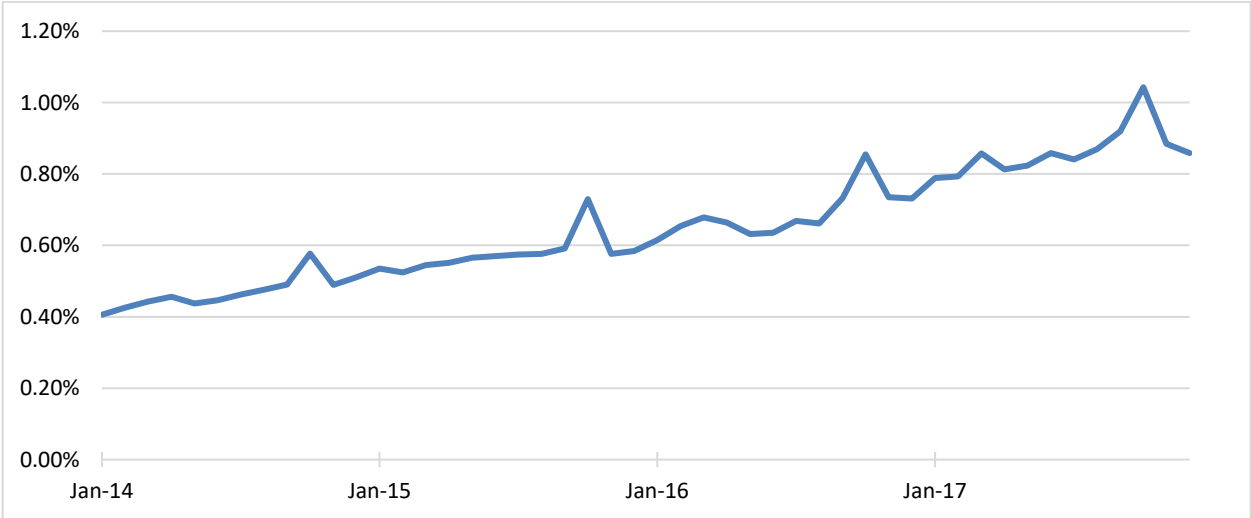


Figure IV.C.4: Cumulative Probability of Remaining Outside a Nursing Home, SeniorCare Population

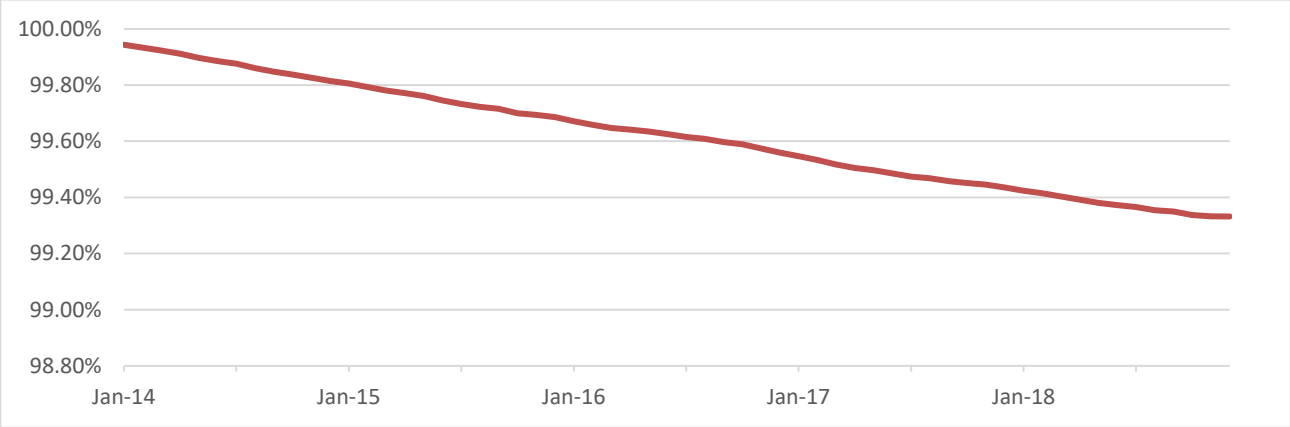


Figure IV.C.5: Cumulative Probability of Remaining Outside a Nursing Home, EBD Medicaid Population

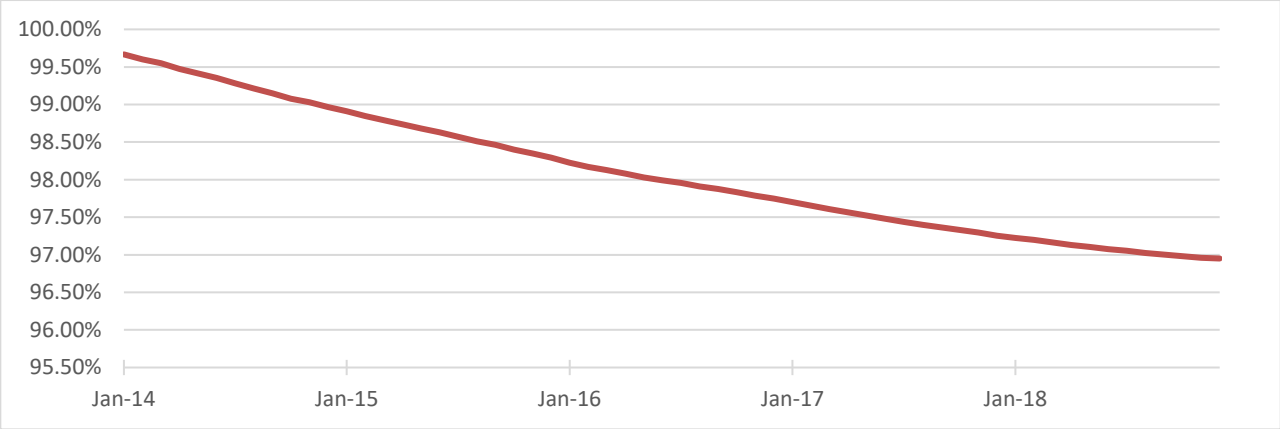


Figure IV.C.6: Cumulative Probability of Remaining Outside a Nursing Home, WHIO Medicare Population

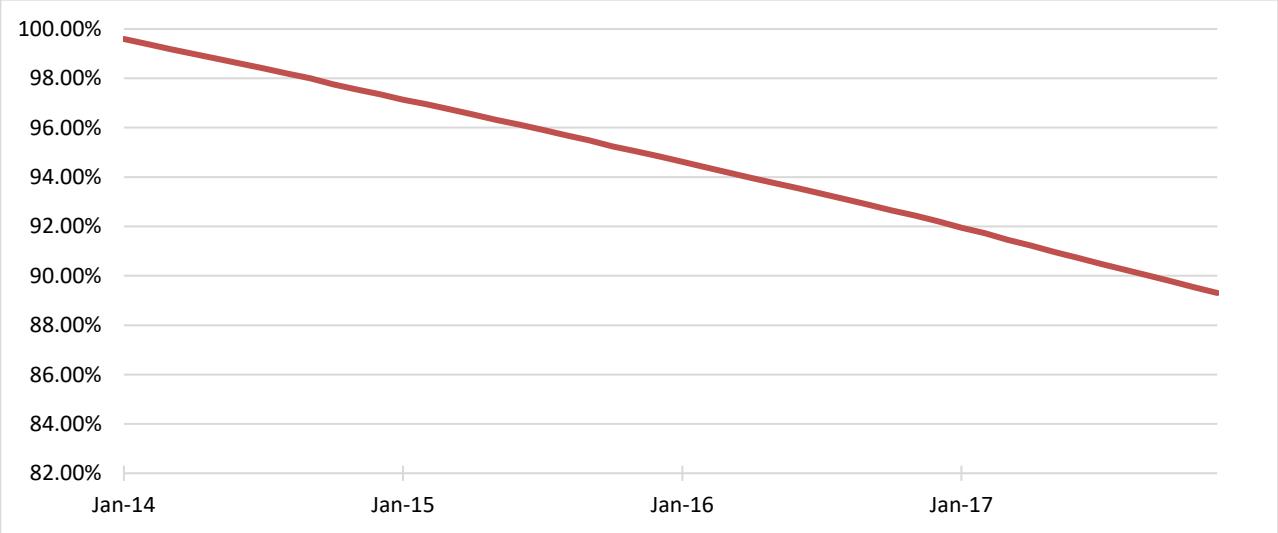


Table IV.C.4 provides an overview of the most common primary diagnoses of the nursing home stays for each population. The primary diagnoses in the SeniorCare and EBD Medicaid populations were very similar to one another, albeit with slightly different prevalence. These diagnoses were more chronic in nature, and contributed to the longer length of stay. In contrast, most Medicare nursing home visits were for short-term rehabilitation or physical therapy, which is consistent with the rules for payment under Medicare and contributed to the shorter length of stay seen in this population.

Table IV.C.4: Nursing Home Primary Diagnoses

SeniorCare Population	
Care involving other specified rehabilitation procedure	17.2%
Muscle weakness (generalized)	3.2%
Weak, weakening, weakness (generalized)	2.7%
Urinary tract infection, site not specified	2.1%
Essential (primary) hypertension	1.6%
Congestive heart failure, unspecified	1.0%
Cerebral artery occlusion, unspecified with cerebral infarction	1.0%
Sepsis, unspecified organism	1.0%
Chronic obstructive pulmonary disease, unspecified	1.0%
Aftercare for healing traumatic fracture of hip	1.0%
EBD Medicaid Population	
Care involving other specified rehabilitation procedure	17.8%
Muscle weakness (generalized)	3.0%
Pneumonia, unspecified organism	2.6%
Heart failure, unspecified	2.2%
Urinary tract infection, site not specified	2.1%
Chronic obstructive pulmonary disease, unspecified	2.0%
Weak, weakening, weakness (generalized)	1.7%
Encounter for other specified aftercare	1.5%
Other malaise and fatigue	0.8%
Essential (primary) hypertension	0.7%
WHIO Medicare Population	
Care involving other specified rehabilitation procedure	44.6%
Care involving other physical therapy	7.1%
Muscle weakness (generalized)	2.9%
Difficulty in walking	2.4%
Aftercare following joint replacement	2.1%
Need for prophylactic vaccination and inoculation against influenza	1.7%
Encounter for occupational therapy	1.6%
History of fall	1.0%
Aftercare for healing traumatic fracture of hip	0.9%
Knee joint replacement	0.9%

Overall, these findings demonstrate the following regarding nursing home care provided to members in the SeniorCare program:

- Nursing home care was very rare among SeniorCare members, and the proportion of SeniorCare members receiving nursing home care declined over time. The proportion of SeniorCare members receiving nursing home care was considerably lower than comparable EBD Medicaid and Medicare populations.
- The length of stay for nursing home care in the SeniorCare population was relatively similar to the EBD Medicaid population. Although their length of stay was considerably longer than the Medicare group, this owes to structural differences in coverage for nursing home care between the two programs.
- The probability of SeniorCare members remaining outside a nursing home was considerably higher than the EBD Medicaid and Medicare populations, and remained relatively unchanged over the study period.
- These findings likely reflect the differences in the underlying composition of the enrollees of the different programs – SeniorCare, EBD Medicaid, and Medicare.

D. Hypothesis 4: SeniorCare members will report lower levels of financial hardship and prescription non-adherence after enrolling in SeniorCare than for a comparable period prior to program enrollment.

Methods and Data Sources. As the evaluation team did not have access to data on members prior to their enrollment in SeniorCare, the hypothesis could not be evaluated as originally stated by DHS. The team instead assessed the levels of financial hardship and prescription non-adherence among SeniorCare members and examined trends in these outcomes over time.

Data for these analyses were drawn from SeniorCare program enrollment and paid prescription drug claims with a date of service from January 1, 2014 through December 31, 2018. General trends in the utilization of and expenditures for prescription drugs was previously presented in Section III: SeniorCare Program Description. This section assesses the extent of financial hardship and prescription non-adherence among the SeniorCare waiver population only.

Financial hardship was assessed using the affordability of prescription drugs and the associated financial burden. Descriptive analyses were used to assess trends in out-of-pocket costs for SeniorCare members, with additional detail provided for the use of brand name relative to generic drugs and specialty relative to non-specialty drugs. Financial burden was assessed in each year using the proportion of total annual out-of-pocket costs to total "couple income" (i.e., enrollee and their spouse). Couple income was used instead of individual income as financial resources are often shared at the household level. Two cutoffs for high financial burden due to prescription drugs were used in this analysis based on the literature: total out-of-pocket costs exceeding 5% of income and exceeding 10% of income.[18]

[18] Gellad WF, Donohue JM, Zhao X, Zhang Y, Banthin JS. 2012. "The financial burden from prescription drugs has declined recently for the nonelderly, although it is still high for many." *Health Affairs* 31(2):408-16. https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2011.0469

Medication adherence was assessed using the proportion of days covered (PDC). The PDC is the preferred method to assess medication adherence to important chronic drug therapies, and was calculated using the measures endorsed by the Pharmacy Quality Alliance (PQA) and National Quality Forum.[19] This approach provides a benchmark allowing for comparison across organizations or systems, and is used to assess the quality of medication use by government programs such as Medicare Part D. The standard PDC threshold of 80% was used to classify an individual as adherent to their medications, which is the level above which the medication has a reasonable likelihood of achieving the most clinical benefit. Medication adherence was determined for several therapeutic classes commonly used to treat chronic diseases using the following PQA measures: Diabetes All Class (PDC-DR), Statins (PDC-STA), and Renin Angiotensin System Antagonists (PDC-RASA).[20]

Medication adherence was measured following the PQA specifications for each measure. Adherence was calculated only for individuals with at least two fills of a medication in that class on two unique dates in a given measurement year. Adjustments were made for overlapping days supply for the same drug ingredient (i.e., early refills of the same medication). Individuals were excluded from the Diabetes All Class measure if they had any fills for insulin. Individuals were excluded from the PDC-RASA measure if they had any fills for sacubitril or valsartan.

Results. Hypothesis 4 assesses two primary outcomes for SeniorCare members in the waiver population: financial hardship and prescription non-adherence.

Financial Hardship. As previously described, the SeniorCare waiver population is composed of two groups with differing cost sharing requirements. Members with income ≤160% FPL are subject only to a flat copayment amount when obtaining a medication. Members with income 160-200% FPL are subject to a $500 annual deductible; after the member has paid the full deductible amount out-of-pocket, they are then subject to the standard SeniorCare copayment amount when obtaining further medications. Copayments were set at $5 for each covered generic prescription drug and $15 for each covered brand name drug, which did not change over the evaluation period. Because cost sharing did not change over this period, the changes in costs can primarily be attributed to changes in utilization, such as changes in the quantity or types of drugs.

Table IV.D.1 shows total enrollment and claims for SeniorCare members in the waiver population, and a breakdown of total drug costs (from all sources) and costs borne by the member through deductibles and copayments. This table was also provided in Table III.E.1 in the General Program Description Section, and is provided here for overall context when interpreting the financial hardship analysis. Although total expenditures for the SeniorCare waiver population increased by 19.3% between 2014 and 2018, member costs declined by 17.6%. This decrease is slightly larger than the decline in waiver enrollment seen over this same period, but similar to the decline in total claims. Due to these trends, the proportion of total costs paid out-of-pocket by SeniorCare members declined by 4.2% between 2014 and 2018.

[19] More information on PQA measures is available at www.pqaalliance.org/pqa-measures.
[20] More information on PQA adherence measures is available at www.pqaalliance.org/adherence-measures.

Table IV.D.1: Annual SeniorCare Waiver Member Costs

	2014	2015	2016	2017	2018	% Change from 2014-2018
Waiver Members	57,827	56,142	54,206	52,879	51,276	-11.3%
Total Claims	1,623,414	1,535,410	1,450,043	1,381,706	1,308,784	-19.4%
Total Expenditures	$102,480,081	$106,176,685	$107,123,751	$113,063,877	$122,212,175	19.3%
Member Costs	$13,972,419	$13,217,305	$12,314,173	$12,147,240	$11,514,540	-17.6%
Member % of Total Costs	13.6%	12.4%	11.5%	10.7%	9.4%	-

To better assess how changes in the types of drugs might have impacted annual member costs, we estimated the mean annual member costs by drug type (Table IV.D.2). Estimates were determined separately for each category of drug type, which included all drugs, brand and generic drugs, and specialty and non-specialty drugs. As these categories were not mutually exclusive and some members used multiple types of drugs (e.g., both brand name and generic drugs), the categories do not sum to 100%.

Overall, the number of waiver members using prescription drugs declined by 14.5% from 2014-2018, with total claims declining 19.4% and mean annual member costs by 3.7%. Although mean member costs for both brand and generic drugs increased (see Figure IV.D.1), the use of brand name drugs declined at a rate that was nearly twice that of generic drugs. Given the copayment differential between these two drug types, this shift towards lower use of brand drugs likely contributed to the overall decline in total member costs.

Large increases were observed in the number of members with claims for specialty drugs, the total number of specialty drug claims, and associated mean member costs (see Figure IV.D.2). This finding indicates growing use of more expensive drugs by a larger group of members over time. In contrast, mean member costs for non-specialty drugs decreased over time, which is similar to the overall trends in member costs. It is important to note that there is no copayment differential for specialty drugs in the SeniorCare benefit, the majority of which are brand name drugs.

Table IV.D.2: Mean Annual Member Costs by Drug Type

		2014	2015	2016	2017	2018	% Change 2014-2018
All Drugs	Members	49,010	47,522	45,608	44,235	41,927	-14.5%
	Claims	1,623,414	1,535,410	1,450,043	1,381,706	1,308,784	-19.4%
	Mean Costs	$285.09	$278.13	$270.00	$274.61	$274.63	-3.7%
Brand Name Drugs	Members	30,672	28,366	24,805	23,193	21,339	-30.4%
	Claims	319,518	261,881	231,445	217,547	206,006	-35.5%
	Mean Costs	$200.18	$190.29	$196.50	$200.36	$206.43	3.1%
Generic Drugs	Members	48,431	46,925	45,013	43,643	41,405	-14.5%
	Claims	1,303,896	1,273,529	1,218,598	1,164,159	1,102,778	-15.4%
	Mean Costs	$161.73	$166.64	$165.29	$171.85	$171.70	6.2%
Specialty Drugs	Members	287	331	384	430	476	65.9%
	Claims	1,824	2,032	2,398	2,610	3,051	67.3%
	Mean Costs	$152.11	$167.20	$198.39	$183.96	$199.50	31.2%
Non-Specialty Drugs	Members	49,004	47,510	45,601	44,222	41,908	-14.5%
	Claims	1,621,590	1,533,378	1,447,645	1,379,096	1,305,733	-19.5%
	Mean Costs	$284.24	$277.04	$268.37	$272.90	$272.49	-4.1%

Note: Each category is a conditional sample that represents the mean costs among users of that drug type. Since many members used multiple types of drugs, the categories do not sum to 100%.

Figure IV.D.1: Mean Member Costs for All Drugs, Brand Name Drugs, and Generic Drugs

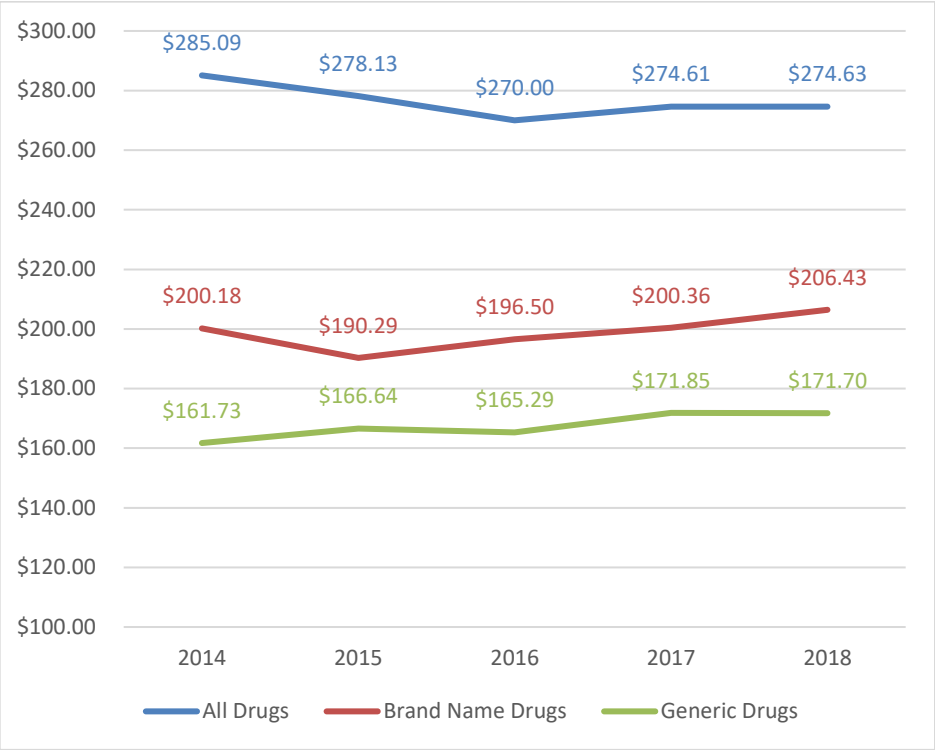
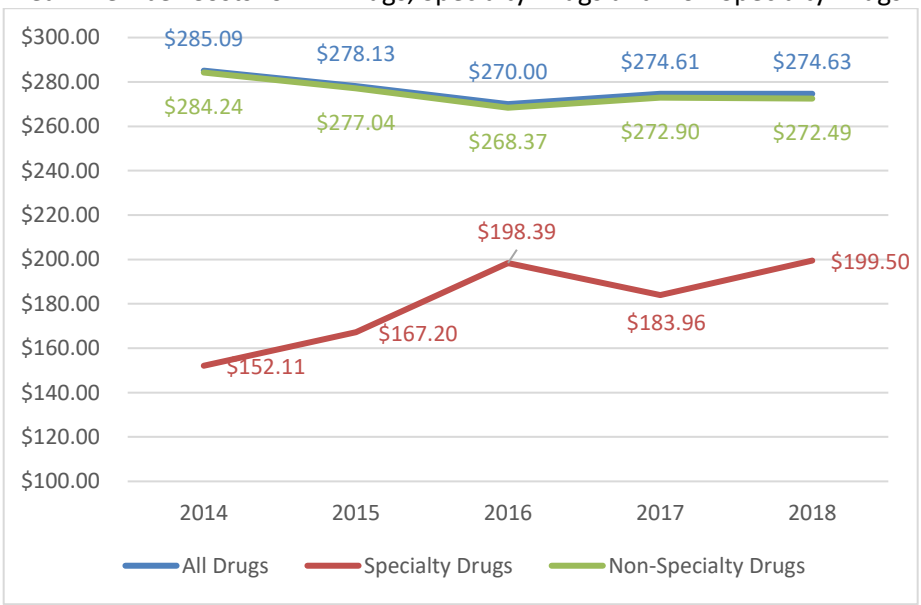


Figure IV.D.2: Mean Member Costs for All Drugs, Specialty Drugs and Non-Specialty Drugs



SeniorCare waiver members had a low prevalence of financial burden due to the cost of prescription drugs, as shown in Table IV.D.3. On average, out-of-pocket costs accounted for 1.5% of member income. When financial burden was assessed using the ratio of total annual member out-of-pocket costs to annual income, approximately 3% of SeniorCare members experienced high financial burden exceeding the 5% cutoff, with only 0.2% exceeding the 10% cutoff. Of note, the prevalence of high financial burden exceeding the 5% cutoff declined over time from 3.3% in 2014 to 2.4% in 2018. As SeniorCare cost sharing requirements did not change over this time, potential contributing factors could include changes in drug utilization leading to lower out-of-pocket costs, or other external factors such as income increases (e.g., cost-of-living adjustments to Social Security benefits).

Table IV.D.3: Financial Burden of Prescription Drug Use in the SeniorCare Waiver Population

	2014	**2015**	**2016**	**2017**	**2018**
Members	49,010	47,522	45,608	44,235	41,927
Member Costs as Proportion of Income	1.6%	1.5%	1.4%	1.5%	1.5%
Financial Burden >5%	3.3%	2.9%	2.6%	2.3%	2.4%
Financial Burden >10%	0.2%	0.2%	0.1%	0.1%	0.2%

Directly comparable and recent estimates of financial burden among individuals similar to the SeniorCare population are not available in the literature (e.g., elderly Medicare Part D beneficiaries). However, the rate of financial burden due to prescription drugs in the non-elderly population from 1999-2008 was approximately 5-6% exceeding the 5% cutoff and 3-4% exceeding the 10% cutoff.[21] In addition, the rate among individuals with public insurance was approximately twice as high as individuals with private insurance. While caution should be exercised when making comparisons given the large differences in populations and time, the prevalence of financial burden due to prescription drugs in the SeniorCare population appears to be somewhat lower than these estimates.

Medication Adherence. SeniorCare members on average had very high medication adherence regardless of therapeutic class as shown in Table IV.D.4, with a mean PDC of nearly 90% for all three measures. In addition, there were small upward trends in mean PDC, indicating small adherence improvements over time. When the standard cutoff of 80% was applied to categorize an individual as adherent or not, approximately 80% of members were classified as adherent across all three measures, with small improvements seen over time. When this information is combined with the declining sample size seen over time, this could indicate a concentration of drug use among a smaller, more adherent population.

[21] Gellad, et al.

Table IV.D.4: Medication Adherence: Diabetes, Statins, and Renin Angiotensin System Antagonists

	2014	2015	2016	2017	2018	Percentage Point Change, 2014 to 2018
Diabetes (All Classes)						
Sample Size	5,668	5,354	5,064	4,861	4,637	-
Mean PDC	87.8%	87.6%	88.5%	88.5%	89.4%	1.6
Proportion adherent (PDC≥80%)	78.1%	78.4%	78.9%	79.6%	81.2%	3.1
Statins						
Sample Size	21,486	20,513	19,673	19,204	18,406	-
Mean PDC	87.1%	87.4%	87.8%	88.1%	88.3%	1.2
Proportion adherent (PDC≥80%)	77.3%	77.6%	78.6%	79.1%	79.5%	2.2
Renin Angiotensin System Antagonists						
Sample Size	21,629	20,645	19,619	18,756	17,853	-
Mean PDC	88.5%	88.7%	89.0%	89.0%	89.2%	0.7
Proportion adherent (PDC≥80%)	79.8%	80.2%	80.5%	80.6%	80.8%	1.0

Overall, these findings demonstrate the following regarding financial hardship and prescription drug adherence in the SeniorCare program:

- Despite increasing total drug expenditures from 2014-2018, costs borne by members through deductibles and copayments decreased over this same time period. Part of this decrease is due to changes in drug utilization over time and, in particular, decreases in the use of brand name drugs.
- The number of claims for specialty drugs has increased over time, along with considerable increases in associated member costs.
- SeniorCare members rarely experienced financial burden due to prescription drugs, and the rate of such burdens decreased over time.
- Medication adherence to several therapeutic classes commonly used to treat chronic diseases was very high, and increased slightly over time.

E. Hypothesis 5: SeniorCare waiver program members who receive Comprehensive Medication Review and Assessment (CMR/A) services will have improved medication adherence, compared to members who do not receive CMR/A.

Methods and Data Sources. This hypothesis focuses on medication therapy management (MTM) services provided to SeniorCare members. The SeniorCare MTM benefit historically covered two main categories of services for eligible members:

- *Comprehensive Medication Review and Assessment (CMR/A):* Private consultations between a SeniorCare member and a pharmacist to discuss and review that patient's entire medication regimen. These consultations may include a variety of consultative, analytical, and educational services, with the goal of preventing complications, increasing adherence, and controlling costs.
- *Intervention-Based Services (IBS).* While similar to CMR/As in that they consist of a consultation between a member and a pharmacist, IBS are usually shorter in duration and are limited in scope to a single medication, rather than a patient's entire drug regimen. Interventions included in this benefit may include services such as transition to a three-month supply, focused adherence consultation, and cost-effectiveness interventions. IBS were no longer reimbursed through the SeniorCare program starting April 1, 2017.

Data for these analyses were drawn from SeniorCare program enrollment and paid medication therapy management (MTM) claims with a date of service from January 1, 2014 through December 31, 2018. Our analysis focuses exclusively on CMR/A services, as IBS claims were no longer billable as of April 1, 2017.

A robust analysis on the impact of receiving a CMR/A service on waiver member adherence and associated health outcomes was not warranted given the low prevalence of MTM services. Therefore, we provide a detailed overview of the CMR/A services received by SeniorCare members from 2014-2018. Given the small number of paid CMR/A services provided to SeniorCare members, we provide information on all services provided to SeniorCare members in both the waiver and non-waiver populations. Descriptive statistics were used to describe trends in the number and proportion of enrolled members receiving CMR/A services during this period, along with the SeniorCare program's expenditures for these services. A description of the specific types of MTM services provided during this time period is also provided, along with a comparison of the characteristics of members who received a CMR/A with those that did not receive a CMR/A.

Results. There were very few CMR/A services provided to SeniorCare members, as shown in Table IV.E.1. From 2014-2018, there were a total of 618 paid CMR/A claims for 562 members, with approximately 75% being for initial CMR/A services. Most CMR/A services were provided to members in the waiver population (Table IV.E.2). The number of claims declined over time, with a steep drop starting in 2016. One factor contributing to this drop was a change in the MTM case management software vendor in 2015, which may have negatively impacted pharmacies' ability to submit claims for CMR/A services.

Table IV.E.1: Summary of SeniorCare CMR/A Claims

	2014	2015	2016	2017	2018	Total
Initial CMR/A Claims	221	169	22	22	21	455
Follow-up CMR/A Claims	61	61	16	9	16	163
Total CMR/A Claims	282	230	38	31	37	618

Table IV.E.2: Proportion of SeniorCare Members with CMR/A Claims

	2014		2015		2016		2017		2018	
	Waiver	Non-Waiver	Waiver	Non-Waiver	Waiver	Non-Waiver	Waiver	Non-Waiver	Waiver	Non-Waiver
Total SeniorCare Enrollees	57,827	41,269	56,142	44,660	54,206	49,591	52,879	52,869	51,276	56,136
Enrollees with CMR/A Claims	214	38	186	34	29	5	22	6	22	5
% of Total	0.37%	0.09%	0.33%	0.08%	0.05%	0.01%	0.04%	0.01%	0.04%	0.01%

Table IV.E.3 and IV.E.4 provide additional information on total CMR/A costs paid by the program and cost-sharing paid by members, as well as the mean costs to each group. The SeniorCare program covered most of the costs for CMR/A services, with member payments accounting for approximately 7.7% of total CMR/A costs. CMR/A services were not subject to copayments, but members were responsible for these costs until they had satisfied any deductible requirements.

Table IV.E.3: Total SeniorCare CMR/A Costs at Claim Level

	2014	2015	2016	2017	2018	Total
Total CMR/A Claims	282	230	38	31	37	618
Total Cost	$18,605	$14,802	$2,105	$2,065	$2,390	$39,967
SeniorCare Cost	$17,409	$13,515	$1,945	$2,065	$1,965	$36,899
Member Cost	$1,196	$1,287	$160	$0	$425	$3,068

Table IV.E.4: SeniorCare CMR/A Costs per Member

	2014	2015	2016	2017	2018	Total
Total SC Enrollees with CMR/A	252	220	34	28	28	562
Mean Total Cost	$73.83	$67.28	$61.91	$73.75	$85.36	$71.12
Mean SeniorCare Cost	$69.08	$61.43	$57.21	$73.75	$70.18	$65.66
Mean Member Cost	$4.75	$5.85	$4.71	$0	$15.18	$5.46

Table IV.E.5 provides information on characteristics of SeniorCare Members with CMR/A claims. Compared to SeniorCare members who did not receive a CMR/A service, those who had a CMR/A were significantly more likely to be older and female. Individuals who received a CMR/A had on average more than three times as many drug fills and total annual drug costs as those who did not receive such a service. The higher level of need for prescription drugs among these individuals is consistent with the recommended eligibility criteria for CMR/A services.

Table IV.E.5: Characteristics of SeniorCare Members with CMR/A Claims, 2014-2018

	No CMR/A	Any CMR/A	P-value
Members	516,294	562	
Age (mean)	76.5	80.0	<0.01
Age (%)			<0.01
65-74	48.1	22.8	
75-84	31.1	48.0	
85 or older	20.8	29.2	
Sex (%)			<0.01
Male	34.8	24.4	
Female	65.3	75.6	
Race/Ethnicity (%)			<0.01
White, non-Hispanic	89.0	89.5	
Black, non-Hispanic	0.7	2.1	
Hispanic	0.7	1.3	
Other Race Reported/Missing	9.6	7.1	
Mean Annual 30-day Drug Fills	25.1	82.5	<0.01
Mean Annual Drug Costs	$1,332	$4,530	<0.01

It is worth noting that some SeniorCare members had an additional source of drug coverage (see Section III: SeniorCare Program Description for more information). It is possible that these members may be eligible for and/or receive MTM services from their other source of coverage (e.g., a Medicare Part D plan). Therefore, our results should be considered conservative in nature.

Overall, these findings demonstrate the following regarding CMR/A services provided to members in the SeniorCare program:

- SeniorCare members received very few CMR/A services, with most services being provided to members in the waiver population.
- Approximately 75% of the paid CMR/A claims were for initial CMR/A services.
- Most of the costs for CMR/A services were paid by the SeniorCare program, with member payments accounting for approximately 7.7% of the costs.
- Individuals who received a CMR/A had on average more than three times as many drug fills and total annual drug costs as those who did not receive such a service, which is consistent with the recommended eligibility criteria for CMR/A services.
- It should be noted that some SeniorCare members had an additional source of drug coverage. These members may be eligible for and/or receive MTM services from their other source of coverage (e.g., a Medicare Part D plan).

V. CONCLUSIONS

The evaluation supports the following conclusions regarding the SeniorCare program over the 2016-18 waiver period:

Transition to Medicaid

- Lower income groups were more likely to transition from SeniorCare to Medicaid than higher income groups, a finding which aligns with the structure of the income requirements for eligibility in EBD Medicaid. However, the likelihood of renewing SeniorCare enrollment was similar regardless of member income.
- Members older than 65 at the start of a spell were more likely to transition to Medicaid at the end of their SeniorCare spell. SeniorCare households identified as black or Hispanic were less likely to transition to Medicaid, and also had significantly higher exit rates.
- These findings evaluated the characteristics of SeniorCare members that are at particularly high risk of transitioning, but this analysis is not able to comment on how SeniorCare may affect Medicaid enrollment.

Hospitalizations

- SeniorCare members had fewer mean annual hospital visits than comparable older adult EBD Medicaid and Medicare populations in Wisconsin.
- SeniorCare members had a longer mean annual hospital length of stay than Medicare enrollees, but a shorter length of stay compared to EBD Medicaid enrollees. However, increases in length of stay over time were considerably smaller for SeniorCare members than for the EBD Medicaid and Medicare populations.
- Mean annual hospitalization costs for SeniorCare members were lower than the EBD Medicaid population during the waiver period, with a growing difference in costs over time.
- These findings likely reflect the differences in the underlying composition of the enrollees of the different programs – SeniorCare, EBD Medicaid, and Medicare.

Nursing Home Care

- Nursing home care was very rare among SeniorCare members, and the proportion of SeniorCare members receiving nursing home care declined over time. The proportion of SeniorCare members receiving nursing home care was considerably lower than comparable EBD Medicaid and Medicare populations.
- The length of stay for nursing home care in the SeniorCare population was relatively similar to the EBD Medicaid population. Although their length of stay was considerably longer than the Medicare group, this reflects structural differences in coverage for nursing home care between the two programs.
- The probability of SeniorCare members remaining outside a nursing home was considerably higher than the EBD Medicaid and Medicare populations, and remained relatively unchanged over the study period.
- These findings likely reflect the differences in the underlying composition of the enrollees of the different programs – SeniorCare, EBD Medicaid, and Medicare.

Financial Hardship and Medication Adherence

- Despite increasing total drug expenditures from 2014-2018, costs borne by members through deductibles and copayments decreased over this same time period. Part of this decrease is due to decreases in drug utilization over time, particularly for brand name drugs.
- The number of claims for specialty drugs has increased over time, along with considerable increases in associated member costs.
- Financial burden due to prescription drugs in the SeniorCare population was rare, and decreased over time.
- Medication adherence to several therapeutic classes commonly used to treat chronic diseases was very high, and increased slightly over time.

Medication Therapy Management

- Very few CMR/A services were provided to SeniorCare members from 2014-2018, with most services being provided to members in the waiver population.
- Approximately 75% of the paid CMR/A claims were for initial CMR/A services.
- Most of the costs for CMR/A services were paid by the SeniorCare program, with member payments accounting for approximately 7.7% of the costs.
- Individuals who received a CMR/A had on average more than three times as many drug fills and total annual drug costs as those who did not receive such a service, which is consistent with the recommended eligibility criteria for CMR/A services.

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