Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Fifth Evaluation Report

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LIST OF ACRONYMS

Acronym	Definition
ACSC	Ambulatory care-sensitive condition
ADT	Admission, Discharge, and Transfer
AES	Actuarially Equivalent Standard
AMR	Annual Medication Review
BA	Basic Alternative
BCBS FL	Blue Cross Blue Shield of Florida
BCBS NPA	Blue Cross Blue Shield Northern Plains Alliance
CAD	Coronary artery disease
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
CHF	Congestive heart failure
CI	Confidence interval
CKD	Chronic kidney disease
ClearStone	ClearStone Solutions, Inc.
CME	Common Medicare Environment
CMMI	Center for Medicare & Medicaid Innovation
CMR	Comprehensive Medication Review
CMS	Centers for Medicare & Medicaid Services
COPD	Chronic obstructive pulmonary disease
COVID-19	Coronavirus disease 2019
CWF	Common Working File
DDI	Drug-drug interaction
DiD	Difference-in-differences
DME	Durable Medical Equipment
DTP	Drug-therapy problem
E&M	Evaluation and Management
ED	Emergency department
EDB	Enrollment Database
EHR	Electronic Health Record
Enhanced MTM	Enhanced Medication Therapy Management
ESRD	End-stage renal disease
FDA	Food and Drug Administration
FMR	Follow-up Medication Review
GMMS	Genoa Medication Management Systems
HCC	Hierarchical Condition Category
HCPCS	Healthcare Common Procedure Coding System
HIE	Health Information Exchange
HPMS	Health Plan Management System
HRM	High-risk medication

Acronym	Definition
HRR	Hospital Referral Region
ICD	International Classification of Diseases
IP	Inpatient
IPAC	Institutional post-acute care
IVR	Interactive voice response
LIPS	Low-Income Premium Subsidy
LIS	Low-income subsidy
LTC	Long-term care
MA-PD	Medicare Advantage Prescription Drug Plan
MARx	Medicare Advantage and Prescription Drug Plan System
MBSF	Master Beneficiary Summary File
MDS	Minimum Data Set
Med Use	Medication Utilization
MME	Morphine milligram equivalents
MMP	Medicare-Medicaid Plan
MSA	Medication Safety Alert
MSR	Medication Safety Review
MTC	Medication Therapy Counseling
MTM	Medication Therapy Management
MY	Model Year
NA	Not Applicable
NDA	Non-Disclosure Agreement
OAD	Oral antidiabetic drug
ONE	Opioid and Naloxone Education
OP	Outpatient
PAC	Pharmacy Advisor Counseling
PB	Physician/Carrier
PBM	Pharmacy Benefit Manager
PBP	Plan Benefit Package
PBPM	Per-beneficiary per-month
PDC	Proportion of Days Covered
PDE	Prescription Drug Event
PDP	Prescription Drug Plan
PHE	Public health emergency
PMAP	Provider Medication Action Plan
PQA	Pharmacist Quality Alliance
RASA	Renin-angiotensin system antagonist
SilverScript/CVS	SilverScript Insurance Company/CVS Health
SNF	Skilled Nursing Facility
SNOMED CT	Systematized Nomenclature of Medicine – Clinical Terms
SPCM	Specialty Pharmacy Care Management
SSI	SilverScript Insurance Company

Acronym	Definition
SSR	Significant service receipt
STD	Standard deviation
SUPD	Statin Use in Persons with Diabetes
TC	Transaction Code
TMR	Targeted Medication Review
TRHC	Tabula Rasa HealthCare
UnitedHealth	UnitedHealth Group
US	United States
WellCare	WellCare Health Plans

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EXECUTIVE SUMMARY

The Enhanced Medication Therapy Management (MTM) Model ("the Model") was launched by the Centers for Medicare & Medicaid Services (CMS) to test whether providing Part D Prescription Drug Plan (PDP) sponsors with programmatic flexibilities and payment incentives can improve therapeutic outcomes and reduce Medicare expenditures. The Model's five-year performance period began on January 1, 2017 and ended on December 21, 2021.

This Fifth Evaluation Report is the final report of the Model's evaluation. This report updates estimates of the Model's impacts for beneficiaries enrolled in participating plans to include information from the final year of implementation, and also discusses impacts for beneficiaries who received Enhanced MTM services. In addition, this report provides a comprehensive assessment of implementation covering the entire lifespan of the Model, and highlights important lessons learned to inform future efforts to optimize the provision of MTM programs.

Key Findings

Across the five years of the Model's implementation, there were no significant Modelwide impacts on total medical expenditures for enrollees of participating plans. There were also no significant improvements in measures of medication use, such as adherence to medications for chronic conditions. Total medical expenditures and expenditures across healthcare settings increased for beneficiaries who received significant services under the Model.[1] For the Model as a whole and across individual sponsors, there is no evidence of improvements in outcomes for beneficiaries exposed to Enhanced MTM. Considering both the Model's impacts on expenditures as well as the prospective and performance-based payments to sponsors over the five-year implementation period, estimated net expenditures for Medicare increased under the Model, though the estimate was not statistically significant.

Sponsors used the Model's flexibilities to experiment with innovative approaches to beneficiary targeting for services, new modalities of beneficiary outreach, and varying intensities of service provision tailored to beneficiary needs. Reports from sponsors, beneficiaries, and pharmacy industry stakeholders suggest overwhelming support for the Model's flexibilities, because they facilitate a patient-centered approach to MTM, with services designed around a beneficiary's unique needs and provided at meaningful times. Sponsors also engaged in efforts to promote good communication with prescribers, such as proactive outreach, in-person education, and offering prescribers the opportunity to refer patients to MTM. However, these efforts were largely unsuccessful at increasing collaboration between prescribers and MTM service providers. Care coordination remains an area with opportunity for improvement. These and

[1] "Significant services" are tailored services intended to address specific beneficiary needs. Sponsors also offered non-significant services, which included general, non-tailored outreach (e.g., welcome letters and educational newsletters). This report focuses on the provision of significant services.

other lessons learned from the implementation of the Enhanced MTM Model can support future efforts to improve the provision of MTM in Medicare Part D.

Model Background and Theory of Change

Medication therapy management (MTM) describes a range of services intended to optimize medication use and prevent medication-related issues. In the traditional MTM program, CMS requires that Medicare Part D sponsors provide a uniform set of MTM services to beneficiaries who meet specific criteria in accordance with Title 42 of the Code of Federal Regulations (CFR) § 423.153(d). These criteria include the presence of multiple chronic conditions, use of multiple Part D-covered medications, and the likelihood of incurring high drug expenditures.[2] Provision of all MTM services is funded from the administrative portion of the sponsor's annual bid, so expansions beyond the minimum requirements may increase beneficiary premiums.[3] As a result, traditional MTM services generally fulfill only basic Part D compliance requirements.

The Model added four key innovations that are not available under the traditional MTM program:[4]

(i) **Additional flexibility in intervention design:** Participating sponsors were able to design their own Enhanced MTM interventions and tailor them to meet the needs of their specific beneficiary populations. Sponsors could determine both the parameters that identified beneficiaries targeted for services and the types of MTM services provided.

(ii) **Prospective payments for Model implementation costs:** CMS provided monthly payments on a per-beneficiary per-month (PBPM) basis to cover the administrative costs of service provision under the Model. Payment amounts were calculated prospectively based on sponsors' projections of their Enhanced MTM implementation costs, and took into account the projected size of their targeted population.

(iii) **Retrospective performance-based payments:** Performance-based payments were provided to incentivize sponsors to design interventions that improved beneficiary outcomes and reduced downstream medical expenditures. They were awarded

[2] CMS sets the core targeting criteria, but PDPs can choose certain elements of their implementation. For example, PDPs may choose which chronic conditions satisfy the multiple chronic condition criterion, but cannot require that beneficiaries have more than three of these conditions to be eligible for MTM.

[3] Medicare's payments to PDPs are determined through a competitive bidding process. Sponsors submit bids each year to Medicare to offer Part D coverage. Medicare covers a portion of the cost of standard coverage based on the annual bids, and premium payments paid by beneficiaries cover the remaining portion.

[4] For further information, please refer to: Acumen, LLC, and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: First Evaluation Report," October 2019, https://downloads.cms.gov/files/mtm-firstevalrpt.pdf.

contingent on reductions in Medicare Parts A and B expenditures for participating PDP enrollees relative to a benchmark. If a sponsor qualified for a performance-based payment, Medicare would deliver a fixed $2 PBPM amount through an increase in its contribution to the PDP's Part D premium.[5] This premium subsidy made plans more price-competitive by decreasing the premium paid by beneficiaries.

(iv) **Data reporting:** Participating sponsors were required to submit monthly beneficiary-level eligibility data in the Medicare Advantage Prescription Drug data transaction system (MARx) to document which beneficiaries qualified to receive Enhanced MTM services. Quarterly Encounter Data documented Enhanced MTM activities and services provided to beneficiaries using Systematized Nomenclature of Medicine – Clinical Terms (SNOMED CT) codes.

The Model was expected to improve beneficiary health outcomes and reduce downstream medical expenditures. Specifically, the Model's flexibilities and payments made to sponsors provided incentives for the implementation of innovative interventions that were tailored to enrollees' needs, and the deployment of additional strategies to increase eligibility and beneficiary participation in services. Through these efforts, sponsors could identify and resolve more medication issues and gaps in care, and improve adherence to medications. Additionally, patient-centered services could help beneficiaries address lifestyle or other factors necessary to promote the proper management of their chronic conditions. Sponsors also experimented with innovative approaches to strengthen communication with prescribers and other healthcare providers. This enhanced communication could improve collaboration and care coordination among plans, their affiliated MTM providers, and prescribers. As a result, downstream beneficiary outcomes were expected to improve, leading to reductions in medical expenditures. For example, greater access to MTM services would result in fewer occurrences of adverse drug events, and preventable hospitalizations and related expenditures. At the same time, Enhanced MTM services could encourage interactions between beneficiaries and their providers, leading to increased utilization and expenditures in other healthcare settings.

Six Part D Sponsors Participated in the Model; the Largest Was SilverScript/CVS

The six stand-alone Part D PDP plan sponsors ("sponsors") that participated in the Model, listed in order of their enrollee population size in 2017, were:

- SilverScript Insurance Company/CVS Health (SilverScript/CVS)

[5] Performance-based payments were delivered to sponsors two years after the Model Year for which they were awarded. For example, performance-based payments awarded for Model Year 1 (2017) were delivered to sponsors in 2019.

- Humana
- Blue Cross Blue Shield Northern Plains Alliance (BCBS NPA)
- UnitedHealth Group (UnitedHealth)
- WellCare Health Plans (WellCare)
- Blue Cross Blue Shield of Florida (BCBS FL)

The Model was tested in the following five of 34 Medicare Part D PDP Regions:

- Arizona
- Louisiana
- Florida
- The Upper Midwest and Northern Plains (Iowa, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wyoming)
- Virginia

All sponsors, except BCBS NPA and BCBS FL, participated in all five test PDP regions and operated one plan benefit package (PBP) in each PDP region. Throughout the five-year implementation period, SilverScript/CVS was the largest sponsor and accounted for about half of the Model's enrollee population. The Model's smallest sponsor was BCBS FL, accounting for slightly over 3 percent of beneficiaries enrolled in Model-participating plans.

Beneficiary Enrollment in Enhanced MTM Plans Decreased over Time

Beneficiary enrollment across participating sponsors' Enhanced MTM PBPs remained stable at about 1.9 million through the first three Model Years, but then decreased in the last two Model Years to about 1.7 million in Model Year 4 and 1.5 million in Model Year 5 (ES Table 1).[6] For all sponsors except WellCare, enrollment decreased between Model Year 4 and Model Year 5. These enrollment decreases were driven by shifts in enrollment away from Enhanced MTM-participating plans as a result of either new market entries of other plans, or premium increases

[6] These decreases in enrollment are consistent with Medicare-wide trends among stand-alone PDPs. See, for example: https://www.kff.org/medicare/issue-brief/key-facts-about-medicare-part-d-enrollment-and-costs-in-2022/. The enrollment decreases are more pronounced among these Enhanced MTM-participating plans than the wider stand-alone PDP market, for the reasons listed in the rest of the paragraph.

among some participating plans.[7] Specifically, enrollment decreases in participating plans active in Florida were partly driven by the entry of a new benchmark Cigna plan that did not participate in the Model. For BCBS NPA, the monthly basic premium increased by 58.1 percent, from Model Year 4 to Model Year 5. This steep increase in the premium likely explains the sharp decrease in BCBS NPA's enrollment, by 24.2 percent, in the final year of the Model's implementation.

ES Table 1: Enrollment across PBPs Participating in Enhanced MTM Decreased over Time

Sponsors	MY 1 (2017) Enrollment	MY 2 (2018) Enrollment	MY 3 (2019) Enrollment	MY 4 (2020) Enrollment	MY 5 (2021) Enrollment	Percent Change 2017-2021
All Sponsors	*1,877,982*	*1,867,356*	*1,851,573*	*1,672,251*	*1,456,009*	*-22.5*
SilverScript/CVS	794,115	1,002,808	986,725	852,738	731,414	-7.9
Humana	457,388	287,507	255,580	226,670	194,300	-57.5
BCBS NPA	241,495	239,959	219,296	199,220	151,097	-37.4
UnitedHealth	175,927	134,271	206,147	192,692	180,201	2.4
WellCare	155,072	150,175	132,517	148,074	149,703	-3.5
BCBS FL	64,630	60,857	55,976	55,885	52,446	-18.9

Sources: Enrollment Database (EDB) and Common Medicare Environment (CME).
Notes: MY: Model Year. Enrollment numbers only include beneficiaries in Enhanced MTM-participating contract PBPs. Enrollment numbers for each Model Year include beneficiaries ever enrolled in an Enhanced MTM-participating PBP during the specified Model Year.

Sponsors Used the Model's Flexibilities to Design Tailored Enhanced MTM Interventions and Modify Them over Time

The Model's use of prospective payments to cover Model-related administrative costs gave sponsors the opportunity to offer a large range of Enhanced MTM interventions. Sponsors embraced the Model's design flexibilities and offered multiple Enhanced MTM interventions, which they modified over time, to address specific needs in their beneficiary populations. Enhanced MTM interventions were composed of unique combinations of sponsor-specific beneficiary targeting criteria and corresponding sets of Enhanced MTM outreach and services offered to eligible beneficiaries. The targeting criteria used to determine beneficiary eligibility for Model interventions clustered around five categories:

(i) medication utilization (e.g., presence of drug therapy problems, use of high-risk medications, newly prescribed medications, low adherence, opioid use)

[7] Changes in enrollment for individual sponsors in earlier Model Years are discussed in prior evaluation reports. See, for example: Acumen, LLC, and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Fourth Evaluation Report (April 2022), https://innovation.cms.gov/data-and-reports/2022/mtm-fourth-evalrept.

(ii) high Medicare Parts A, B, and/or D expenditures

(iii) presence of one or more chronic conditions

(iv) recent discharge from the hospital ("transitions of care")

(v) vaccine status[8]

Sponsors offered a variety of significant services for each specific Enhanced MTM intervention. These services included comprehensive medication review (CMR), targeted medication review (TMR), medication reconciliation, medication adherence counseling, chronic condition management, cost-sharing and social support consultation, and immunization assessment, reminders, and administration. Sponsors (or their vendors) provided these services to their beneficiaries via phone, in person, and using automated methods (e.g., interactive voice response [IVR]).

Sponsors monitored the effectiveness of their interventions internally. They retained, added, or modified interventions based on the results of their internal analyses. These decisions were particularly focused on whether the interventions produced medical cost savings because the Model's performance-based payments incentivized such savings. Over the Model's lifespan, sponsors implemented more interventions that focused on chronic condition management. This reflects perceptions from sponsors and pharmacy industry stakeholders that comprehensive chronic condition management services offer more promising cost savings and improvements in beneficiary outcomes relative to services with a narrow focus on medication-related issues.

More Beneficiaries Were Eligible for Services under the Enhanced MTM Model Relative to Traditional MTM

Beneficiary targeting was a primary area of innovation for the Model. Sponsors employed innovative targeting approaches, including risk stratification algorithms and predictive modeling. Sponsors considered these methods potentially more effective than existing traditional MTM targeting requirements at identifying beneficiaries who could benefit from MTM services. Another new targeting area of focus was identifying beneficiaries who recently had transitions of care from an inpatient setting to home. Many sponsors began using health information exchange (HIE) data to identify and target beneficiaries shortly after discharge.

Sponsors' innovations resulted in targeting criteria that were more inclusive than those used in the traditional MTM program. The expanded targeting criteria led to high Modelwide eligibility rates, ranging from 66 to 77 percent of all participating plan enrollees throughout the Model's

[8] SilverScript/CVS's HealthTag intervention was the only Enhanced MTM intervention that targeted beneficiaries primarily based on vaccination status (specifically influenza, shingles, or pneumonia vaccination status).

implementation. In contrast, traditional MTM eligibility rates among beneficiaries included in the evaluation's comparison group ranged from 6 to 10 percent during the same time period.

Sponsors Expanded the Range of MTM Services, Rather than Offering CMRs and TMRs Uniformly to All Eligible Beneficiaries

Sponsors moved away from the CMR as the core MTM service under the Model.[9] Instead, sponsors offered a range of significant services (and varying frequencies of services) to beneficiaries, depending on the intervention(s) for which they were eligible. Only about one in five beneficiaries eligible for Enhanced MTM services was eligible for a CMR under the Model.

In discussing this different approach in service provision relative to the traditional Part D MTM program, sponsors, beneficiaries, and stakeholders indicated that, in their opinion, MTM services should be beneficiary-centered, address issues that are priorities for a beneficiary, and offered at clinically meaningful times. Events that should trigger MTM services include, for example, a transition of care (such as a hospital discharge), a newly prescribed medication, or changes to medications or adherence. Beneficiaries and pharmacy industry stakeholders thought that CMRs offered at regular intervals may be overly repetitive and have limited value to some beneficiaries. Feedback from both beneficiaries and sponsors also suggests that beneficiaries whose medication regimens had changed very little or not at all since their last service were unlikely to accept repeated MTM services. Moreover, beneficiaries did not want to receive services that were too frequent, duplicative, or resulted in recommendations that conflicted with what their prescribers had told them. Beneficiaries reported more positive experiences when receiving TMRs, which are services focused on specific, discrete issues, compared to CMR services, which are recurrent and include a broad review of all medications.

Findings from beneficiary interviews revealed that the most common motivators for participation in Enhanced MTM services were beneficiary beliefs and expectations related to service value. Beneficiaries found value in services addressing medication-related issues such as drug therapy problems or use of high-risk medications, and reported that a major motivator in their decision to participate in services was to have their medication regimen reviewed for appropriateness and for potentially dangerous interactions. In addition, MTM services that explored medication cost-savings opportunities or provided cost-savings assistance were particularly valued by beneficiaries.

Another lesson learned from the Model is the limited effectiveness of beneficiary incentives to prompt beneficiary participation in services. Two sponsors tested the effectiveness of

[9] Traditional MTM offers two types of services, CMRs (offered annually) and TMRs (offered quarterly). CMRs are interactive medication reviews and consultations with beneficiaries to assess their entire medication profile for medication-related problems, resulting in a standardized written summary. TMRs assess specific actual or potential medication-related problems, and may result in a follow-up intervention with beneficiaries and/or their prescribers.

beneficiary incentives to prompt service completion and found that these incentives did not affect service receipt. Sponsors reported that beneficiaries who see value in a service will participate regardless of an incentive.

Community Pharmacists Calling Beneficiaries Was an Effective Engagement Strategy

Under the Model, sponsors conducted outreach to beneficiaries to offer services primarily by telephone or in the community pharmacy setting. Some sponsors also used automated interactive voice response (IVR), and one sponsor had pharmacists provide services in beneficiaries' homes. Sponsors also tried to communicate with beneficiaries using text messaging and mobile applications, but without much success.

In an effort to better reach beneficiaries, sponsors increasingly used community pharmacies throughout the Model's implementation. Some sponsors had success using community pharmacies to provide services to hard-to-reach beneficiaries who were otherwise unresponsive to outreach attempts or unreachable by telephone. Feedback from sponsors and beneficiaries highlighted that beneficiaries were more likely to participate in a service when the service was offered, and delivered, by a community pharmacist with whom the beneficiary had a longstanding relationship. Trust and familiarity with a community pharmacist were important factors in motivating beneficiaries to accept services. Additionally, beneficiaries preferred to complete services by phone and not at the community pharmacy due to privacy concerns. Therefore, telephonic outreach by a community pharmacist who has an existing relationship with the beneficiary may be preferable to other approaches.

Service Receipt Rates Were Highest for Transitions-of-care Services

Modelwide significant service receipt rates were around 40 percent among eligible beneficiaries in most Model Years. The proportion of participating plan enrollees (regardless of eligibility for Enhanced MTM) who received a significant service increased from 23 percent in Model Year 1 to about 30 percent in the last three Model Years. Beneficiaries who received significant services received an average of about three services per year. Rates of CMR receipt did not increase substantially during Model implementation. In most Model Years, about a third of beneficiaries who were eligible for a CMR received the service.

In all Model Years, sponsors reported challenges with delivering Enhanced MTM services to beneficiaries who qualified for the low-income subsidy (LIS), including difficulties in obtaining accurate contact information for them, reaching them, and successfully completing services. Significant service receipt rates among eligible beneficiaries who qualified for the LIS were lower than receipt rates among all eligible beneficiaries, despite higher levels of eligibility for LIS enrollees.

Receipt rates were highest for transitions-of-care services, which both sponsors and beneficiaries viewed as being clinically meaningful. In four of the five Model Years, the transitions-of-care service receipt rate among eligible beneficiaries was around 50 to 60 percent. According to sponsors and beneficiaries, transitions of care, such as a discharge from the hospital to a beneficiary's home, are important inflection points in beneficiaries' care. Transitions of care do not occur often, but when they do occur they are likely to coincide with medication changes, so there is particular value for beneficiaries in receiving an MTM service following such events.

Improved Collaboration with Prescribers Is an Area for Future Growth

Prescriber collaboration with MTM service providers was an ongoing challenge throughout the Model's implementation period. Sponsor strategies to improve communication with prescribers were largely unsuccessful. In addition to sending recommendations to prescribers by fax following an Enhanced MTM service, sponsors deployed different strategies to improve communication and collaboration with prescribers by providing options for prescribers to take a more active role in sharing beneficiary information and promoting beneficiary participation in services. For example, sponsors offered prescribers the ability to refer beneficiaries for Enhanced MTM services, conducted proactive outreach to request prescribers' endorsement of services, completed in-person education of prescribers about Enhanced MTM programs, and created online portals for information sharing between prescribers and sponsors. Prescribers did not meaningfully engage in or respond to these strategies. As such, the strategies were ineffective at increasing prescriber referrals, beneficiary participation in services, and responsiveness to pharmacist recommendations. This may have been due to a number of reasons. Prescribers may have had limited bandwidth to engage with the strategies, or they may have remained unfamiliar with Enhanced MTM services, or concerned that the services would not align with a beneficiary's goals of care. However, one strategy was promising: prescribers were more engaged when sponsors repeatedly followed up with them after a service regarding any pending medication changes or recommendations.

Prescribers had mixed impressions of sponsor involvement in their patients' care. Specifically, prescribers acted on recommendations resulting from MTM services, but felt that sponsors did not understand medication therapy goals for the prescribers' patients. Some beneficiaries also perceived MTM providers as being outside of their normal care team, and those who declined Enhanced MTM services stated that they did not want a provider outside of their normal care team intervening in their medication plans. Potential solutions to mitigate these issues might enable better communication and collaboration between MTM providers and prescribers, and ensure that MTM providers have complete information about a beneficiary's health history and plan of care. Stakeholders suggested ways to increase pharmacists' ease of access to patients' data and direct exchange of information with prescribers as potential solutions to improve care coordination.

Adoption of SNOMED CT Codes to Document Model Services Was a Significant Undertaking for Sponsors

A novel aspect of the Model was requiring sponsors to use SNOMED CT codes to document activities related to Enhanced MTM services in Encounter Data. The information in Encounter Data was used to monitor sponsors' Model implementation. "Starter" coding sets were provided, but sponsors were given complete flexibility with how they implemented the codes.

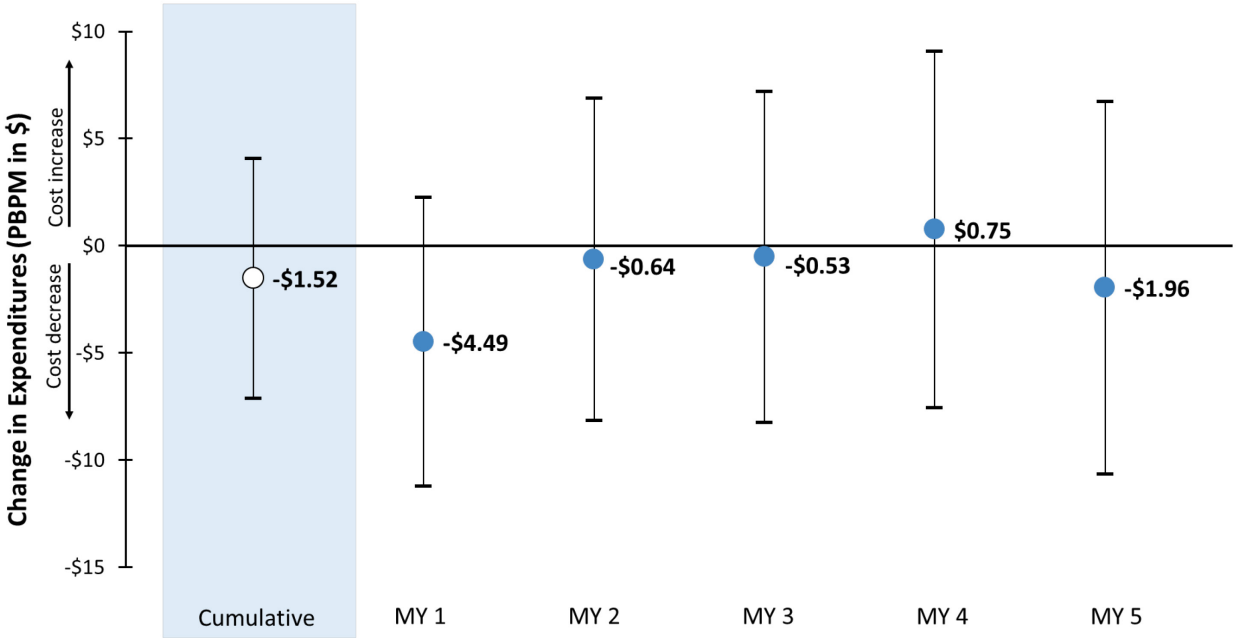
Sponsors varied considerably in their approaches to implementing the SNOMED CT coding scheme and the level of detail they provided in Encounter Data. Some sponsors used a more limited set of SNOMED CT codes, using only one or two codes to document a service. Others chose to be much more detailed in their documentation, and used more codes to describe various aspects of a service. In addition, most sponsors updated the SNOMED CT codes they used over the course of the Model.

Adoption of SNOMED CT codes to document Model services in Encounter Data required high levels of implementation effort. Sponsors were generally supportive of broader adoption of these codes in other MTM programs, but thought that more standardization around the structure and use of the codes would be needed to support their wider adoption.

The Model Did Not Reduce Expenditures for Medicare

There were no Modelwide impacts on Medicare Parts A and B expenditures for beneficiaries enrolled in Enhanced MTM plans cumulatively across the five years of Model implementation, or in Model Year 5 (ES Figure 1). Additionally, there were no Modelwide cumulative improvements in intermediate measures of medication use, such as adherence to chronic medications or the rate of drug-drug interactions. Total medical expenditures, as well as expenditures across all healthcare settings, increased for beneficiaries who received significant services under the Model. These findings suggest that the Model did not improve beneficiary outcomes, and it did not lead to reductions in downstream expenditures for Medicare.

ES Figure 1: Changes in Parts A and B Expenditures Were Small and Not Statistically Significant



Source: CWF. Expenditures were standardized to control for regional differences in the cost of care, and reported in 2021 US dollars to adjust for inflation.
Notes: MY: Model Year. Points represent DiD estimates. Whiskers represent 95 percent confidence intervals.

There were decreases in expenditures, either cumulatively or in Model Year 5, for only two of the six sponsors. Specifically, there was a cumulative decrease (of 3.09 percent from baseline) in Parts A and B expenditures for BCBS FL. In Model Year 5, expenditures decreased for BCBS FL (by 6.93 percent from baseline) and for Humana (by 2.31 percent from baseline). For both sponsors, the mechanisms accounting for these decreases are not clear. There is little evidence of improvements in medication use among enrollees of Model-participating Humana and BCBS FL plans. Additionally, expenditures increased for beneficiaries who received significant services offered by these two sponsors. These findings suggest that it is unlikely that the estimated decreases in expenditures for BCBS FL and Humana were the result of Model implementation. Potential analytic confounders include the disruption in healthcare provision due to the COVID-19 public health emergency (PHE), the impacts of overlapping Center for Medicare & Medicaid Innovation (CMMI) demonstrations, and preexisting regional trends in expenditures.

Net Losses for Medicare Were Not Statistically Significant

The net impact of the Model is defined as the amount of savings or losses after both the Model's prospective payments and performance-based payments have been balanced against the changes in gross expenditures discussed above. The Model generated net losses for Medicare, but the estimate was not statistically significant. The sum of Medicare's prospective and performance-based payments to sponsors was slightly larger than the estimated (non-significant) decreases in Medicare Parts A and B expenditures in Model Year 5 and cumulatively across the five years of Model implementation. Cumulative total estimated net losses were $3.07 PBPM, or $288.84 million in total (ES Table 2).

ES Table 2: Impacts on Net Expenditures for Medicare Were Not Statistically Significant

Period	Number of Beneficiary-months [N]	Change in Gross Medicare Expenditures PBPM in $ (95% CI) [A]	Prospective Payments PBPM in $ [B]	Performance-based Payments PBPM in $ [C]	Change in Net Expenditures		
					PBPM in $ (95% CI) [D=A+B+C]	Total Annual in $million (95% CI) [N*D]	P-value
Cumulative	*94,090,675*	*-1.52 (-7.12, 4.07)*	*3.55*	*1.04*	*3.07 (-2.53, 8.66)*	*288.84 (-238.07, 814.81)*	*0.282*
MY 1 (2017)	20,252,532	-4.49 (-11.24, 2.26)	3.11	1.12	-0.26 (-7.01, 6.49)	-5.31 (-142.02, 131.39)	0.939
MY 2 (2018)	20,088,939	-0.64 (-8.16, 6.88)	3.90	1.17	4.43 (-3.09, 11.95)	89.04 (-62.03, 240.11)	0.248
MY 3 (2019)	19,914,674	-0.53 (-8.24, 7.18)	3.52	0.89	3.88 (-3.83, 11.59)	77.33 (-76.21, 230.87)	0.324
MY 4 (2020)	18,168,975	0.75 (-7.57, 9.07)	3.70	0.94	5.39 (-2.93, 13.71)	97.92 (-53.25, 249.09)	0.204
MY 5 (2021)	15,665,555	-1.96 (-10.66, 6.73)	3.52	1.08	2.65 (-6.05, 11.34)	41.46 (-94.83, 177.59)	0.551

Notes: MY: Model Year; PBPM: per-beneficiary per-month; CI: confidence interval. PBPM changes in net expenditures [D] are calculated as the sum of the estimated change in gross Medicare expenditures [A] and Medicare prospective payments [B] and performance-based payments [C] to sponsors. Negative net expenditures estimates represent net savings and positive estimates represent net losses to the Medicare program. Changes in net expenditures for Model Years 1, 2, 3, and 4 slightly differ from those reported in the Enhanced MTM Model Second, Third, and Fourth Evaluation Reports due to minor updates in the sample populations and updated data sources. The total annual estimate may deviate from the [N*D] manual calculation due to rounding.

Conclusions

The evaluation of the Enhanced MTM Model included a comprehensive assessment of Model implementation and impacts on beneficiary outcomes covering the entire lifespan of the Model (January 2017 – December 2021). Information from Medicare claims and Model-specific data sources was synthesized with additional information collected throughout the Model's implementation period during site visits and regular calls with sponsors, and interviews with beneficiaries and pharmacy industry stakeholders. Additionally, the evaluation team conducted surveys of enrollees in Model-participating plans, prescribers serving participating plan enrollees, and the Enhanced MTM workforce (i.e., sponsor and vendor administrative and service delivery staff, and community pharmacies participating in Enhanced MTM).

The Model did not result in reductions in beneficiaries' total medical expenditures, nor did it produce net savings for Medicare. It is possible that the mechanisms outlined in the Model's theory of change were not strong enough in practice to generate the expected Model impacts. For example, the additional services offered by the Model may have generated improvements in beneficiary outcomes too small to be detected in statistical analyses of claims data. Additionally, beneficiaries may have been less able than expected to make the necessary and recommended behavioral adjustments that could improve downstream outcomes. Furthermore, prescribers' limited responsiveness to sponsor efforts to improve collaboration possibly affected the Model's ability to improve downstream beneficiary outcomes. Communication between prescribers and MTM providers is key for the effectiveness of MTM services, since prescribers are ultimately responsible for patients' medication regimens.

Even though the Model did not result in significant reductions in expenditures, it gave sponsors the opportunity to experiment with innovative approaches. These include novel targeting strategies, new modalities of beneficiary outreach, varying intensities of service provision, efforts to establish better communication with prescribers, and the documentation of service provision in Encounter Data via the use of SNOMED CT codes. Reports from sponsors, beneficiaries, and pharmacy industry stakeholders suggest overwhelming support for the Model's flexibilities, because MTM services are considered more effective when they are designed around a beneficiary's unique needs and provided at meaningful times. These and other lessons learned from the implementation of the Enhanced MTM Model can support future efforts by sponsors, stakeholders, and policymakers to improve the provision of MTM in Medicare Part D.

1 INTRODUCTION

The Centers for Medicare & Medicaid Services (CMS) implemented the five-year Enhanced Medication Therapy Management (MTM) Model ("the Model") from January 1, 2017 through December 31, 2021. The Model tested whether giving Medicare Part D Prescription Drug Plan (PDP) sponsors ("sponsors") flexibilities and payment incentives for the provision of MTM services to beneficiaries leads to improvements in therapeutic outcomes while reducing Part A and B Medicare expenditures.[10] This Fifth Evaluation Report, the final evaluation report of the Model, presents a summative assessment of implementation and impacts on beneficiary outcomes across the entire five-year lifespan of the Model. The report also discusses perspectives from sponsors, beneficiaries, and providers to highlight insights and lessons learned that could support future efforts to optimize the provision of MTM programs.

This introductory section provides an overview of the Enhanced MTM Model (Section 1.1), background information on participating sponsors (Section 1.2), a high-level overview of the evaluation questions addressed by this Fifth Evaluation Report (Section 1.3), and a description of the report's contents (Section 1.4).

[10] For more information about the Enhanced MTM Model, please see: Centers for Medicare & Medicaid Services, "Part D Enhanced Medication Therapy Management Model," https://innovation.cms.gov/innovation-models/enhancedmtm.

1.1 What Is the Enhanced Medication Therapy Management Model?

The term "Medication Therapy Management" describes a range of services, intended to optimize medication use and to detect and prevent medication-related issues. Usually provided by pharmacists, MTM services include medication reviews, the provision of related education and advice to patients, and collaboration with patients and their prescribers to develop patient-centered plans for optimal therapeutic outcomes. Previous research suggests that MTM services have the potential to improve adherence to prescribed medications, increase drug safety and, through these mechanisms, improve health, reduce adverse events, and lower expenditures for individuals with chronic illness.[11,12]

In the traditional MTM program, CMS sets minimum requirements for targeting beneficiaries who are eligible to receive MTM services.[13] The traditional MTM program's eligibility criteria target Part D enrollees who have multiple chronic diseases, take multiple Part D drugs, and are likely to incur annual expenditures for covered Part D drugs that exceed a predetermined level, as described in Title 42 of the Code of Federal Regulations § 423.153(d).[14] Sponsors are required to offer certain MTM services to all eligible beneficiaries, including annual comprehensive medication reviews (CMRs) and quarterly targeted medication reviews (TMRs).[15] In the traditional MTM program, sponsors have the option to expand their targeting criteria to include additional beneficiaries for MTM services and to offer additional services to eligible beneficiaries. However, the management and provision of all MTM services are

[11] Bunting, Barry A., Benjamin H. Smith, and Susan E. Sutherland. 2008. "The Asheville Project: Clinical and Economic Outcomes of a Community-based Long-term Medication Therapy Management Program for Hypertension and Dyslipidemia." *Journal of the American Pharmacists Association* 48 (1): 23–31. https://doi.org/10.1331/JAPhA.2008.07140.

[12] Wittayanukorn, Saranrat, Salisa C. Westrick, Richard A. Hansen, Nedret Billor, Kimberly Braxton-Lloyd, Brent I. Fox, and Kimberly B. Garza. 2013. "Evaluation of Medication Therapy Management Services for Patients with Cardiovascular Disease in a Self-insured Employer Health Plan." *Journal of Managed Care & Specialty Pharmacy* 19 (5): 385–95. http://www.doi.org/10.18553/jmcp.2013.19.5.385.

[13] Under Title 42 of the Code of Federal Regulations § 423.153(d), a Medicare Part D sponsor must establish an MTM program. Medicare Part D plans that are required to offer MTM include stand-alone PDPs, Medicare Advantage Prescription Drug plans (MA-PDs), and Medicare-Medicaid Plans (MMPs).

[14] CMS sets the core targeting criteria, but PDPs can choose certain elements of their implementation. For example, PDPs may select the chronic conditions that satisfy the "multiple chronic conditions" criterion. Sponsors may also choose whether to target beneficiaries with at least two or three chronic conditions, but cannot require that beneficiaries have more than three of these conditions.

[15] CMRs are interactive medication reviews and consultations with beneficiaries to assess their medication use for medication-related problems, resulting in a standardized written summary. TMRs are performed to assess specific actual or potential medication-related problems, which may result in a follow-up intervention with beneficiaries and/or their prescribers.

considered administrative costs and funded from a part of the sponsor's annual bid.[16] Thus, expansions beyond the minimum requirements may increase beneficiary premiums. In 2016, before the start of the Model's implementation period, about a quarter of Part D sponsors employed optional expanded targeting criteria, and less than a quarter provided optional additional services under traditional MTM.[17]

In January 2017, CMS launched the five-year Enhanced MTM Model across five PDP regions. The participants were six sponsors operating eligible stand-alone PDPs, offering basic prescription drug coverage.[18] The Model's four key innovative components are described below:

(1) Additional flexibility gave sponsors significant latitude in intervention design. Unlike in traditional MTM, there were no minimum required targeting criteria or services, allowing sponsors to implement interventions tailored to their populations.[19] For example, instead of offering a uniform set of services to all targeted beneficiaries, some sponsors offered different services based on beneficiaries' risk profiles.

(2) Sponsors received prospective payments from CMS for administrative expenses. Prospective payment amounts were designed to cover Model-related administrative costs for sponsors' projected target population and their CMS-approved targeting approaches. As mentioned above, administrative expenses for traditional MTM are funded as an administrative component of the plan's bid.

(3) Sponsors received performance-based payments from CMS, contingent on reductions in Medicare Parts A and B expenditures. These payments were intended to incentivize MTM activities that improved beneficiary outcomes and reduced downstream Medicare expenditures (e.g., via a reduction in drug-related adverse events). Sponsors received these payments contingent on expenditure reductions of at least 2 percent for beneficiaries enrolled in participating Plan Benefit Packages (PBPs), relative to a

[16] Medicare's payments to PDPs are determined through a competitive bidding process. Sponsors submit bids each year to Medicare to offer Part D coverage. Medicare covers a portion of the cost of standard coverage based on the annual bids, and premium payments paid by beneficiaries cover the remaining portion.

[17] Centers for Medicare & Medicaid Services. "2016 Medicare Part D Medication Therapy Management (MTM) Programs Fact Sheet: Summary of 2016 MTM Programs (May 4, 2016)." https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovContra/Downloads/CY2016-MTM-Fact-Sheet.pdf. About a quarter of stand-alone PDPs employed expanded targeting criteria in 2016.

[18] Eligible stand-alone PDPs are those that offer basic prescription drug coverage in the form of the defined standard benefit, actuarially equivalent standard benefits, or basic alternative benefits. Plan benefit packages that offer enhanced alternative coverage were not eligible for participation in the Enhanced MTM Model.

[19] The Model also offered participating PDPs an opportunity to receive PBP enrollee Medicare Parts A and B claims data from CMS. This information could be leveraged for targeting and service provision.

benchmark.[20] The performance-based payments were a $2 per-beneficiary per-month (PBPM) premium subsidy, enabling sponsors to be more price-competitive. The traditional MTM program does not offer performance-based payments.

(4) Sponsors had additional data reporting requirements for the Model. Sponsors were required to submit monthly beneficiary-level eligibility data in the Medicare Advantage Prescription Drug data transaction system (MARx).[21] Sponsors were also required to submit quarterly Encounter Data, which documented the details of the Enhanced MTM services provided to beneficiaries using Systematized Nomenclature of Medicine – Clinical Terms (SNOMED CT) codes.[22] The traditional MTM program requires stand-alone PDPs to only report MTM beneficiary-level data on MTM eligibility and the provision of required MTM services (CMRs and TMRs) on an annual basis.

For additional details about the differences between the traditional MTM program and the Enhanced MTM Model, please see the First Evaluation Report.[23]

[20] The benchmark was determined based on expected Medicare Parts A and B expenditures in the absence of the Model. These expenditures were based on information from a comparison group of enrollees who were not exposed to the Model. Performance-based payments were awarded with a two-year delay, and took the form of an increase in Medicare's contribution to plans' Part D premium (i.e., an increase in the direct subsidy component of the Part D payment), thus decreasing the plan premium paid by beneficiaries, and improving PDPs' competitive market position.

[21] These eligibility data were stored in MARx Transaction Code (TC) 91 files.

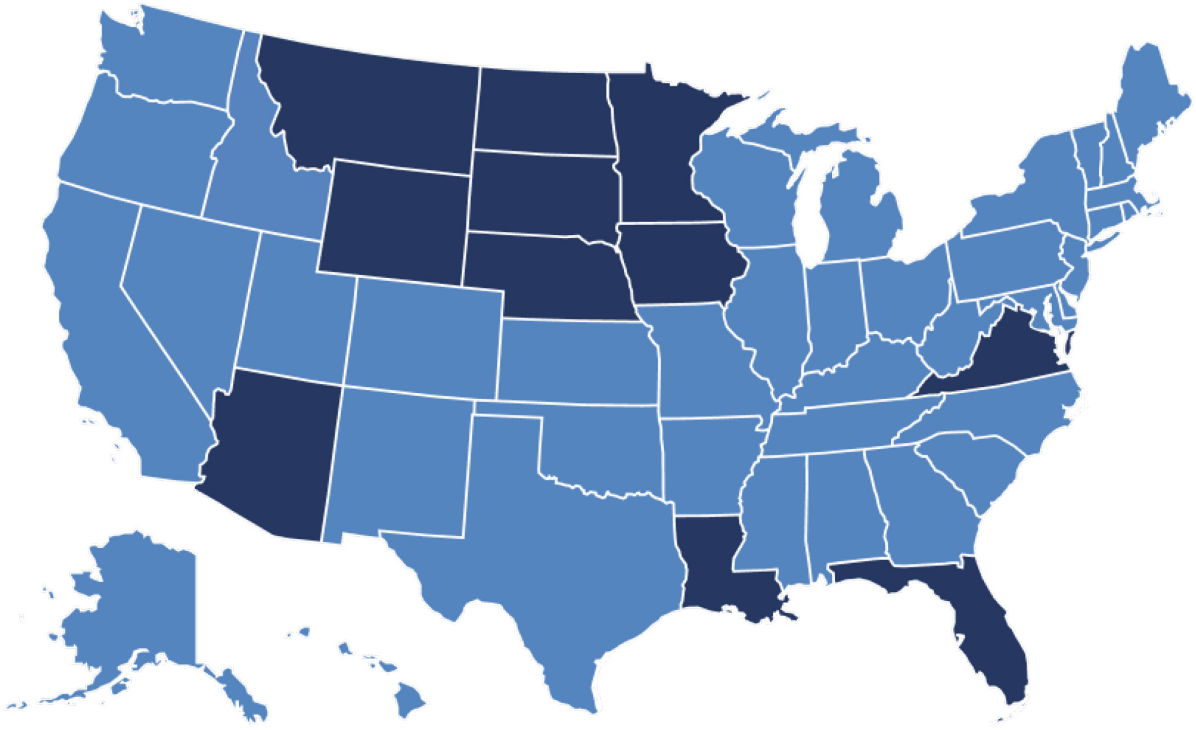
[22] SNOMED CT is a medical coding system designed to capture and represent detailed clinical content to describe a broad range of healthcare-related activities and support information exchange in multiple healthcare settings. More information can be found at: SNOMED International, "SNOMED CT Starter Guide" (2017). https://confluence.ihtsdotools.org/download/attachments/28742871/doc_StarterGuide_Current-en-US_INT_20170728.pdf.

[23] Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy (MTM) Model: First Evaluation Report," October 2019, https://downloads.cms.gov/files/mtm-firstevalrpt.pdf.

1.2 Who Were the Enhanced MTM Model Participants?

Six sponsors, operating 22 PBPs across five PDP regions, participated in the Model (Figure 1.1). The six sponsors were SilverScript Insurance Company/CVS Health (SilverScript/CVS), Humana, Blue Cross Blue Shield Northern Plains Alliance (BCBS NPA), UnitedHealth Group (UnitedHealth), WellCare Health Plans (WellCare), and Blue Cross Blue Shield of Florida (BCBS FL). All sponsors except BCBS FL and BCBS NPA were active in all five Model-participating PDP regions, which included Arizona, Louisiana, Florida, the Upper Midwest and Northern Plains (Iowa, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wyoming), and Virginia.[24] Appendix B.5 provides additional information on Enhanced MTM PBPs' PDP region, benefit type, and enrollment in each of the five Model Years.

Figure 1.1: The Enhanced MTM Model Was Active in Five Medicare Part D PDP Regions



Notes: The five PDP regions participating in the Model were: Arizona, Louisiana, Florida, the Upper Midwest and Northern Plains (Iowa, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wyoming), and Virginia.

[24] There are 34 PDP regions in total across the 50 US states, the District of Columbia, and US territories.

Throughout the five-year implementation of the Model, SilverScript/CVS was the largest sponsor and accounted for about half of the Model's enrollee population. The Model's smallest sponsor was BCBS FL, accounting for slightly over 3 percent of beneficiaries enrolled in Model-participating plans (Table 1.1).

Overall beneficiary enrollment remained stable at about 1.9 million through the first three Model Years, but decreased to about 1.7 million in Model Year 4 and to about 1.5 million in Model Year 5 (Table 1.1). These decreases in enrollment are consistent with Medicare-wide trends among stand-alone PDPs, although they were more pronounced among Enhanced MTM-participating plans than the wider stand-alone PDP market.[25] As discussed in prior evaluation reports, between Model Year 1 (2017) and Model Year 3 (2019) individual sponsors' enrollment fluctuated due to changes in PBP benchmark status, premiums, or PBP consolidation.[26] The decrease in overall enrollment in Model Year 4 (2020) relative to the previous year was primarily driven by the entry of new, non-participating plans in Model regions, and by benchmark status changes among plans in two PDP regions.[27]

In the fifth and final year of the Model (2021), enrollment continued to decrease for most sponsors. WellCare was the exception; enrollment remained relatively stable between Model Year 4 and Model Year 5 for this sponsor (Table 1.1). Enrollment decreases for the other five sponsors ranged from 6.2 percent (BCBS FL) to 24.2 percent (BCBS NPA). Among sponsors with plans active in Florida, enrollment decreases were partly driven by the entry of a new benchmark Cigna plan that did not participate in the Model. For BCBS NPA, the monthly basic premium increased by 58.1 percent from Model Year 4 to Model Year 5 (see Appendix Table B.5.2). This premium increase likely explains the sharp decrease in BCBS NPA's enrollment.

[25] See, for example: Kaiser Family Foundation, "Key Facts About Medicare Part D Enrollment, Premiums, and Cost Sharing in 2021," https://www.kff.org/medicare/issue-brief/key-facts-about-medicare-part-d-enrollment-premiums-and-cost-sharing-in-2021/.

[26] Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Third Evaluation Report," August 2021, https://innovation.cms.gov/data-and-reports/2021/mtm-thrdevalrept.

[27] Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Fourth Evaluation Report," April 2022, https://innovation.cms.gov/data-and-reports/2022/mtm-fourth-evalrept.

Table 1.1: Total Modelwide Enrollment in Participating PBPs Decreased the Most in Model Year 5

Sponsors	Model Year 1 (2017)	Model Year 2 (2018)	Model Year 3 (2019)	Model Year 4 (2020)	Model Year 5 (2021)
All Sponsors	*1,877,982*	*1,867,356*	*1,851,573*	*1,672,251*	*1,456,009*
% Change from prior Model Year	*N/A*	*-0.6*	*-0.8*	*-9.7*	*-12.9*
SilverScript/CVS	794,115	1,002,808	986,725	852,738	731,414
% Change from prior Model Year	N/A	26.3	-1.6	-13.6	-14.2
Humana	457,388	287,507	255,580	226,670	194,300
% Change from prior Model Year	N/A	-37.1	-11.1	-11.3	-14.3
BCBS NPA	241,495	239,959	219,296	199,220	151,097
% Change from prior Model Year	N/A	-0.6	-8.6	-9.2	-24.2
UnitedHealth	175,927	134,271	206,147	192,692	180,201
% Change from prior Model Year	N/A	-23.7	53.5	-6.5	-6.5
WellCare	155,072	150,175	132,517	148,074	149,703
% Change from prior Model Year	N/A	-3.2	-11.8	11.7	1.1
BCBS FL	64,630	60,857	55,976	55,885	52,446
% Change from prior Model Year	N/A	-5.8	-8.0	-0.2	-6.2

Sources: Enrollment Database (EDB) and Common Medicare Environment (CME).

Notes: Enrollment numbers only include beneficiaries in Enhanced MTM-participating contract PBPs. Enrollment numbers for each Model Year include beneficiaries ever enrolled in an Enhanced MTM-participating PBP during the specified Model Year.

1.3 How Was the Enhanced MTM Model Expected to Improve Outcomes?

The Enhanced MTM Model built on the traditional MTM program by offering participating sponsors financial incentives and regulatory flexibilities for beneficiary targeting and provision of MTM services. These Model features provided potential pathways through which the Model could improve health outcomes, and subsequently decrease downstream medical expenditures beyond traditional MTM. As described in prior evaluation reports and confirmed by sponsors, the Model's prospective payments facilitated the provision of MTM services to more enrollees than the traditional MTM program.[28] In addition, the Model's flexibilities allowed for interventions that offered services tailored to the specific needs of targeted beneficiaries. Performance-based payments provided an additional incentive for sponsors to focus specifically on interventions that curb medical expenditures, such as transitions-of-care interventions that could decrease hospital readmissions.

Figure 1.2 presents the Model's theory of change and describes the main pathways through which the Model was expected to impact beneficiary health outcomes and medical expenditures.[29] The **Model's characteristics** included flexibilities and payments to enable MTM-related **sponsor activities**. Specifically, sponsors designed interventions tailored to their enrollees' needs, with expanded eligibility criteria and services. In addition, sponsors deployed additional strategies to enhance communication and collaboration with prescribers, which supplemented the recommendations, typically sent to providers after service completion, on potential medication changes or other adjustments to a beneficiary's medication regimen (see Section 2.4 for additional details).

These sponsor activities yielded **expected Model outputs**. Sponsors' expanded eligibility criteria were expected to result in more beneficiaries who could benefit from MTM becoming eligible for services and receiving outreach. As a result, more beneficiaries would engage in services intended to identify and correct medication issues and gaps in care, promote adherence to medications, and/or help them overcome behavioral obstacles to the proper management of chronic conditions. In addition, sponsors' efforts to increase communication and collaboration

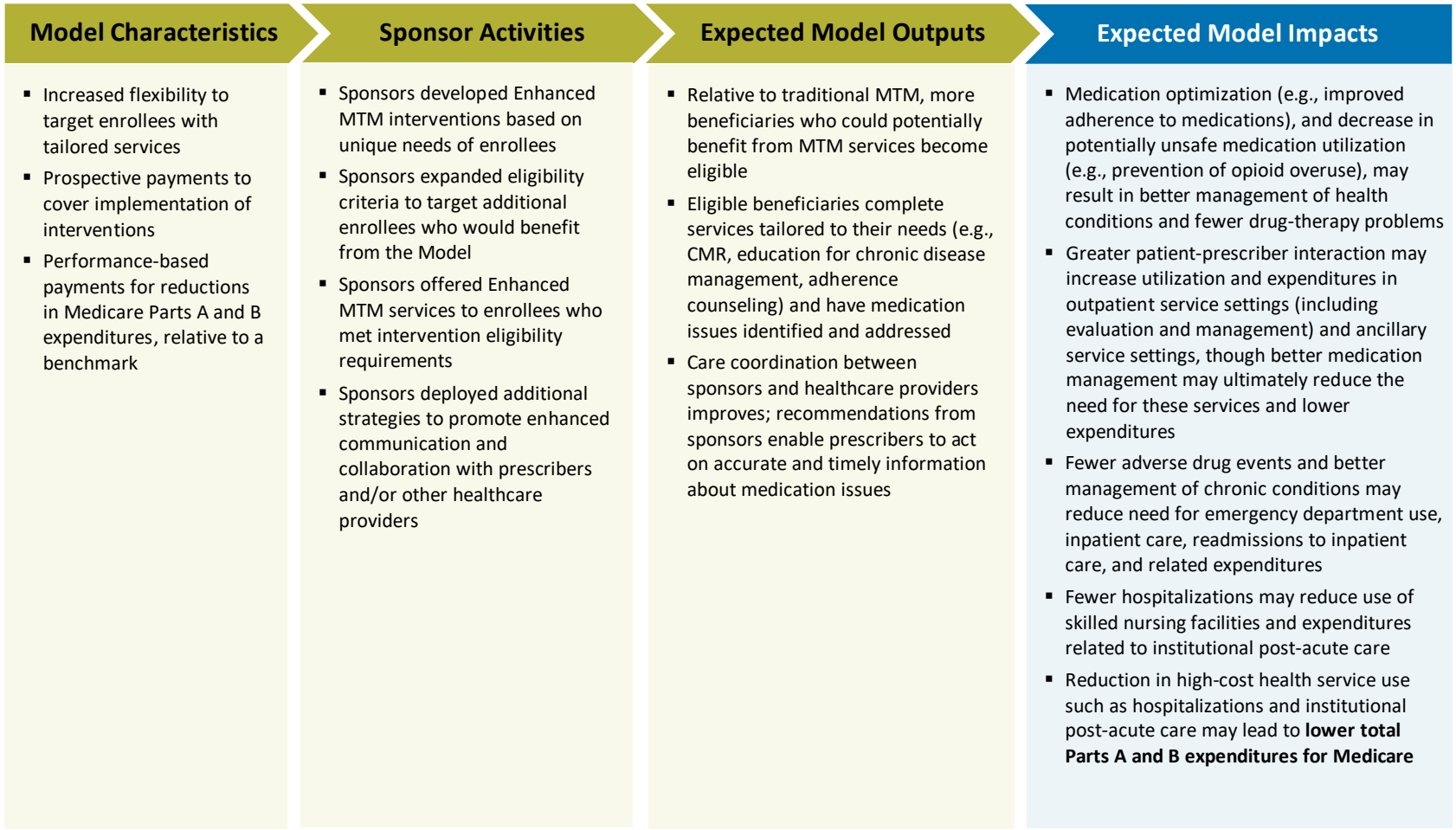
[28] Among Model-participating plans, in 2016, prior to Model implementation, 7.9 percent of enrollees were eligible for traditional MTM. In 2017, after Enhanced MTM implementation began, 71.7 percent of enrollees were eligible for Enhanced MTM. For more details, see: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: First Evaluation Report," October 2019, https://downloads.cms.gov/files/mtm-firstevalrpt.pdf.

[29] The Third Evaluation Report discussed the Model's theory of change in additional detail, including a more detailed version of this figure. See Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Third Evaluation Report," August 2021, https://innovation.cms.gov/data-and-reports/2021/mtm-thrdevalrept.

with providers would lead to improved care coordination between plans, their affiliated pharmacists, and prescribers.

As a result, the Model was **expected to have downstream impacts** on health outcomes, health service use, and related expenditures. For example, addressing beneficiaries' gaps in care was expected to decrease potentially unsafe medication use, such as potentially dangerous drug combinations, decreasing the occurrence of adverse drug events, improving health outcomes, and reducing preventable hospitalizations and related expenditures. At the same time, Enhanced MTM services could encourage interactions between beneficiaries and their providers, leading to increased utilization and expenditures in other healthcare settings. For example, a beneficiary could be advised to see their doctor more often and discuss their medication regimens, or seek emergency care if they were experiencing medication-related problems or side effects. Overall, the Model was expected to reduce the need for high-cost health services use, leading to decreases in downstream utilization of such services and related expenditures.

Figure 1.2: Enhanced MTM Evaluation Theory of Change: Potential Pathways for Expected Outcomes



Prior evaluation reports have not found significant Model impacts on total medical expenditures for beneficiaries enrolled in participating plans. There were, however, impacts on setting-specific expenditures and related utilization largely consistent with the Model's theory of change.[30] There have also been limited impacts on intermediate measures of medication use and drug-related patient safety, with little evidence of improvement for enrollees of Model-participating plans. Analytic findings presented in Section 3 of this report also suggest that, relative to the traditional MTM program and for the Model as a whole, total medical expenditures did not change significantly for enrollees of participating plans. However, for two sponsors (Humana and BCBS FL) there were decreases in expenditures in the final year of Model implementation.

To explore the mechanisms behind these findings, this report also assesses impacts from analyses focusing on the beneficiaries who received Enhanced MTM services (see Section 3.3.3), since Model impacts estimated across the entire enrollee population should have been driven by impacts on the beneficiary subgroup that received services. This subgroup included beneficiaries whom sponsors determined would benefit most from MTM interventions based on expanded Enhanced MTM eligibility criteria. However, even among the subgroup of beneficiaries who received services there was no convincing evidence of improvements in downstream outcomes relative to the traditional MTM program.

These findings cast doubt on the rationale supporting the Model's proposed theory of change, and it is possible that the mechanisms described above are not strong enough, in practice, to generate the expected Model impacts. For example, it is possible that the additional services offered by the Model did not generate significant improvements in beneficiary outcomes relative to the traditional MTM program that are detectable in claims data. Additionally, the Model's theory of change hinges on beneficiaries' willingness to receive frequent Enhanced MTM services and ability to make the necessary and recommended behavioral adjustments that could improve downstream outcomes (see Section 2.3.6 for a discussion of sponsor strategies for beneficiary outreach). Furthermore, as discussed in more detail in Section 2.4, sponsor efforts to increase communication and collaboration with prescribers were largely unsuccessful, and care coordination between prescribers and MTM providers remains an area for growth and improvement. Communication between prescribers and MTM providers is key for the effectiveness of MTM services, since prescribers are ultimately responsible for patients' medication regimens. Therefore, it is possible that prescribers' limited engagement with the Model affected its success in influencing downstream beneficiary outcomes. Regardless, the Model provided important insights and lessons learned that can support future efforts to optimize MTM provision. For example, sponsors embraced the Model's flexibilities and

[30] Prior evaluation reports found decreases in expenditures for inpatient and institutional post-acute care services that were offset by increases in expenditures for outpatient and ancillary services. For more details, please see the Fourth Evaluation Report: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Fourth Evaluation Report," April 2022, https://innovation.cms.gov/data-and-reports/2022/mtm-fourth-evalrept.

designed interventions that targeted larger volumes of beneficiaries and offered more tailored services than those provided in the traditional MTM program. Reports from beneficiaries and pharmacy industry stakeholders suggest overwhelming support for these types of changes, because MTM services are seen as more effective when they are designed around a beneficiary's unique needs. These insights are explored further in subsequent sections of this final evaluation report.

1.4 Report Organization

This Fifth (and final) Evaluation Report updates analyses of Model impacts for beneficiaries enrolled in participating plans, to include information from the final year of implementation. Cumulatively across the five years of implementation, there were no significant Modelwide impacts on Medicare Parts A and B expenditures for beneficiaries enrolled in Enhanced MTM plans. Subsequent sections provide a detailed discussion of these findings and a comprehensive assessment of implementation covering the entire lifespan of the Model (January 2017 – December 2021), including lessons learned to inform future efforts to optimize the provision of MTM programs.

The report is organized as follows: Section 2 presents key lessons from the implementation of the Enhanced MTM Model, focusing on intervention design (including eligibility criteria and services offered, and resulting rates of eligibility and service receipt among plan enrollees), collaboration between pharmacists and prescribers, Model-specific reporting requirements, and prospective and performance-based payments. Section 3 presents impacts of Enhanced MTM for enrollees in Model-participating plans relative to comparators, incorporating new information from Model Year 5, and also discusses potential mechanisms underlying the impact findings, including analytic caveats and potential confounders. Section 4 synthesizes findings and offers concluding remarks.

2 WHAT ARE THE KEY LESSONS FROM THE IMPLEMENTATION OF ENHANCED MTM INTERVENTIONS?

Section Summary

The Model gave sponsors the opportunity to tailor their Enhanced MTM interventions to better address their beneficiaries' needs. **Most sponsors embraced this flexibility and continually modified their interventions over the five years of implementation. As implementation progressed, sponsors placed growing emphasis on chronic condition management**.

Sponsors and beneficiaries pointed to the **importance of targeting and providing services to beneficiaries at clinically meaningful times**. In particular, beneficiaries thought the most opportune times for services were during transitions of care or medication changes, especially the addition of new medications. Many sponsors used such events to trigger Enhanced MTM eligibility, **in addition to risk stratification and predictive analytics**. Sponsors believed that these approaches allowed them to better prioritize beneficiaries for services relative to existing traditional Part D MTM targeting requirements.

Sponsors perceived chronic condition management and transitions-of-care services to be innovative and promising in terms of cost savings and improvements in beneficiary outcomes. Equally important was how sponsors reached out to beneficiaries to engage them to accept the service. **Some beneficiaries perceive MTM providers as being outside of their normal care team, which limited their willingness to participate in services**. **According to sponsors and beneficiaries, community pharmacists who telephoned their own patients were relatively effective in engaging them in MTM services**.

Collaboration with prescribers presented an ongoing challenge for sponsors, despite various sponsor strategies to tackle this issue. Potential new solutions include giving pharmacists timely access to data and enabling two-way exchange of information between MTM providers and prescribers for pharmacists to meaningfully work with prescribers.

The use of SNOMED CT codes to document Model services in Encounter Data was a significant undertaking for sponsors, requiring high levels of implementation effort. The overall perception from sponsors is that, **while it would be beneficial for MTM programs to adopt some form of the Model's SNOMED CT coding requirements, more standardization around the structure and use of the codes would be needed to support their wider adoption**.

The Model offered sponsors the flexibility to create customized Enhanced MTM interventions that targeted beneficiaries who could benefit from services that aimed to optimize medication regimens and improve management of chronic conditions. These customized interventions, with their varying targeting approaches and range of services, were expected to improve beneficiary outcomes, leading to fewer adverse events requiring medical care (e.g., emergency department [ED] visits, hospitalizations, and post-acute care) and a reduction in downstream medical expenditures.

Each Enhanced MTM intervention consisted of a unique combination of targeting criteria, defined as a set of requirements that determined which beneficiaries were eligible for the intervention, and a corresponding set of Enhanced MTM outreach and services offered to eligible beneficiaries. Sponsors generally offered the same Enhanced MTM interventions across all of their participating PBPs.[31] Eligible beneficiaries who met a specific intervention's targeting criteria were offered the same set of services within an intervention. Appendix A includes additional information about each sponsor's interventions throughout the Model's implementation.

Sponsors leveraged the Model's flexibility to establish innovative targeting criteria that determined which beneficiaries were eligible for interventions. Sponsors were not required to use traditional MTM targeting criteria. Each of the sponsors' Enhanced MTM interventions had different targeting criteria, clustered around five categories of health characteristics: (i) medication utilization; (ii) high Medicare Parts A, B, or D expenditures; (iii) presence of one or more chronic conditions; (iv) recent discharge from the hospital; and (v) vaccine status.[32] Some interventions used targeting criteria from only one of these five categories, whereas others used combinations of criteria from multiple categories.

Beneficiaries who were identified as eligible based on the targeting criteria were then offered different types of "significant services" at varied frequencies designed to address their specific health and medication management needs, depending on the intervention(s) for which they were eligible.[33] Under the Model, 12 categories of significant services were offered (see Table 2.1). These services were either "high-intensity" and involved interactive discussions with beneficiaries, or "low-intensity" and focused on prescribers or on non-interactive education and reminders tailored to beneficiaries. Unlike traditional MTM, the Model did not require that all eligible beneficiaries be offered, at a minimum, an annual CMR and quarterly TMRs.

[31] For WellCare and Humana's transitions-of-care interventions, beneficiary targeting varied among PBPs based on the availability of health information exchange (HIE) data in some Model Years.

[32] SilverScript/CVS's HealthTag intervention was the only Enhanced MTM intervention that targeted beneficiaries primarily based on vaccination status (specifically influenza, shingles, or pneumonia vaccination status).

[33] "Significant services" are tailored services intended to address specific beneficiary needs. Sponsors also offered non-significant services, which included general, non-tailored outreach (e.g., welcome letters and educational newsletters). This report focuses on the provision of significant services.

Table 2.1: Twelve Categories of High- or Low-intensity Significant Services Were Offered Under the Model

Significant Service Category		Significant Service Description	Level of Intensity
Comprehensive Medication Review (CMR) Categories			
1	CMR	An interactive, beneficiary-facing service to comprehensively and systematically review a beneficiary's medication regimen and identify and develop a plan to address medication-related problems	High
2	Transitions of care (CMR)	A CMR focused on identifying and addressing medication-related problems that occur after a beneficiary is discharged from the hospital	High
Medication Reconciliation Categories			
3	Medication reconciliation	An interactive, beneficiary-facing service, separate from a CMR, to ensure the sponsor's record of beneficiary medications is current	High
4	Transitions of care (medication reconciliation)	A similar service to a regular medication reconciliation but with a focus on capturing medication changes that occurred as a result of a hospitalization	High
Targeted Medication Review (TMR) Categories			
5	TMR (beneficiary)	A focused, beneficiary-facing service to address specific, pre-identified medication issues	High
6	TMR (prescriber)	A focused, provider-facing service to address specific, pre-identified medication issues	Low
7	Transitions of care (prescriber-facing)	A focused, prescriber-facing service to address a specific medication issue or issues that arise after a beneficiary is discharged from the hospital	Low
Medication Adherence Categories			
8	Medication adherence (pharmacist)	An interactive, beneficiary-facing service to investigate and address beneficiary non-adherence or risk for non-adherence to medications	High
9	Medication adherence (automated)	A beneficiary-facing service that involves automated contact, such as refill reminders, through Interactive Voice Response (IVR)	Low
Other Service Categories			
10	Cost-sharing and social support	Beneficiary-facing services to address cost or social issues that affect a beneficiary's ability to obtain and/or adhere to medications	High
11	Case/disease management	An interactive, beneficiary-facing service to support beneficiaries in controlling their disease state(s) and/or coordinate care across multiple healthcare entities	High
12	Immunization assessment, reminder, and administration	Beneficiary-facing services that involve assessing the need for, providing reminders or information about, and/or administering vaccines	Low

By design, the Model allowed sponsors to modify their implementation approaches over time. This enabled sponsors to reassess which beneficiaries could benefit the most from services on

an ongoing basis. Sponsors embraced this flexibility to design and continually refine their Enhanced MTM interventions, and to tailor and right-size the services that they offered. Examining these changes over time provides important context not only for understanding changes in Model eligibility and service receipt, but also for highlighting notable lessons learned that can be applied to the Part D MTM program in the future.

This section discusses learnings and trends from the five years of Model implementation organized by the key steps and processes involved in operationalizing the Enhanced MTM interventions. Section 2.1 outlines trends over time in the number of intervention offerings. Section 2.2 discusses changes and learnings related to the targeting criteria that determined beneficiary eligibility for interventions. Section 2.3 highlights changes and findings regarding the delivery of services to eligible beneficiaries. Section 2.4 describes prescriber collaboration strategies and experiences. Section 2.5 synthesizes experiences regarding the use of SNOMED CT codes to document Enhanced MTM services under the Model. Section 2.6 discusses prospective payments and performance-based payments made to sponsors, and sponsors' perceptions of these payments. Finally, Section 2.7 offers a summary of findings and a synthesis of lessons from the Model's five-year implementation period.

2.1 How Did Sponsors Use the Model's Incentives and Flexibility to Design Enhanced MTM Interventions?

Sponsors changed the number of interventions that they offered over the course of the Model's implementation in an attempt to better address the needs of their beneficiaries. Most sponsors increased the number of interventions they offered, and most changes occurred in Model Year 2. Sponsor decisions to add or remove interventions were primarily driven by sponsors' aims to reduce downstream medical expenditures given the Model's performance-based payments.

Over the Model's five-year implementation period, sponsors used the Model's incentives and flexibility to design multiple and diverse Enhanced MTM interventions. Through these interventions, sponsors aimed to address the unique needs of their beneficiaries and achieve the Medicare Parts A and B savings required to qualify for the Model's performance-based payments. Sponsors monitored the effectiveness of their interventions, and their findings served as the impetus behind their decisions to retain or add interventions throughout the Model's implementation. Internal monitoring mechanisms included tracking various process measures (e.g., rates of successful beneficiary outreach; service completion rates; medication-related problem identification and resolution rates). Since the Model's performance-based payments incentivized downstream medical cost savings, sponsors were particularly focused on intervention effectiveness as measured by reductions in medical expenditures.[34] This section provides a brief overview of the interventions that sponsors offered during the Model's implementation and how the number of interventions changed over time.

As the Model progressed, all sponsors, except Humana, changed the number of interventions they offered—adding or discontinuing interventions—in an attempt to address beneficiary needs more effectively. Sponsors implemented a total of 33 interventions over the entire five-year Model implementation period. Of these interventions, 29 were active in Model Year 5, the final Model Year (see Table 2.2). The year when the most interventions were added was Model Year 2, with the collective addition of seven new interventions.[35] Fewer interventions were added in later Model Years and only one sponsor, BCBS FL, added interventions in Model Year

[34] Eligibility for performance-based payments was determined based on whether total medical costs for enrollees of participating plans decreased by at least 2 percent relative to a benchmark. The methodology to determine eligibility for performance-based payments was separate from the methodology for the quantitative evaluation presented in this report (see Section 3). For more information on performance-based payments and how the benchmark was determined, please see Section 1.

[35] For further information about intervention changes in Model Years 1 through 4, please refer to: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Fourth Evaluation Report," April 2022, https://innovation.cms.gov/data-and-reports/2022/mtm-fourth-evalrept.

5.[36] Three interventions were also discontinued during or at the end of Model Year 3.[37] Further details about each sponsor's interventions are available in Appendix A.

Table 2.2: Enhanced MTM Interventions Changed throughout the Model's Implementation, Even in the Last Year

Enhanced MTM Intervention	Model Year 1 (2017)	Model Year 2 (2018)	Model Year 3 (2019)	Model Year 4 (2020)	Model Year 5 (2021)
SilverScript/CVS					
Medication Therapy Counseling	■	■	■	■	■
Specialty Pharmacy Care Management	■	■	■	■	■
Pharmacy Advisor Counseling	■	■	■	■	■
HealthTag[a] (Vaccine)	■	■	■	■	■
Long-Term Care			■	■	■
Humana					
Risk-Based	■	■	■	■	■
Transitions of Care Medication Reconciliation	■	■	■	■	■
UnitedHealth					
Risk-Based	■	■	■	■	■
Transitions of Care	■	■	■	■	■
Adherence Monitoring		■	■	■	■
WellCare					
Medication Adherence	■	■	■	■	■
Opioid Utilization	■	■	■	■	■
High Utilizer	■	■	■	■	■
Select Drug Therapy Problems	■	■	■		
Hospital Discharge			■	■	■
BCBS NPA					
High-Risk	■	■	■	■	■
Prescriber Opioid Education[b]		■			
Low-Risk / High Cost[c]		■		■	
Community Pharmacy Smart Recommendations[d]		■	■	■	■
Transitions of Care			■	■	■
Chronic Care Management Initiative				■	■
Safe Opioid Use Assessment					■

[36] This sponsor added two new interventions focused on management of end-stage renal disease (ESRD) and congestive heart failure (CHF) in the final year of Model implementation.

[37] WellCare, BCBS NPA, and BCBS FL each discontinued one intervention in later Model Years, after their internal findings indicated that there was limited opportunity to effectuate meaningful changes in medical savings through MTM services, or that the medical savings achieved did not offset the cost to run the intervention.

Enhanced MTM Intervention	Model Year 1 (2017)	Model Year 2 (2018)	Model Year 3 (2019)	Model Year 4 (2020)	Model Year 5 (2021)
BCBS FL					
Hospital Prevention	■	■	■	■	■
Diabetes Plus 3	■	■	■	■	■
Anticoagulant	■	■	■	■	■
Transitions of Care	■	■	■	■	■
Medication Adherence	■	■	■	■	■
Specialty Drug	■	■	■		
Continuity of Care[e]		■	■	■	■
Statin Use in Persons with Diabetes			■	■	■
Behavioral Health			■	■	■
End-Stage Renal Disease					■
Congestive Heart Failure					■

■ Intervention active in Model Year

[a] SilverScript/CVS's HealthTag intervention delivered influenza, pneumonia, and shingles vaccine reminders.

[b] BCBS NPA's Prescriber Opioid Education intervention was a short-term, primarily education-focused intervention for healthcare providers who either prescribed opioids with competing drugs or prescribed high volumes of opioids. It started in Model Year 2 and concluded as planned later that year.

[c] As planned, BCBS NPA launched and completed the Low-Risk/High-Cost intervention with one cohort of beneficiaries in Model Year 2 and another cohort of beneficiaries in Model Year 3. This intervention was discontinued in Model Year 4.

[d] BCBS NPA's Community Pharmacy Smart Recommendations intervention offered brief services (e.g., new medication, adherence, and immunization assessments; medication reconciliation) in the community pharmacy.

[e] BCBS FL's Continuity of Care intervention offered a one-time CMR to beneficiaries who qualified to receive a CMR in the previous Model Year but did not qualify in the subsequent Model Year.

As shown in Table 2.1, most sponsors utilized the Model's flexibility to change the number of interventions they offered. Humana was the only sponsor that did not add or remove any interventions during the Model's implementation period. SilverScript/CVS, UnitedHealth, and WellCare each made one or two intervention additions or deletions, while BCBS FL and BCBS NPA each discontinued one intervention and added five and six interventions, respectively. These two sponsors (BCBS FL and BCBS NPA) approached the Model as an opportunity to quickly try and test multiple interventions. The remaining sponsors reported wanting to accumulate more data about existing intervention effects before changing which interventions they offered, which is why they made fewer changes to the number of interventions during the Model's implementation period.

2.2 How Did Sponsors Change Their Targeting for Enhanced MTM Services over Time?

The targeting criteria that sponsors used to identify eligible beneficiaries for their Enhanced MTM interventions differed substantially from traditional MTM targeting criteria and were more inclusive. Sponsors, pharmacy industry stakeholders, and beneficiaries approved of expanded targeting criteria because they believe they are more effective at identifying beneficiaries who could be helped by MTM services.

- Modelwide beneficiary eligibility rates were high, ranging from 66 to 77 percent, and increased over most of the Model's implementation period, as the number of interventions increased.
- The number of interventions that targeted beneficiaries with chronic conditions increased over time, reflecting a growing emphasis by sponsors on chronic condition management. Multiple sponsors also targeted beneficiaries based on transitions of care, medication adherence, and opioid use.
- Some targeting criteria focused on the presence of drug therapy problems, high-risk medications, or newly prescribed medications. These criteria were positively received by beneficiaries, who found value in services addressing such medication-related issues.
- Sponsors viewed targeting that relies on risk stratification and predictive modeling as preferable to existing traditional MTM targeting requirements. Sponsors used the Model to hone their risk stratification approaches over time.
- Sponsors and stakeholders overwhelmingly supported the Model's targeting flexibilities.

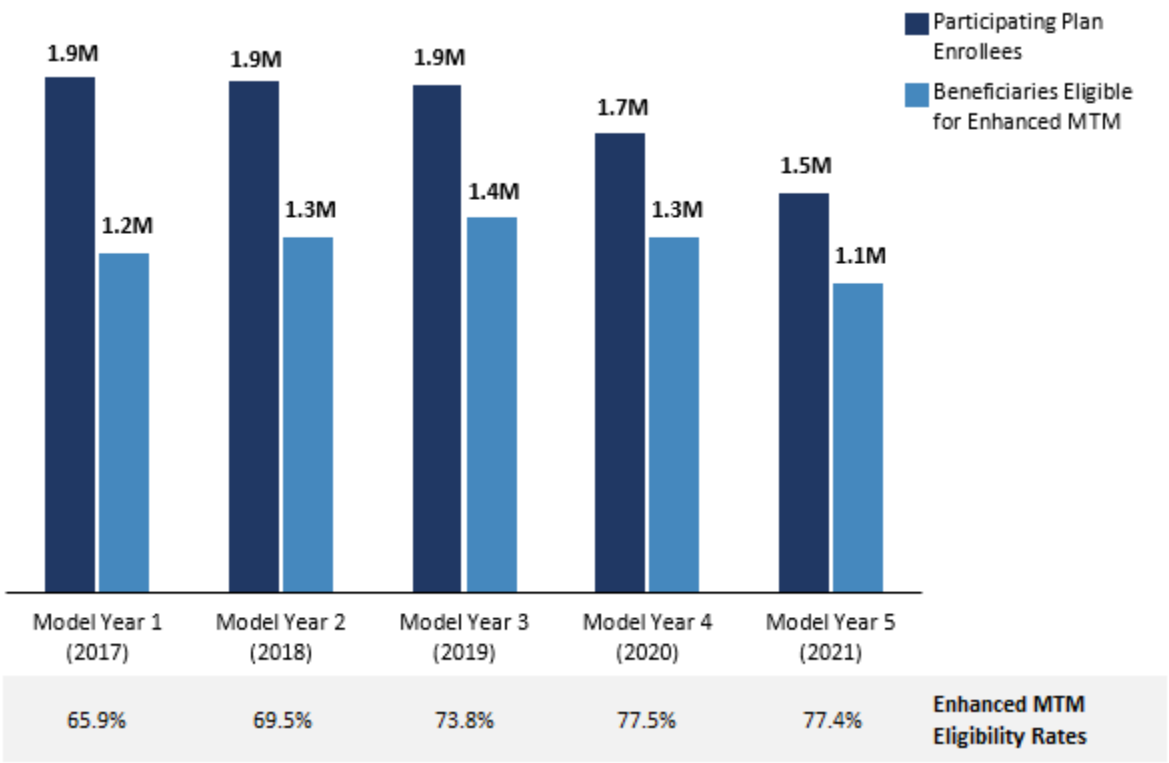
Beneficiary targeting was a primary area of innovation for the Model. For each Enhanced MTM intervention, sponsors established targeting criteria to determine which beneficiaries were eligible for services offered as part of the intervention. Because the Model gave sponsors flexibility in determining beneficiary targeting criteria, the criteria under the Model differed substantially from traditional MTM and were much more inclusive. Sponsors and stakeholders overwhelmingly supported these targeting flexibilities, indicating that they are needed to ensure that MTM interventions are responsive to beneficiaries' needs. This section discusses themes related to beneficiary targeting and eligibility over the course of the Model.

Traditional Part D MTM requires that beneficiaries meet three targeting requirements (have multiple chronic conditions, take multiple Part D drugs, and be likely to incur high drug expenditures) to be eligible for services. Under the Model, sponsors incorporated at least one of these three traditional Part D MTM targeting requirements into their Enhanced MTM

intervention targeting criteria. None of the sponsors incorporated all three for any single intervention. Sponsors noted that beneficiaries with chronic conditions and polypharmacy represent two especially impactful beneficiary populations, each separately important, to target for Enhanced MTM services. This contrasts with traditional MTM, which requires a beneficiary to meet all three targeting requirements to be eligible for an MTM service. Since sponsors took a more inclusive approach to their intervention targeting criteria, Modelwide beneficiary eligibility rates were much higher than traditional MTM and increased over most of the Model's implementation period, as sponsors added new interventions (as discussed in Section 2.1). Enhanced MTM eligibility rates ranged from 66 to 77 percent during the Model's implementation (Figure 2.1). In contrast, traditional MTM eligibility rates among beneficiaries included in the evaluation's comparison group ranged from 6 to 10 percent (see Appendix Table B.6.2).

Throughout the Model's implementation, total enrollment among participating plans decreased (Figure 2.1). The steepest decreases in total enrollment occurred in Model Years 4 and 5, when decreases of about 10 percent and 13 percent, respectively, occurred relative to the previous Model Year. Total enrollment decreases in previous Model Years were less than 1 percent. Over time, individual sponsors' enrollment varied due to changes in PBP benchmark status or premiums, or PBP consolidation. The number of Enhanced MTM-eligible beneficiaries peaked in Model Year 3. The large enrollment decreases among participating plans in Model Years 4 and 5 resulted in fewer beneficiaries being eligible for Enhanced MTM in these Model Years than in Model Year 3. However, despite the decrease in the number of eligible beneficiaries, the Enhanced MTM eligibility rate peaked at 77 percent in these two Model Years.

Figure 2.1: Total Enrollment among Participating Plans Decreased over the Course of the Model, While Eligibility Rates Generally Increased



Sources: CME, MARx, and Enhanced MTM Encounter Data

Notes: Eligible beneficiaries are those with at least one month of recorded eligibility in the Model year in MARx data. The proportion eligible for Enhanced MTM is calculated with the number of beneficiaries eligible for Enhanced MTM as the numerator and participating plan enrollment as the denominator.

As noted earlier in this section, sponsors' targeting criteria clustered around five categories: (i) medication utilization; (ii) high Medicare Parts A, B, or D expenditures; (iii) presence of one or more chronic conditions; (iv) recent discharge from the hospital (i.e., transition of care); and (v) vaccine status. (See Table B.6.6 in Appendix B for additional information about the primary targeting category for each Enhanced MTM intervention.) The remainder of this section discusses each of these targeting categories and their changing importance over time in more detail.

2.2.1 Medication Utilization

In all Model Years, most eligible beneficiaries were targeted based on their medication utilization, though the proportion of eligible beneficiaries who were identified based on this targeting category decreased over time, from 78.7 percent in Model Year 1 to 69.8 percent in Model Year 5 (Figure 2.2). Within the broader medication utilization category, multiple sponsors targeted beneficiaries based on the presence of drug therapy problems, high-risk medications, and newly prescribed medications. Throughout the Model's implementation, most beneficiaries who were targeted based on medication utilization as a primary criterion were targeted either due to existing or potential drug therapy problems (DTPs), or a newly prescribed medication (see Table B.6.5 in Appendix B). These targeting areas matched well with beneficiaries' preferences, as beneficiaries reported that they found value in Enhanced MTM services when these types of medication issues or events were identified and addressed. Beneficiaries also reported that a major motivator in their decision to participate in services was to have their medication regimen reviewed for appropriateness and for potentially dangerous interactions.

Sponsors targeted beneficiaries based on the presence of drug therapy problems, high-risk medications, and new medications. These focus areas align with beneficiaries' stated preferences.

Among the medication utilization interventions, medication adherence was another targeting focus area common to multiple sponsors. Four sponsors (UnitedHealth, WellCare, BCBS FL, and BCBS NPA) implemented medication adherence interventions. These interventions primarily centered on medications that are the focus of Medicare Part D Star Ratings Measures, and sponsors offered these interventions because they viewed them as being promising in terms of downstream medical cost savings.[38] Interviews with pharmacy industry stakeholders, however, revealed skepticism about the utility of these types of interventions, since medication adherence is generally already high among Medicare beneficiaries. Pharmacy industry stakeholders also advocated that adherence interventions are best placed within the context of broader chronic condition management.

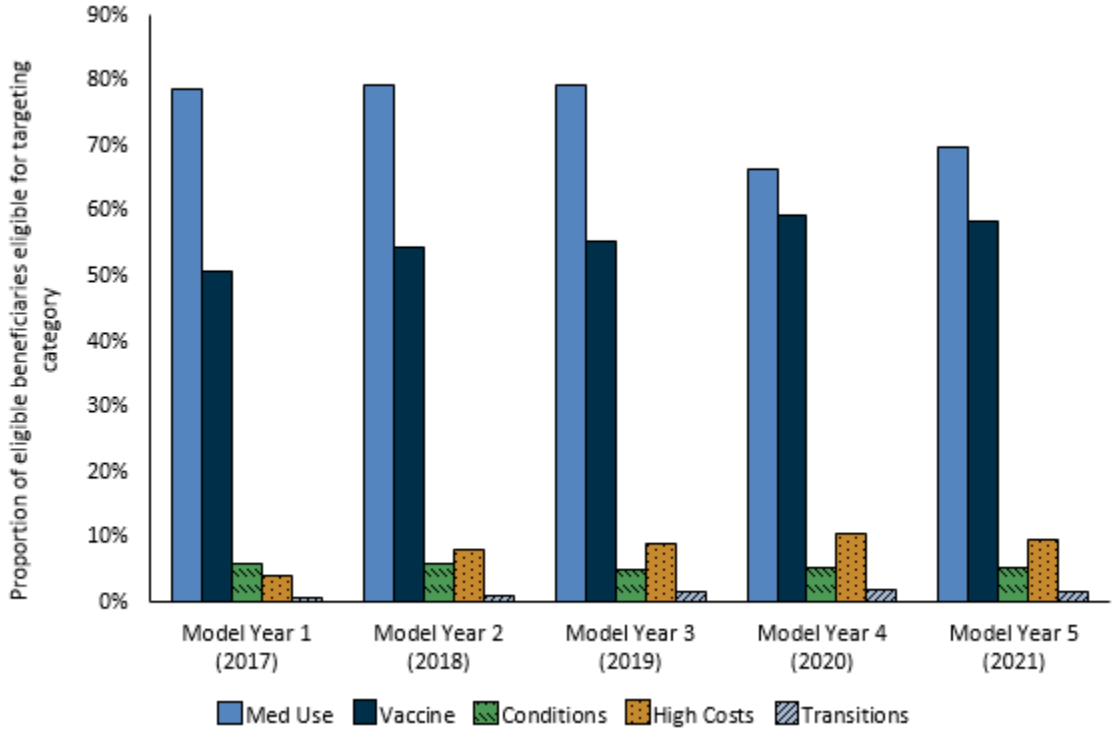
Opioid use was another common targeting focus area among medication utilization interventions. WellCare and BCBS NPA implemented a total of three interventions focused on opioid use, but found these interventions to be resource-intensive and challenging to implement. WellCare's opioid intervention was prescriber-facing (i.e., the service associated

[38] CMS publishes Part D Star Ratings that assess the quality of services offered by Medicare Advantage and Part D plans based on numerous performance measures, known as "Star Ratings Measures." Example Star Ratings Measures include medication adherence for diabetes medication and medication adherence for hypertension (renin-angiotensin system antagonists [RASAs]). More information about the Star Ratings Measures is available at https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/PerformanceData.

with the intervention was offered to prescribers of targeted beneficiaries, rather than to beneficiaries themselves ["beneficiary-facing"]), and BCBS NPA implemented two opioid interventions, one prescriber-facing and one beneficiary-facing.

Specific challenges associated with implementing opioid interventions included patient sensitivity around discussing opioid use, pharmacist training, and difficulty reversing existing prescribing practices and coordinating among multiple prescribers of opioid medications. For BCBS NPA's prescriber-facing opioid intervention, pharmacists were required to complete Continuing Education training, which was another substantial implementation barrier. Challenges associated with implementing opioid interventions were not limited to sponsors' experiences. In interviews with the evaluation team, some beneficiaries expressed misgivings about pharmacists being involved in their health care, particularly in the context of opioid medications. Beneficiaries can be reluctant to have someone outside of their usual care or pain management team review and make recommendations about their opioid prescriptions. Collectively, these experiences suggest that interventions targeting beneficiaries based on opioid use are likely to have associated implementation barriers that can limit their effectiveness.

Figure 2.2: In All Model Years, Most Eligible Beneficiaries Were Targeted Based on Their Medication Utilization



Sources: CME, MARx, and Enhanced MTM Encounter Data.

Notes: Med Use: targeting based on medication utilization; Vaccine: targeting based on the need for a vaccine; Conditions: targeting based on the presence of one or more chronic conditions; High Costs: targeting based on high Medicare Parts A, B, and/or D costs; and Transitions: targeting beneficiaries who experience a recent discharge from the hospital. Beneficiaries may be eligible for more than one intervention and category. The Vaccine category included only one intervention. The proportion of eligible beneficiaries eligible for each targeting category is calculated with the number of beneficiaries eligible for the category as the numerator and the total number of beneficiaries eligible for Enhanced MTM as the denominator.

2.2.2 High Cost

The proportion of eligible beneficiaries who were targeted based on high costs (Medicare Parts A, B, and/or D) more than doubled between Model Years 1 and 5, from 4.1 percent to 9.7 percent (see Figure 2.2). The number of interventions that primarily targeted beneficiaries based on high costs increased from two to five between Model Years 1 and 2, and then remained constant over the remainder of the Model's implementation period. In Model Year 4, Humana changed the targeting algorithm for its Risk-Based intervention to primarily target beneficiaries based on high costs instead of medication utilization. Humana made this change because it found that using targeting criteria based on high costs better identified beneficiaries who were truly high risk and had consistently high risk scores.

2.2.3 Chronic Conditions

The number of interventions primarily targeting chronic conditions increased from three in Model Year 1 to seven by Model Year 5.

There was growing emphasis on chronic condition management under the Model, as sponsors added more Enhanced MTM interventions that targeted beneficiaries primarily based on their chronic conditions. In Model Year 1, three interventions primarily targeted beneficiaries with chronic conditions. By Model Year 5, the number of interventions targeting chronic conditions increased to seven, with four sponsors offering at least one chronic condition management intervention (see Table B.6.4 in Appendix B). The increasing focus of sponsors' interventions on chronic condition management closely aligns with stakeholder feedback that the pharmacy industry as a whole is taking a more active role in comprehensive chronic condition management instead of narrowly focusing on medication issues (*see Spotlight: MTM and Chronic Condition Management*).

Even though the number of interventions primarily targeting beneficiaries based on chronic conditions increased over time, the proportion of eligible beneficiaries who were eligible based on the presence of one or more conditions was relatively constant at about 5.6 percent. This is because two chronic condition interventions—SilverScript/CVS's Specialty Pharmacy Care Management intervention and BCBS FL's Diabetes Plus 3 intervention—had notable decreases in the proportion of eligible beneficiaries over the course of Model implementation, which offset the overall increase (see Table B.6.3 in Appendix B). For the Specialty Pharmacy Care Management intervention, the reasons for these decreases are unclear and not attributable to targeting criteria changes. For the Diabetes Plus 3 intervention, BCBS FL adjusted the targeting criteria in Model Year 2 and fine-tuned the risk scoring algorithm in Model Year 3, which led to decreases in eligibility. According to BCBS FL, these changes were an effort to better identify and intervene with high-risk beneficiaries who could potentially benefit the most from Enhanced MTM services.

SPOTLIGHT

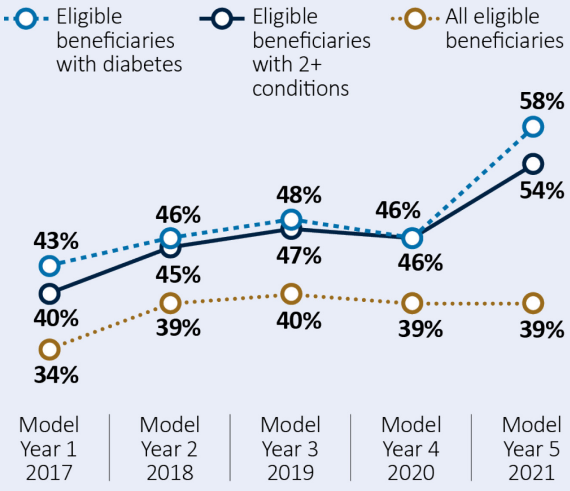
MTM and Chronic Condition Management

Chronic condition management focuses holistically on treatments and lifestyle factors that help beneficiaries manage their chronic conditions. These factors may include medications, nutrition and exercise, strategies to reach clinical goals, and coordination with multiple providers.

There were notable trends throughout the Model's implementation related to chronic condition management. Sponsors collectively increased their attention on chronic condition management throughout the Model's implementation period, demonstrated by the interventions and services they chose to implement. The Model's chronic condition management interventions varied in terms of the specific conditions that were targeted, and the types and frequency of services offered. All interventions included high-intensity services. Moreover, in some cases, sponsors offered chronic condition management services to beneficiaries as part of other interventions that did not primarily focus on chronic condition management.

Previous analyses found that eligibility for Enhanced MTM among beneficiaries with diabetes and beneficiaries with two or more chronic conditions was relatively higher than eligibility across the enrollee population as a whole, indicating that sponsors viewed these beneficiary subgroups as a high-priority for Enhanced MTM services.* Moreover, significant service receipt rates signaled that these beneficiary subgroups found Enhanced MTM services particularly valuable since rates were higher among these beneficiary subgroups than other eligible beneficiaries.

Significant Service Receipt Rates



* For additional information, please refer to: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Fourth Evaluation Report" (April 2022), https://innovation.cms.gov/data-and-reports/2022/mtm-fourth-evalrept.

Sponsors specifically highlighted chronic behavioral health conditions such as schizophrenia, bipolar disorder, depression, obsessive-compulsive disorder, and anxiety as a future area of opportunity for potential cost savings, particularly related to medication adherence and avoiding unnecessary hospitalizations. One behavioral health intervention was implemented in Model Years 3 through 5 by BCBS FL that focused on beneficiaries with certain behavioral health conditions who took multiple medications and had a high risk score. According to BCBS FL, this intervention had high service receipt rates and was a large driver of costs savings, based on its internal analysis.

These Model implementation trends around chronic condition management corroborate the viewpoints of pharmacy industry stakeholders, who indicated that the pharmacy industry is moving away from MTM as a prescriptive tool and toward a broader view of medication management as part of chronic condition management and preventive care. Industry stakeholders viewed this as an area where the health system could be transformed and optimized through pharmacist involvement in direct patient care, including counseling, point-of-care testing, and even treatment.

Taken together, these experiences and perspectives highlight the potential opportunity for MTM to evolve to better encompass and complement chronic condition management, given the complex medication regimens and lifestyle impacts of these conditions.

2.2.4 Transitions of Care

All sponsors except SilverScript/CVS offered interventions that primarily targeted beneficiaries who recently experienced a transition of care, such as a discharge from the hospital to the beneficiary's home.[39] Throughout the Model's implementation, transitions-of-care interventions were small, but grew relative to other interventions in most Model Years, as more sponsors added them to their offerings and expanded associated targeting criteria.

> **"One of the reasons our transitions-of-care program was so successful was our accessibility to data; that real-time discharge data helped us to intervene at clinically sensitive times."**
>
> Participating Sponsor

Sponsors also tested different data sources for transitions-of-care interventions during the Model's implementation period. Access to Medicare Parts A and B claims data was not timely enough for effectively targeting beneficiaries with a recent transition of care, according to sponsors. Two sponsors used Part D data, but, as the Model progressed, more sponsors began using health information exchange (HIE) data and indicated that these data were better suited for transitions-of-care intervention targeting, since they were available in close-to-real time. Humana was the one sponsor that decided to stop using HIE data to target beneficiaries for its transitions-of-care intervention. Humana discontinued use of HIE data for this purpose toward the end of Model Year 4, after its internal analysis found that using HIE data to identify eligible beneficiaries was not cost-effective. In Model Year 5, Humana relied solely on pharmacists to identify eligible beneficiaries, and this approach resulted in a large decrease in the number of eligible beneficiaries.[40] Despite differing sponsors' perspectives about targeting approaches, there was consensus among sponsors around the effectiveness of offering transitions-of-care interventions, since these events are important inflection points in beneficiaries' care, when medication changes are likely to occur.

2.2.5 Vaccine Status

In all Model Years, SilverScript/CVS's HealthTag intervention was the only intervention that primarily targeted beneficiaries based on vaccine status. The HealthTag intervention specifically targeted beneficiaries based on their influenza, shingles, or pneumonia vaccine status, and offered vaccination reminders. Though HealthTag was the only vaccine-focused intervention, it

[39] SilverScript/CVS planned to implement a transitions-of-care intervention in Model Year 1 but was unable to operationalize beneficiary targeting due to data access issues and inability to set up referral systems and data feeds with hospitals and health systems.

[40] Humana had an almost 100 percent decrease in the number of beneficiaries eligible for its transitions-of-care intervention between Model Years 4 and 5. This decrease led to an overall Modelwide decrease of almost 20 percent in the proportion of eligible beneficiaries who were eligible for transitions-of-care interventions in Model Year 5 (1.7 percent) relative to Model Year 4 (2.1 percent).

was a large intervention, targeting about 600,000 to 800,000 beneficiaries in a given Model Year (see Table B.6.3 in Appendix B). As a result, throughout the Model, vaccine status was the second largest targeting category, targeting between 50 and 60 percent of all eligible beneficiaries (see Figure 2.2).

2.2.6 Risk Stratification and Predictive Analytics

Beyond implementation themes and trends related to the Model's targeting categories, innovations around beneficiary risk stratification and predictive analytics used throughout the Model's implementation provided additional lessons learned. Sponsors viewed risk stratification and predictive analytics as preferable to existing traditional MTM targeting requirements, as these approaches allowed them to prioritize beneficiaries of interest for Enhanced MTM services. Sponsors used different methods for risk stratification, focusing on different inputs and methodologies according to the preferences and strategy of a sponsor. For example, risk stratification for BCBS NPA's High-Risk intervention was based on potential multi-drug interactions and side effects, whereas risk stratification for SilverScript/CVS's Medication Therapy Counseling and Long-Term Care interventions was based on predicted risk for high healthcare costs.

Despite these differences, sponsors commonly identified risk stratification as an approach that worked well for determining which beneficiaries should receive outreach and services. Additionally, sponsors used predictive analytics under the Model to predict the likelihood that their enrollees experience high medical expenditures, low adherence, and opioid misuse. Though not used during the Model's implementation, sponsors indicated that applying predictive analytics to understand which beneficiaries are likely to accept MTM services is another area for future exploration.

Sponsors also accumulated lessons learned based on their efforts to modify their risk stratification algorithms over time to add or change variables or data sources, and to home in on the beneficiaries most at risk. Based on experiences from the Model, using multiple data sources (e.g., Medicare Parts A, B, and D data) to calculate risk scores resulted in more stable risk scores over time than using a single data source. This stability was important for assessing a beneficiary's true overall risk level instead of relying on a transient peak in risk due to a one-time event, such as an acute illness or injury. Sponsors also learned that reassessing beneficiary risk on a frequent, ongoing basis is optimal to capture changes in beneficiary risk over time. In later Model Years, Humana and UnitedHealth decided to run risk stratification algorithms on their beneficiary populations more frequently for this reason. If beneficiaries' risk scores increased, Humana and UnitedHealth moved them to higher risk tiers that qualified them for additional or higher-intensity services. Finally, some sponsors indicated that having multiple prescribers might be an important determinant of a beneficiary's risk level.

2.3 How Did Service Delivery under the Model Change over Time?

Sponsors offered a range of significant services to beneficiaries, depending on the intervention(s) for which they were eligible. Sponsors, pharmacy industry stakeholders, and beneficiaries believed that MTM services should not be prescriptive, and should instead be designed around a beneficiary's needs, and be offered at clinically meaningful times.

- Modelwide significant service receipt rates were around 40 percent in most Model Years. Receipt rates were highest for transitions-of-care services, which sponsors and beneficiaries valued for being clinically meaningful. Sponsors that offered chronic condition management services perceived these services to be particularly effective and prioritized them over time.
- CMR rates did not increase substantially under the Model due in part to Sponsor intervention designs that de-emphasized this type of service. Feedback from beneficiaries, sponsors, and pharmacy industry stakeholders recommended that CMRs should not be a required MTM service for all eligible beneficiaries, and instead be offered discriminately to a narrowly targeted subset of beneficiaries.
- Sponsors used different approaches to offer and provide services to beneficiaries. Based on both sponsor experience and beneficiary perspectives, telephonic outreach by a community pharmacist who has an existing relationship with the beneficiary is an effective approach to engage beneficiaries in service provision.
- Sponsors and stakeholders overwhelmingly supported the Model's flexibility with the types of services offered and the frequency of service provision.

Each intervention implemented by the Enhanced MTM sponsors also included a defined significant service or set of significant services that were offered to beneficiaries who were eligible for that intervention.[41] Overall, sponsors offered 12 categories of significant services under the Model (see Section 2 introduction). The Model's theory of change suggested that receipt of these significant services would lead to improvements in beneficiary outcomes and decreases in downstream medical expenditures. Unlike traditional MTM, which requires sponsors to offer an annual CMR and quarterly TMRs to all eligible beneficiaries, the Model did not require sponsors to offer any specific services, nor did it prescribe a specific frequency for service provision. As a result, sponsors did not offer CMRs and TMRs uniformly to all eligible beneficiaries, and instead offered a range of significant services, and varying frequencies of

[41] Significant services are tailored services intended to address specific beneficiary needs. Sponsors also offered non-significant services, which included general, non-tailored outreach (e.g., welcome letters and educational newsletters). This report focuses on the provision of significant services.

services, to beneficiaries depending on the intervention(s) for which they were eligible. As with the targeting flexibilities allowed by the Model (as discussed in Section 2.2), sponsors and pharmacy industry stakeholders overwhelmingly supported the Model's service flexibilities and the decision not to require sponsors to offer CMRs and TMRs or mandate the frequency at which these services were offered. Sponsors and pharmacy industry stakeholders asserted that a "one-size-fits-all" approach to delivering MTM services is not beneficiary-centered and the services offered to a beneficiary ideally should be designed around that beneficiary's unique needs.

This section discusses the types of significant services offered over the course of the Model in more detail. The subsections below present trends in overall significant service receipt and receipt of select significant services over time, including chronic condition management services, CMRs, transitions-of-care services, and adherence services. This section also discusses lessons learned from the Model about beneficiary perspectives on services, and sponsor strategies to conduct outreach to beneficiaries for the provision of significant services.

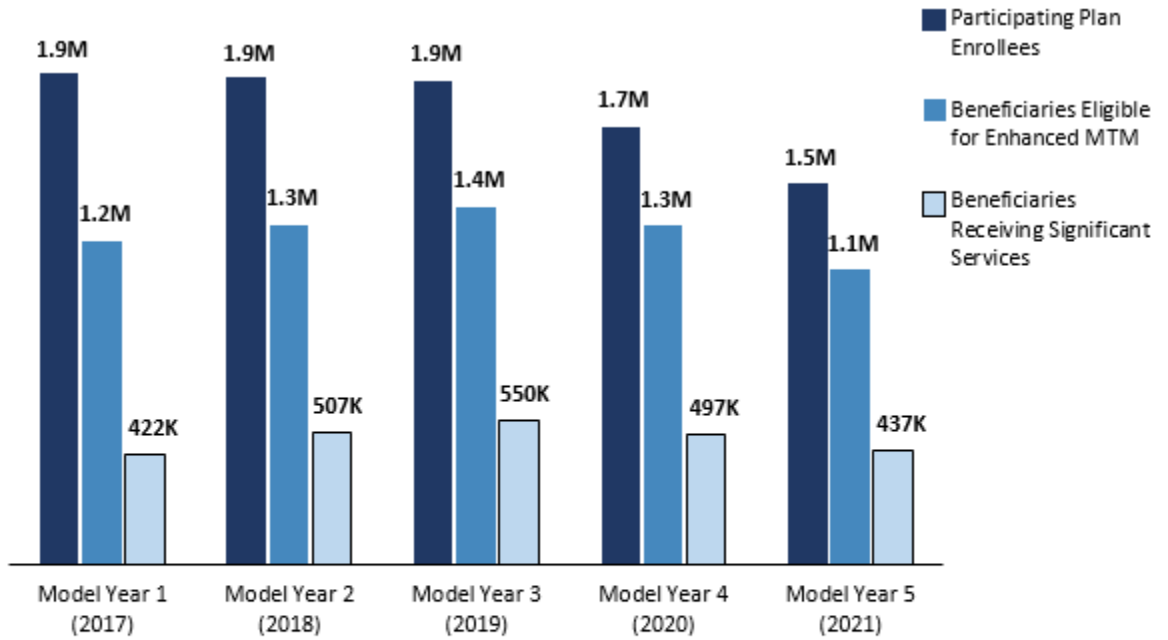
2.3.1 Significant Services

The number of eligible beneficiaries who received significant services fluctuated each Model Year due to changes in sponsors' implementation of the Model and in plan enrollment. Relative to Model Year 1, the number of eligible beneficiaries who received a significant service increased in Model Years 2 and 3, after multiple sponsors added interventions, which led to more beneficiaries being eligible to receive these services (Figure 2.3). The number of eligible beneficiaries who received a significant service decreased in Model Years 4 and 5. This was driven by large enrollment decreases among participating plans in Model Years 4 and 5, as noted in Section 2.2. These enrollment decreases resulted in decreases in the number of beneficiaries who were eligible to receive a significant service. The overall significant service receipt rate among eligible beneficiaries was lowest in Model Year 1 at about 34 percent, and then fluctuated between 38 and 40 percent in subsequent Model Years.

Around 40 percent of eligible beneficiaries received significant services in most Model Years.

The proportion of participating plan enrollees (regardless of eligibility) who received a significant service increased from 23 percent in Model Year 1 to about 30 percent in the last three Model Years. The receipt rate for "high-intensity" significant services among beneficiaries who were eligible for these services was between 32 and 38 percent, while the receipt rate for "low-intensity" significant services was between 18 and 25 percent (see Table B.6.10 in Appendix B). Beneficiaries who received a significant service received an average of about three services per year (see Table B.6.8 in Appendix B). In all Model Years, significant service receipt rates among eligible low-income subsidy beneficiaries were lower than receipt rates among all eligible beneficiaries (*see Spotlight: Eligibility and Significant Service Receipt among Low-Income Subsidy Beneficiaries*).

Figure 2.3: In Most Model Years the Significant Service Receipt Rate Was Fairly Consistent at around 38 to 40 Percent



34.1%	39.0%	40.3%	38.3%	38.8%	**Significant Service Receipt Rate among Eligible Beneficiaries**
22.4%	27.1%	29.7%	29.7%	30.0%	**Significant Service Receipt Rate among Plan Enrollees**

Sources: CME, MARx, and Enhanced MTM Encounter Data

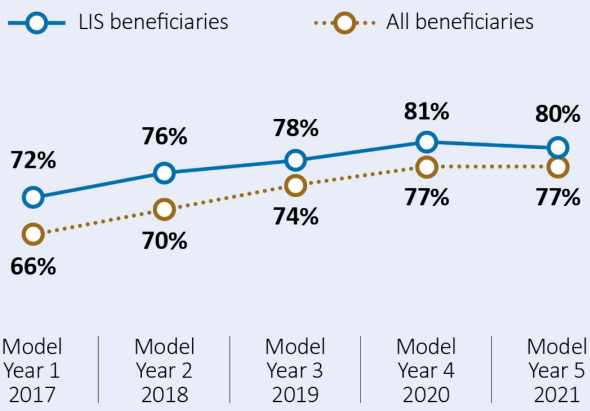
Notes: Beneficiaries could decline specific services and, when possible, counts exclude records associated with a service decline or failed outreach attempt. The significant service receipt rate among eligible beneficiaries was calculated using the number of beneficiaries eligible for a significant service as the denominator, and the number of eligible beneficiaries who received a significant service as the numerator. The significant service receipt rate among plan enrollees was calculated using the number of plan enrollees as the denominator, and the number of beneficiaries who received a significant service as the numerator.

SPOTLIGHT

Eligibility and Significant Service Receipt Among Low-Income Subsidy Beneficiaries

Low-income subsidy (LIS) beneficiaries had higher eligibility rates than the overall enrollee population in all Model Years. In all Model Years, LIS beneficiaries comprised over half the enrollee population eligible for Enhanced MTM but no interventions were specifically targeted to them.

Enhanced MTM Eligibility Rates



Though Enhanced MTM eligibility rates among LIS beneficiaries were higher, significant service receipt rates among them were lower relative to all eligible Model beneficiaries in all Model Years. The significant service receipt rate among eligible LIS beneficiaries was lowest in Model Year 1, at 27 percent, but then reached a fairly consistent level, at around 29 to 30 percent, in subsequent Model Years. Significant service receipt rates for all eligible beneficiaries also increased between Model Years 1 and 2 and then stabilized in subsequent Model Years. Significant service receipt rates among all LIS beneficiaries (regardless of eligibility) were about 6 percentage points lower than rates among all plan enrollees in most Model Years.

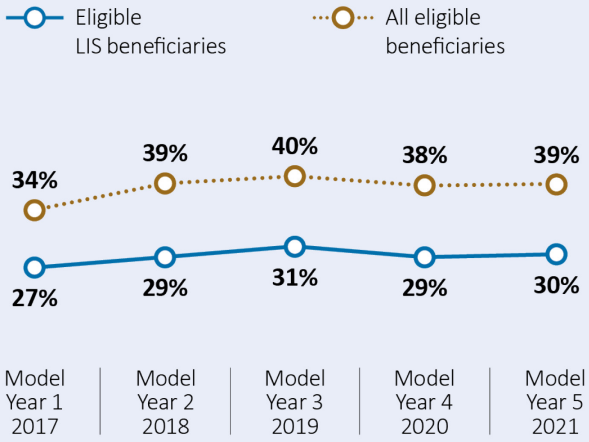
SPOTLIGHT

Eligibility and Significant Service Receipt Among Low-Income Subsidy Beneficiaries

In most Model Years, significant service receipt rates among eligible LIS beneficiaries were about 10 percentage points lower than overall significant service receipt rates among all eligible beneficiaries.

Qualitative information collected from sponsors indicates that there are unique challenges to delivering Enhanced MTM services to LIS beneficiaries. Sponsors found it more difficult to contact and complete services with LIS beneficiaries relative to non-LIS beneficiaries. For example, sponsors described having difficulties obtaining accurate contact information for LIS beneficiaries (due to multiple telephone numbers and telephone numbers that change often) and reported that LIS beneficiaries are more difficult to reach or are uninterested in Enhanced MTM services.

Significant Service Receipt Rates



2.3.2 Chronic Condition Management Services

Chronic condition management services focus on supporting beneficiaries in controlling their disease state(s) and/or coordinating care across multiple healthcare entities. For example, as part of its two new Model Year 5 chronic condition management interventions, BCBS FL (i) provided services to coordinate nephrology and dialysis appointments for its End-stage Renal Disease (ESRD) intervention, and (ii) distributed body weight scales and remotely monitored beneficiaries' weight for its Congestive Heart Failure (CHF) intervention.[42]

> **"We need to focus on services that are really meaningful and more tangible for members – the things they care about most – their chronic conditions."**
>
> Participating Sponsor

Sponsors that offered chronic condition management services perceived these services to be particularly effective in terms of medical cost savings and garnering beneficiary participation. Sponsors offered these services not only as part of their chronic condition management interventions (i.e., interventions that specifically targeted beneficiaries with chronic conditions), but also as part of interventions that did not directly target beneficiaries with chronic conditions. The prioritization of these services over time reflects the growing interest in chronic condition management, as discussed in Section 2.2 and the *Spotlight: MTM and Chronic Condition Management*.

In Model Year 4, Humana even discontinued its CMR in favor of a more comprehensive chronic condition management service. In the same Model Year, Humana only offered this service to beneficiaries who had one of three select chronic conditions. By Model Year 5, Humana expanded this service to beneficiaries with one of seven additional chronic conditions and found that service uptake was particularly high among beneficiaries with hypertension, dyslipidemia, osteoarthritis, and depression.[43]

Sponsors noted that chronic condition management services, which tended to be more longitudinal in nature over the course of the Model (as directed by the severity of beneficiaries' conditions or other needs), provide opportunity for better continuity of care, consistency, and development of relationships between pharmacists and beneficiaries. Sponsors viewed this as

[42] Sudden weight gain is an indicator of a CHF exacerbation. In cases where BCBS FL's vendor detected a sudden, confirmed weight gain as part of the daily weight monitoring, the vendor would intervene with a provider.

[43] In Model Year 4, Humana offered the service to beneficiaries who had CHF, chronic obstructive pulmonary disease (COPD), and coronary artery disease (CAD). Humana added the following seven chronic conditions in Model Year 5: diabetes, asthma, depression, dyslipidemia, hypertension, osteoarthritis, and rheumatoid arthritis.

preferable to the CMR that occurs in traditional MTM at least once per year (*see Spotlight: Use of Comprehensive Medication Reviews (CMRs) in MTM*).

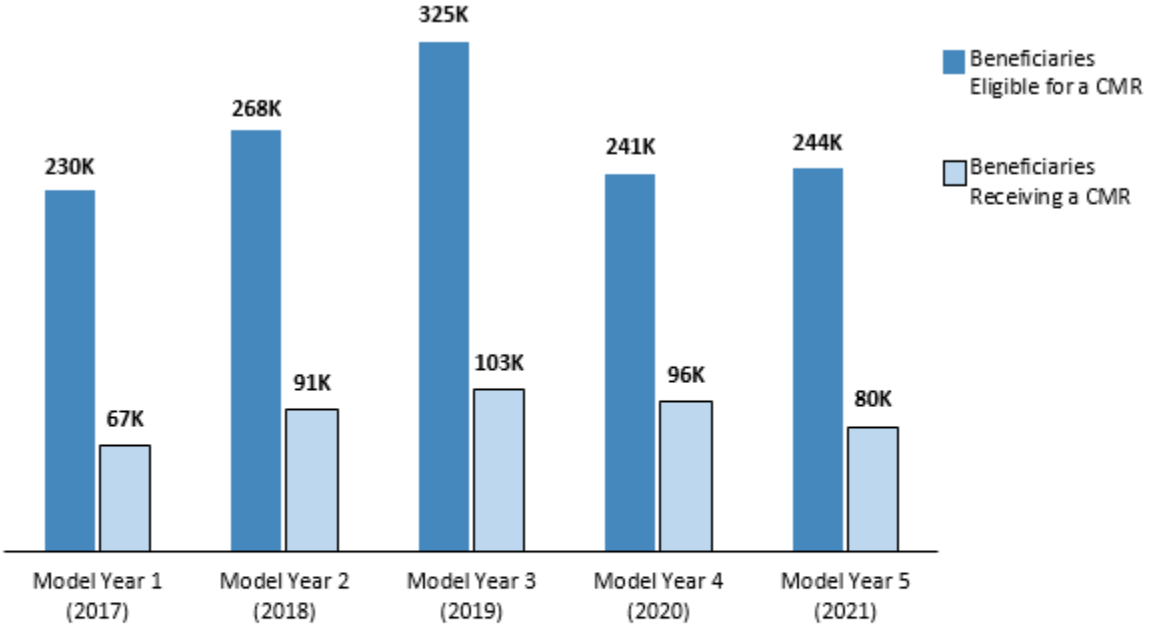
2.3.3 CMR

The CMR is a comprehensive service focusing on identifying and addressing medication-related problems.[44] During Model implementation, CMR receipt rates did not increase substantially. In most Model Years, about a third of beneficiaries who were eligible for a CMR received the service (Figure 2.4). The CMR receipt rate among eligible beneficiaries was lowest in Model Year 1, at about 29 percent, and highest in Model Year 4, the first year of the COVID-19 public health emergency (PHE), at about 40 percent. As previously reported, sponsors indicated that beneficiaries were more likely to respond to outreach and accept CMR services during the PHE, leading to atypically high CMR receipt rates in 2020 (Model Year 4).[45] In Model Year 5, the CMR receipt rate among eligible beneficiaries returned to pre-PHE levels, decreasing from about 40 percent to about 33 percent. This change is consistent with sponsor reports that beneficiary participation in CMRs in Model Year 5 returned to levels consistent with pre-PHE Model Years. The CMR receipt rate among comparison group beneficiaries who were eligible for traditional MTM also decreased between Model Years 4 and 5, from 41 to 36 percent (see Table B.6.12 in Appendix B), following increases in earlier Model Years. Feedback collected from sponsors, beneficiaries, and pharmacy industry stakeholders during Model implementation suggests it may be beneficial to consider when to optimally offer CMRs (*see Spotlight: Use of Comprehensive Medication Reviews (CMRs) in MTM*).

[44] The CMR is a core service in traditional MTM. See Section 1 for additional context.

[45] For further information about the effect of the PHE on Model implementation, please refer to: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Fourth Evaluation Report," April 2022, https://innovation.cms.gov/data-and-reports/2022/mtm-fourth-evalrept.

Figure 2.4: In Most Model Years About a Third of Beneficiaries Who Were Eligible for a CMR Received the Service



Model Year 1 (2017)	Model Year 2 (2018)	Model Year 3 (2019)	Model Year 4 (2020)	Model Year 5 (2021)	
29.2%	33.9%	31.7%	39.8%	32.7%	**CMR Receipt Rate among Eligible Beneficiaries**
3.6%	4.9%	5.6%	5.7%	5.5%	**CMR Receipt Rate among Plan Enrollees**

Sources: CME, MARx, and Enhanced MTM Encounter Data.

Notes: Beneficiaries could decline specific services and, when possible, counts exclude records associated with a service decline or failed outreach attempt. Eligible beneficiaries are those with intervention-specific flags in the supplemental eligbility files received from sponsors. The CMR receipt rate among eligible beneficiaries was calculated using the number of beneficiaries eligible for a CMR as the denominator, and the number of eligible beneficiaries who received a CMR as the numerator. The CMR receipt rate among plan enrollees was calculated using the number of plan enrollees as the denominator, and the number of beneficiaries who received a CMR as the numerator. Humana discontinued its CMR in Model Year 4. This change contributed to the Modelwide decrease in the number of beneficiaries eligible for a CMR in Model Years 4 and 5. Roughly 50,000 Humana beneficiaries were CMR-eligible in Model Years 1 through 3.

SPOTLIGHT

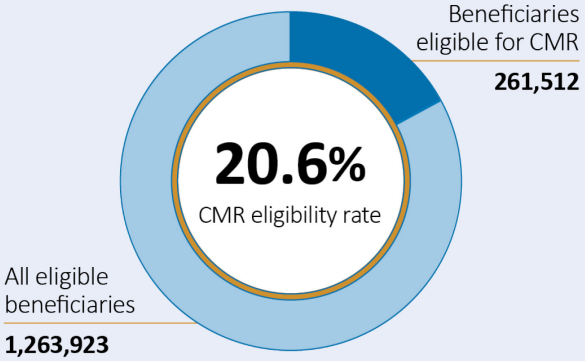
Use of Comprehensive Medication Reviews (CMRs) in MTM

The CMR is a comprehensive service that consists of a pharmacist systematically reviewing a beneficiary's medication regimen, and identifying and developing a plan to address medication-related problems. By addressing these problems, CMRs are expected to improve medication use and health outcomes. They are a required traditional MTM service for all eligible beneficiaries on an annual basis. Based on implementation trends from the Model, sponsors moved away from the idea of a CMR as the core MTM service under the Model, and instead offered this service to only a subset of eligible beneficiaries.

Feedback from beneficiaries and pharmacy industry stakeholders highlights their interest in understanding when to optimally offer CMRs. Interviews with Model-participating beneficiaries revealed that they did not consistently find value in CMRs, particularly when they perceived that the service was overly repetitive and did not result in medication changes. Beneficiaries reported more positive experiences when receiving TMRs, which focus on specific, discrete issues, or transitions-of-care services, compared to CMR services.

Over the course of the Model, none of the sponsors offered a CMR for all their interventions. Moreover, only about 20 percent of Enhanced MTM-eligible beneficiaries were ever eligible for a CMR, though the Model targeted a much larger proportion of plan enrollees than traditional MTM. CMR receipt rates also did not increase substantially over the course of the Model.

Average CMR Eligibility Rate Over Five Model Years



Use of Comprehensive Medication Reviews (CMRs) in MTM

Taken together, the perspectives of beneficiaries, sponsors, and pharmacy industry stakeholders provide insights into the requirement to offer CMRs as an MTM service for all eligible beneficiaries. Based on these perspectives, CMRs may be particularly effective when offered discriminately to different, narrowly defined subsets of beneficiaries. Such beneficiaries may include those with new medications, medication changes, recent health changes, or other clinically meaningful events. Such events are not currently part of the traditional MTM targeting criteria for CMRs.

Beneficiary feedback, as well as sponsor experiences, also highlight a need to more effectively communicate to beneficiaries the potential benefit of a CMR, including discussing how a CMR fits with other care they receive. In addition, pharmacy industry stakeholders indicated that the current Part D Star Rating CMR completion measure may create an unintended consequence of "check-the-box" CMRs that do not create value to beneficiaries and are not clinically meaningful.*

* The Centers for Medicare & Medicaid Services (CMS) publishes Part D Star Ratings that assess the quality of a plan based on numerous performance measures, including a CMR completion measure.

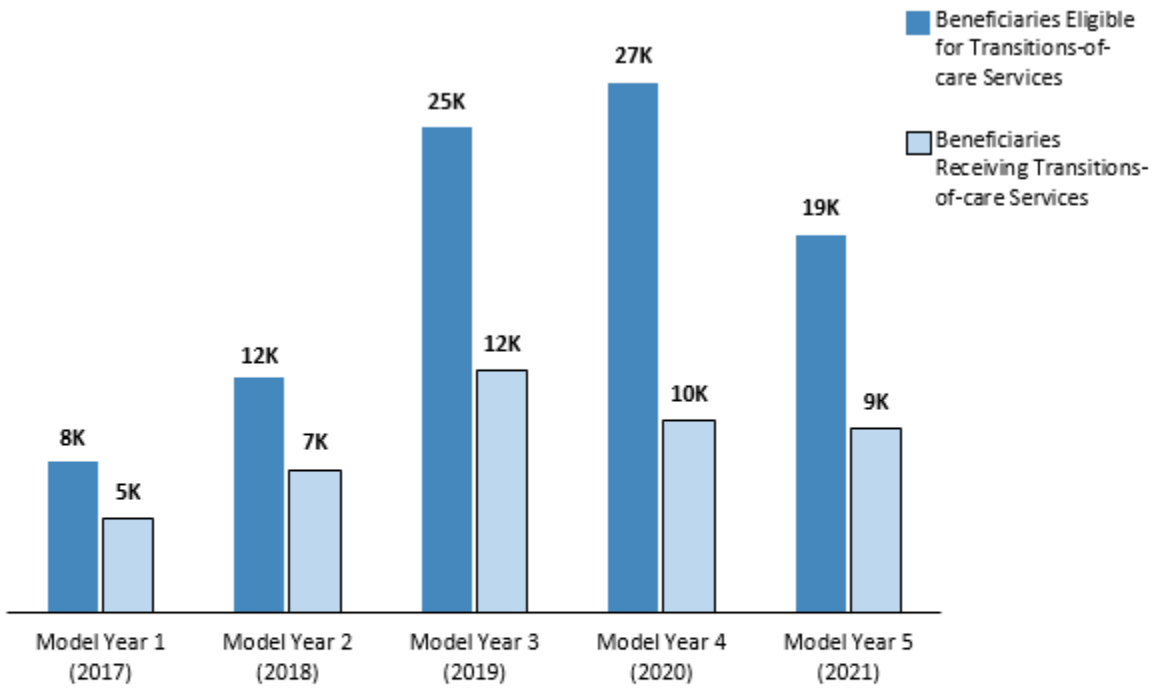
2.3.4 Transitions-of-Care Services

According to beneficiaries and sponsors, MTM services are the most useful when they address issues that are priorities for a beneficiary and are offered at the right time rather than at prescribed time intervals. As such, certain events, such as a hospital discharge, a newly prescribed medication, or changes to medications or adherence should trigger MTM services.

Sponsors used the term "clinically sensitive" or "clinically meaningful" times to describe such events. One example of such a clinically meaningful time is a transitions-of-care event. Sponsors offered transitions-of-care services to beneficiaries who were discharged from the hospital. These services were designed to identify and address potential medication issues arising from medication changes made during hospitalization. High receipt rates for transitions-of-care services under the Model further support the idea that there is particular value for beneficiaries in receiving an MTM service following a transition of care. Though Modelwide eligibility for transitions-of-care services was low relative to other types of significant services, Modelwide transitions-of-care service receipt rates were consistently higher than receipt rates for other select significant services over the course of the Model. In four of the five Model Years, the transitions-of-care service receipt rate among eligible beneficiaries was around 50 to 60 percent (Figure 2.5). Receipt rates for other types of significant services were typically between 20 and 40 percent.[46]

[46] In Model Year 5, the transitions-of-care service receipt rate among eligible beneficiaries returned to a level similar to Model Year 3 (49 percent vs. 50 percent) following a substantial dip in Model Year 4 (36 percent), the first year of the PHE.

Figure 2.5: Throughout the Model's Implementation, Transitions-of-care Service Receipt Rates Were High Relative to Other Types of Significant Services, at about 50 Percent



62.0%	60.6%	50.0%	36.3%	48.6%	**Transitions-of-care Service Receipt Rate among Eligible Beneficiaries**
0.3%	0.4%	0.7%	0.6%	0.6%	**Transitions-of-care Service Receipt Rate among Plan Enrollees**

Sources: CME, MARx, and Enhanced MTM Encounter Data.

Notes: Beneficiaries could decline specific services and, when possible, counts exclude records associated with a service decline or failed outreach attempt. Eligible beneficiaries are those with intervention-specific flags in the supplemental eligibility files received from sponsors. The transitions-of-care service receipt rate among eligible beneficiaries was calculated using the number of beneficiaries eligible for a transitions-of-care service as the denominator, and the number of eligible beneficiaries who received a transitions-of-care service as the numerator. The transitions-of-care service receipt rate among plan enrollees was calculated using the number of plan enrollees as the denominator, and the number of beneficiaries who received a transitions-of-care service as the numerator. In Model Year 5, Humana stopped using HIE data to identify beneficiaries who were eligible for transitions-of-care services, which led to a decrease in the Modelwide number of beneficiaries who were eligible for transitions-of-care services in Model Year 5.

2.3.5 Adherence Services

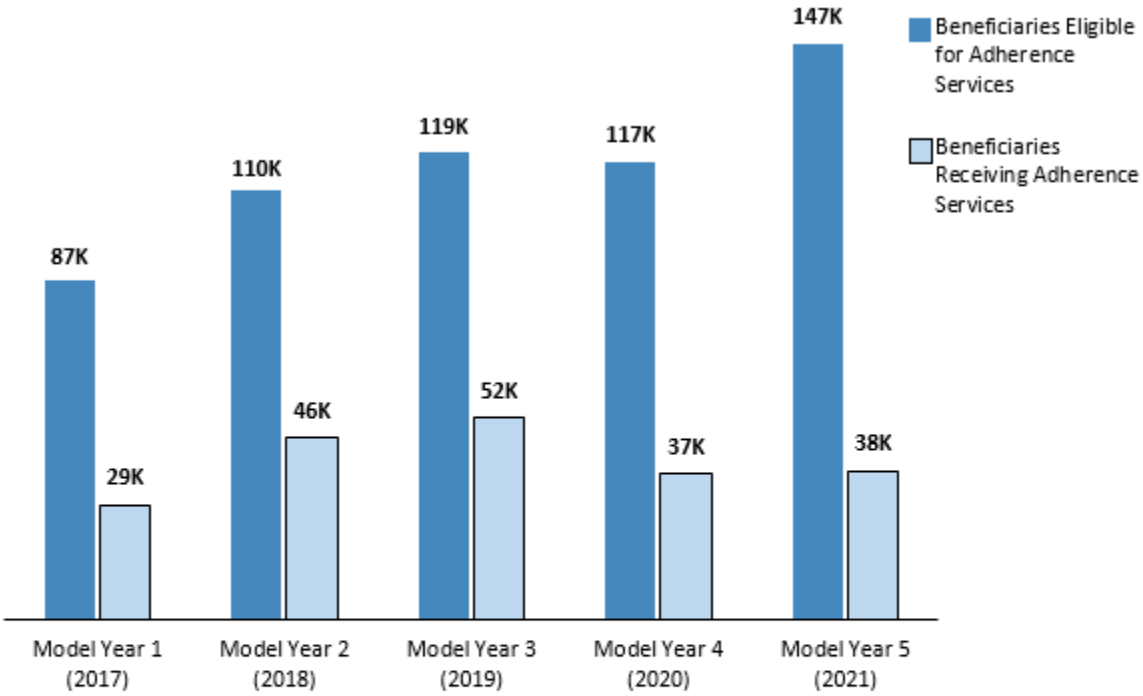
As noted in Section 2.1, multiple sponsors viewed adherence interventions and corresponding services as being particularly promising in terms of impact and cost savings. Medication adherence services investigate and address beneficiary non-adherence or risk for non-adherence to medications. These services may also involve educating new medication users about the importance of their medication. Though sponsors perceived good opportunity for medical cost savings through adherence interventions and services, during interviews with the evaluation team, pharmacy industry stakeholders questioned the value of these types of services since medication adherence is generally already high among Medicare beneficiaries.[47] Modelwide medication adherence service receipt rates did not increase over time. Instead, receipt rates for adherence services waned in the later years of the Model, with notable decreases occuring in Model Years 4 and 5 (Figure 2.6).

The factors contributing to the decrease in adherence service receipt rates in the later Model Years are unclear and not explained by implementation changes. Factors related to the PHE, such as temporary delays in accessing medications that did not reflect true medication non-adherence, could have affected adherence service receipt rates in Model Years 4 and 5. There was a nearly 30 percent increase in the number of beneficiaries who were eligible for an adherence service in Model Year 5 that was attributable to UnitedHealth's medication adherence intervention. However, this increase did not result in higher overall adherence service receipt rates in that Model Year, because UnitedHealth did not have a corresponding increase in the number of completed adherence services following the increase in the number of beneficiaries eligible for such services (see Appendix Table B.6.15).[48] These Modelwide adherence service receipt trends, along with perspectives from sponsors and pharmacy industry stakeholders, suggest that refinement of adherence interventions and services, such as focusing on adherence in the context of chronic condition management, could be beneficial.

[47] Analyses of Enhanced MTM impacts on medication adherence outcomes corroborate the fact that adherence to medications was high among beneficiaries enrolled in Enhanced MTM plans. About 80 percent of beneficiaries in Enhanced MTM plans were highly adherent to statins, RASAs, or oral antidiabetic medications prior to their exposure to the Model. These findings are discussed in more detail in Section 3.

[48] Beneficiary eligibility for this intervention more than doubled in Model Year 5 relative to Model Year 4, increasing from about 26,000 beneficiaries to 55,000 beneficiaries. UnitedHealth reported that this change was due to an increase in beneficiaries who qualified as late to refill their medications.

Figure 2.6: Adherence Service Receipt Rates among Eligible Beneficiaries Peaked in Model Year 3, then Declined to Their Lowest Levels in Model Year 4 and Model Year 5



Model Year 1 (2017)	Model Year 2 (2018)	Model Year 3 (2019)	Model Year 4 (2020)	Model Year 5 (2021)	
33.9%	42.4%	43.5%	31.7%	25.9%	**Adherence Service Receipt Rate among Eligible Beneficiaries**
1.6%	2.5%	2.8%	2.2%	2.6%	**Adherence Service Receipt Rate among Plan Enrollees**

Sources: CME, MARx, and Enhanced MTM Encounter Data.

Notes: Beneficiaries could decline specific services and, when possible, counts exclude records associated with a service decline or failed outreach attempt. Eligible beneficiaries are those with intervention-specific flags in the supplemental eligibility files received from sponsors. The adherence service receipt rate among eligible beneficiaries was calculated using the number of beneficiaries eligible for an adherence service as the denominator, and the number of eligible beneficiaries who received an adherence service as the numerator. The adherence receipt rate among plan enrollees was calculated using the number of plan enrollees as the denominator, and the number of beneficiaries who received an adherence service as the numerator.

2.3.6 Beneficiary Outreach Perspectives and Strategies

Sponsor and beneficiary feedback collected over the course of the Model's implementation highlights important considerations regarding the types of services that beneficiaries prefer, and successful strategies for conducting outreach and delivering services to beneficiaries. Two sponsors—BCBS NPA and BCBS FL—offered cost-saving services, and interviews with beneficiaries found that Enhanced MTM services that explored medication cost-savings opportunities or provided cost-savings assistance were particularly valued.

> **"If you offer the same clinical program and services year over year, you end up grabbing the same people, and effectiveness is probably going to wane over time. You have to continually assess and pivot to meet the needs of members."**
>
> Participating Sponsor

Feedback from beneficiaries and sponsors also suggests that beneficiaries whose medication regimens changed very little or not at all since their last service are unlikely to accept repeated MTM services. Moreover, beneficiaries do not want to receive services that are too frequent, duplicative, or result in recommendations that conflict with what their prescribers have told them to do.

Sponsors attempted to better tailor MTM services to beneficiary needs under the Model by not offering all eligible beneficiaries the same set of services. Some sponsors also modified their service delivery approaches to make them more beneficiary-centered, including changing outreach materials and services based on beneficiary feedback and focus groups. Nevertheless, there may be opportunities to make services more responsive to beneficiary needs and preferences, and better coordinated with a beneficiary's overall plan of care. Even in the Enhanced MTM Model, some services were fixed and were offered at prescribed intervals directed by the sponsor or vendor, and not the beneficiary.

The Model was helpful in advancing sponsors' understanding about challenges and successful strategies related to the outreach approaches used to offer services and engage beneficiaries in their provision. Under the Model, outreach was primarily conducted by phone or in the community pharmacy setting. Some sponsors used automated interactive voice response (IVR) outreach, and one sponsor conducted in-home outreach, though this approach was suspended in Model Year 4 due to the COVID-19 PHE . While sponsors did not quantitatively assess and compare the effectiveness of their different beneficiary outreach approaches, there was increasing use

> **"How do you reach members in a way they want to be reached? This needs to be a focus. You need to engage people in a way that they trust."**
>
> Participating Sponsor

of community pharmacy-based outreach over time in an attempt to better reach beneficiaries.

Feedback from sponsors and beneficiaries highlights that beneficiaries are more likely to participate in a service when the service is offered and delivered by a community pharmacist with whom the beneficiary has a longstanding relationship. Trust and familiarity with a community pharmacist are important factors in motivating beneficiaries to accept services. Yet, beneficiaries preferred to complete services by phone and not at the community pharmacy due to privacy concerns, as well as other factors (*see Spotlight: Telephonic Outreach and Service Delivery for MTM*). As such, telephonic outreach by a community pharmacist who has an existing relationship with the beneficiary may be preferable to other outreach approaches.

SPOTLIGHT

Telephonic Outreach and Service Delivery for MTM

There are differing beneficiary perspectives on telephonic outreach and services. Beneficiaries largely prefer MTM services by telephone, because the services are convenient and allow beneficiaries to remain in their homes, where they are comfortable and have access to their medications. Telephonic services also help to overcome transportation barriers for those with mobility issues or living far away from their pharmacy.

Additionally, beneficiaries do not prefer to receive substantive services in person in community pharmacies due to the time required for them to stay at the pharmacy to participate in the service, privacy concerns, and lack of opportunity to ask questions. However, beneficiaries also have concerns with scams and sharing information over the phone, particularly with an unfamiliar provider.

Accounting for beneficiary preferences along with feedback from sponsors, having community pharmacies deliver MTM services by phone may be a preferable beneficiary outreach approach. This approach, however, may not always be feasible, given the other demands of community pharmacists.

Sponsors noted that a hybrid call center and community pharmacy approach was another effective option for delivering services. This, however, requires close coordination between call centers and community pharmacies regarding beneficiary outreach across multiple interventions for which a beneficiary was eligible. Under the Model, some sponsors used community pharmacies for more localized outreach to high-risk beneficiaries who were either unresponsive or unreachable by call center staff, and highlighted this approach as being effective.

SPOTLIGHT

Telephonic Outreach and Service Delivery for MTM

Another strategy may entail having community pharmacists, who may have limited time to deliver a service by phone, use their relationship with a beneficiary to provide an entrée for the call center to deliver the service. Regardless, telephonic outreach by call centers should ideally involve pre-notifying the beneficiary (by letter or another method) of the upcoming outreach and its purpose, to assure the beneficiary of the legitimacy of the outreach and thus encourage his/her participation. Beneficiaries expressed more concern over the legitimacy of outreach when the telephonic outreach was from a call center and not their community pharmacist.

Sponsors also believe that more innovative service delivery methods need to be explored, since they perceive that telephonic interactions are becoming increasingly obsolete. Under the Model, some sponsors implemented alternative approaches to telephonic outreach, such as text messaging and mobile applications, without much success. Other outreach and service delivery modalities, such as virtual (e.g., via telehealth) or home-based (in-person) should be considered, as well as integrating MTM services into other healthcare settings, such as physician offices.

In-person MTM services at community pharmacies may still have an important role in beneficiaries' care, even considering beneficiary preference for telephonic outreach. Some community pharmacies reported success in delivering in-person Enhanced MTM services in tandem with other clinical services, such as providing a service in the pharmacy during the observation period following a COVID-19 vaccine. According to pharmacy industry stakeholders, community pharmacies also represent an important access point for beneficiaries, given their unique reach and frequent interactions with beneficiaries. Additionally, community pharmacists have established relationships with patients and providers that make them well-positioned to have a more direct role in patient care. There is potential to better leverage community pharmacies to not only deliver MTM services, but to also improve equity and access (*see Spotlight: Addressing Access and Advancing Health Equity*).

Another lesson learned from the Model is the limited effectiveness of beneficiary incentives to prompt beneficiary participation in services. Two sponsors tested the effectiveness of beneficiary incentives to prompt service completion and found that these incentives, at least at the levels tested, did not affect service receipt. Both sponsors offered these incentives, which consisted of $10 payments following the completion of a service, such as a CMR or transitions-of-care service, over multiple Model Years. Sponsors reported that beneficiaries who see value in a service will participate regardless of an incentive. Similarly, findings from beneficiary interviews revealed that beneficiaries' beliefs and expectations related to service value were the most common motivators for their participation in Enhanced MTM services.

SPOTLIGHT

Addressing Access and Advancing Health Equity

The Model was not designed to explicitly address health equity and sponsors did not focus particularly on underserved populations. Still, the Model offers lessons and experiences relevant for improving access and advancing health equity. Some sponsors undertook small-scale efforts to address access barriers by offering cost-sharing support and transportation to and from pharmacies for medication pickup for a limited number of beneficiaries.

During interviews with the evaluation team, some beneficiaries reported participating in services specifically because they were interested in cost-savings opportunities. Some sponsors also provided information on local resources to address socioeconomic challenges. For example, BCBS NPA utilized a social worker, who worked with beneficiaries identified as having socioeconomic challenges to address these challenges. Sponsors also undertook efforts, such as having concordant bilingual or multilingual pharmacists assigned to beneficiaries, to address the language barriers of their enrollee populations.

Based on beneficiary interviews, beneficiaries valued services that explored medication cost-savings opportunities or provided cost-savings assistance.

As noted, sponsors expanded use of community pharmacy-based outreach over the course of the Model in an attempt to better reach beneficiaries. Building on this progress and increasingly leveraging community pharmacies can play an important role in improving access and advancing health equity, according to feedback from sponsors and pharmacy industry stakeholders.

SPOTLIGHT

Addressing Access and Advancing Health Equity

Community pharmacies are embedded in beneficiaries' surrounding areas, and beneficiaries visit them frequently to pick up their medications. Community pharmacists also have established relationships with patients and providers. As such, they are well positioned to identify or intervene with high-risk and/or underserved beneficiaries.

Under the Model, some sponsors had success using community pharmacies to provide services to hard-to-reach beneficiaries who were otherwise unresponsive to outreach attempts or unreachable by telephone. Community pharmacies can be used to identify high-risk patients and refer these patients to other healthcare providers or specialty pharmacies, or to deliver patient care services directly.

2.4 How Did Sponsors Support Collaboration between Pharmacists and Prescribers?

Prescriber collaboration with MTM service providers was an ongoing challenge throughout the Model's implementation period, and sponsor efforts to promote better communication with prescribers were largely unsuccessful. Prescribers acted on recommendations derived from MTM services, but felt that sponsors did not understand the medication therapy goals for their patients.

Prescribers are the ultimate decision-makers who can make changes to beneficiaries' prescribed medication regimens. Any medication changes or recommendations derived from an Enhanced MTM service required prescriber review and acceptance. As such, sponsors identifed collaboration with prescribers as a critical area of focus for the Model. Similar to traditional MTM, the Model's sponsors primarily communicated with prescribers by fax after an intervention. Sponsors also deployed different strategies to promote good communication and collaboration with prescribers. This section highlights key implementation experiences and lessons related to collaborating with prescribers as part of Enhanced MTM services.

Overall, sponsors pursued additional prescriber communication strategies because they perceived that sole reliance on fax-based communication did not promote meaningful collaboration with prescribers. However, sponsors largely found these additional communication strategies to be ineffective at prompting more prescriber involvement in Enhanced MTM. Two sponsors offered prescribers the ability to refer beneficiaries for Enhanced MTM services, but prescribers often did not make these referrals. This may have been due to prescribers' competing workload, unfamiliarity with the range of available services, or concerns that the services would not align with a beneficiary's goals of care.

Two sponsors incorporated proactive prescriber outreach, meaning that they reached out to a prescriber before an Enhanced MTM service was offered, to request that the prescriber "endorse" the beneficiary's participation in the service in an effort to increase beneficiary acceptance of MTM services. During interviews, some beneficiaries stated that they did not want a provider outside of their normal care team intervening with their medications, thus suggesting that a presciber endorsement of an MTM service would be useful. However, such endorsements did not often occur, and sponsors noted that this type of outreach was resource intensive. Some sponsors also provided in-person education to prescribers about their Enhanced MTM programs to increase prescriber referrals and responsiveness to pharmacist recommendations, but this education did not produce the intended effect.

Some sponsors reported higher prescriber response rates after having a dedicated pharmacy technician or other staff member fax information to the prescriber following a service and then follow up (by fax and/or phone). Another promising strategy was to dedicate one day each month for Enhanced MTM staff to call prescriber offices regarding pending changes or

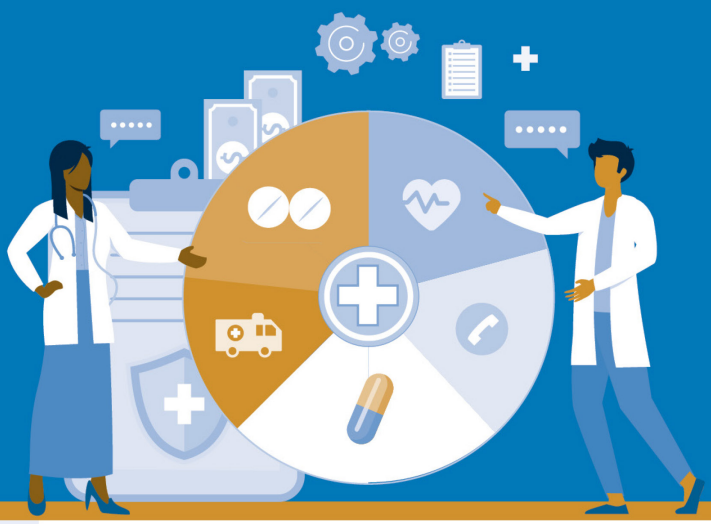
recommendations. Some participating sponsors also implemented online portals in an attempt to share recommendations and action plans electronically with prescribers, but found that prescribers did not utilize these portals at all.

Prescribers had mixed impressions of sponsor involvement in their patients' care.[49] Over three-quarters of prescribers surveyed by the evaluation team who recalled receiving recommendations resulting from an MTM service made changes to their patients' medications based on these recommendations. However, most prescribers surveyed by the evaluation team felt that PDPs did not understand the prescriber's medication therapy goals. These findings indicate that MTM services are generally producing actionable, timely recommendations but highlight a need for these services to better reflect a beneficiary's goals of care and produce recommendations that support these goals (*see Spotlight: Care Coordination and MTM*).

[49] For additional details on findings from the evaluation team's survey of prescribers, please refer to: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Second Evaluation Report," November 2020, https://innovation.cms.gov/data-and-reports/2020/mtm-secondevalrpt.

SPOTLIGHT

Care Coordination and MTM



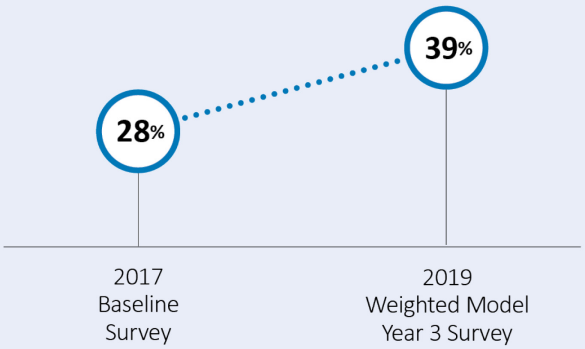
Based on beneficiary survey results, there were significant improvements in beneficiaries' perceptions of care coordination over the course of Model implementation.* These results align with the Model's theory of action and goals to improve care coordination. Even with this progress, care coordination remains an area with opportunity for improvement.

Beneficiary feedback collected via surveys and interviews supports the need for better communication and integration of pharmacy into the care team.

Findings from the beneficiary interviews revealed beneficiaries' uncertainty about how Enhanced MTM services fit within their broader care, suggesting that some beneficiaries may perceive that their care is not being coordinated between their Enhanced MTM provider and other healthcare providers. Some beneficiaries declined services altogether because they did not want to review their medications with anyone other than their own prescriber, and some beneficiaries reported that they still do not view pharmacists or their insurance plans as being part of their healthcare team. These findings suggest that more beneficiary education about the value of MTM may be needed.

Perceptions of care coordination:

Percent of beneficiary survey respondents reporting doctor's office, pharmacy, and PDP always worked as a team



* For further information about the beneficiary survey, please refer to: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Third Evaluation Report" (August 2021), https://innovation.cms.gov/data-and-reports/2021/mtm-thrdevalrept.

In order to address this phenomenon, sponsors and pharmacy industry stakeholders suggest the need for better interoperability and timely two-way exchange of information between MTM providers and prescribers to support care coordination. According to sponsors and pharmacy industry stakeholders, the ability to electronically exchange care plans or other documents that describe beneficiaries' healthcare goals between MTM providers and prescribers could facilitate collaboration. They asserted this would also help ensure that MTM providers' actions and recommendations align with and support any existing care that a beneficiary may be receiving. In turn, it is hoped that such plans would be responsive to both beneficiary and prescriber concerns that MTM providers do not always understand the goals of care.

There is also potential to improve care coordination by embedding pharmacists into outpatient practices. As part of its Model implementation, Humana engaged pharmacists embedded in physician clinics on a limited basis to provide Enhanced MTM services to Humana beneficiaries, and anecdotally reported this strategy to be effective for improving beneficiary participation in services and coordination with prescribers.

Better alignment with MTM services and prescriber performance and payment incentives may help foster better care coordination and a team-based approach. Additional strategies such as leveraging local relationships between prescribers and community pharmacists or embedding pharmacists into outpatient practices could help to optimize MTM services through improved care coordination.

2.5 What Were the Lessons Learned around Using SNOMED CT Codes to Document Enhanced MTM Services?

Sponsors dedicated considerable time and resources to implement SNOMED CT codes and were generally supportive of broader adoption of this coding scheme following the Model's conclusion. Their experiences indicate that new codes are needed to capture the nuances of some MTM services and outcomes. More directive guidance, consensus, and standardization would also be needed before there is a broader adoption of the SNOMED CT coding scheme by MTM programs.

A novel aspect of the Model was requiring sponsors to use SNOMED CT codes to document activities related to Enhanced MTM services. These codes are currently used to document and describe other healthcare and clinical services, but were newly applied to MTM activities under the Model. Sponsors routinely submitted SNOMED CT codes to CMS as part of their Enhanced MTM Encounter Data, and the codes were used to monitor sponsors' Model implementation. The Model provided an opportunity to explore the feasibility of using SNOMED CT codes to document provision of MTM services and related activities. Sponsors' experiences under the Model can be used to inform future considerations related to the broader adoption of SNOMED CT codes by MTM programs (*see Spotlight: Future Use of SNOMED CT to Document MTM*).

Sponsors varied considerably in their approaches to implementing SNOMED CT codes and the level of detail they provided in the Encounter Data. Sponsors were provided with "starter" coding sets from CMS, but were given complete flexibility with how they implemented the codes. Consequently, sponsors had divergent coding approaches. Some sponsors used a more limited set of SNOMED CT codes with a relatively simplistic coding approach (e.g., using one or two codes to document a service). Others chose to be much more detailed. For example, in Model Year 1, sponsors used between 27 and 889 distinct SNOMED CT codes.[50] Most sponsors updated the SNOMED CT codes they used over the course of the Model.

Sponsors' experiences during the Model's implementation demonstrated that implementing SNOMED CT coding is a significant undertaking. WellCare was the only sponsor that had prior experience with using SNOMED CT codes. Sponsors reported investing significant time and resources, even more than expected, to develop and modify their internal applications to be able to use SNOMED CT codes and fulfill the Model's data reporting requirements. Also, because of the novelty of applying SNOMED CT codes to MTM activities, sponsors found that there were no existing SNOMED CT codes for certain services (e.g., for financial or social

[50] For further information, please refer to: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: First Evaluation Report," October 2019, https://downloads.cms.gov/files/mtm-firstevalrpt.pdf.

support services), or that existing codes did not distinguish differences between services offered as part of the Model (e.g., CMRs for transitions-of-care services vs. other types of CMRs), or fully represent sponsors' implementation of the service or concept. According to sponsors, there were also no SNOMED CT codes to document perceived or potential risk of a medication safety event (instead of an actual event), or a recommendation to receive a vaccine (instead of a code for administering a vaccine). Sponsors thought that the starter value sets provided under the Model were useful, but would have benefited from more standardization.

SPOTLIGHT

Future Use of SNOMED CT to Document MTM Services

Sponsors and pharmacy industry stakeholders were generally supportive of the use of SNOMED CT codes to document MTM activities. Sponsors were mixed in their intention to continue using SNOMED CT codes after the conclusion of the Model, but recognized the utility of using SNOMED CT codes. Some sponsors, as well as pharmacy industry stakeholders, advocated for the Model's SNOMED CT code documentation requirements to be used in traditional Part D MTM, indicating that it would be beneficial to have richer service-level data for the traditional MTM program.

Broader adoption of SNOMED CT codes could also create opportunities to better document and understand the value of MTM services. Pharmacy industry stakeholders indicated that SNOMED CT codes could be used to measure quality or value-based care. For example, codes could be used to capture the interventions that pharmacists complete, the outcomes of these interventions, whether medication changes occurred, and whether patients reach clinical goals (e.g., blood pressure or blood test values within a certain range). Such measures, however, would need to be thoughtfully designed to reflect real-world scenarios and compatibility with existing sponsor MTM workflows. For example, when documenting whether a recommendation resulted in a medication change, sponsors reported that the Model's requirements to match specific medication codes (instead of a medication class) to recommendations created unnecessary challenges. Pharmacy industry stakeholders also noted that SNOMED CT codes could be used for quality improvement purposes and to capture and measure outcomes related to health equity and social determinants of health, such as food or housing insecurity.

Lessons learned from the Model

Sponsors' experiences during Model implementation highlight the opportunity for more standardization in the use of SNOMED CT codes. Sponsors advocated for a more refined consensus about which codes to use and the structure of these codes. This consensus will also be a necessary precursor to any future efforts to analyze MTM service-level data using SNOMED CT coding.

2.6 What Were Sponsors' Perspectives on the Model's Prospective and Performance-based Payments?

According to sponsors, the Model's prospective payments enabled them to offer multiple interventions. Sponsors supported the Model's performance-based payments and viewed qualifying for the performance-based payment as the primary metric of their success.

Each Model Year, sponsors received prospective payments to cover the administrative costs associated with implementing their Enhanced MTM interventions. Sponsors viewed these prospective payments as essential to their ability to implement the Model. Sponsors indicated that, without the Model's prospective payments, they would not have been able to offer multiple interventions and to target an expanded population. In other words, according to sponsors, the prospective payments were critical in enabling them to offer customized interventions instead of using uniform targeting criteria and offering the same services to all eligible beneficiaries. The prospective payments provided sponsors with the financial resources to establish the systems, logistics, and partnerships to be able to offer different services to a broader group of beneficiaries.

Another feature of the Model was the possibility for sponsors to qualify for performance-based payments from CMS, if total Medicare Parts A and B expenditures among their enrollees decreased by at least 2 percent relative to a benchmark.[51] Sponsors also supported the Model's performance-based payments and viewed qualifying for these payments as the "goalpost" for their success. From their viewpoint, they were successful in reaching the Model's goals if their participating plans achieved the 2 percent net savings needed to qualify for the performance-based payments. Most sponsors interpreted their receipt of the performance-based payments as an indication of their effectiveness in achieving the Model's saving goals.

Information on Model payments (prospective and performance-based) and actual reported implementation costs over the course of the Model are discussed in more detail in Section 3.4.1.

[51] The methodology to determine eligibility for performance-based payments was separate from the methodology for the quantitative evaluation presented in this report (see Section 3). For more information on performance-based payments and how the benchmark was determined, please see Section 1.

2.7 Key Lessons from Model Implementation

The flexibilities and incentives provided by the Enhanced MTM Model allowed sponsors to implement and test different interventions that would not have been possible under the traditional MTM program. Sponsors and pharmacy industry stakeholders overwhelmingly supported the Model's goals, flexibilities, and efforts to better align Part D plans' interests with savings in Parts A and B expenditures through performance-based payments. Sponsors also indicated that the Model's prospective payments were central to Model implementation, as these payments enabled them to offer customized interventions to an expanded population and change the set of interventions they offered over time to better address the needs of their beneficiaries.

Over the course of the Model's implementation, sponsors took advantage of the Model's flexibilities and pivoted away from the more rigid or narrow beneficiary targeting and service delivery structure of traditional MTM. The targeting criteria that sponsors used to identify beneficiaries who were eligible for their Enhanced MTM interventions differed substantially from and were more expansive than criteria used in traditional MTM. As a result, there were high rates of beneficiary eligibility over the course of the Model.

Sponsors also opted to offer different significant services and frequencies of services to eligible beneficiaries. Unlike traditional MTM, annual CMRs were no longer the primary MTM service under the Model. Humana discontinued its CMR entirely in Model Year 4, and none of the sponsors offered a CMR to all beneficiaries who were eligible for Enhanced MTM.

Collective feedback from sponsors, pharmacy industry stakeholders, and beneficiaries indicated that these targeting and service changes were thought to be better aligned with and customized to beneficiaries' needs. Beneficiaries especially saw value in MTM services when they addressed drug therapy problems, high-risk medications, newly prescribed medications, or cost-savings opportunities.

In particular, sponsors increasingly emphasized interventions and services focused on chronic condition management and transitions of care. Sponsors viewed these types of interventions and services as being the most innovative and promising in terms of cost savings and beneficiary outcomes. These findings align with pharmacy industry stakeholders' perspectives that it may be beneficial to expand MTM to encompass medication management as part of chronic disease management. Multiple sponsors also focused on medication adherence and opioid use, but there was less consensus about using these focus areas for MTM targeting.

Sponsor and beneficiary feedback collected over the course of the Model revealed useful insights into potentially effective strategies for conducting outreach and delivering services to beneficiaries. Sponsors increasingly used community pharmacy-based outreach over time in an attempt to better reach beneficiaries, and findings from the Model indicate that beneficiaries were more likely to participate in services offered and delivered by a trusted community-based pharmacist. This, together with beneficiaries' preference to complete services by phone,

suggests that telephonic outreach by a community pharmacist who has an existing relationship with the beneficiary is a preferable approach. Community pharmacists also have potential to improve equity and access given their unique reach and frequent interactions with beneficiaries.

Another novel component of the Model was requiring sponsors to use SNOMED CT codes to document activities related to Enhanced MTM services. Sponsors varied considerably in their approaches to implementing SNOMED CT codes and the level of detail they provided in the Encounter Data. Sponsors reported investing significant time and resources to implement SNOMED CT codes for MTM service documentation, and that they were generally supportive of broader adoption of the codes beyond the Model's conclusion.

Similarly, pharmacy industry stakeholders urged broader adoption of the codes, indicating that the codes are fundamental to advancements toward interoperability and more standardization of community pharmacist workflow. There is also potential for using SNOMED CT codes to measure the outcomes and value of MTM services in the future, though better consensus and guidance about which codes to use and their structure would need to be fleshed out before their wider adoption by the traditional MTM program.

Challenges related to prescriber collaboration and communication that exist in traditional MTM persisted over the course of the Model's implementation. Sponsors undertook efforts to improve communication with prescribers, including allowing prescribers to refer beneficiaries for Enhanced MTM services, conducting proactive outreach to prescribers, providing prescriber education, and using online portals to communicate with prescribers. These efforts, however, were largely unsuccessful. Both prescribers and beneficiaries expressed concerns about MTM providers not fully understanding beneficiaries' healthcare goals. Some beneficiaries also indicated that they did not want a provider outside of their normal healthcare team intervening with their medications. These perspectives suggest that additional progress is needed to achieve fuller integration of pharmacists into the healthcare team, perhaps through education or improved interoperability. These perspectives also highlight the importance of trust and existing relationships in influencing whether a beneficiary decides to participate in an MTM service.

3 HOW DID THE MODEL IMPACT BENEFICIARIES ENROLLED IN MODEL-PARTICIPATING PLANS?

Section Summary

There were no Modelwide impacts on Medicare Parts A and B expenditures for beneficiaries enrolled in Enhanced MTM plans, neither cumulatively across the five years of Model implementation, nor in Model Year 5. Analyses of impacts for beneficiaries who received significant services under the Model also did not show reductions in either total expenditures or expenditures across healthcare settings.

In addition, there were no Modelwide improvements in intermediate measures of medication use.

Total expenditures decreased for only two of the six sponsors: BCBS FL and Humana. However, these reductions were unlikely to be caused by the Model, because it is unclear how the Enhanced MTM interventions could have led to these impacts for Humana and BCBS FL. For example, there was little evidence of significant improvements on intermediate measures of medication use across enrollees of plans operated by these two sponsors. There were also no decreases in expenditures for the subgroup of beneficiaries who received significant Enhanced MTM services.

The Model generated net losses for Medicare, though the estimate was not statistically significant. The sum of Medicare's prospective and performance-based payments to sponsors was slightly larger than the estimated (non-significant) decreases in Medicare Parts A and B expenditures in Model Year 5 and cumulatively across the five years of Model implementation. Cumulative total estimated net losses were $288.84 million (or $3.07 PBPM).

Throughout the Model's five-year implementation, sponsors designed and continually refined Enhanced MTM interventions to address the specific needs of their beneficiary populations. As discussed in Section 2, sponsors offered services that aimed to optimize medication regimens and improve management of chronic conditions. The services offered under Enhanced MTM interventions were expected to improve beneficiary outcomes, leading to fewer adverse events that require medical care (e.g., ED visits, inpatient hospitalizations, and subsequent post-acute care) and a reduction in downstream medical expenditures (see Section 1.3 for a discussion on the Model's theory of change). Analyses presented in the Fourth Evaluation Report did not find significant impacts of the Model on total gross or net Medicare expenditures for beneficiaries

enrolled in participating PBPs through the fourth year of Model implementation.[52] This Fifth (and final) Evaluation Report updates these analyses with information from Model Year 5, and draws conclusions on cumulative impacts for the entire Model performance period.

Section 3.1 provides brief methodological notes for the estimation of Model impacts on total medical expenditures, followed by a description of the analytic sample in Section 3.2. Next, Section 3.3 presents estimated Model impacts on total Medicare Parts A and B expenditures ("gross expenditures"), and expenditures and utilization by health service delivery setting.[53] This section also discusses potential mechanisms underlying Model impacts, and provides some analytic caveats. Section 3.4 presents Model impacts on expenditures net of Medicare's prospective payments and performance-based payments to sponsors ("net expenditures") to assess net savings or losses to Medicare after taking into account the costs of Model implementation.[54] Finally, Section 3.5 provides conclusions and a synthesis of findings.

[52] Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Fourth Evaluation Report," April 2022, https://innovation.cms.gov/data-and-reports/2022/mtm-fourth-evalrept.

[53] All expenditure and utilization data come from claims information in the Common Working File (CWF; accessed in April 2022), and expenditures were standardized to control for regional differences in the cost of care (due to labor costs and practice expenses). The CWF is the Medicare Part A and Part B beneficiary benefits coordination and pre-payment claims validation system. To adjust for inflation, all expenditures are reported in 2021 US dollars.

[54] Data sources and measure definitions used in analyses are listed in Appendix B.1 and Appendix B.2.3, respectively. The eligibility and service receipt statistics presented in Section 2.2 and 2.3 include all Enhanced MTM-participating plan enrollees in a given Model Year. The treatment group used in impact analyses presented in Section 3.3 includes a matched cohort of Enhanced MTM-participating plan enrollees. Findings on eligibility and service receipt for all participating plan enrollees were similar to findings for the subset of participating plan enrollees included in the matched cohort used in quantitative analyses of Model impacts.

3.1 Analytic Methodology for Estimation of Model Impacts

This report presents findings from analyses of Model impacts on beneficiaries enrolled in Model-participating plans ("all-enrollee analyses"). Model impacts were estimated using a difference-in-differences (DiD) framework that compares outcomes for enrollees of Enhanced MTM-participating plans (the "treatment group") to a comparison group selected using a propensity score matching approach. The methodology for these analyses has been presented in prior evaluation reports and is discussed in Appendix B.2. A list of measures presented in this report and their definitions are included in Appendix B.2.3. Similar to prior evaluation reports, impacts are presented both cumulatively and separately by Model Year. Cumulative estimates leverage information from the entire Model performance period. Estimates specific to a Model Year compare beneficiary outcomes during that Model Year for beneficiaries enrolled in Enhanced MTM plans and their comparison group, relative to a 12-month baseline period prior to their exposure to the Model.

In addition to all-enrollee analyses, this report also discusses findings from analyses of Model impacts for the subgroup of Enhanced MTM plan enrollees who received significant services over the course of the Model's five-year implementation period ("SSR subgroup analyses"). These analyses focus on the subgroup of beneficiaries who were included in the all-enrollee analyses and also received significant services, along with their matched comparators. More information on how the SSR subgroup is defined is included in Appendix B.2.2. Model impacts on this subgroup were estimated using a DiD framework similar to that used in all-enrollee analyses.

Section 3.4 presents estimates of Model impacts on net expenditures for Medicare, i.e., estimates that consider not only Model impacts on Medicare Parts A and B expenditures, but also the cost to Medicare of implementing the Model, including the Model's prospective and performance-based payments to sponsors. The methodology to produce estimates of net expenditures for Medicare has been documented in prior evaluation reports and is also included in Appendix B.2.5 of this report.

3.2 Characteristics of the Analytic Cohort

The treatment and comparison cohorts used in all-enrollee analyses were generally well-matched on observable characteristics such as demographics, health service utilization, medical and drug expenditures, and clinical profiles. Table 3.1 and Table 3.2 present descriptive characteristics for the pooled cohort of beneficiaries enrolled in Enhanced MTM PBPs in 2017-2021 (i.e., the Model's five-year implementation period) and included in analyses of Model impacts, along with their matched comparators. These descriptive statistics correspond to the 12-month period before beneficiary exposure to the Model (the baseline period). Additional details on sample sizes, and figures comparing trends in baseline Medicare Parts A and B expenditures between the treatment group and comparators are presented in Appendix B.2.1.

Treatment and comparison beneficiaries were balanced on baseline demographic characteristics. Beneficiaries in the analytic cohort were more likely to be White and reside in urban areas (Table 3.1). About 37 percent were dually eligible for Medicare and Medicaid during the baseline period, and about 42 percent were eligible for the LIS (Table 3.1).

Baseline healthcare utilization measures, such as inpatient admissions and average expenditures, were also similar between treatment and comparison groups. About 16 percent of beneficiaries had at least one inpatient admission, 4 percent had at least one skilled nursing facility (SNF) stay, and 28 percent had at least one ED visit (Table 3.2). In the baseline year, about 15 percent of inpatient admissions resulted in a readmission to an inpatient setting (Table 3.2). Beneficiaries in the sample used, on average, about four medications concurrently. Average baseline annual expenditures per beneficiary were about $4,000 for Part D and $11,000 for Parts A and B, of which about $3,000 were in the inpatient setting. Based on average Hierarchical Condition Category (HCC) risk scores, Medicare expenditures for beneficiaries enrolled in Enhanced MTM plans and included in all-enrollee analyses were expected to be 13 percent higher than the average among the entire Medicare population in the next year.

Table 3.1: The Treatment and Comparison Cohorts Were Well-matched on Baseline Demographic Characteristics

Characteristics (12 months before exposure to the Enhanced MTM Model; weighted)	Treatment		Comparison	
	Mean	*STD*	Mean	*STD*
Age				
% Below 65 Years Old	23.5	*42.4*	23.6	*42.5*
% 65-69 Years Old	22.4	*41.7*	22.5	*41.7*
% 70-74 Years Old	21.1	*40.8*	21.1	*40.8*
% 75-79 Years Old	14.2	*34.9*	14.1	*34.8*
% 80+ Years Old	18.8	*39.1*	18.7	*39.0*
% Female	58.1	*49.3*	58.1	*49.3*
Race				
% White	82.4	*38.1*	82.4	*38.1*
% Black	9.9	*29.8*	9.9	*29.9*
% Other	7.7	*26.6*	7.7	*26.7*
% Urban	80.0	*40.0*	78.3	*41.2*
% Dually Eligible	37.2	*48.3*	37.4	*48.4*
% with LIS Status	41.6	*49.3*	41.8	*49.3*
% Disabled (Original Enrollment Reason)	31.4	*46.4*	31.6	*46.5*
% with ESRD (Original Enrollment Reason)	0.4	*6.0*	0.4	*6.0*

Sources: CME and Enrollment Database (EDB)

Notes: Number of treatment beneficiaries: 1,601,382. Number of comparison beneficiaries: 3,528,599. STD: standard deviation; LIS: low-income subsidy; ESRD: end-stage renal disease. The "% Disabled" and "% with ESRD" are based on beneficiaries' original reason for Medicare eligibility.

Table 3.2: The Treatment and Comparison Cohorts Were Well-matched on Baseline Health Services Utilization, Expenditures, and Clinical Profile Characteristics

Characteristics (12 months before exposure to the Enhanced MTM Model; weighted)	Treatment		Comparison	
	Mean	*STD*	Mean	*STD*
IP Stays				
% with 0 IP Stays	83.8	*36.8*	83.7	*36.9*
% with 1 IP Stay	11.2	*31.5*	11.3	*31.6*
% with 2+ IP Stays	5.0	*21.7*	5.0	*21.8*
% of IP Admissions with a Readmission	15.0	*35.7*	14.6	*35.3*
SNF Admissions				
% with 0 SNF Admissions	96.4	*18.6*	96.5	*18.3*
% with 1 SNF Admission	2.6	*15.9*	2.5	*15.7*
% with 2+ SNF Admissions	1.0	*9.9*	0.9	*9.7*
ED Visits				
% with 0 ED Visits	72.9	*44.4*	71.8	*45.0*
% with 1 ED Visit	16.9	*37.4*	16.5	*37.1*
% with 2+ ED Visits	10.6	*30.8*	11.3	*31.7*
Evaluation and Management (E&M) Visits				
% with 0 E&M Visits	7.5	*26.3*	6.8	*25.2*
% with 1-5 E&M Visits	35.6	*47.9*	35.4	*47.8*
% with 6-10 E&M Visits	27.6	*44.7*	27.8	*44.8*
% with 11-15 E&M Visits	14.9	*35.6*	15.2	*35.9*
% with 16+ E&M Visits	14.5	*35.2*	14.9	*35.6*
Part D Utilization				
Average Number of Concurrent Medications	3.64	*2.92*	3.77	*2.91*
Expenditures				
Average Total Annual Part D Expenditures per Beneficiary	$3,939	*$12,476*	$4,087	*$13,342*
Average Total Annual Parts A and B Expenditures per Beneficiary	$10,739	*$22,748*	$11,150	*$24,252*
Average Annual IP Expenditures per Beneficiary	$2,931	*$10,942*	$2,943	*$11,277*
Clinical Profile				
Average HCC Risk Score	1.13	*1.13*	1.14	*1.14*

Sources: Prescription Drug Event (PDE) data, Common Working File (CWF), Master Beneficiary Summary File (MBSF)

Notes: Number of treatment beneficiaries: 1,601,382. Number of comparison beneficiaries: 3,528,599. STD: standard deviation; IP: inpatient; SNF: skilled nursing facility; ED: emergency department; HCC: Hierarchical Condition Category.

3.2.1 Characteristics of the SSR Subgroup

Relative to the all-enrollee cohort, beneficiaries in the SSR subgroup had higher expenditures in the baseline period. For example, average baseline annual Parts A and B expenditures were about $1,300 (or 12 percent) higher per beneficiary for beneficiaries included in the SSR subgroup compared to the all-enrollee cohort. Additionally, HCC risk scores were higher for the SSR subgroup beneficiaries than the all-enrollee cohort (1.22 for the SSR subgroup versus 1.13 for the all-enrollee cohort). This is expected, since beneficiaries in the SSR subgroup were among the beneficiaries targeted by participating sponsors for Enhanced MTM services based on their needs and clinical profiles. Detailed information for both baseline clinical and demographic characteristics of the SSR subgroup relative to the all-enrollee cohort is included in Appendix B.2.2.

3.3 Model Impacts for Beneficiaries Enrolled in Enhanced MTM Plans

For the Model as a whole, there were no impacts on gross Medicare Parts A and B expenditures for beneficiaries enrolled in Enhanced MTM plans from Model Year 1 through Model Year 5.

- Changes in Medicare Parts A and B expenditures in each of the five Model Years and for the cumulative five-year Model implementation period were small and not statistically significant.
- There were also no decreases in total expenditures for beneficiaries who received significant services under the Model.

Among individual sponsors, there were generally no impacts on Parts A and B expenditures, except for BCBS FL and Humana. But the estimates for these two sponsors may not reflect causal impacts of the Model.

- Humana and BCBS FL's observed decreases were unaccompanied by significant improvements on intermediate measures of medication use. There were also no decreases in expenditures for enrollees of Enhanced MTM plans operated by BCBS FL or Humana who received significant services.
- Thus, the mechanisms through which Enhanced MTM interventions could have led to the estimated decreases in expenditures for Humana and BCBS FL are unclear.

Across health service delivery settings and for the entire enrollee population, Modelwide decreases in expenditures for inpatient and institutional post-acute care were partially offset by increases in expenditures for outpatient and ancillary services. But these may not represent causal impacts of the Model.

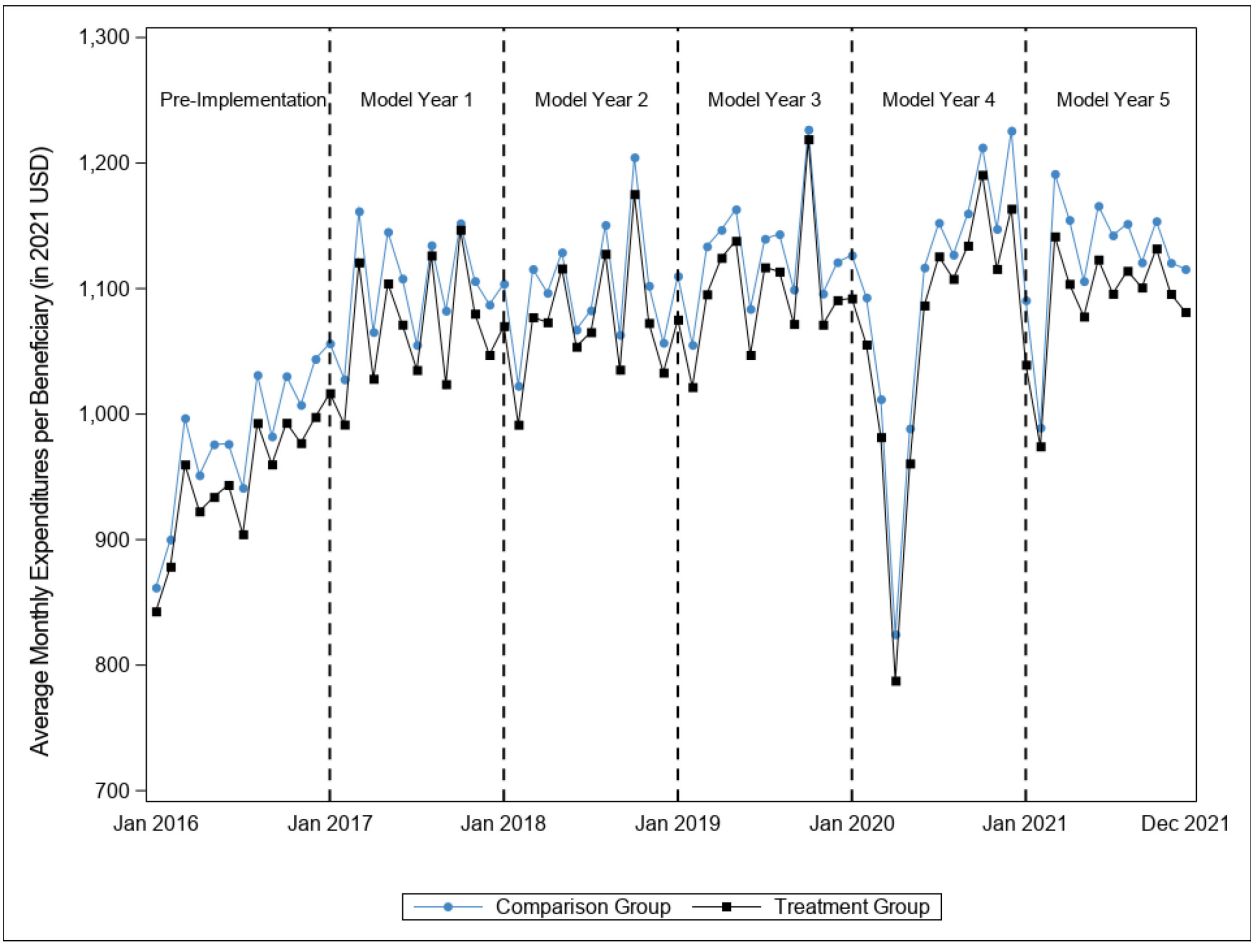
- For the entire enrollee population, inpatient expenditures declined. However, inpatient expenditures did not decrease for beneficiaries who received significant services under the Model. This implies that the all-enrollee decreases in expenditures may not represent the causal impact of Enhanced MTM on inpatient and post-acute care spending for Medicare.

Cumulatively across the five years of Model implementation, there were small and statistically non-significant changes in total Medicare Parts A and B expenditures. Consistent with this overall finding, trends in monthly average gross Medicare expenditures per beneficiary, both before and after Model implementation, were similar across the treatment and comparison groups (see Figure 3.1). Notably, for both the treatment and the comparison group, there were sharp decreases in monthly average expenditures in early 2020, reflecting the disruption in the provision of healthcare caused by the COVID-19 PHE. Expenditures recovered later in 2020, but dropped again in early 2021, potentially due to the continuing impacts of the PHE and renewed

precautions following the spread of new COVID-19 variants.[55] Expenditures recovered again later in 2021, though they remained below their 2020 levels.

This section discusses Model impacts in more detail. Section 3.3.1 presents impacts on total expenditures, and Section 3.3.2 presents impacts on expenditures and utilization for select health service delivery settings. Lastly, Section 3.3.3 discusses analytic caveats and potential confounders for preceding analyses.

Figure 3.1: Trends in Medicare Parts A and B Expenditures Were Similar Between the Treatment and Comparison Groups Both Pre- and Post-Implementation



Source: CWF. Expenditures were standardized to control for regional differences in the cost of care, and reported in 2021 US dollars to adjust for inflation.

Notes: The treatment group consists of beneficiaries enrolled in Enhanced MTM-participating plans. The comparison group was selected using a propensity score matching approach.

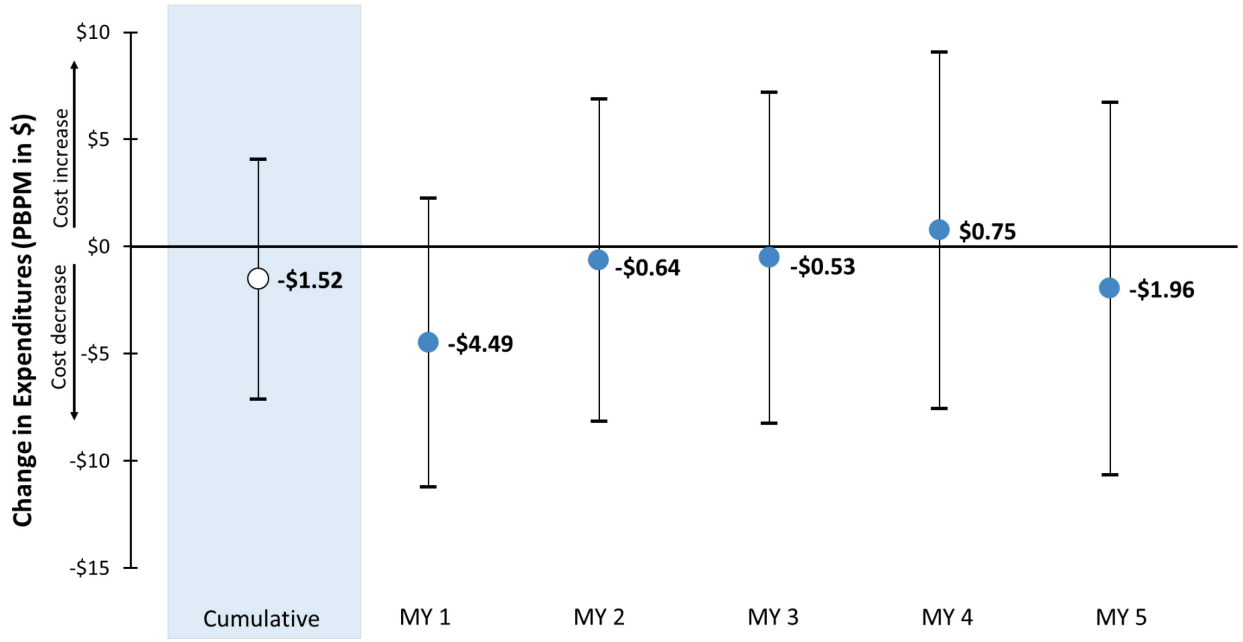
[55] The decrease in expenditures observed in 2021 could also be due to unusually low seasonal flu activity in the 2020-2021 flu season. For more details, see: https://www.cdc.gov/flu/season/faq-flu-season-2020-2021.htm.

3.3.1 Model Impacts on Gross Total Medicare Expenditures

There have been no significant impacts on gross Parts A and B expenditures for Medicare through the fifth year of the Model, cumulatively, or for any Model Year. For the Model as a whole, there was a cumulative decrease in total Parts A and B expenditures for Medicare, which was non-significant and very small (-$1.52 PBPM, corresponding to a 0.16 percent decrease from baseline). In the fifth year of the Model, the estimated decrease in total expenditures was also small and non-significant (-$1.96 PBPM, corresponding to a 0.21 percent decrease from baseline). Figure 3.2 presents DiD estimates of Model impacts on total Medicare expenditures for each Model Year and cumulatively. Appendix B.3.1 presents detailed tables of full estimation results.

There have been no impacts on gross Parts A and B expenditures for Medicare through the fifth and final year of the Model.

Figure 3.2: Modelwide Changes in Parts A and B Expenditures Were Small and Not Statistically Significant



Source: CWF. Expenditures were standardized to control for regional differences in the cost of care, and reported in 2021 US dollars to adjust for inflation.
Notes: MY: Model Year. Points represent DiD estimates. Whiskers represent 95 percent confidence intervals.

As discussed in Section 1.3, the Model's theory of change suggested that Enhanced MTM had the potential to optimize medication-taking behavior and reduce potentially unsafe medication use. Improvements in these outcomes were expected to lead to decreases in Medicare

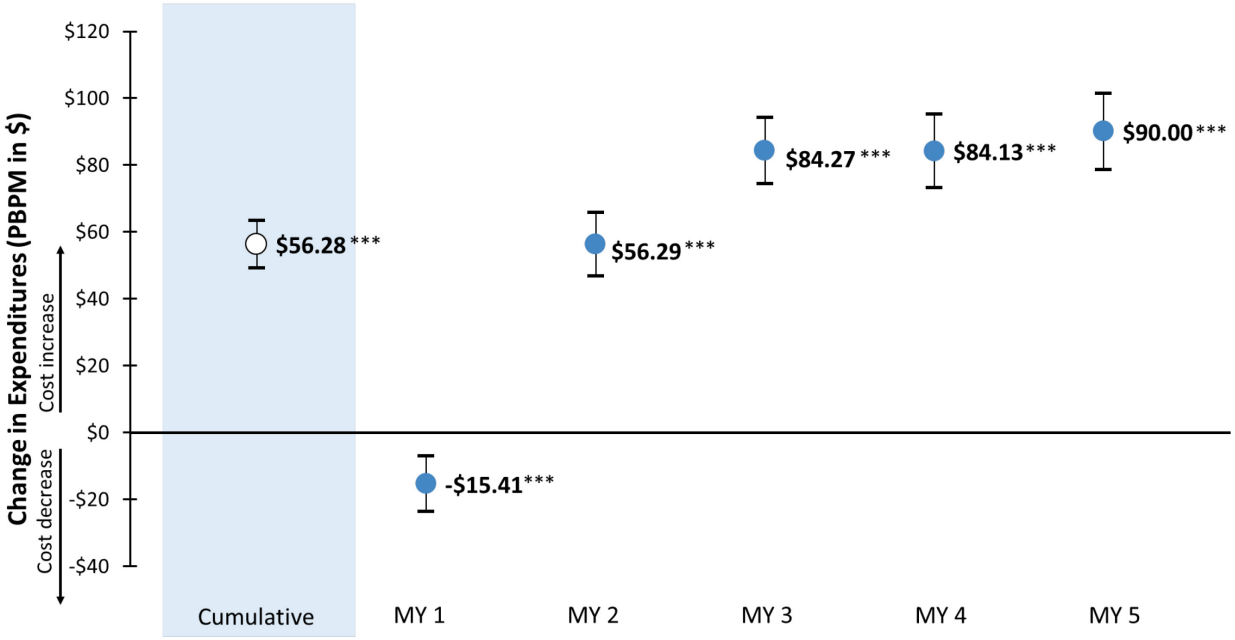
expenditures and related utilization. Consistent with the lack of impacts on Parts A and B expenditures, there is also no evidence that the Model led to cumulative improvements in measures of medication optimization and measures of potentially unsafe medication use among Enhanced MTM enrollees relative to comparators.[56]

Across the five Model Years, rates of high adherence to statins decreased and there were no impacts on adherence to oral antidiabetics (OADs) or on statin use in persons with diabetes (SUPD). The rate of drug-drug interactions (DDIs) increased during the cumulative time period and, for measures of opioid use, estimates were generally positive, indicating higher opioid utilization for Enhanced MTM enrollees. These estimates are driven by faster improvements among comparators, and they do not represent absolute deterioration for enrollees of Enhanced MTM plans. For all measures of medication optimization, there were improvements among Enhanced MTM plan enrollees, but comparators improved by more, potentially because they had lower baseline rates for all medication optimization measures. Similarly, for most measures of unsafe medication use, rates decreased over time for enrollees of Enhanced MTM plans, but they decreased even more for comparators. Appendix B.3.5 presents detailed estimates of medication optimization and potentially unsafe medication use measures.

Since Model impacts estimated across the entire enrollee population should have been driven by impacts on the beneficiary subgroup that received services (SSR subgroup), supplemental analyses focusing on the beneficiaries who received Enhanced MTM services were conducted. As mentioned earlier, this subgroup included beneficiaries whom sponsors determined would benefit most from MTM interventions based on Enhanced MTM's expanded eligibility criteria. However, for the Model as a whole, there were cumulative increases of $56.28 PBPM (5.50 percent from baseline) in gross Medicare Parts A and B expenditures for the SSR subgroup relative to comparators (see Figure 3.3). Appendix B.4 presents the DiD impact estimates for the SSR subgroup across all five Model Years.

[56] The evaluation team conducted analyses of Model impacts on four measures of medication optimization and five measures of potentially unsafe medication use. Medication optimization measures include rates of adherence to statins, oral antidiabetics (OADs), and renin-angiotensin system antagonists (RASAs); and of statin use in persons with diabetes (SUPD). Measures of potentially unsafe medication use include rates of high-risk medication (HRM) use; rates of drug-drug interactions (DDIs); and three measures of opioid use (rates of concurrent use of opioids with benzodiazepines, rates of opioid use at high dosage, and rates of opioid use from multiple providers). Please see the Third Evaluation Report for a more detailed discussion of these measures: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Third Evaluation Report," August 2021, https://innovation.cms.gov/data-and-reports/2021/mtm-thrdevalrept.

Figure 3.3: There Were Increases in Parts A and B Expenditures Cumulatively and in Most Model Years for the SSR Subgroup, Modelwide



Source: CWF.
Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. Each point represents a DiD estimate. Whiskers represent 95 percent confidence intervals.

Overall, these estimates show that expenditures for enrollees of Enhanced MTM plans who received significant services increased relative to comparators during the Model's implementation. However, these estimates are unlikely to represent causal impacts of the Model as there is no mechanism for the Model to increase total expenditures. These findings are also inconsistent with the Model's theory of change. Expenditures for the SSR subgroup increased faster over time than for other enrollees (see Figure B.2.2 in Appendix B), so it is possible that baseline characteristics were not sufficient predictors of these trends. In that case, the comparison group for the SSR subgroup, which was selected based on baseline information, did not aptly capture the change in expenditures over time in the absence of the Model (i.e., "the counterfactual"). This could have occurred, for example, if there were unobservable behavioral characteristics among the SSR subgroup that increased the likelihood of accepting Enhanced MTM services and at the same time drove health-seeking behavior that resulted in increased expenditures over time. Such behavioral characteristics were not taken into consideration in the matching model (because they are not observable), but they may have had important implications for the trajectory of expenditures for the SSR subgroup. Descriptive statistics show that the SSR subgroup had more doctor visits in the baseline period than the all-enrollee cohort as a whole, as well as relative to their matched comparators, which is consistent with health-seeking behavior (but could also be due to worse health overall). While the estimates for the SSR subgroup that show increases in expenditures are not likely to

represent causal Model impacts, there is also no evidence to suggest that the Model improved outcomes for beneficiaries who received significant services.

Sponsor-level Impacts on Gross Total Medicare Expenditures

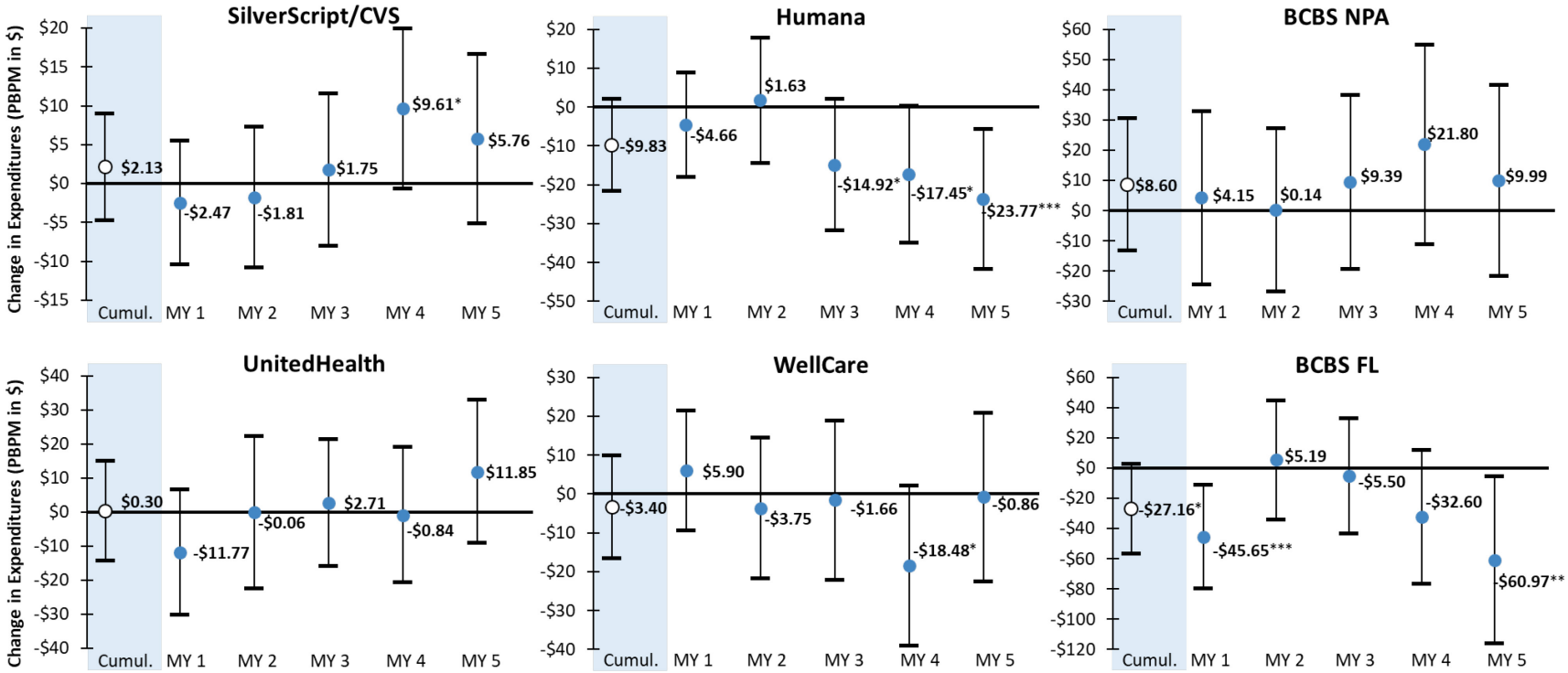
The Model did not have cumulative impacts on gross Medicare Parts A and B expenditures for most individual sponsors, with the exception of BCBS FL. Figure 3.4 presents DiD estimates of Model impacts on total Medicare expenditures by sponsor. Appendix B.3.1 presents detailed tables of sponsor-specific estimates.

Among sponsors, gross Medicare Parts A and B expenditures decreased cumulatively only for BCBS FL. In Model Year 5, gross expenditures decreased only for Humana and BCBS FL.

In Model Year 5, total Parts A and B expenditures decreased relative to baseline only for Humana and BCBS FL. However, as discussed later in this section, these reductions were unlikely to be caused by the Model and it is unclear how the Enhanced MTM interventions could have led to these impacts.

For WellCare and SilverScript/CVS, statistically significant changes in expenditures in Model Year 4 did not persist in Model Year 5. For BCBS NPA and UnitedHealth, there were no significant changes in any Model Year.

Figure 3.4: Across Sponsors, Cumulative Estimates of Model Impacts on Parts A and B Expenditures Were Small and Not Statistically Significant, Except for BCBS FL



Source: CWF. Expenditures were standardized to control for regional differences in the cost of care, and reported in 2021 US dollars to adjust for inflation.

Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. Cumul.: Cumulative; MY: Model Year. Points represent DiD estimates. Whiskers represent 95 percent confidence intervals.

For BCBS FL, there were decreases of $45.65 PBPM (5.20 percent from baseline) in Model Year 1 and $60.97 PBPM (6.93 percent from baseline) in Model Year 5. The estimated expenditure decreases in all other Model Years were not statistically significant. Cumulatively, expenditures for BCBS FL enrollees decreased by $27.16 PBPM (3.09 percent from baseline).[57]

For Humana, there were statistically significant decreases in gross expenditures in Model Year 3 through Model Year 5, ranging from $14.92 to $23.77 PBPM (1.46 to 2.1 percent decrease from baseline). Despite significant decreases in expenditures in the last three Model Years, the estimated cumulative decrease in total expenditures for Humana was not statistically significant.[58]

The mechanisms through which Enhanced MTM interventions could have led to the estimated decreases in expenditures for Humana and BCBS FL are unclear. Though there were some differences in the implementation of and BCBS FL's and Humana's Enhanced MTM interventions relative to other sponsors, the general focus areas of these two sponsors' interventions were not unique to them and shared similarities with other sponsors' interventions. In addition, analyses of impacts on medication use measures did not show meaningful changes for BCBS FL and Humana enrollees, so changes in medication use were unlikely to have driven the estimated decreases in downstream medical expenditures. Finally, analyses of impacts on beneficiaries who received significant services offered by BCBS FL and Humana did not find decreases in Medicare Part A and B expenditures for this subgroup.[59] These findings, discussed in turn below, imply that the estimated decreases in medical expenditures for BCBS FL and Humana may not reflect causal impacts of the Model.

Implementation differences across sponsors could potentially have accounted for larger decreases in expenditures for Humana and BCBS FL relative to other sponsors. Specifically, Humana changed the targeting approach for its Risk-Based intervention and corresponding services in Model Year 4. This included the addition of predictive modeling that identified Enhanced MTM-eligible beneficiaries' risk levels more precisely, to better tailor services to beneficiaries' needs. Humana also discontinued its CMR service in favor of a comprehensive

[57] There were decreases in beneficiary enrollment in the BCBS FL Enhanced MTM plan over time. Relative to the previous Model Year, enrollment decreased by 8.0 percent in Model Year 3, 0.2 percent in Model Year 4, and 6.2 percent in Model Year 5 (Table 1.1). Due to lower enrollment in later Model Years, the cumulative estimate, which aggregates information on estimated impacts across all five Model Years, put more weight on the significant Model Year 1 estimate.

[58] The non-significant cumulative estimate likely results from the large decreases over time in beneficiary enrollment across Model-participating Humana plans. As shown in Table 1.1, among Humana plans enrollment decreased by 11.1 percent in Model Year 3, by 11.3 percent in Model Year 4, and by 14.3 percent in Model Year 5, relative to the previous Model Year. The cumulative DiD estimate aggregates information on estimated impacts across all five Model Years, weighting each Model Year's estimate according to the size of the enrollee population in that Model Year relative to others. In Humana's case, later Model Years, when expenditures decreased significantly, coincided with lower enrollment volumes, resulting in a cumulative estimate that puts less weight on these estimates relative to the first two Model Years.

[59] The Model's theory of change (see Section 1.3) posits that decreases in expenditures caused by the Model are driven by improvements in outcomes for beneficiaries who received Enhanced MTM services.

chronic conditions management service that incorporated multiple follow-up interactions with beneficiaries who were at high risk for drug therapy problems. To increase service receipt rates, Humana offered bonus payments to pharmacies to incentivize service completions. In addition, Humana discontinued its use of call centers and transitioned to community pharmacies, leveraging personal relationships between community pharmacists and beneficiaries, to deliver services. BCBS FL' s implementation of the Model was unique in offering interventions that focused on behavioral health and on certain chronic conditions (e.g., ESRD) or medications (e.g., anticoagulants) that were not directly considered by other sponsors. These implementation aspects are discussed in more detail in Appendix A.

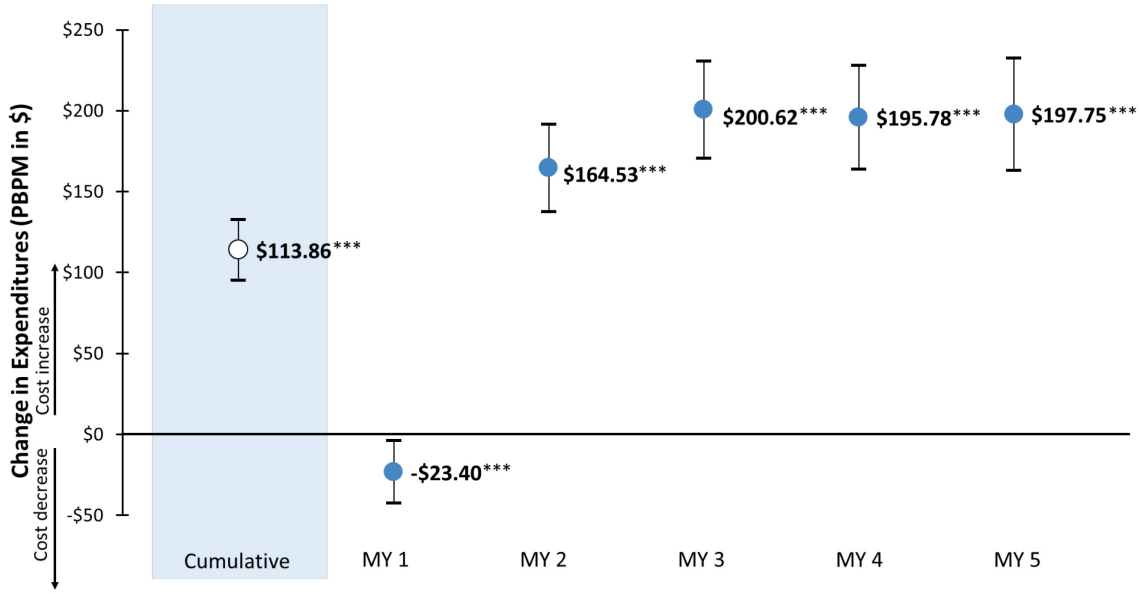
While it is possible that the implementation of Enhanced MTM interventions was more effective for Humana and BCBS FL compared to other sponsors, Humana and BCBS FL were not the only sponsors that targeted chronic conditions, and they were not the only sponsors that utilized community pharmacies to deliver services. Additionally, Humana's intervention changes happened after Model Year 3, when expenditures among its enrollees had already begun increasing. The timing of BCBS FL's interventions also does not align with the expenditure decreases observed in Model Years 1 and 5. For example, its behavioral health intervention began in Model Year 3. Moreover, service receipt rates were not exceptionally high for Humana and BCBS FL relative to other sponsors, so high beneficiary engagement does not provide a compelling explanation of the observed changes in expenditures. In Model Year 5, the rate of plan enrollees receiving significant services was 14.1% for Humana and 22.8% for BCBS FL. For other sponsors, the service receipt rate ranged from 18.0% to 48.1%. It is possible that the quality of the services delivered by these two sponsors, though unobservable in this study, was better relative to other sponsors (e.g., due to better pharmacist training), and this may have been a factor accounting for the observed decreases in expenditures. However, analyses of impacts on intermediate measures of medication use, and analyses of impacts on beneficiaries who actually received services, discussed below, do not provide evidence that the interventions offered by BCBS FL and Humana led to the estimated decreases in medical expenditures for these two sponsors.

Analytic findings on medication use measures were mixed for Humana and BCBS FL, and did not provide a strong link between changes in medication use and changes in expenditure outcomes. For Humana, there was an improvement of 1.07 percentage points in the rate of SUPD in Model Year 5 (1.44 percent increase from baseline), consistent with downstream savings. However, there was also a Model Year 5 decrease of 1.52 percentage points in adherence to OADs (1.98 percent decrease from baseline). For the same time period, the rate of DDIs increased by 0.91 percentage points (23.18 percent increase from baseline), and the rate of high-risk medication (HRM) use increased by 0.30 percentage points (1.93 percent increase from baseline). For BCBS FL, there was an improvement in adherence to RASAs of 1.69 percentage points (2.00 percent increase from baseline). However, there was also a large increase in the rate of concurrent use of opioids and benzodiazepines of 11.55 percentage points (100.31 percent increase from baseline). This substantial increase, as reported previously, was likely not related to the Model, and was the result of a formulary change by

BCBS FL.[60] Increases in the rates of DDIs and HRMs in Model Year 5 were not statistically significant. Appendix B.3.5 presents detailed estimates of medication optimization and potentially unsafe medication use measures. The mixed evidence of impacts on these intermediate measures of medication use does not provide a convincing mechanism that could explain the estimated decreases in downstream medical expenditures for Humana and BCBS FL.

Similar to the Modelwide findings, analyses of Model impacts for beneficiaries who actually received significant services show that there were increases in expenditures for both Humana and BCBS FL. For Humana, there was a cumulative increase of $113.86 PBPM (9.24 percent increase from baseline) in gross Medicare Parts A and B expenditures for the SSR subgroup relative to comparators (see Figure 3.5). For BCBS FL, there was a cumulative increase of $112.52 PBPM (10.81 percent increase from baseline, p-value: <0.001) in gross Medicare Parts A and B expenditures for the SSR subgroup relative to comparators (see Figure 3.6). There is thus no evidence of improvements in expenditures among this beneficiary subgroup relative to their comparators (who were enrolled in plans offering the traditional MTM program), so there is no clear mechanism to account for the estimated decreases in medical expenditures for enrollees of Humana and BCBS FL plans.

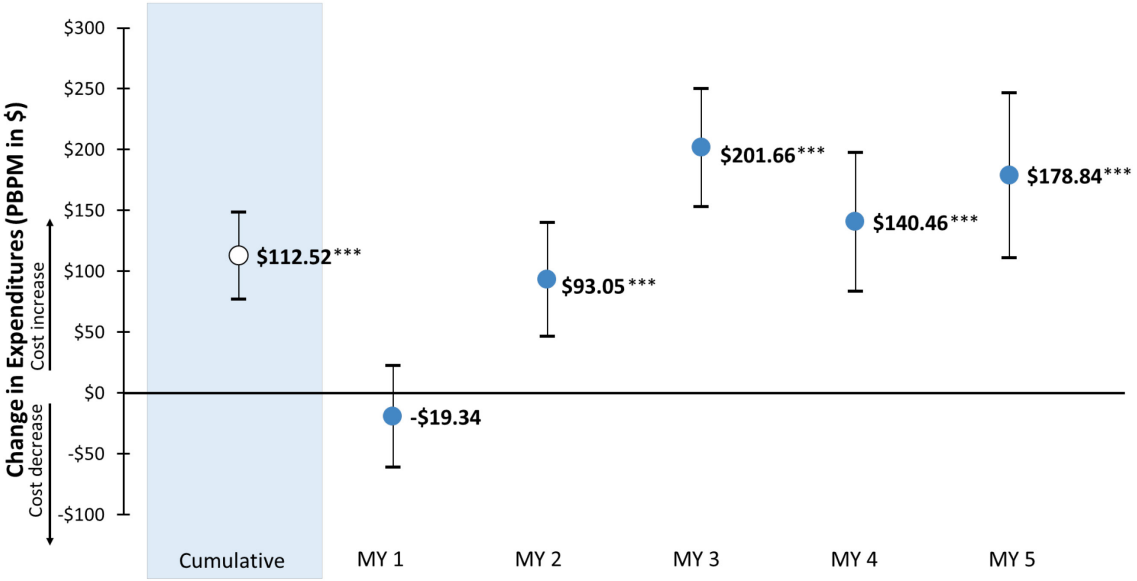
Figure 3.5: Humana: There Were Increases in Parts A and B Expenditures Cumulatively and in Most Model Years for the SSR Subgroup



Source: CWF.
Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. Each point represents a DiD estimate. Whiskers represent 95 percent confidence intervals.

[60] For more details, see discussion in Section 2.5.2 of the Third Evaluation Report: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Third Evaluation Report," August 2021, https://innovation.cms.gov/data-and-reports/2021/mtm-thrdevalrept.

Figure 3.6: BCBS FL: There Were Increases in Parts A and B Expenditures Cumulatively and in Most Model Years for the SSR Subgroup



Source: CWF.

Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. Each point represents a DiD estimate. Whiskers represent 95 percent confidence intervals.

3.3.2 Model Impacts on Expenditures and Utilization for Select Settings

Decreases in expenditures for inpatient and institutional post-acute care settings were offset by increases in expenditures for outpatient and ancillary settings.

Both in Model Year 5 and cumulatively across the full five years of the Model, there were Modelwide decreases in expenditures for inpatient and institutional post-acute care (IPAC) settings, and increases in expenditures for outpatient and ancillary settings for beneficiaries enrolled in Enhanced MTM plans (see Figure 3.7). Appendix B.3.2 presents detailed estimates of Model impacts on setting-specific expenditures across all five Model Years. However, as discussed later in this section, supplemental analyses on the SSR subgroup did not find similar decreases in inpatient and IPAC expenditures, implying that the all-enrollee findings may not represent causal impacts of the Model.

Cumulative inpatient and IPAC expenditures decreased by $6.10 PBPM and $5.47 PBPM, respectively, for all enrollees of Model-participating plans. This represents a 2.13 percent decrease from baseline for inpatient expenditures and a 4.47 percent decrease from baseline for IPAC expenditures. There were cumulative increases in expenditures for ED, outpatient non-emergency, and ancillary services ranging from $1.30 PBPM to $3.76 PBPM, corresponding to a change from baseline between 1.76 and 4.12 percent. Corresponding utilization estimates generally tracked expenditures, though not all of the estimates were statistically significant. (Detailed estimates of Model impacts on setting-specific utilization are available in Appendix B.3.3.)

There were also statistically significant cumulative decreases in inpatient expenditures and inpatient admissions related to ambulatory care-sensitive conditions (ACSCs), which suggest that Enhanced MTM has the potential to affect outcomes related to the management of certain chronic conditions.[61] These findings are consistent with the growing emphasis on chronic condition management in Enhanced MTM, as sponsors added more interventions targeting beneficiaries with chronic conditions and offered related services (see Section 2). Appendix B.3.4 presents detailed estimates of inpatient expenditures and admissions related to ACSCs.

These estimated changes in expenditures and utilization across health service delivery settings are similar to findings from previous evaluation reports and generally consistent with the

[61] Ambulatory care-sensitive conditions are conditions for which inpatient care may be preventable through preventive, primary care or early interventions aimed at reducing further complications or severe disease. For more details, see: Agency for Health Research and Quality, "Guide to Prevention Quality Indicators: Hospital Admission for Ambulatory Care Sensitive Conditions," April 2002, https://www.ahrq.gov/downloads/pub/ahrqqi/pqiguide.pdf.

Model's theory of change.[62] As discussed in Section 1.3, Enhanced MTM services were expected to decrease potentially unsafe medication use and improve health outcomes, reducing preventable hospitalizations and related expenditures. However, as discussed in Section 3.3.1, analyses of Model impacts on measures of medication optimization and potentially unsafe medication found no evidence of improvements in these measures. Therefore, there is no clear explanation for the estimated decreases in inpatient expenditures and utilization.

The estimated increases in outpatient non-emergency, outpatient emergency, and evaluation and management (E&M) visits suggest that beneficiaries increased their interactions with physicians. Enhanced MTM services encourage beneficiaries to follow up with their prescribers and could lead to increased expenditures related to primary care (i.e., outpatient non-emergency and ancillary services). It is possible that the estimated increases in ED expenditures also reflect a rise in demand for non-urgent care in the ED setting.[63] Additionally, Enhanced MTM service providers may have advised beneficiaries to seek emergency care if they were experiencing medication-related problems or side effects, increasing demand for care in this setting.

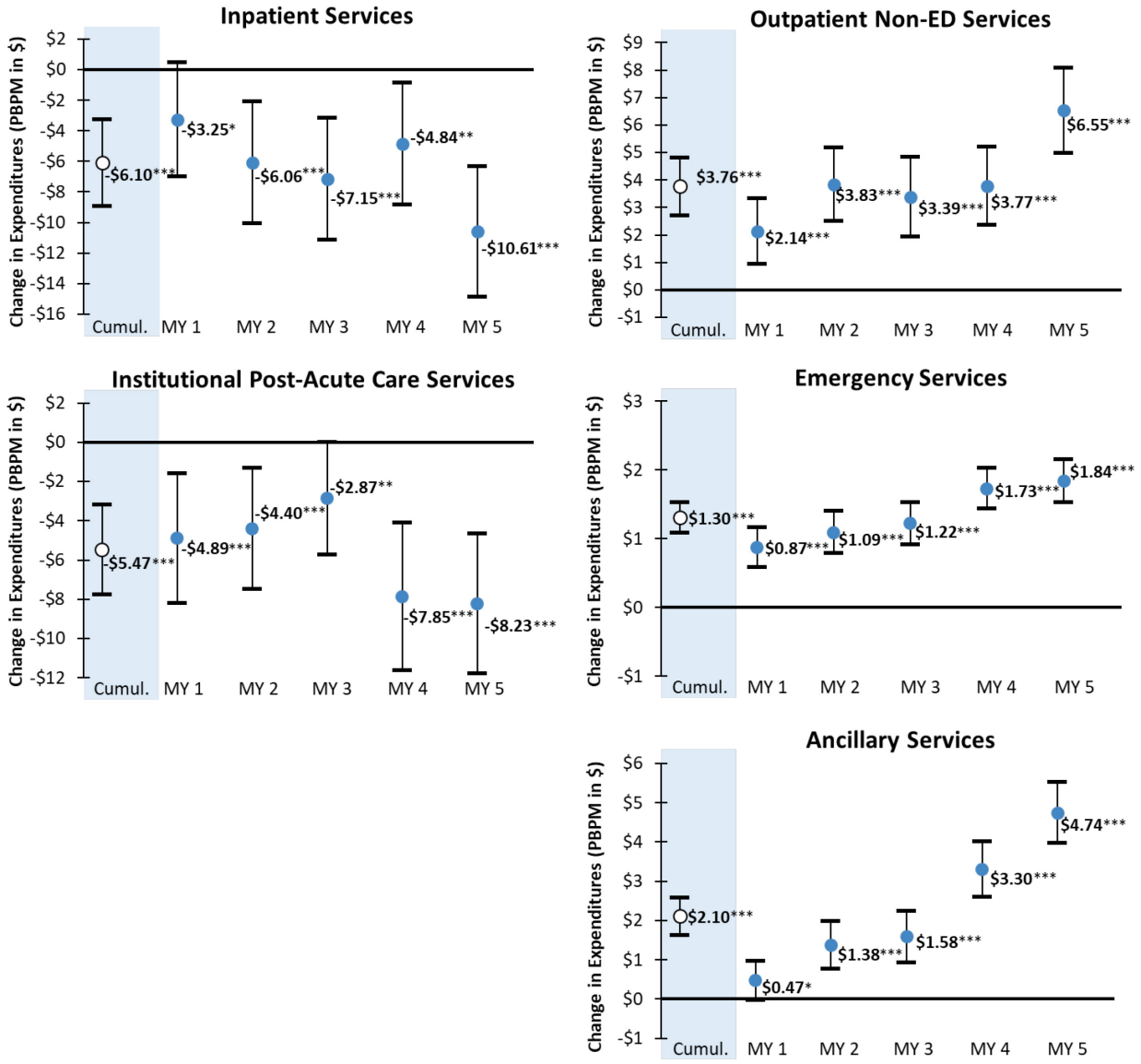
Analyses of impacts on the subgroup of beneficiaries who received significant services showed that there were increases in expenditures and related utilization across all health service settings, as well as for inpatient expenditures and utilization related to ACSCs. (Detailed estimates for the SSR subgroup are presented in Appendix B.4.) These findings, particularly the estimated increases in expenditures and utilization in inpatient and IPAC settings for beneficiaries who actually received significant services under the Model, imply that the all-enrollee estimates are unlikely to reflect causal Model impacts.

Estimated changes in expenditures and utilization in the last two Model Years may, in part, be confounded by the COVID-19 PHE, whose effects may not be fully captured by the comparison group. For example, Modelwide decreases in IPAC expenditures were larger in magnitude in Model Years 4 and 5 (with Model Year 4 coinciding with the onset of the COVID-19 PHE) relative to earlier Model Years. Similarly, decreases in SNF length of stay were larger in Model Years 4 and 5. These larger decreases in the last two Model Years could be confounded by the disruption in healthcare provision due to the PHE, if there was geographic variation in its severity that was not adequately captured by the comparison group. Furthermore, Modelwide expenditures for outpatient non-emergency and ancillary services, along with corresponding utilization estimates, increased in Model Year 5 relative to Model Year 4. This increase could reflect pent-up demand from the first year of the PHE.

[62] See, for example: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Fourth Evaluation Report," April 2022, https://innovation.cms.gov/data-and-reports/2022/mtm-fourth-evalrept.

[63] Kangovi, Shreya, Frances K. Barg, Tamala Carter, Judith A. Long, Richard Shannon, and David Grande. 2013. "Understanding Why Patients of Low Socioeconomic Status Prefer Hospitals Over Ambulatory Care." *Health Affairs* 32 (7): 1196–203.

Figure 3.7: Modelwide Decreases in Expenditures for Inpatient and Institutional Post-Acute Care Settings Were Offset by Increases in Expenditures for Outpatient and Ancillary Settings, Both in Model Year 5 and Cumulatively



Source: CWF. Expenditures were standardized to control for regional differences in the cost of care, and reported in 2021 US dollars to adjust for inflation.

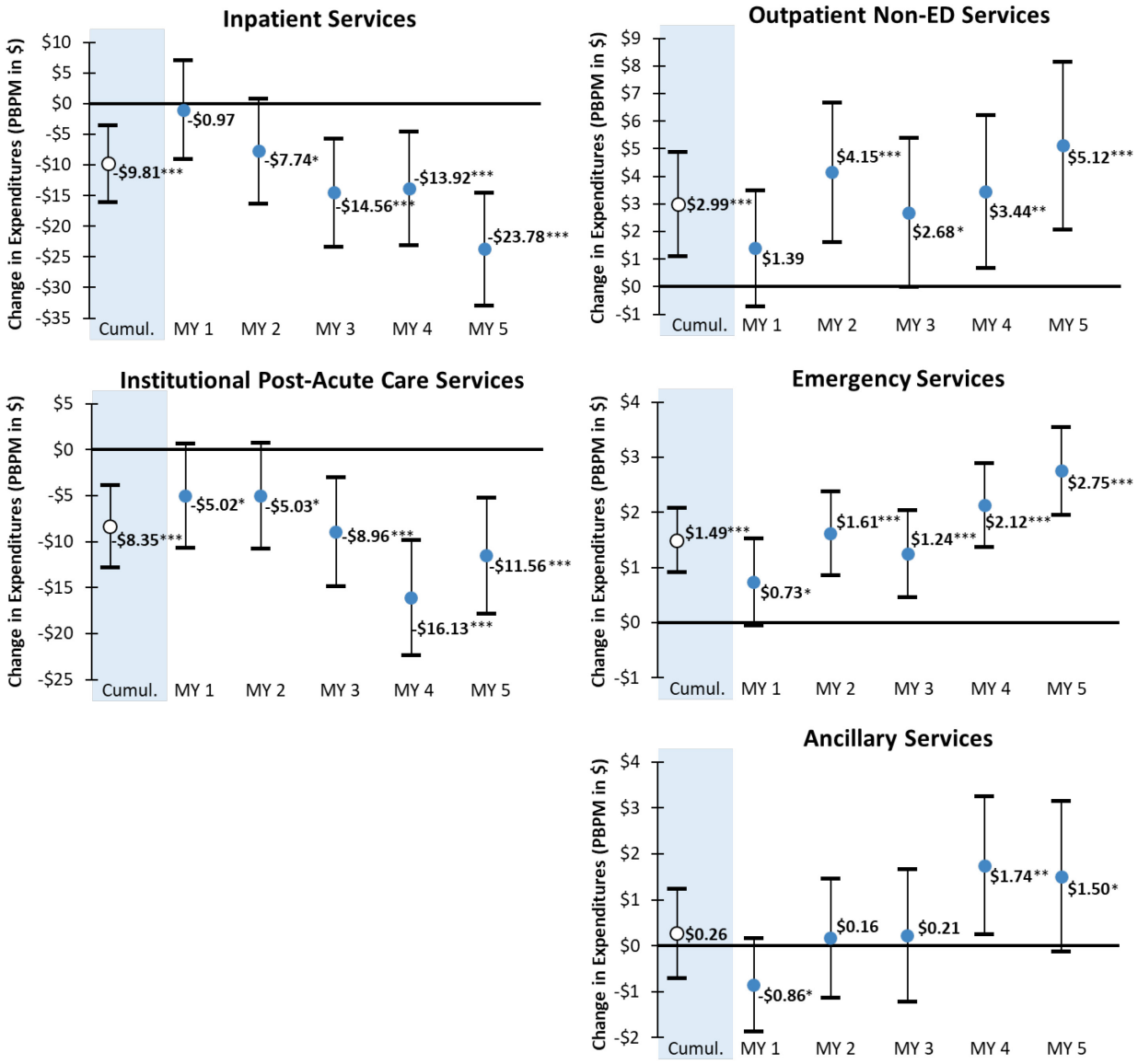
Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. Cumul.: Cumulative; MY: Model Year; ED: Emergency Department. Points represent DiD estimates. Whiskers represent 95 percent confidence intervals.

Sponsor-level Impacts on Expenditures and Utilization for Select Settings

Sponsor-level estimates of expenditures and utilization, including inpatient expenditures and admissions related to ACSCs, generally followed patterns similar to patterns observed for the Model as a whole, including for the two sponsors (Humana and BCBS FL) with estimated decreases in total Part A and B expenditures cumulatively and/or in Model Year 5 (see Section 3.3.1). Detailed findings for the Model's impacts on expenditures and utilization for Humana and BCBS FL are presented in Appendix B.3. For Humana, the significant decrease in total expenditures in Model Year 5 was driven by decreases in inpatient and IPAC expenditures, which offset increases in expenditures for outpatient and ancillary settings (see Figure 3.8). There were also decreases in inpatient expenditures and admissions related to ACSCs for Humana. For BCBS FL, the significant decrease in total expenditures in Model Year 5 was also driven by large decreases in inpatient and IPAC expenditures, but increases in expenditures across other settings were more limited. Specifically, although expenditures for outpatient non-emergency services increased for BCBS FL, expenditures for emergency and ancillary services did not increase, contrary to most other sponsors (see Figure 3.9). There were no impacts on inpatient expenditures or admissions related to ACSCs for BCBS FL in Model Year 5.

As discussed before, these decreases in expenditures and utilization for inpatient settings are not explained by improvements in medication use for enrollees of Humana and BCBS plans. In addition, similar to the Modelwide findings, there were increases in expenditures and related utilization across health service settings for the subgroup of beneficiaries who received significant services offered by Humana and BCBS FL. (Detailed findings for the SSR subgroup are presented in Appendix B.4.) As discussed in preceding sections, these findings imply that the mechanisms driving the decreases in inpatient expenditures and utilization among enrollees of Humana and BCBS FL are unclear, and the estimates are unlikely to represent causal impacts of the Model.

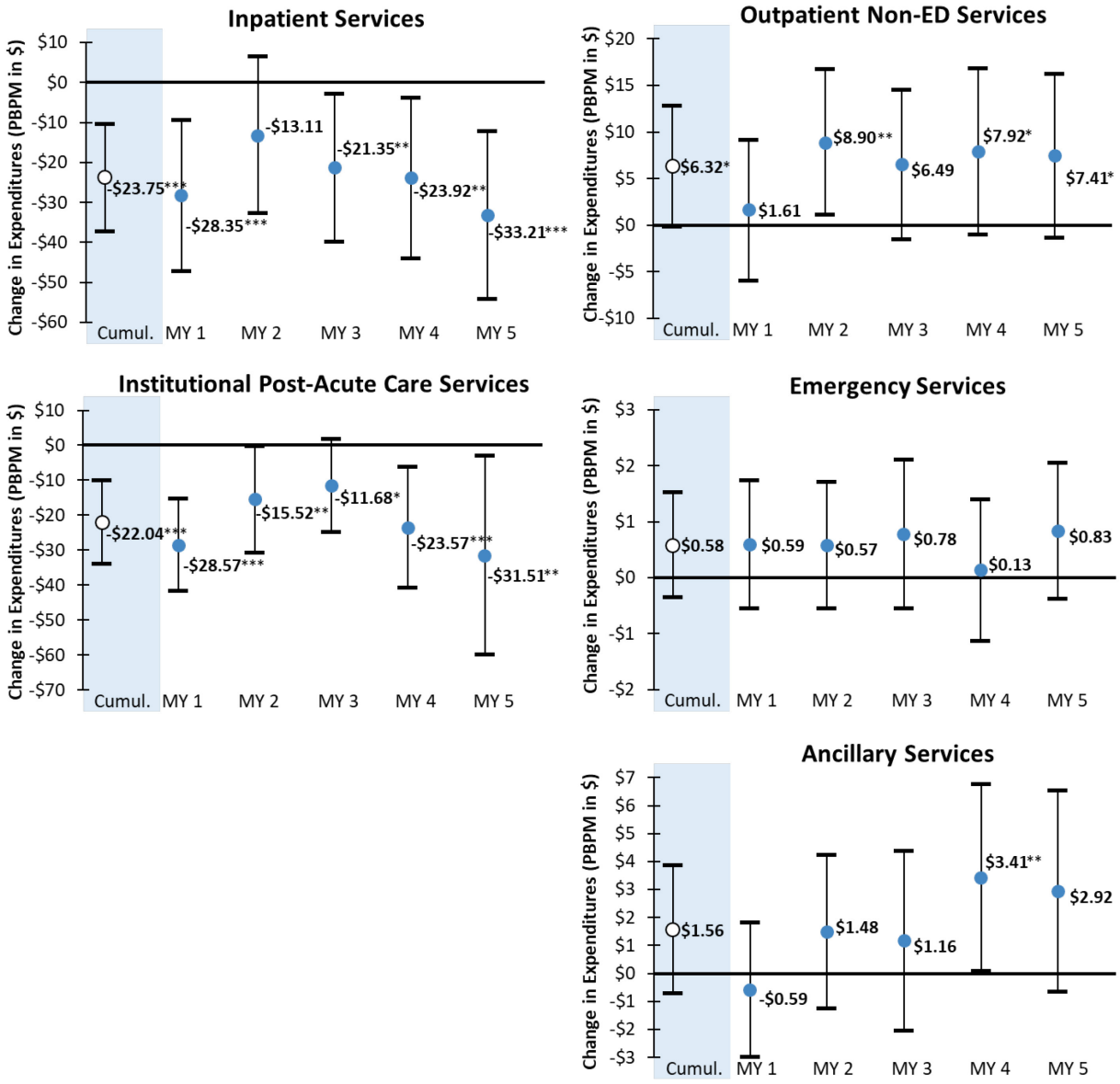
Figure 3.8: Humana: Expenditures by Health Service Delivery Setting



Source: CWF. Expenditures were standardized to control for regional differences in the cost of care, and reported in 2021 US dollars to adjust for inflation.

Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. Cumul.: Cumulative; MY: Model Year; ED: Emergency Department. Each point represents a DiD estimate. Whiskers represent 95 percent confidence intervals.

Figure 3.9: BCBS FL: Expenditures by Health Service Delivery Setting



Source: CWF. Expenditures were standardized to control for regional differences in the cost of care, and reported in 2021 US dollars to adjust for inflation.

Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. Cumul.: Cumulative; MY: Model Year; ED: Emergency Department. Each point represents a DiD estimate. Whiskers represent 95 percent confidence intervals.

3.3.3 Analytic Caveats and Potential Confounders

The estimated impacts on expenditures and utilization presented earlier in this section may have been confounded by unpredictable events and/or regional trends unrelated to the Enhanced MTM Model, which were not fully accounted for by the use of a comparison group. This section discusses three potential confounders: the COVID-19 PHE, overlap in eligibility for other CMS/CMMI initiatives, and the presence of regional trends in expenditures.

The fourth and fifth years of the Model's implementation coincided with severe disruptions in health service delivery due to the onset of the COVID-19 PHE, which led, for example, to decreases in inpatient admissions and cancellations of elective outpatient procedures.[64,65,66] Impact estimates on Medicare Parts A and B expenditures and related utilization could be confounded by the PHE-related disruption if the PHE's impacts varied across geographic areas in ways that were not captured by the comparison group used for each sponsor. For example, it is possible that the PHE disruption occurred earlier and/or was more severe in states where the Enhanced MTM Model was active (e.g., Florida), relative to neighboring states, where comparison groups were drawn from. In that case, impact estimates for Model Years 4 and 5 may reflect the effects of PHE-related disruption, rather than the Model's causal impacts.[67]

Another potential confounder could be due to overlaps in beneficiaries' Enhanced MTM eligibility with eligibility for other CMS/CMMI initiatives, such as the Medicare Shared Savings Program (MSSP). If the treatment and comparison cohorts had different rates of overlap with other initiatives, and if these other initiatives impacted the expenditure and utilization outcomes assessed by the Enhanced MTM evaluation, then it is possible that the impact estimates for the Model reflect the impacts of these other initiatives. Prior analyses conducted by the evaluation team have shown that, while beneficiary exposure to other CMS initiatives was high for beneficiaries included in Enhanced MTM impact analyses, there were similar rates of overlap between the Enhanced MTM treatment and comparison groups. Therefore, overlaps in eligibility for Enhanced MTM and other initiatives are unlikely to be an important confounder

[64] Kazakova, Sophia V., James Baggs, Gemma Parra, Hussain Yusuf, Sebastian D. Romano, Jean Y. Ko, Aaron M. Harris, Hannah Wolford, Ashley Rose, Sujan C. Reddy, and John A. Jernigan. 2022. "Declines in the Utilization of Hospital-based Care During COVID-19 Pandemic." *Journal of Hospital Medicine* July 29:1–6. https://doi.org/10.1002/jhm.12955.

[65] Levy, Joseph F., Kevin Y. Wang, Benedic N. Ippolito, James R. Ficke, and Amit Jain. 2021. "The Impact of the COVID-19 Pandemic on Elective Inpatient Surgical Admissions: Evidence from Maryland." *Journal of Surgical Research* (December) 268: 389–93. https://doi.org/10.1016/j.jss.2021.07.013.

[66] Wong, Lori, Moriah Hollaway, Joseph Sanford, Kevin Sexton, Feliciano Yu, and Hanna Jensen. 2022. "Elective Operations Delay and Emergency Department Visits and Inpatient Admissions During COVID-19." *Surgery in Practice and Science* (September) 10: 100111. https://doi.org/10.1016/j.sipas.2022.100111.

[67] For a more detailed discussion of this potential caveat, please see discussion in Section 2.6 of the Third Evaluation Report: Acumen, LLC and Westat, Inc., "Evaluation of the Part D Enhanced Medication Therapy Management (MTM) Model: Third Evaluation Report," August 2021, https://innovation.cms.gov/data-and-reports/2021/mtm-thrdevalrept.

for the Model's impact estimates. That said, if there were systematic differences in the quality of implementation across regions, it is possible that regions where the Enhanced MTM Model was implemented were impacted by these initiatives differently than regions where the comparison group was drawn from. In that case, impacts of other CMS/CMMI initiatives could have confounded the Enhanced MTM evaluation's estimates.

A third potential confounder could be the presence of strong regional trends in expenditures and utilization for specific settings. In that case, the comparison group may not have been able to adequately approximate changes in expenditures and utilization in the absence of the Model over time (i.e., the "counterfactual"), and DiD estimates would not reflect the causal impact of the Model. The evaluation team produced DiD estimates of Model impacts separately for each PBP participating in the Model to assess whether there were similarities in estimated impacts across all plans active in the same region. There was, indeed, some evidence consistent with regional trends. For example, the evaluation found cumulative decreases in total expenditures across all Model-participating plans active in Virginia, and decreases in IPAC expenditures across all Model-participating plans in Florida and Virginia. These findings are consistent with recent trends in Florida and Virginia, where Medicare spending per enrollee for nursing home care has decreased in the period 2016-2020, whereas it has remained mostly stable for the US as a whole.[68] However, the similarities observed were not consistent across health service delivery settings within the same region, or across all regions for the same healthcare setting. Moreover, specifically in the case of BCBS FL, the estimated impacts are unlikely to be only attributable to a regional trend, because, among all sponsors, the BCBS FL plan was the only Enhanced MTM plan active in Florida with cumulative decreases in total expenditures.

[68] Centers for Medicare & Medicaid Services. 2022. "Health Expenditures by State of Residence." http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/resident-state-estimates.zip. Accessed September 2022.

3.4 Model Payments and Net Expenditures

In Model Year 5 and cumulatively across the five years of Model implementation, the Model generated net losses for Medicare, though the estimates were not statistically significant. Medicare's prospective and performance-based payments to sponsors for the Model continued to be larger than the decreases in Medicare Parts A and B expenditures in the final year of Model implementation.

This section provides information about the prospective payments and performance-based payments provided by CMS to participating sponsors, sponsor-reported actual costs of Model implementation, and estimates of net expenditures for Medicare. Prospective payments were provided by CMS to cover sponsors' projected costs of Model implementation. Performance-based payments were designed to incentivize participating sponsors to improve beneficiary outcomes and reduce downstream medical expenditures. These payments were combined with the estimated impact on gross expenditures to generate estimates of the Model's impact on Medicare's net expenditures.

3.4.1 Enhanced MTM Prospective Payments and Performance-based Payments

CMS provided participating sponsors with PBPM prospective payments to implement their Enhanced MTM interventions. Sponsors provided projected implementation costs to CMS annually, along with the expected number of targeted beneficiaries for each participating PBP and specific intervention. CMS then aggregated this information to determine a total prospective payment amount. For ease of disbursement, CMS computed the prospective payment per all beneficiaries enrolled in the sponsor's participating PBP and not just those targeted for interventions. For example, if a sponsor expected to provide services to 50 percent of beneficiaries enrolled in the PBP, CMS allocated the total projected implementation cost for providing those services on a PBPM basis for all beneficiaries enrolled in the PBP.

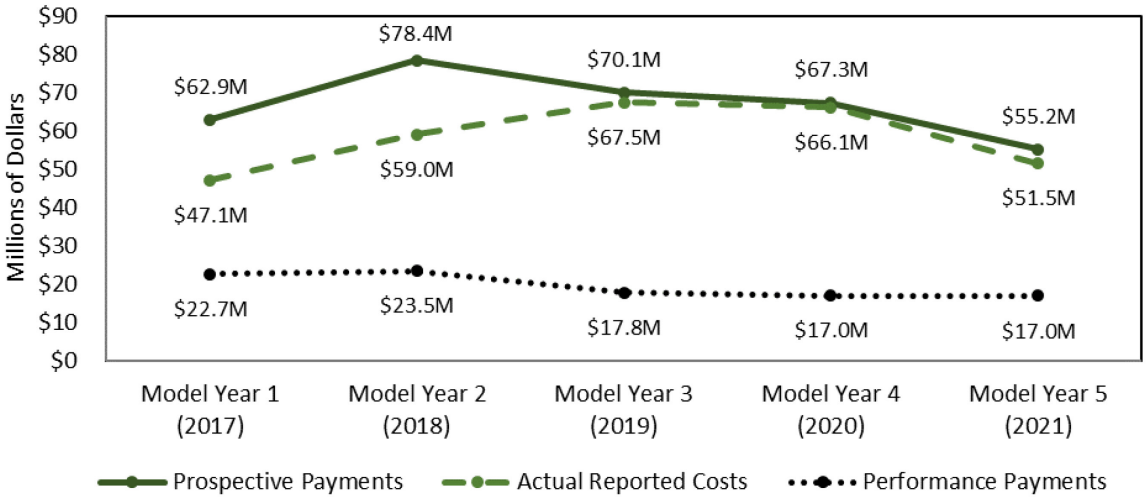
CMS prospectively paid sponsors about $334 million cumulatively, Modelwide, to cover sponsors' anticipated Model implementation costs. About $55 million in total were allocated for prospective payments in Model Year 5 (Figure 3.10). These payments were lower than prospective payments in Model Year 4, which were about $67 million, and lower than any prospective payments in prior Model Years.[69] In each of the five Model Years, sponsors reported spending less for implementation than their prospective payment amounts. Over the course of implementation, actual reported costs converged with the predicted/estimated prospective payments. Sponsors reported actual costs ranging from about 75 percent of

[69] The decrease in total Modelwide prospective payments occurred due to lower beneficiary enrollment among Model-participating PBPs in Model Years 4 and 5, and not as a result of reduced PBPM implementation costs.

prospective payment amounts in Model Year 1 to about 98 percent in Model Year 4, and 93 percent in Model Year 5.

CMS also awarded performance-based payments contingent on identifying a net reduction in Medicare Parts A and B expenditures of at least 2 percent for beneficiaries enrolled in participating PBPs, relative to a benchmark. The performance payment was distributed as a fixed $2 PBPM amount in the form of an increase in Medicare's contribution to the PBP's Part D premium (i.e., an increase in the direct subsidy component of Part D payment), thus decreasing the plan premium paid by beneficiaries. Performance-based payments were awarded with a two-year delay. For example, performance results in Model Year 3 determined eligibility for performance-based payments that were awarded in Model Year 5. Total annual performance-based payments varied across Model Years, ranging from about $17 million to $23.5 million (Figure 3.10), reflecting both changes in eligibility for these payments and changes in plan enrollment.[70] To calculate net expenditures, performance-based payments were attributed to the year in which they were earned, and not the year in which they were awarded.

Figure 3.10: Actual Reported Costs and Prospective Payments Converged, and Total Performance-based Payments Varied over Time



Sources: Data provided by CMS. Participating sponsors submitted Actual Reported Costs to the Enhanced MTM Model's Implementation Contractor annually. Information about which PBPs qualified for performance-based payments was received directly from CMS. Information on PBP enrollment was from the EDB.

Notes: Because performance-based payments were awarded with a two-year delay, Acumen projected enrollment for June through December 2022 (to estimate performance-based payments for Model Year 4 [2020]) and all of 2023 (to estimate performance-based payments for Model Year 5 [2021]). Please see Appendix B.2.5 for additional methodological details.

[70] Out of 22 participating PBPs, 11 received payments due to their performance in Model Year 1, 14 in Model Year 2, 15 in Model Year 3, 14 in Model Year 4, and 14 in Model Year 5.

3.4.2 Model Impact on Net Expenditures

Estimated impacts on gross Medicare Parts A and B expenditures were combined with the payments that CMS makes to sponsors to determine the Model's impact on Medicare's net expenditures. Table 3.3 presents each component of net expenditures, calculated using the methodology described in Appendix B.2.5. Cumulatively, prospective payments were $3.55 PBPM, ranging between $3 and $4 PBPM across Model Years. Performance-based payments were about $1 PBPM in each Model Year. As discussed in the preceding sections, estimated decreases in total Medicare Parts A and B expenditures were relatively small in magnitude and not significantly different from zero in any Model Year.

For the cumulative time period of Model implementation, payments by CMS to sponsors exceeded estimated Model impacts on Medicare Parts A and B expenditures, leading to increases of $3.07 PBPM in net expenditures Modelwide. In Model Year 5, net expenditures for Medicare increased by $2.65 PBPM. Cumulatively across all five Model Years, the total estimated net loss for Medicare was $288.84 million. The estimated changes in net expenditures were not significantly different from zero cumulatively or in any Model Year (Table 3.3).[71]

[71] Changes in net expenditures for Model Years 1, 2, 3, and 4 slightly differ from those reported in the Second, Third, and Fourth Evaluation Reports due to minor updates in the sample populations and underlying data.

Table 3.3: The Enhanced MTM Model Did Not Have a Statistically Significant Impact on Net Expenditures for Medicare

Time Period	Number of Beneficiary-months [N]	Change in Gross Medicare Expenditures PBPM in $ (95% CI) [A]	Prospective Payments PBPM in $ [B]	Performance-based Payments PBPM in $ [C]	Change in Net Expenditures		
					PBPM in $ (95% CI) [D=A+B+C]	Total Annual in $million (95% CI) [N*D]	P-value
Cumulative	*94,090,675*	*-1.52 (-7.12, 4.07)*	*3.55*	*1.04*	*3.07 (-2.53, 8.66)*	*288.84 (-238.07, 814.81)*	*0.282*
Model Year 1 (2017)	20,252,532	-4.49 (-11.24, 2.26)	3.11	1.12	-0.26 (-7.01, 6.49)	-5.31 (-142.02, 131.39)	0.939
Model Year 2 (2018)	20,088,939	-0.64 (-8.16, 6.88)	3.90	1.17	4.43 (-3.09, 11.95)	89.04 (-62.03, 240.11)	0.248
Model Year 3 (2019)	19,914,674	-0.53 (-8.24, 7.18)	3.52	0.89	3.88 (-3.83, 11.59)	77.33 (-76.21, 230.87)	0.324
Model Year 4 (2020)	18,168,975	0.75 (-7.57, 9.07)	3.70	0.94	5.39 (-2.93, 13.71)	97.92 (-53.25, 249.09)	0.204
Model Year 5 (2021)	15,665,555	-1.96 (-10.66, 6.73)	3.52	1.08	2.65 (-6.05, 11.34)	41.46 (-94.83, 177.59)	0.551

Notes: PBPM: per-beneficiary per-month; CI: confidence interval. PBPM changes in net expenditures [D] are calculated as the sum of the estimated change in gross Medicare expenditures [A] and Medicare prospective payments [B] and performance-based payments [C] to sponsors. Negative net expenditures estimates represent net savings and positive estimates represent net losses to the Medicare program. Changes in net expenditures for Model Years 1, 2, 3, and 4 slightly differ from those reported in the Enhanced MTM Model Second, Third, and Fourth Evaluation Reports due to minor updates in the sample populations and updated data sources. The total annual estimate may deviate from the [N*D] manual calculation due to rounding.

3.5 Summary and Synthesis of Model Impacts

Analyses of Model impacts do not provide evidence that the Enhanced MTM Model reduced expenditures or improved health outcomes. Despite increasing eligibility for Enhanced MTM interventions and stable significant service receipt rates over time (see Section 2), there were no impacts on gross or net Medicare Parts A and B expenditures for beneficiaries enrolled in Enhanced MTM plans cumulatively across the five years of the Model, or in Model Year 5. Impacts on intermediate measures of medication optimization and potentially unsafe medication use did not show improvements for enrollees of participating plans relative to comparators. There were significant changes in setting-specific expenditures for the all-enrollee cohort, but these impacts were not driven by findings for beneficiaries who received significant services. Beneficiaries who received significant services under the Model did not experience decreases in total expenditures or expenditures across healthcare settings.

Across individual sponsors, there were no cumulative impacts on gross Medicare Parts A and B expenditures, except for BCBS FL. In Model Year 5, there were decreases in gross expenditures only for Humana and BCBS FL. While there were some differences in Humana's and BCBS FL's implementation of their Enhanced MTM interventions compared to other sponsors, the focus areas of these two sponsors' interventions were not unique to them and are unlikely to account for these findings. Supplemental analyses of intermediate measures of medication optimization and potentially unsafe medication use also do not offer a convincing potential mechanism for the impacts observed for these two sponsors. Findings from these analyses were mixed—there were improvements in some measures of medication use, but deterioration in other measures. Analyses on these sponsors' subgroup of beneficiaries who received significant services found increases in total expenditures and do not explain the observed impacts on the all-enrollee cohort for these sponsors.

Taken together, these findings suggest that the Model has had no significant impact on expenditures. The Model was associated with an increase in net Medicare spending of about $289 million, but that figure was not statistically different from zero. It is possible that estimated impacts on expenditures and utilization may have been confounded by concurrent shocks (e.g., the COVID-19 PHE), overlap in eligibility with other CMS/CMMI initiatives, and the presence of regional trends in expenditures that are unrelated to the Enhanced MTM Model.

4 CONCLUSIONS

The Enhanced MTM Model, which concluded at the end of 2021 after five years of implementation, provided Medicare Part D PDP sponsors with financial incentives and regulatory flexibilities to encourage the provision of innovative MTM services. The financial incentives provided to Part D sponsors included both prospective payments to cover implementation costs, and performance-based payments awarded for reductions in Medicare Parts A and B expenditures of enrollees in Model-participating plans. These regulatory flexibilities allowed sponsors to experiment with innovative targeting criteria to determine beneficiary eligibility, and with a range and frequency of services not typically offered in the traditional MTM program. The Model tested whether these incentives and programmatic flexibilities resulted in decreases in medical expenditures and/or improvements in beneficiaries' therapeutic outcomes.

This Fifth (and final) Evaluation Report provides a comprehensive assessment of Model implementation and impacts covering the entire lifespan of the Model (January 2017 – December 2021). This final section summarizes the evaluation's key findings and offers concluding thoughts. As discussed in prior sections, the Model did not result in significant decreases in medical expenditures for enrollees in participating plans. Additional analyses also found no improvements for the smaller group of beneficiaries who received Enhanced MTM services. Considering the Model's prospective and performance-based payments to sponsors, the evaluation found that the Model resulted in increases in net expenditures for Medicare, though the estimate is not statistically significant.

The mixed-methods evaluation leveraged both quantitative and qualitative data for analyses of Model impacts and the implementation assessment. Medicare claims and Model-specific data were used for the estimation of Model impacts on beneficiary outcomes. In addition, information was collected during site visits and regular calls with sponsors, and interviews with beneficiaries and pharmacy industry stakeholders. The evaluation also conducted surveys of enrollees in Model-participating plans, prescribers serving participating plan enrollees, and the Enhanced MTM workforce (i.e., sponsor and vendor administrative and service delivery staff, and community pharmacies participating in Enhanced MTM). Information from these data collection efforts was synthesized to compile implementation insights and lessons learned, discussed in detail in the preceding sections and summarized below.

The six participating sponsors embraced the Model's flexibilities and offered multiple interventions and expanded eligibility. Each intervention employed specific targeting criteria to determine eligibility, and offered a set of services tailored to beneficiary needs. The Model's prospective payments and flexibilities gave sponsors the opportunity to offer a wide range of interventions. Additionally, throughout the Model's implementation period, sponsors modified their Enhanced MTM intervention offerings, beneficiary targeting criteria, or services, directly affecting both eligibility and service receipt. Even in the final year of Model implementation,

new interventions were added by one sponsor, BCBS FL. Sponsors monitored the effectiveness of their interventions, and retained, added, or modified interventions based on their findings. The Model's performance-based payments provided an incentive for sponsors to offer interventions that were designed to reduce medical expenditures. Sponsor decisions to modify intervention offerings were primarily made with this goal in mind.

As the Model's implementation progressed, sponsors placed growing emphasis on interventions focusing on chronic condition management. This reflects perceptions from sponsors and pharmacy industry stakeholders that comprehensive chronic condition management services can achieve cost savings and improve beneficiary outcomes more than services with a narrow focus on medication-related issues. Prior evaluation analyses found that eligibility and service receipt rates among beneficiaries with chronic conditions were indeed higher than for the entire enrollee population. But there were no expenditure impacts among those with chronic conditions. The analyses found no evidence that the Model affected beneficiaries with chronic conditions differently than other enrollees. Analyses of changes in expenditures and utilization related to the ACSC chronic composite measure also showed impacts of similar or lower magnitude than for the entire enrollee population. In addition, analyses focusing on beneficiaries who received significant services do not show decreases in expenditures and utilization related to the ACSC chronic composite measure.

Another new area of focus for sponsor interventions was transitions of care from an inpatient setting to a beneficiary's home. Many sponsors began using HIE data to identify and target beneficiaries shortly after hospital discharge.[72] Sponsors generally agreed that transitions of care are meaningful times to intervene. Medication regimens often change, so a review of medications could effectively prevent the occurrence of adverse drug events. Beneficiaries also mentioned transitions of care, as well as other instances when medication regimens change as clinically meaningful times to receive outreach for MTM services. Evaluation analyses showed that transitions-of-care services had the highest receipt rates across all types of services offered by the Model. In four of the five Model Years, the transitions-of-care service receipt rate among eligible beneficiaries was about or above 50 percent.

Sponsors and stakeholders overwhelmingly supported the Model's targeting flexibilities. Over the course of Model implementation, beneficiary targeting was a primary area of innovation. Sponsors employed innovative targeting approaches, including risk stratification algorithms and predictive modeling. Sponsors believed that these methods could be more effective than existing traditional MTM targeting requirements at identifying beneficiaries who could benefit from MTM services. Multiple sponsors also targeted beneficiaries based on the presence of drug therapy problems, high-risk medications, or newly prescribed medications. These criteria were positively received by beneficiaries, who found value in services addressing such

[72] Humana was the one sponsor that decided to stop using HIE data to target beneficiaries for its transitions-of-care intervention. Humana discontinued use of HIE data for this purpose toward the end of Model Year 4, and instead relied solely on pharmacists to identify eligible beneficiaries. This approach resulted in a decrease by almost 100 percent in the number of beneficiaries eligible for Humana's transitions-of-care intervention in Model Year 5.

medication-related issues. These approaches resulted in targeting criteria for Enhanced MTM interventions that differed substantially from traditional MTM and were more inclusive. These criteria led to high eligibility rates for Enhanced MTM among Model-participating plans, ranging from 66 to 77 percent of participating plan enrollees, in contrast to traditional MTM eligibility rates between 6 and 10 percent among beneficiaries included in the evaluation's comparison group. As the number of interventions increased, Enhanced MTM eligibility rates also increased over most of the Model's implementation period.

Two targeting focus areas, medication adherence and opioid use, were met with skepticism by pharmacy industry stakeholders and beneficiaries, respectively. Four sponsors (UnitedHealth, WellCare, BCBS FL, and BCBS NPA) implemented interventions targeting medication adherence, primarily centered on medications included in the Part D Star Ratings.[73] Pharmacy industry stakeholders, however, doubted the additive benefit of such targeting because medication adherence is generally already high among Medicare beneficiaries. Evaluation analyses of Model impacts on adherence for statins, RASAs, and OAD medications also did not show improvements for Enhanced MTM enrollees relative to comparators. Stakeholders advocated for adherence interventions to be within the context of broader chronic condition management. Furthermore, interventions focused on opioid use, and implemented by WellCare and BCBS NPA, proved to be resource-intensive and challenging to implement. Specific challenges included patient sensitivity around discussing opioid use with someone other than their prescriber, the effort involved in pharmacist training for these interventions, and the difficulty of reversing existing prescribing practices.

Sponsors offered a range of significant services to beneficiaries, and receipt rates of significant services among eligible beneficiaries were around 39 to 40 percent in most Model Years.[74] The services offered depended on the intervention(s) for which a beneficiary was eligible and included services used in traditional MTM, such as CMRs and TMRs, as well as additional services, such as those focused on medication adherence, chronic condition management, medication costs or social issues, and vaccinations. Sponsors and pharmacy industry stakeholders overwhelmingly supported the Model's service flexibilities versus requiring a uniform set of services and frequency of service provision for all eligible beneficiaries. Additionally, they believed that MTM services are most valuable when they are designed around a beneficiary's needs and offered at clinically meaningful times, rather than at prescribed intervals. For example, feedback suggests that CMRs are seen as particularly effective for beneficiaries with recent changes in their health and/or their medication regimen. Such changes are not currently part of the traditional MTM targeting criteria. Over the course

[73] Star Ratings are published by CMS annually to measure the quality of services offered by Medicare Advantage and Part D plans. More information about the measures used in Star Ratings is available at https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/PerformanceData.

[74] "Significant services" are tailored services intended to address specific beneficiary needs, rather than general, non-tailored outreach (e.g., welcome letters and educational newsletters). This report focuses on the provision of significant services.

of Model implementation CMR receipt rates did not increase substantially. In most Model Years, about a third of beneficiaries who were eligible for a CMR received the service.

The Model provided sponsors with the opportunity to explore new outreach approaches and potential strategies to tackle subsequent challenges related to successfully engaging beneficiaries in MTM service provision. Under the Model, outreach was primarily conducted by phone or in the community pharmacy setting. One sponsor conducted in-home outreach, though this approach was suspended in Model Year 4 due to the COVID-19 PHE. Some sponsors modified their service delivery approaches to make them more beneficiary-centered, including changing outreach materials and services based on beneficiary feedback and focus groups. Two sponsors tested the effectiveness of using beneficiary incentives to prompt service completion. They found that the incentives they offered did not affect service receipt and beneficiaries who see value in a service will participate regardless of an incentive. There was increasing use of community pharmacy-based outreach over time in an attempt to better reach beneficiaries. Based on both sponsor experience and beneficiary perspectives, telephonic outreach by a community pharmacist who has an existing, longstanding relationship with the beneficiary may be preferable to other outreach approaches. However, this approach may not always be feasible, given the other demands on community pharmacists. Findings from beneficiary interviews also revealed that beneficiaries' beliefs and expectations related to the value of a service were the most common motivators for their participation in Enhanced MTM services. Services that explored medication cost-savings opportunities or provided cost-savings assistance, which sponsors offered and expanded over the course of Model implementation, were seen as particularly valuable. As reported in prior evaluation reports, significant service receipt rates among eligible LIS beneficiaries were lower than receipt rates among all eligible beneficiaries, even though their eligibility rates were higher. This corroborates sponsor reports that it is more difficult to contact and complete services with LIS beneficiaries.

Effective collaboration with prescribers remains an ongoing challenge for sponsors, despite various sponsor strategies deployed to improve collaboration between MTM providers and prescribers. Sponsor efforts to promote good communication with prescribers included, for example, offering online portals to electronically receive recommendations and action plans resulting from an Enhanced MTM service, the ability to refer beneficiaries for MTM services, proactive requests to get the prescriber's "endorsement" of beneficiary participation in the service, and in-person education of prescribers on Enhanced MTM interventions. These efforts were largely unsuccessful. One promising strategy for sponsors was to initiate multiple rounds of follow-up with prescribers following a service, regarding any pending medication services or recommendations.

Survey findings suggest that over three-quarters of prescribers who recalled receiving recommendations resulting from an MTM service made changes to their patients' medications based on these recommendations. However, most prescribers surveyed by the evaluation team felt that PDPs did not understand their medication therapy goals. These findings suggest that there is room for improvement in care coordination between MTM providers and beneficiaries' prescribers. Any medication changes or recommendations derived from an Enhanced MTM

service require prescriber review and acceptance, so the success of any MTM program hinges on effective collaboration between MTM providers and prescribers. In that respect, stakeholders suggested that Comprehensive Medication Management (CMM) programs, which integrate pharmacists in beneficiaries' healthcare teams, may provide an alternative framework that could improve care coordination.

The Model required sponsors to document Model services in Encounter Data using SNOMED CT codes. The adoption of SNOMED CT codes was a significant undertaking for sponsors, requiring considerable time and resources to implement. Sponsors were generally supportive of broader adoption of the SNOMED CT coding scheme by MTM programs following the Model's conclusion, but thought that more directive guidance, consensus, and standardization would be needed prior to the wider use of these codes.

Despite the expanded eligibility and service receipt rates in Model-participating plans relative to traditional MTM, analyses have consistently found no significant impacts on gross or net Medicare expenditures for participating plan enrollees. In addition, prior analyses of Model impacts did not identify significant reductions in Medicare expenditures for either LIS beneficiaries or medically complex beneficiaries, two subpopulations who, in theory, could benefit from the Model. Further, there is little evidence of Model impacts on measures of drug-related use and patient safety that could lead to decreases in downstream expenditures and utilization. Among all plan enrollees, estimated cumulative decreases in (gross) Medicare expenditures were very small in magnitude (-$1.52 PBPM, or a 0.16 percent decrease from baseline) and not statistically significant. In the fifth year of the Model, the estimated decrease in total expenditures was also small and non-significant (-$1.96 PBPM, or a 0.21 percent decrease from baseline). Analyses of Model impacts on the subgroup of beneficiaries who received significant services do not show decreases in total or setting-specific expenditures for that subgroup, so there is no evidence that the Model led to the expected impacts for enrollees of participating plans or any subpopulation that could have benefited from its interventions.

Prospective and performance-based payments to sponsors for the Model ($4.59 PBPM) were larger than the estimated (non-significant) decreases in Medicare Parts A and B expenditures (-$1.52 PBPM). The Model, therefore, generated estimated cumulative net losses for Medicare ($3.07 PBPM or about $289 million in total) over its five-year implementation period, though this estimate is not statistically significant.

Among individual sponsors, only two among the six, BCBS FL and Humana, had significant decreases in expenditures cumulatively or in Model Year 5. However, for both sponsors, there is no compelling evidence to support the view that these findings represent the causal effects of the Model. There is mixed evidence of impacts on measures of medication use and drug-related patient safety, and no evidence of decreased expenditures for beneficiaries who received Enhanced MTM services as enrollees of plans operated by these two sponsors. Therefore, the pathways through which Enhanced MTM interventions could have led to the estimated decreases in expenditures for these two sponsors are unclear.

In conclusion, while the Model allowed sponsors to design novel approaches to MTM based on the needs of their beneficiary populations with the support of financial incentives and regulatory flexibilities, the Model has not resulted in reductions in beneficiaries' total medical expenditures, nor has it produced net savings for Medicare. It is possible that the additional services offered by the Model did not generate improvements that were big enough to detect in claims data. Perhaps beneficiaries were less able than expected to make any recommended behavioral adjustments that could improve downstream outcomes. It is also possible that prescribers' limited responsiveness to sponsor efforts to increase collaboration hampered the Model's ability to improve downstream outcomes. Despite the lack of downstream impacts on expenditures, the Model gave sponsors the opportunity to experiment with innovative methods for targeting, beneficiary outreach, service provision, and communication with prescribers, and the lessons learned can inform future efforts to improve MTM programs.