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

November 2020

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Submitted to:
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Centers for Medicare & Medicaid Services (CMS)
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ACKNOWLEDGEMENTS

The authors would like to thank our colleague Jonathan Laks for his programming work. We would also like to thank Maggie Taylor, Angel Haight, and Paul Fanelli for their help with reviewing, editing, and formatting this report. We are also grateful for the support we received from the CMS Evaluation and Model Teams, especially the guidance we received from our former project officer, Thomas Shaffer, and our current project officer, Caroline Ly. We would also like to thank the individuals from the Enhanced MTM Model participating organizations and other stakeholders who contributed information presented in this report.

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LIST OF ACRONYMS

Acronym	Definition
AAPOR	American Association for Public Opinion Research
ADE	Adverse Drug Event
ADT	Admission, Discharge, and Transfer
AES	Actuarial 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
BQ	Baseline Quarter
CI	Confidence interval
CME	Common Medicare Environment
CMR	Comprehensive Medication Review
CMS	Centers for Medicare & Medicaid Services
Comp.	Comparison Group
CWF	Common Working Files
DiD	Difference-in-differences
DME	Durable Medical Equipment
DTP	Drug therapy problem
E&M	Evaluation and Management
ED	Emergency Department
EDB	Enrollment Database
Enhanced MTM	Enhanced Medication Therapy Management
EMR	Electronic Medical Record
ESRD	End-Stage Renal Disease
FMR	Follow-up medication reviews
GMMS	Genoa Medication Management Systems
HCC	Hierarchical Condition Categories
HH	Home Health
HIE	Health Information Exchange
HPMS	Health Plan Management System
HRR	Hospital Referral Region
HT	HealthTag
IP	Inpatient
IVR	Interactive voice response
LIS	Low-Income Subsidy
LTC	Long-term care
MA-PDP	Medicare Advantage Prescription Drug Plan
MARx	Medicare Advantage and Prescription Drug Plan System
MBSF	Master Beneficiary Summary File
MDS	Long Term Care Minimum Data Set
Med Rec	Medication Reconciliation
MMP	Medicare-Medicaid Plan
MRP	Medication-related problem
MSA	Medication Safety Alert
MSR(-lite)	Medication Safety Review (Lite)
MTC	Medication Therapy Counseling
MTM	Medication Therapy Management
MTMP	Medication Therapy Management Program
NPPES	National Plan and Provider Enumeration System

Acronym	Definition
OIG	Office of Inspector General
OP	Outpatient
PAC	Pharmacy Advisor Counseling
PB	Physician/Carrier
PBM	Pharmacy Benefit Manager
PBPM	Per-beneficiary-per-month
PC	Physician Compare
PDE	Part D Drug Event File
PDP	Prescription Drug Plan
PMAP	Provider Medication Action Plan
RAS	Risk Adjustment System
SAFD	Standard Analytical Files Part D
SilverScript/CVS	SilverScript Insurance Company/CVS
SNOMED CT	Systematized Nomenclature of Medicine – Clinical Teams
SPCM	Specialty Pharmacy Care Management
SMD	Standardized mean difference
STD	Standard deviation
SNF	Skilled Nursing Facility
TC	Transaction Code
TMR	Targeted Medication Review
Treat.	Treatment Group
TRHC	Tabula Rasa HealthCare
UnitedHealth	UnitedHealth Group

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EXECUTIVE SUMMARY

The Centers for Medicare & Medicaid Services (CMS) launched the Enhanced Medication Therapy Management Model ("the Model") to test whether providing Part D Prescription Drug Plan (PDP) sponsors with additional payment incentives and flexibilities leads to improvements in therapeutic outcomes and reduces Medicare expenditures. Medication therapy management (MTM) describes a range of services, usually provided by pharmacists, intended to optimize medication use and to detect and prevent medication-related issues. In the "traditional" MTM program, CMS requires all Medicare Part D plan sponsors to provide a uniform set of MTM services to beneficiaries who meet minimum criteria related to chronic conditions, use of multiple Part D-covered medications, and the likelihood of incurring high drug expenditures.[1] Provision of all MTM services is funded from a portion of the PDP's annual bid, limiting sponsors' incentives to expand services or targeting beyond the required minimums, as such enhancements may increase the PDP's premium. As a result, traditional MTM services generally fulfill only basic Part D compliance requirements.

The Enhanced MTM Model's five-year performance period began on January 1, 2017. The Model has four key components:[2]

(i) **Additional flexibility:** Participating sponsors have significant latitude in Enhanced MTM intervention design. Sponsors can tailor interventions to their specific beneficiary populations.

(ii) **Prospective payments by CMS for Model implementation costs:** Prospective payment amounts are calculated based on sponsors' projections of their Enhanced MTM implementation costs, and take into account the projected size of their targeted population.

(iii) **Retrospective performance-based payments:** These payments are contingent on reductions in Medicare Parts A and B costs for participating plan enrollees over a threshold, relative to a benchmark, to increase PDPs' incentives to improve beneficiary outcomes and reduce downstream expenditures.

(iv) **Data reporting:** Sponsors are required to submit monthly beneficiary-level eligibility data in in the Medicare Advantage Prescription Drug data transaction system (MARx) to indicate which beneficiaries in their participating plan qualify to receive Enhanced MTM services. Quarterly Encounter Data document Enhanced MTM activities and services provided to beneficiaries in a flexible manner, using Systematized Nomenclature of Medicine – Clinical Terms (SNOMED CT) codes.

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

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

This Second Evaluation Report uses Medicare administrative data, Model-specific data, a survey of prescribers serving Enhanced MTM beneficiaries, and interviews with sponsors to assess both Model implementation and the Model's impacts on Medicare expenditures in the first two years. Specifically, this report:

- categorizes the targeting criteria used by sponsors to identify beneficiaries eligible to receive Enhanced MTM services and identifies the most commonly used criteria;
- classifies Enhanced MTM services and quantifies the types of services provided to beneficiaries;
- presents estimates of the Model's impacts on Medicare Part A and B expenditures for participating plan enrollees, overall and net of Medicare's prospective and performance payments; and
- examines how prescribers view MTM provided by Part D sponsors, including their assessment of recommendations made by MTM services.

Who Are the Enhanced MTM Model Sponsors?

Six Part D plan sponsors ("sponsors"), listed in Executive Summary Table 1, participated in the Enhanced MTM Model in Model Years 1 and 2. The Enhanced MTM Model was tested in five of the 34 Medicare Part D PDP Regions: Arizona, Louisiana, Florida, the Upper Midwest and Northern Plains (Iowa, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wyoming), and Virginia. All sponsors, except Blue Cross Blue Shield Northern Plains Alliance (BCBS NPA) and Blue Cross Blue Shield of Florida (BCBS FL), participate in all five test PDP regions and operate one plan in each PDP region.

Executive Summary Table 1: 22 Plans of Six Sponsors Participated in the Enhanced MTM Model

Sponsor	Number of Participating Plans	Model Year 1 (2017) Enrollment	Model Year 2 (2018) Enrollment
All Participating Sponsors	22	***1,878,420***	***1,867,909***
SilverScript Insurance Company/CVS (SilverScript/CVS)	5	794,328	1,003,208
Humana	5	457,563	287,600
Blue Cross Blue Shield Northern Plains Alliance (BCBS NPA)	1	241,500	239,969
UnitedHealth Group (UnitedHealth)	5	175,945	134,283
WellCare	5	155,103	150,218
Blue Cross Blue Shield of Florida (BCBS FL)	1	64,631	60,860

Sources: Enrollment data in the Common Medicare Environment (CME), accessed in June 2019. This enrollment only includes beneficiaries in Enhanced MTM–participating contract-plans.

The six sponsors covered a total of about 1.9 million beneficiaries enrolled in their participating plans in each Model Year (Executive Summary Table 1**).** For the Model as a whole, enrollment remained stable between Model Years 1 and 2, but three sponsors experienced notable changes. Silverscript/CVS, the largest sponsor, had an increase in enrollment between Model Years 1 and 2; Humana, the second largest sponsor, had a decrease in enrollment. These changes occurred because Humana's Florida plan lost its benchmark status in 2018, and low-income subsidy beneficiaries previously enrolled in that plan were automatically enrolled in other Florida plans, including the one operated by SilverScript/CVS. Also, UnitedHealth's enrollment dropped between Model Year 1 and 2, likely due to increases in Model Year 2 premiums for UnitedHealth's Florida plan. Changes in plan enrollment through Model Year 2 are unlikely to be directly related to the Model, but they provide context for interpreting changes over time in the eligibility and service rate statistics.

How Did Sponsors Design Their Enhanced MTM Interventions?

Sponsors used the flexibility of the Model to implement multiple "Enhanced MTM interventions," each consisting of a unique combination of sponsor-determined targeting criteria, services, and beneficiary and/or prescriber outreach approaches. Each sponsor offered the same set of Enhanced MTM interventions in all of its participating plans.[3]

Most Enhanced MTM interventions targeted beneficiaries based on their medication utilization. Enhanced MTM interventions can be grouped into five broad categories, based on the primary clinical characteristic that determined beneficiary eligibility for services: (i) medication utilization, (ii) high medical or drug costs, (iii) presence of chronic conditions, (iv) recent hospital discharge, and (v) vaccination status. Among all beneficiaries eligible for Enhanced MTM, 80 percent were targeted based on medication utilization issues, typically focused on drug therapy problems (DTPs) such as medication adherence issues and gaps in care, polypharmacy, and use of new or high-risk medications (Executive Summary Table 2). To identify eligible beneficiaries, all sponsors used their own Medicare Part D data, and five sponsors also used Medicare Parts A and B data provided by CMS to Model participants. Two sponsors used state Health Information Exchange (HIE) data feeds to target beneficiaries with a recent hospital discharge for timely transitions-of-care interventions.

Enhanced MTM interventions targeted about 66 percent (1.2 million beneficiaries) and 70 percent (1.3 million beneficiaries) of enrolled beneficiaries in Model Years 1 and 2,

[3] Humana's Transitions of Care intervention is the only exception. Due to data availability, it was offered as a pilot for beneficiaries enrolled in Humana's Florida and Louisiana plans.

respectively. Eligibility rates varied across sponsors. The proportion of enrolled beneficiaries who were eligible ranged from over 90 percent for SilverScript/CVS, mostly driven by its wide-reaching vaccine reminder intervention, to under 22 percent for BCBS NPA (Executive Summary Table 2). Sponsors expanded the targeting criteria of existing interventions and added seven new interventions in Model Year 2, bringing the total number of interventions from 19 to 26 (Executive Summary Table 2). For most sponsors, the number of eligible beneficiaries decreased following decreases in plan enrollment between Model Years 1 and 2. For BCBS FL, declines in the number of eligible beneficiaries in Model Year 2 were due to both decreases in plan enrollment and adjustments the sponsor made to beneficiary targeting processes. SilverScript/CVS was the only sponsor with more eligible beneficiaries in Model Year 2 than in Model Year 1, due to an increase in plan enrollment.

The addition of new interventions in Model Year 2 resulted in increases in the proportion of beneficiaries who were eligible for multiple interventions. The proportion of eligible beneficiaries who were eligible for two or more interventions increased from almost 45 percent in Model Year 1 to over 55 percent in Model Year 2. This suggests that interventions are evolving to focus more closely on beneficiaries with multiple issues that may be addressed by medication management.

Executive Summary Table 2: Targeting Strategies Varied by Sponsor and Intervention

Sponsor and Enhanced MTM Intervention	Model Year 1 (2017)		Model Year 2 (2018)		Primary Targeting Category				
	Beneficiaries Eligible	Proportion Eligible (%)	Beneficiaries Eligible	Proportion Eligible (%)	Med Use	Vaccine	Conditions	High Costs	Transitions
All Sponsors	***1,237,818***		***1,299,721***						
SilverScript/CVS	**726,974**	**91.5**	**868,976**	**86.6**					
Pharmacy Advisor Counseling	504,226		634,744		✓				
Medication Therapy Counseling	39,636		86,411					✓	
Long-term Care	NA		111					✓	
Specialty Pharmacy Care Management	46,628		53,541				✓		
HealthTag (vaccine reminder)	652,427		792,455			✓			
Humana	**221,676**	**48.4**	**180,189**	**62.7**					
Risk-based (Drug Therapy Problems)	213,240		179,307		✓				
Transitions of Care Medication Reconciliation	1,326		4,806						✓
BCBS NPA	**51,209**[a]	**21.2**	**49,105**	**20.5**					
High Risk (multi-drug interactions)	50,621		38,022		✓				
Opioid	NA		10,048		✓				
Community Pharmacy Smart	NA		589		✓				
Low Risk/High Cost	NA		9,362					✓	
UnitedHealth	**95,520**	**54.3**	**75,532**	**56.3**					
Risk-based (Drug Therapy Problems)	95,436		75,442		✓				
Medication Adherence Monitoring	NA		28,757		✓				
Transitions of Care	4,152		4,255						✓
WellCare	**110,345**	**71.1**	**105,843**	**70.5**					
Medication Adherence	94,933		93,752		✓				
Opioid Utilization	58,441		58,798		✓				
Select Drug Therapy Problems	29,934		23,761		✓				
High Utilizer	17,854		17,894				✓		
BCBS FL	**35,022**	**54.2**	**22,735**	**37.4**					
Anticoagulant	17,416		13,809		✓				
Specialty Drug	5,114		4,702		✓				
Medication Adherence	2,035		1,110		✓				
Statin Use in Persons with Diabetes	NA		1,025		✓				
Hospital Prevention	10,528		6,285					✓	
Continuity of Care	NA		5,502					✓	
Diabetes Plus 3	12,472		7,533				✓		
Transitions of Care	3,250		6,534						✓

Sources: Enhanced MTM eligibility data in the Medicare Advantage and Prescription Drug system (MARx), supplemented with intervention-specific eligibility files provided to Acumen by sponsors.

Notes: Proportion eligible is the proportion of targeted beneficiaries among all beneficiaries enrolled per sponsor. Beneficiaries may be eligible for multiple interventions. 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; Transitions: targeting based on recent discharge from the hospital. NA: Intervention not offered in Model Year.

[a] The overall number of eligible beneficiaries for BCBS NPA slightly exceeds the number eligible for its one intervention in Model Year 1 due to minor differences in eligibility counts between the two data sources (MARx and the intervention-specific files provided by the sponsor).

What Services Were Provided Under the Enhanced MTM Model?

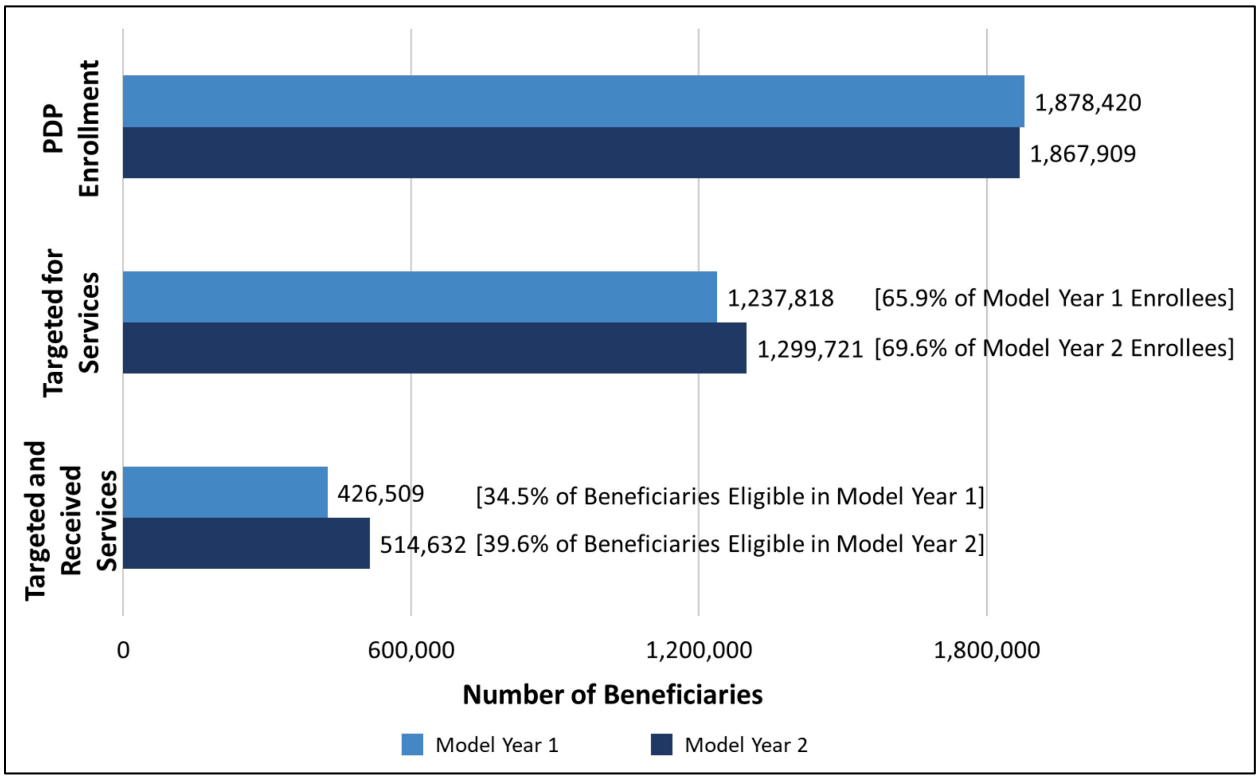
Sponsors offered "significant services" or services tailored to a specific beneficiary's needs, in addition to non-tailored outreach. Enhanced MTM interventions provided an average of about 2.5 significant services to beneficiaries receiving a service in each year. These services were further divided into "high-intensity" services such as medication reviews, which involved interaction with beneficiaries, and "low-intensity" services such as vaccination reminders or prescriber outreach, which did not involve interaction. Interventions generally offered high-intensity services more than once in a given Model Year, while low-intensity services were generally offered only once.

The most common types of significant services were comprehensive medication reviews (CMRs), targeted medication reviews (TMRs), and adherence-focused services. They were offered by all sponsors in at least one of their interventions.[4] Generally, CMRs were offered to beneficiaries who were at higher risk, incurred higher costs, and/or had the most medically complex conditions. This contrasts with traditional MTM, in which sponsors are required to offer annual CMRs to all eligible beneficiaries.

For the Model as a whole, the number of eligible beneficiaries who received significant services increased by about 20 percent between Model Year 1 and Model Year 2. This resulted in a four-percentage-point increase in the proportion of eligible beneficiaries who received significant services (see Executive Summary Figure 1). The proportion of eligible beneficiaries receiving significant services varied substantially among sponsors, primarily resulting from differences in intervention design. Rates of service receipt among eligible beneficiaries increased for all sponsors in Model Year 2, and five of the six sponsors provided services to more beneficiaries in Model Year 2 than in Model Year 1.

[4] A CMR is an interactive and comprehensive medication review and consultation provided by a pharmacist or another qualified provider to beneficiaries to assess their medication use for the presence of medication-related problems. A TMR is performed to assess specific actual or potential medication-related problems, which may result in a follow-up intervention with beneficiaries and/or their prescribers. Adherence-focused services aim to ensure that beneficiaries refill their medications on time.

Executive Summary Figure 1: Modelwide, the Number and Proportion of Eligible Beneficiaries Who Received Services Increased in Model Year 2



Sources: PDP enrollment data in the Common Medicare Environment (CME). Enhanced MTM eligibility data in the Medicare Advantage and Prescription Drug Plan system (MARx); Enhanced MTM Encounter Data through December 2018.

The proportion of beneficiaries who were eligible for Enhanced MTM but received no significant services declined from about 65 percent in Model Year 1 to about 60 percent in Model Year 2. Of this group, some beneficiaries were eligible for and received non-significant services. The large proportion of eligible beneficiaries who did not receive a significant service does not necessarily indicate problems in Model implementation. Sponsors did not expect to complete significant services for all eligible beneficiaries, based on the projections included in Model applications.

For the Model as a whole, the proportion of eligible beneficiaries who received high-intensity services increased from 24 percent to 29 percent between Model Years 1 and 2. For most sponsors, more beneficiaries received high-intensity services than low-intensity services in both Model Years, and the proportion of eligible beneficiaries receiving high-intensity services increased between Model Years 1 and 2 for all sponsors.

The proportion of eligible beneficiaries who received the services expected to have the most impact on beneficiary outcomes grew slightly from Model Year 1 to Model Year 2. The proportion of CMR-eligible beneficiaries who received a CMR increased from 30 percent to 34 percent from Model Year 1 to Model Year 2. For context, about 26 percent and 30 percent of eligible beneficiaries received CMRs in the traditional MTM program in 2017 and 2018, respectively.[5] The proportion of TMR-eligible beneficiaries receiving TMRs increased slightly from 24 percent to 26 percent from Model Year 1 to Model Year 2. The number of beneficiaries receiving transitions-of-care services increased substantially between Model Years 1 and 2, but due to even larger increases in the number of beneficiaries eligible for these services, the proportion of eligible beneficiaries receiving transitions-of-care services decreased from 71 percent in Model Year 1 to 54 percent in Model Year 2.

How Did the Enhanced MTM Model Impact Medicare Parts A and B Expenditures for Beneficiaries Enrolled in Participating Plans?

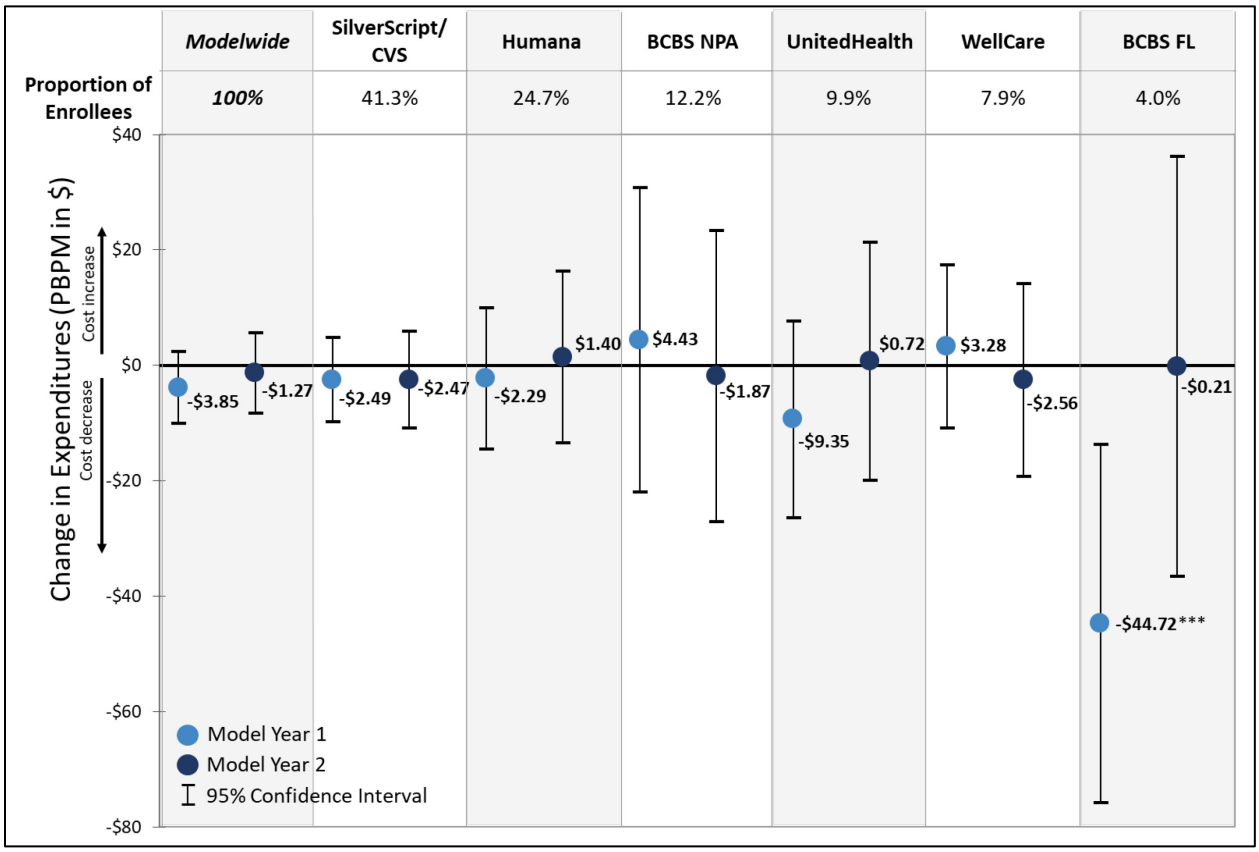
Over the first two years of Model implementation, the estimated cumulative reduction in Medicare Parts A and B expenditures for beneficiaries enrolled in Enhanced MTM plans was not statistically different from zero. The yearly estimates are not significantly different from each other (Executive Summary Figure 2, Modelwide). SilverScript/CVS and Humana together account for 66 percent of all beneficiaries enrolled in participating plans and therefore have a large influence on estimated impacts on expenditures for the Model as a whole.

For individual sponsors, the Enhanced MTM Model did not have statistically significant impacts on Medicare Parts A and B expenditures, with the exception of BCBS FL in Model Year 1 (Executive Summary Figure 2). In Model Year 1, for most sponsors, estimated impacts on Parts A and B expenditures were not statistically significant. In Model Year 2, estimated changes in Parts A and B expenditures were not statistically significant for any sponsor. Only BCBS FL showed a large and statistically significant decrease in Model Year 1 that was not sustained in Model Year 2. Although fewer beneficiaries were eligible for BCBS FL's interventions in Model Year 2, the sponsor provided significant services to more beneficiaries, so it is unlikely that the difference in estimates is the result of differences in implementation. Additional analyses found that neither regional trends nor high-cost

[5] For further information, please refer to: Centers for Medicare & Medicaid Services, "Analysis of Calendar Year 2017 Medicare Part D Reporting Requirements Data". July 2019. Available at: https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovContra/Downloads/2017-Parts-C-and-D-Annual-Report-July-2019.zip. The rate for 2018 was computed from Part D MTM program data for that year, using analogous specifications.

beneficiaries explain these results. Generally, cross-sponsor differences in the magnitude of point estimates are not consistently related to observed differences in eligibility or service receipt.

Executive Summary Figure 2: Changes in Gross Medicare Parts A and B Expenditures Were Not Statistically Significant for Sponsors, Except BCBS FL in Model Year 1



Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. The unit of observation is a beneficiary-month. Each estimate from the difference-in-differences model (Model Year 1, Model Year 2) corresponds to change relative to the baseline period. Proportion of enrollees refers to each sponsor's proportion of enrollees in the Modelwide sample. PBPM: per-beneficiary per-month.

To investigate these expenditure impacts further, impacts of the Enhanced MTM Model on gross Medicare Parts A and B expenditures were also estimated by service delivery setting. For the Model as a whole, there were statistically significant cumulative decreases in inpatient expenditures and in skilled nursing facility (SNF) expenditures (Executive Summary Table 3). Decreases in inpatient and SNF expenditures are consistent with the Model's theory of action, in which improving medication use reduces the need for inpatient hospital services (e.g., through better control of chronic conditions or prevention of medication-related adverse events) and

associated post-acute care (e.g., SNF). Analyses of utilization found no statistically significant changes in the average number of inpatient admissions or SNF admissions. This implies that reductions in expenditures in these settings were through reductions in cost per admission. Decreases in inpatient and SNF expenditures were partially offset by statistically significant cumulative increases in outpatient non-emergency expenditures and outpatient emergency department (ED) expenditures. Analyses of utilization showed that there were statistically significant increases of about 9 outpatient non-emergency visits per 1,000 beneficiaries per month (corresponding to 1.23 percent of baseline), and an increase of about one outpatient ED visit per 1,000 beneficiaries per month (corresponding to 2.18 percent of baseline) for Model beneficiaries relative to comparators. The Modelwide increase in outpatient ED expenditures is not consistent with the Model's theory of action, and future analyses will examine the potential causes for this finding. For most sponsors, estimated setting-specific impacts were in the same direction as impacts observed for the Model as a whole, although not all were significant.

Executive Summary Table 3: Estimated Expenditure Decreases in the Inpatient and Skilled Nursing Facility Settings Were Offset by Increases in the Outpatient Settings

	Setting-specific Expenditures for Medicare (Cumulative), Modelwide				
	Inpatient Expenditures	Outpatient Non-Emergency Expenditures	Outpatient Emergency Department (ED) Expenditures	Physician and Ancillary Expenditures	Skilled Nursing Facility Expenditures
Per-Beneficiary Per-Month Estimate (in $)					
Difference-in-Differences	**-$4.88*** **	**$3.75*** **	**$1.69*** **	-$0.16	**-$3.33*** **
P-value	0.004	< 0.001	< 0.001	0.823	0.001
95% Confidence Interval	(-8.17, -1.58)	(2.37, 5.12)	(1.37, 2.00)	(-1.54, 1.22)	(-5.24, -1.41)
Relative Difference	-1.86%	2.25%	5.69%	-0.06%	-4.39%

Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. Estimates statistically significant at the 5 percent level are **bolded**. Number of Enhanced MTM observations: 45,991,873 (1,427,816 beneficiaries). Number of comparison observations: 88,259,023 (2,944,397 beneficiaries). The unit of observation is a beneficiary-month. Each cumulative estimate corresponds to change relative to the baseline period. Relative difference is calculated as the difference-in-differences (DiD) estimate divided by the baseline Enhanced MTM regression-adjusted mean, and expressed as a percentage.

How Did the Enhanced MTM Model Impact Net Expenditures?

Estimates show that the Enhanced MTM Model generated net losses in both Model Years, but neither estimate is statistically significant. Estimated impacts on gross Medicare Parts A and B expenditures are combined with Model prospective payments and performance-

based payments to produce estimates of net impacts on Medicare expenditures ("net expenditures") (Executive Summary Table 4). Prospective payments were between $3 and $4 per beneficiary per month (PBPM) in each Model Year, and performance-based payments were about $1 PBPM in each Model Year. In both years, the Model's prospective and performance-based payments to sponsors were larger than the estimated decreases in gross Medicare Parts A and B expenditures. The Model generated estimated net losses of $80.40 million in total across both Model Years (95% confidence interval [CI]: -$141.11 million, $301.51 million). This corresponds to a cumulative estimated net loss of $1.99 PBPM. For Model Year 1, the estimated net loss was $0.38 PBPM, or $7.64 million in total; for Model Year 2, the estimated net loss was $3.79 PBPM, or $76.18 million in total.

Executive Summary Table 4: Estimated Model Impacts on Net Medicare Expenditures Were Not Statistically Significant

	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**
Model Year 1	20,255,908	-$3.85 (-10.05, 2.35)	$3.11	$1.12	$0.38 (-5.82, 6.58)	$7.64 (-117.94, 133.23)	0.905
Model Year 2	20,092,909	-$1.27 (-8.23, 5.68)	$3.90	$1.16	$3.79 (-3.17, 10.74)	$76.18 (-63.67, 215.83)	0.285
Cumulative	40,348,817	-$2.65 (-8.14, 2.83)	$3.50	$1.14	$1.99 (-3.50, 7.47)	$80.40 (-141.11, 301.51)	0.477

Notes: PBPM: Per-beneficiary per-month. 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.

What Were Prescribers' Perspectives on MTM Services Provided by Prescription Drug Plans?

A survey of prescribers revealed that PDP-provided MTM influences prescriber behavior, but prescribers have concerns about PDP involvement in beneficiary medication regimens, and this may limit the impact of MTM. Little is known about how prescribers view MTM services offered by Part D plan sponsors. To address this, the evaluation team conducted a novel survey of 4,800 prescribers serving beneficiaries who received Enhanced MTM services; 967 prescribers responded. The survey focused on prescribers' perspectives on MTM in general, rather than Enhanced MTM specifically, because prescribers typically do not know whether a beneficiary is enrolled in an Enhanced MTM-participating plan at the time of service provision.

Most respondents (77 percent) made changes to patients' medications based on PDP recommendations. However, 91 percent felt that PDPs were increasing their workload, and 71 percent felt that PDPs did not understand their medication therapy goals for patients. These concerns could limit the impact of MTM because sponsor-generated recommendations for changes in beneficiaries' medication regimens must be heard, accepted, and acted upon by prescribers for the Model to affect those regimens.

Conclusions and Next Steps

The results presented in this report represent the Enhanced MTM Model's performance in the first two years of the five-year implementation period. Sponsors continue to use the flexibility offered by the Model to make ongoing adjustments to their Model interventions. In Model Year 2, these adjustments resulted in small changes in eligibility for Enhanced MTM services and larger increases in the number of services provided and the number of eligible beneficiaries who received services. Findings from a survey of prescribers show that PDP-provided MTM is influencing prescriber behavior and therefore has the potential to affect downstream outcomes. However, implementation in the first two Model Years has not led to significant reductions in Medicare Parts A and B expenditures for beneficiaries enrolled in all participating plans. In both Model Years, total prospective and performance-based payments to sponsors for the Model were slightly larger than the estimated decreases in Medicare Parts A and B expenditures. Consequently, the Model generated net losses for Medicare, though the estimated losses are not statistically significant.

Future evaluation analyses will also assess outcomes for beneficiaries who are targeted for services, which will provide additional insight regarding the pathways through which Model interventions may impact expenditures and other outcomes of interest.

1 INTRODUCTION

The Centers for Medicare & Medicaid Services (CMS) launched the five-year Enhanced Medication Therapy Management (MTM) Model ("the Model") in 2017. The Model tests whether providing Medicare Part D Prescription Drug Plan (PDP) sponsors ("sponsors") with payment incentives and flexibilities for the provision of MTM services to beneficiaries leads to improvements in therapeutic outcomes while reducing Part A and B Medicare expenditures. This Second Evaluation Report covers the first two full years of Enhanced MTM Model implementation (January 1, 2017 – December 31, 2018), and includes findings from analyses of Model impacts on Medicare expenditures. It also presents detailed descriptions of participating sponsors' Enhanced MTM initiatives, changes in Enhanced MTM service receipt over the first two years of Model implementation, and findings from a survey of prescribers.

This introductory section provides background information on the Enhanced MTM Model, including its main components; information on participating sponsors, including their respective plan enrollment sizes and geographic reach; and Model payments made to the sponsors.

1.1 What Is the Enhanced Medication Therapy Management Model?

The term "Medication Therapy Management" (MTM) describes a range of services, usually provided by pharmacists, intended to optimize medication use and to detect and prevent medication-related issues. These MTM services may include medication reviews, the provision of related education and advice to patients, or collaboration with patients and their prescribers to develop a patient-centered plan that achieves optimal therapeutic outcomes. Previous research suggests that MTM has the potential to improve adherence to prescribed medications, increase drug safety, improve health, reduce adverse events, and lower expenditures for chronically ill individuals.[6,7]

In the traditional MTM program, CMS requires that all Medicare Part D PDPs, Medicare Advantage Prescription Drug Plans (MA-PDPs), and Medicare-Medicaid Plans (MMPs) provide

[6] Barry A. Bunting, Benjamin H. Smith, and Susan E. Sutherland, "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, no. 1 (2008): 23-31, https://doi.org/10.1331/JAPhA.2008.07140.

[7] Saranrat Wittayanukorn, Salisa C. Westrick, Richard A. Hansen, Nedret Billor, Kimberly Braxton-Lloyd, Brent I. Fox, and Kimberly B. Garza, "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, no. 5 (2013): 385-395, http://www.doi.org/10.18553/jmcp.2013.19.5.385.

MTM services to eligible beneficiaries. The traditional MTM program requires the use of a set of targeting criteria (based on Part D drug cost thresholds, number of chronic conditions, and number of Part D medications) to determine the types of beneficiaries who are eligible for MTM services. Sponsors must offer required services uniformly to all beneficiaries who meet targeting criteria and are thus eligible for MTM. Required MTM services include annual comprehensive medication reviews (CMRs) and smaller-scope, quarterly targeted medication reviews (TMRs).[8] Sponsors have the option of both expanding their targeting criteria beyond the required minimum to include additional beneficiaries for services, and offering additional services to eligible beneficiaries. Compensation for providing MTM services is funded from a portion of a plan's annual bid submitted to CMS. This funding mechanism limits sponsors' incentives to expand eligibility and services under traditional MTM. The costs of such expansion would drive up the sponsor's annual Part D drug plan bid and beneficiary premium, reducing the plan's competitive edge in the market. As a result, traditional MTM services generally fulfill only basic traditional MTM program compliance requirements. In 2016, the year before the launch of the Enhanced MTM Model, only about a quarter of Part D sponsors used the optional expanded targeting criteria, and less than a quarter provided optional additional services under traditional MTM.[9]

In this context, CMS launched the five-year Enhanced MTM Model in January 2017. The Enhanced MTM Model is implemented in five PDP regions by six Medicare Part D sponsors operating eligible stand-alone PDPs offering basic prescription drug coverage.[10] The four key Model components are detailed below:[11]

(1) Additional flexibility gives participating sponsors significant latitude in Enhanced MTM intervention design.

The Enhanced MTM Model allows sponsors considerable latitude in the design of targeting criteria and provision of services. For example, sponsors can offer different types and intensities of services based on beneficiaries' risk profiles, instead of providing a uniform set of services to all targeted beneficiaries. Unlike traditional MTM,

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

[9] "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 .

[10] 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. Plans that offer enhanced alternative coverage are not eligible for participation in the Enhanced MTM Model.

[11] For additional details about the differences between the traditional MTM program and the Enhanced MTM Model, please see the "Evaluation of the Part D Enhanced Medication Therapy (MTM) Model: First Evaluation Report," (October 2019), https://downloads.cms.gov/files/mtm-firstevalrpt.pdf.

there are no minimal service provision or targeting criteria requirements. This flexibility allows sponsors to implement interventions tailored to their populations.[12]

(2) Prospective payments are made by CMS to participating sponsors based on the projected implementation costs of their Enhanced MTM interventions.

In the Enhanced MTM Model, participating PDPs receive a supplemental prospective payment to help with the implementation costs of their Enhanced MTM interventions. Prospective payment amounts are calculated based on sponsors' projections of their Enhanced MTM implementation costs, and take into account the projected size of their targeted population. Prospective payments are allocated by CMS on a per-beneficiary-per-month (PBPM) basis for all enrollees in each participating plan.

(3) Performance-based payments are made by CMS to participating plans contingent on reductions in Medicare Part A and B costs.

Stand-alone PDPs in the traditional MTM program have no financial responsibility for Medicare Parts A and B costs incurred by their enrolled populations. To increase participating sponsors' incentives to improve beneficiary outcomes and thus reduce downstream medical expenditures (e.g., via a reduction in drug-related adverse events), Enhanced MTM offers performance-based payments to participating plans. These performance-based payments are contingent on achieving a net reduction in Medicare Parts A and B expenditures of at least 2 percent for beneficiaries enrolled in participating plans, relative to a benchmark. The performance-based payment is set at a fixed $2 per-member-per-month amount. It takes the form of an increase in Medicare's contribution to plans' Part D premium (i.e., an increase in the direct subsidy component of Part D payment), thus decreasing the plan premium paid by beneficiaries, and improving PDPs' competitive market position. The traditional MTM program does not offer performance-based payments.

(4) Participating sponsors have additional data reporting requirements for the Enhanced MTM Model, including beneficiary-level eligibility data and Enhanced MTM Encounter Data.

For the traditional MTM program, PDPs are required to report MTM beneficiary-level data focused on MTM eligibility and provision of required MTM services (CMR and TMR) on an annual basis to CMS. In the Enhanced MTM Model, sponsors are required

[12] The Model also offers participating PDPs an opportunity to receive plan enrollee Medicare Parts A and B claims data from CMS. This information can be leveraged for targeting and service provision.

to submit monthly beneficiary-level eligibility data in the Medicare Advantage Prescription Drug (MARx) data transaction system.[13] Sponsors are also required to submit quarterly Encounter Data, which document details of Enhanced MTM services provided to beneficiaries. Sponsors use the Systematized Nomenclature of Medicine – Clinical Terms (SNOMED CT) coding scheme to capture information related to Enhanced MTM service provision in Encounter Data. Use of the SNOMED CT coding scheme is a new requirement of the Model.[14]

1.2 Who Are the Enhanced MTM Model Participants?

Six Part D sponsors participate in the Model and offer a total of 22 plans across five PDP regions (Table 1.1). The six sponsors are SilverScript Insurance Company/CVS (SilverScript/CVS), Humana, Blue Cross Blue Shield Northern Plains Alliance (BCBS NPA), UnitedHealth Group (UnitedHealth), WellCare, and Blue Cross Blue Shield of Florida (BCBS FL). The five (out of a total of 34) Medicare Part D PDP regions are Arizona, Louisiana, Florida, the Upper Midwest and Northern Plains (Iowa, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wyoming), and Virginia.[15] All sponsors except BCBS FL and BCBS NPA are active in all participating PDP regions.

The Model has significant coverage of the population it intended to reach. Over half of all qualifying plans participated in the Model. In 2016, the year before Model implementation began, more than 86 percent of all beneficiaries enrolled in qualifying plans were enrolled in plans that participated in the Model in 2017. Sponsors that opted not to participate in the Model tended to have lower beneficiary enrollment in their plans, and cited concerns about having sufficient resources to make upfront investments in staff and infrastructure for fulfilling Model requirements, including resources needed to document and report Enhanced MTM activities using SNOMED CT codes. Appendix B.8 provides more information about the differences between participating and non-participating plans.

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

[14] 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

[15] Eligible plans include PDPs that offer basic prescription drug coverage in the form of the defined standard benefit, actuarially equivalent standard benefits, or basic alternative benefits. Plans that offer enhanced alternative coverage are ineligible for participation in the EnhancedMTM Model.

Table 1.1: Six PDP Sponsors Participate in the Enhanced MTM Model, and Four of the Sponsors Participate in All Five Test Regions

Sponsor	Participating Prescription Drug Plan (PDP)[a]	PDP Benefit Type[a]	Number of Participating Plans (Total: 22)	Number of Enhanced MTM Interventions[b] (Total: 26)	PDP Test Region(s)
SilverScript Insurance Company/CVS (SilverScript/CVS)	SilverScript Choice	Basic Alternative	5	5	All Regions[c]
Humana	Humana Preferred Rx Plan	Actuarially Equivalent Standard	5	2	All Regions[c]
Blue Cross Blue Shield Northern Plains Alliance (BCBS NPA)	MedicareBlue Rx Standard	Basic Alternative	1	4	Upper Midwest and Northern Plains
UnitedHealth Group (UnitedHealth)	AARP MedicareRx Saver Plus	Actuarially Equivalent Standard	5	3	All Regions[c]
WellCare	WellCare Classic	Basic Alternative	5	4	All Regions[c]
Blue Cross Blue Shield of Florida (BCBS FL)	BlueMedicare Premier Rx	Basic Alternative	1	8	Florida

[a] The PDP names and benefit types are as of December 2018. Some plan names and benefit types have changed over time.

[b] The number of Enhanced MTM interventions corresponds to the first two years of Model implementation. Some Enhanced MTM interventions have changed over time.

[c] PDP regions covered in the Enhanced MTM Model include: Arizona, Louisiana, Florida, the Upper Midwest and Northern Plains (Iowa, Minnesota, Montana, Nebraska, North Dakota, South Dakota, Wyoming), and Virginia.

Sponsors used the flexibility of the Model to create multiple Enhanced MTM interventions, defined by unique sponsor-determined targeting criteria, types of beneficiary and/or prescriber outreach, and Enhanced MTM services.[16] Each sponsor offers the same set of Enhanced MTM interventions across all of its participating plans.[17] The targeting criteria that determine beneficiary eligibility vary by Enhanced MTM intervention, and beneficiaries may be eligible for multiple Enhanced MTM interventions. Section 2 ("How Did Sponsors Design Their Enhanced MTM Interventions?"), Section 3 ("What Services Were Provided Under the Enhanced MTM Model"), and sponsor-specific Appendix A provide additional details about Enhanced MTM interventions.

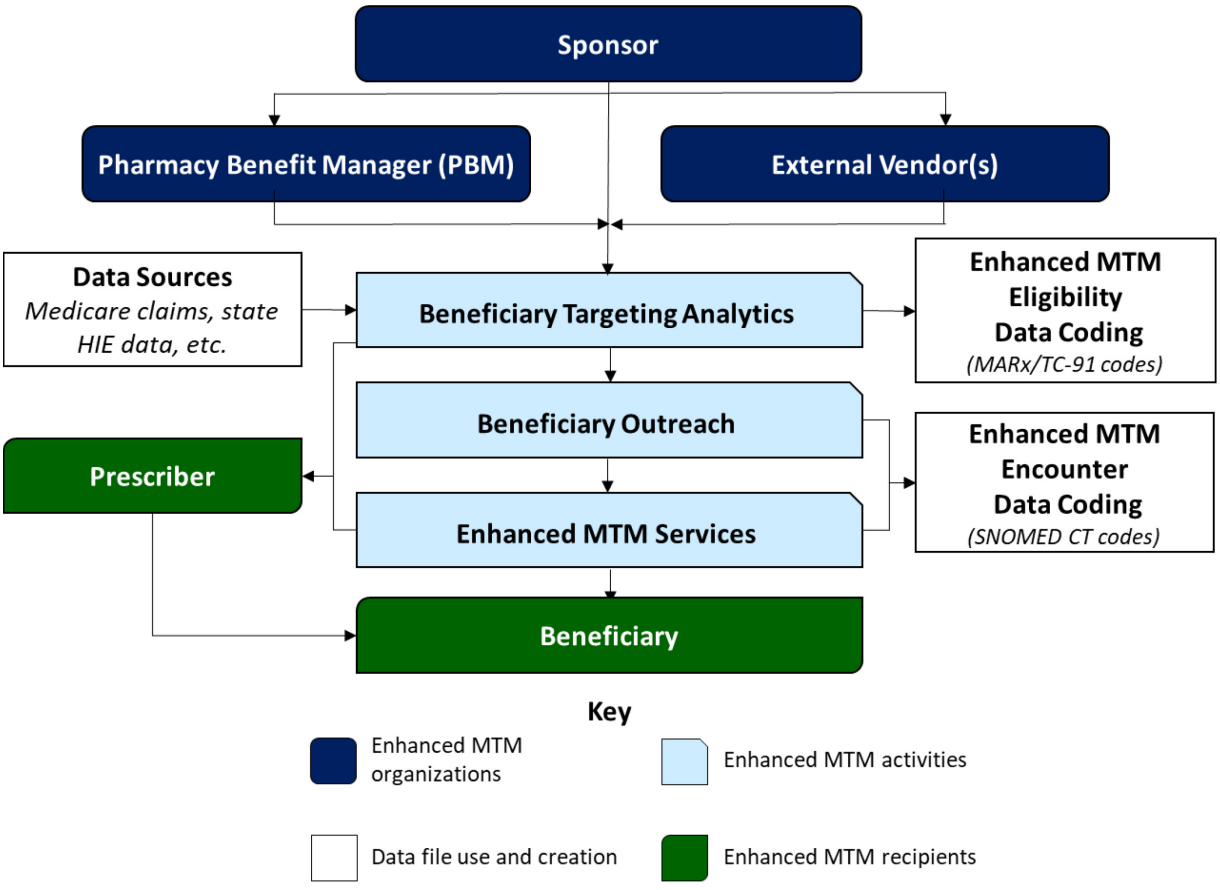
Participating sponsors worked with multiple entities to operationalize various aspects of their Enhanced MTM interventions. As shown in Figure 1.1, each Enhanced MTM intervention

[16] Participating sponsors refer to Enhanced MTM interventions as "Enhanced MTM programs." The Enhanced Medication Therapy Management (MTM) Model First Evaluation Report also referred to Enhanced MTM interventions as "Enhanced MTM programs."

[17] Humana's Transitions of Care intervention is the only exception. Due to data availability, it was offered as a pilot for beneficiaries enrolled in Humana's Florida and Louisiana plans.

had a distinct workflow associated with its core activities: beneficiary targeting, beneficiary outreach, Enhanced MTM service provision, and prescriber outreach (described further in Section 2 and Section 3). As in the traditional MTM program, sponsors partnered with external organizations such as pharmacy benefit managers (PBMs) and third-party MTM service or data analytics vendors to complete these core activities. The roles of participating sponsors and their partners varied significantly among Enhanced MTM interventions. Enhanced MTM interventions were overseen either directly by sponsors or their PBMs. Some sponsors directly conducted beneficiary targeting, beneficiary outreach, Enhanced MTM service delivery, and prescriber outreach; others used external vendors for some or all of these component functions. Use of external organizations and third-party vendors is also common in traditional MTM and not unique to Enhanced MTM.

Figure 1.1: Sponsors Collaborated with External Groups to Implement Enhanced MTM



About 1.9 million beneficiaries were enrolled in Enhanced MTM plans in Model Year 1 (2017) and Model Year 2 (2018) (Table 1.2). Total Enhanced MTM plan enrollment remained fairly constant over time for the Model as a whole, but there was variation at the sponsor level. Plan enrollment decreased substantially for Humana and UnitedHealth, and increased for

SilverScript/CVS. Humana's Florida plan lost its benchmark status in 2018, and beneficiaries eligible for low-income subsidy (LIS) and previously enrolled in that plan were automatically enrolled in other Florida plans, including the one operated by SilverScript/CVS.[18] As a result, just over 52 percent of beneficiaries enrolled in Humana's Enhanced MTM plans in 2017 remained enrolled in those plans in 2018. UnitedHealth's decrease in Model Year 2 enrollment was also driven by its Florida plan. Premiums for UnitedHealth's Florida plan increased, likely accounting for the drop in plan enrollment (see Appendix B.6 for additional information). Sponsors with small decreases in plan enrollment were BCBS FL, BCBS NPA, and WellCare. In general, most beneficiaries who were enrolled in an Enhanced MTM Model PDP in 2017 remained enrolled in that plan during the second year of Model implementation (see Appendix B.6 – Appendix B.7 for details).[19]

Table 1.2: Total Participating Plan Enrollment Was Fairly Constant Over the First Two Model Years, Variation Was at Sponsor Level

Sponsor	2017 Enrollees[a]	2018 Enrollees[b]	Change Between 2017 and 2018 (%)	Proportion of Continuously Enrolled Beneficiaries[c] (%)
All Participating Sponsors	***1,878,420***	***1,867,909***	***- 0.6***	***76.0***
SilverScript/CVS[d]	794,328	1,003,208	26.3	84.0
Humana[d]	457,563	287,600	- 37.1	52.3
BCBS NPA	241,500	239,969	- 0.6	90.0
UnitedHealth[e]	175,945	134,283	- 23.7	72.4
WellCare	155,103	150,218	- 3.2	76.9
BCBS FL	64,631	60,860	- 5.8	87.8

Sources: PDP enrollment data in the Common Medicare Environment (CME), accessed in June 2019. This enrollment only includes beneficiaries in Enhanced MTM-participating contract-plans.

[a] Beneficiaries ever enrolled in an Enhanced MTM participating plan during Model Year 1 (2017).

[b] Beneficiaries ever enrolled in an Enhanced MTM participating plan during Model Year 2 (2018).

[c] Beneficiaries continuously enrolled in a plan from Model Year 1 (2017) to Model Year 2 (2018), as a proportion of 2017 enrollees.

[d] Humana's Florida plan lost its benchmark status in Model Year 2, leading to a drop in LIS enrollment. These LIS beneficiaries were automatically enrolled in other Florida plans in 2018, such as the one operated by SilverScript/CVS.

[e] Premiums for UnitedHealth's Florida increased in Model Year 2, likely accounting for the drop in plan enrollment.

[18] Regional benchmark amounts, calculated annually, determine the maximum premium that PDPs may charge and still be eligible for automatic enrollment of dual-eligible beneficiaries and LIS recipients by CMS. "Benchmark plans" are PDPs with premiums below the regional benchmark amount. Plans may retain benchmark status if their monthly premium is within a "de minimis" amount (set at $2 for 2017 and 2018) over the regional benchmark, and if they volunteer to waive the portion of the monthly premium that is above the regional benchmark for beneficiaries eligible for the full premium subsidy. The law prohibits CMS from reassigning LIS beneficiaries from plans participating in the de minimis program. However, plans in the de minimis program do not qualify for automatic or facilitated enrollment of newly subsidy-eligible beneficiaries by CMS.

[19] More information on beneficiaries who disenrolled from Enhanced MTM plans in each Model year ("attrite beneficiaries"), and beneficiaries who were newly enrolled in Enhanced MTM-participating plans in Model Year 2 (2018), can be found in Appendix B.6.

1.3 Enhanced MTM Model Prospective Payments and Reported Costs

Participating plans receive PBPM prospective payments from CMS for Enhanced MTM implementation activities. For every Enhanced MTM intervention in each Model Year, sponsors must provide CMS with projections of implementation costs and the projected number of targeted beneficiaries per participating plan, and CMS aggregates this information to determine a total prospective payment amount. For ease of payment disbursement, CMS divides the prospective payment among all beneficiaries enrolled in the sponsors' participating plans. For example, if a sponsor expects to provide services to 50 percent of beneficiaries enrolled in the plan, the total projected implementation cost for providing those services is submitted to CMS. Based on this projection, CMS then allocates the prospective payment on a PBPM basis for all beneficiaries enrolled in the plan.

In Model Year 2, CMS prospectively paid sponsors about $77 million in total, a 22.5 percent increase from the $63 million paid in the previous year, to cover anticipated costs that sponsors would incur for implementing their Enhanced MTM interventions (Table 1.3). Sponsors reported spending about 74.8 and 76.5 percent of prospective payments received for Model Year 1 and 2 Enhanced MTM implementation, respectively.[20]

Table 1.3: In Model Years 1 and 2, Actual Reported Costs Were Lower than Prospective Payments

Expenditures	Model Year 1 (2017)	Model Year 2 (2018)
Prospective Payments	$62,930,644	$77,115,326[a]
Actual Reported Costs[b]	$47,083,658	$58,972,354
Actual Reported Costs as a Proportion of Prospective Payments (%)	74.8	76.5

Sources: Data provided by CMS. Participating sponsors submit Actual Reported Costs to the Enhanced MTM Model's Implementation Contractor annually.

[a] One sponsor did not receive prospective payments in November and December 2018. These payments were allocated to the sponsor in January 2019, and are not included in this total.

[b] Actual Reported Cost is the product of each contract-plan's PBPM total actual costs for a given Model Year and the annual total of PDP enrollee-months, aggregated across all participating plans.

1.4 Key Findings for the Second Evaluation Report

This Second Evaluation Report describes the Model's progression in the first two years of Model implementation (January 1, 2017, through December 31, 2018). It also presents findings from analyses of the Model's impacts on Medicare Parts A and B expenditures of beneficiaries enrolled in Model-participating plans, and estimates of net expenditures for

[20] Part D enrollment and spending figures (for Actual Reported Costs) were provided by CMS's Enhanced MTM Model's Implementation Contractor (IC).

Medicare, that take into account Model costs for prospective and performance-based payments incurred by CMS. Finally, it discusses findings from a survey of prescribers about their perspectives on MTM offered by PDPs.

This report identifies the following five key findings:

(i) Each sponsor offered multiple Enhanced MTM interventions, each with its own intervention-specific targeting criteria, outreach, and services. Enhanced MTM interventions targeted about 66 and 70 percent of participating plan enrollees in Model Years 1 and 2, respectively. For individual sponsors, the addition of new interventions in Model Year 2 generally resulted in substantial increases in the proportion of beneficiaries who were eligible for multiple interventions rather than increases in the proportion of enrolled beneficiaries who were eligible. (Section 2 provides more details.)

(ii) Sponsors specifically tailored "significant" services for eligible beneficiaries. All sponsors offered CMRs, TMRs, and services focused on adherence in at least one intervention. The total number of beneficiaries receiving significant services increased by 20 percent between Model Years, and the proportion of all eligible beneficiaries receiving significant services increased from 35 to 40 percent. (Section 3 provides more details.)

(iii) In the first two years of implementation, there is no evidence that the Enhanced MTM Model impacted gross Medicare Parts A and B expenditures, Modelwide. Estimated reductions in gross Medicare Parts A and B expenditures were not statistically different from zero in Model Year 1, Model Year 2, and cumulatively across both years. Modelwide, statistically significant cumulative decreases in inpatient expenditures and skilled nursing facility expenditures were partially offset by cumulative increases in outpatient non-emergency expenditures and outpatient emergency department (ED) expenditures. (Section 4 provides more details.)

(iv) Estimated Model impacts on net Medicare expenditures (accounting for Model prospective and performance-based payments to sponsors) were not statistically different from zero in the first two Model years. (Section 4 provides more details.)

(v) Findings from a survey of prescribers revealed mixed prescriber impressions of PDP involvement in their patients' care. Of the prescribers who recalled receiving contact from PDPs, most (77 percent) made changes to patients' medications based on PDP recommendations. However, 91 percent felt that PDPs were increasing their workload, and 68 percent felt that PDPs did not understand their medication therapy goals for patients. (Section 5 provides more details.)

2 HOW DID SPONSORS DESIGN THEIR ENHANCED MTM INTERVENTIONS?

Section Summary

Each sponsor offered multiple Enhanced MTM interventions, each with its own targeting criteria, outreach, and services. These interventions can be grouped into five broad categories, based on the primary clinical characteristic that determined beneficiary eligibility for services: (i) medication utilization, (ii) high medical or drug costs, (iii) presence of chronic conditions, (iv) recent hospital discharge, and (v) vaccination status. Most Enhanced MTM interventions targeted beneficiaries based on their medication utilization, focusing on drug therapy problems (DTPs), polypharmacy, and use of new or high-risk medications.

Enhanced MTM interventions targeted around 66 and 70 percent of participating plan enrollees in Model Year 1 and 2, respectively. Sponsors refined the targeting criteria for existing interventions and added seven new interventions in Model Year 2, bringing the total number of interventions from 19 to 26. For individual sponsors, **the addition of new interventions in Model Year 2 generally resulted in substantial increases in the proportion of beneficiaries who were eligible for *multiple* interventions, rather than increases in the overall proportion of beneficiaries who were eligible for any intervention**. The percentage of beneficiaries eligible for two or more interventions increased from 45 percent in Model Year 1 to 56 percent in Model Year 2. Consistent with this finding, sponsors reported adding new interventions primarily to identify additional needs of beneficiaries already eligible for Enhanced MTM, rather than to target more beneficiaries.

In response to the Model's flexibility and incentives, each sponsor created multiple Enhanced MTM interventions. Each intervention consists of specific targeting criteria that determine which beneficiaries are eligible for the intervention ("eligible" beneficiaries) and what type of outreach and services these beneficiaries are offered. In other words, each Enhanced MTM intervention is a unique combination of targeting criteria used to identify eligible beneficiaries and corresponding outreach and services offered to these beneficiaries. Sponsors offer the same interventions consistently across all of their participating plans, and any eligible beneficiary who meets the specific intervention targeting criteria is offered the same services. As discussed in the First Evaluation Report,[21] differences between Enhanced MTM and traditional MTM were more substantial for targeting criteria than for the other elements of Enhanced MTM interventions (beneficiary outreach and services) and those differences in targeting criteria

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

resulted in a larger pool of eligible beneficiaries for Enhanced MTM. The focus on targeting criteria as a core area of innovation suggests that sponsors perceived optimizing selection of beneficiaries who could benefit from offered services as important for achieving Model goals.

2.1 How Were Beneficiaries Targeted to Receive Services?

The Enhanced MTM Model granted participating sponsors complete flexibility in establishing targeting criteria for determining beneficiary eligibility for Enhanced MTM. This differs from traditional MTM, which requires sponsors to target beneficiaries who meet three targeting criteria: have multiple chronic conditions, take multiple Part D drugs, and are likely to incur high Part D drug costs. In response to the Model's flexibility, sponsors developed distinct interventions, each with its own set of targeting criteria, in an effort to address the specific needs of their populations. This section describes the general focus of the targeting criteria among interventions, sponsors, and Model Years, as well as the data sources that sponsors used to target beneficiaries.

All sponsors used clinical profiles to risk-stratify their beneficiary populations to determine eligibility for Enhanced MTM services offered as part of their interventions, or to tailor the intensity and range of services offered. Some sponsors assigned the entire enrollee population to mutually exclusive risk tiers; others used risk-scoring methods to prioritize beneficiaries for services. In addition, all sponsors used intervention-specific targeting criteria (e.g., targeting all beneficiaries with a transition of care, without any further risk stratification) to identify beneficiaries for specific interventions, and these criteria differed by intervention and sponsor.

Enhanced MTM interventions generally targeted beneficiaries based on five broad categories of clinical characteristics:

(i) medication utilization, used by all six sponsors, which can be broken down into the following sub-categories:
   a. drug therapy problems (DTPs), including medication adherence issues, adverse drug reactions/interactions, gaps in care (i.e., needing additional drug therapy), dosage issues, and unnecessary or inappropriate drug therapy, used by all sponsors;
   b. high-risk medications, used by three sponsors;
   c. newly prescribed medications, used by three sponsors; and
   d. number of medications (i.e., polypharmacy), used by two sponsors.

(ii) high Medicare Parts A, B, and/or D costs, used by three sponsors;[22]

(iii) presence of one or more chronic conditions, used by three sponsors;

[22] Sponsors receive monthly Medicare Parts A and B data files for their participating PDP enrollees.

(iv) recent discharge from the hospital, used by three sponsors; and

(v) vaccine status, used by one sponsor.

Based on detailed information provided by sponsors, the evaluation team identified the "primary" targeting criterion for each intervention, defined as the primary characteristic of the beneficiary that determined Enhanced MTM eligibility (Table 2.1). In some cases, sponsors applied "secondary" targeting criteria to the primary group to prioritize or determine what type of service an eligible beneficiary would be offered. The primary and secondary targeting criteria for many Enhanced MTM interventions often spanned multiple categories, as noted in Table 2.1. For example, BCBS FL's Hospital Prevention intervention targets beneficiaries with high Medicare spending who also have certain chronic conditions. The following discussion highlights similarities and differences among sponsors' interventions relative to their primary targeting category.

All sponsors targeted beneficiaries based on their medication utilization for at least one of their Enhanced MTM interventions (Table 2.1); this targeting category was the most widely used across all the Enhanced MTM interventions (54 percent, or 14 of 26 interventions). Among the subcategories of the "medication utilization" category, DTP was the most widely utilized (79 percent, or 11 of 14 interventions). All sponsors targeted beneficiaries based on DTPs and all, except Humana, targeted beneficiaries based on their actual or expected adherence to select medications determined by each sponsor. Additionally, some sponsors specifically aimed to improve their Star Ratings for medication adherence for treatment of hypertension, hyperlipidemia, and diabetes. High-risk medication targeting focused on beneficiaries at risk for opioid misuse and users of anticoagulants.

Not all sponsors used the remaining four targeting categories, and sponsors often differed in how they defined the targeting criteria within a given category. All sponsors except BCBS NPA targeted beneficiaries based on the presence of one or more chronic conditions for at least one of their Enhanced MTM interventions, but sponsors used different chronic conditions to trigger eligibility. In some cases, the conditions were traditional MTM core conditions (e.g., diabetes, respiratory disease), and in other cases, the conditions were not core conditions (e.g., hemophilia). Four sponsors targeted beneficiaries based on high spending, though the spending threshold that determined eligibility differed across sponsors. Humana, UnitedHealth, and BCBS FL targeted beneficiaries who experienced a transition of care, usually defined as a hospital discharge to home. Most sponsors also used primary and secondary targeting categories that combined chronic condition- and cost-related factors for single interventions. SilverScript/CVS's large HealthTag vaccine reminder intervention was the only intervention with a primary targeting focus on beneficiaries who needed a vaccine (e.g., influenza, pneumonia, and/or shingles).

More details about each sponsor's Enhanced MTM interventions are provided in Appendix A.

Table 2.1: Enhanced MTM Interventions Changed between Model Years and Targeting Largely Focused on Medication Utilization

Sponsor and Enhanced MTM Intervention	Model Year 1 (2017)	Model Year 2 (2018)	Primary Targeting Category	Secondary Targeting Categories
SilverScript/CVS				
Pharmacy Advisor Counseling	✓	✓	Med Use (DTP, New Med)	
Medication Therapy Counseling	✓	✓	High Costs	Conditions
Long-term Care		✓	High Costs	Conditions
Specialty Pharmacy Care Management	✓	✓	Conditions	
HealthTag (vaccine reminder)	✓	✓	Vaccine	
Humana				
Risk-based (for DTPs)	✓	✓	Med Use (DTP)	Conditions, High Costs
Transitions of Care Medication Reconciliation	✓	✓	Transitions	
BCBS NPA				
High Risk (for multi-drug interactions)	✓	✓	Med Use (DTP)	
Opioid		✓	Med Use (DTP, High-risk Med)	
Community Pharmacy Smart Recommendations		✓	Med Use (DTP, New Med)	Vaccine
Low Risk/High Cost		✓	High Costs	
UnitedHealth				
Risk-based (for DTPs)	✓	✓	Med Use (DTP, Number of Meds)	Conditions
Medication Adherence Monitoring		✓	Med Use (DTP)	
Transitions of Care	✓	✓	Transitions	
WellCare				
Medication Adherence	✓	✓	Med Use (DTP)	Conditions
Opioid Utilization	✓	✓	Med Use (High-risk Med)	
Select Drug Therapy Problems	✓	✓	Med Use (DTP, High-risk Med)	
High Utilizer	✓	✓	Conditions	Med Use (Number of Meds)
BCBS FL				
Anticoagulant	✓	✓	Med Use (High-risk Med, New Med)	
Specialty Drug	✓	✓	Med Use (New Med)	
Medication Adherence	✓	✓	Med Use (DTP)	
Statin Use in Persons with Diabetes		✓	Med Use (DTP, Number of Meds)	Conditions
Hospital Prevention	✓	✓	High Costs	Conditions
Continuity of Care		✓	High Costs	Conditions, Med Use (DTP, High-risk Med, New Med)
Diabetes Plus 3	✓	✓	Conditions	
Transitions of Care	✓	✓	Transitions	

Notes: Med Use: targeting based on medication utilization with sub-categories as follows: High-risk Med: targeting based on certain high-risk medications; New Med: targeting based on newly prescribed medications; DTP: targeting based on medication adherence issues, adverse drug reactions/interactions, gaps in care, dosage issues, and/or unnecessary or inappropriate drug therapy; and Number of Meds: targeting based on a certain

number of medications; 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; Transitions: targeting based on recent discharge from the hospital; Vaccine: targeting based on the need for a vaccine.

Sponsors made changes to their overall strategy for targeting beneficiaries over the first two Model years both by adding new interventions with new targeting criteria and by making minor adjustments to criteria in existing interventions from Model Year 1. Sponsors reported that these changes were driven, in part, by their efforts to address medication-related issues that sponsors perceived as gaps in their interventions. As reflected in Table 2.1, all sponsors except BCBS NPA proposed and implemented multiple Enhanced MTM interventions in Model Year 1. By Model Year 2, all sponsors had multiple Enhanced MTM interventions, with each sponsor offering between two and eight interventions. During Model Year 2, all sponsors except Humana and WellCare added at least one intervention. Sponsors collectively added seven new interventions in Model Year 2 (BCBS NPA added three, BCBS FL added two, and UnitedHealth and SilverScript/CVS both added one). Most of the new interventions incorporated targeting categories and subcategories that a sponsor did not previously use (e.g., BCBS NPA added an intervention focused on a "high cost" targeting category that it did not use in Model Year 1). Some sponsors chose not to add new Enhanced MTM interventions in Model Year 2 because they did not yet have results from internal analyses assessing the effect of the existing interventions on quality and cost outcomes.

In addition to implementing new targeting criteria in new Enhanced MTM interventions between Model Years 1 and 2, sponsors also made minor adjustments to the targeting criteria for their existing Enhanced MTM interventions. These changes, which are discussed in more depth in the First Evaluation Report,[23] included but were not limited to increasing targeting frequency or expanding existing targeting criteria (e.g., adding new conditions or new risk factors). None of the sponsors discontinued an Enhanced MTM intervention in Model Years 1 or 2.

Sponsors typically used information from Medicare data to identify beneficiaries who met the targeting criteria of each Enhanced MTM intervention, though some also incorporated additional data sources. Sponsors used Medicare Part D data for beneficiary targeting for the vast majority of their interventions (88 percent, or 23 of 26 interventions). All sponsors except UnitedHealth also used either Medicare Part A data, Part B data, or both, which CMS provided on a monthly basis, to identify beneficiaries with certain health conditions or spending patterns. Humana and BCBS FL also used admit, discharge, and transfer (ADT) data via Health Information Exchange (HIE) to target beneficiaries for interventions focused on transitions of care. UnitedHealth was the sole sponsor to use only Medicare Part D data for targeting in all of

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

its Enhanced MTM interventions. Sponsors used these data in a variety of ways (e.g., as inputs into a risk stratification algorithm or as an explicit targeting criterion). Sponsors also relied on internal data and referrals (beneficiary, family, prescriber, pharmacist, etc.) for targeting, though these approaches were not widely used.

All sponsors relied on a retrospective approach to beneficiary targeting, and four sponsors also incorporated prospective targeting. The retrospective approach, which sponsors also used for their traditional MTM interventions, involves identifying an existing issue or event based on retrospective review of the data sources described above. Four sponsors also deployed prospective beneficiary targeting, as shown in Table 2.2, which was a new approach. The prospective approach uses predictive modeling to identify beneficiaries likely to have future drug-related problems (e.g., opioid misuse, medication non-adherence, multi-drug interactions) or future high spending. Sponsors viewed prospective targeting as a method to proactively address factors that could lead to future beneficiary medication or healthcare utilization issues. WellCare and BCBS FL applied prospective targeting to medication adherence interventions, and BCBS NPA and WellCare used prospective targeting to identify future risk of medication-related issues (multi-drug interactions and opioid misuse, respectively). SilverScript/CVS applied prospective targeting to identify beneficiaries who are likely to exceed a medical spending threshold in the future.

Table 2.2: Enhanced MTM Beneficiary Targeting Relied Primarily on Retrospective Review of Medicare Data

Sponsor and Enhanced MTM Intervention	Data Sources				Approach	
	Part A	Part B	Part D	HIE	Prospective	Retrospective
SilverScript/CVS						
Specialty Pharmacy Care Management	✓	✓	✓			✓
HealthTag (vaccine reminder)		✓	✓			✓
Medication Therapy Counseling			✓		✓	
Long-term Care			✓		✓	
Pharmacy Advisor Counseling			✓			✓
Humana						
Transitions of Care Medication Reconciliation	✓	✓		✓		
Risk-based (for DTPs)			✓			✓
BCBS NPA						
Low Risk/High Cost	✓					✓
High Risk (for multi-drug interactions)			✓		✓	✓
Opioid			✓			✓
Community Pharmacy Smart Recommendations			✓			✓
UnitedHealth						
Risk-based (for DTPs)			✓			✓
Transitions of Care			✓			✓
Medication Adherence Monitoring			✓			✓
WellCare						
Medication Adherence	✓	✓	✓		✓	✓
Opioid Utilization	✓	✓	✓		✓	✓
High Utilizer	✓	✓	✓			✓
Select Drug Therapy Problems			✓			✓
BCBS FL						
Hospital Prevention	✓	✓	✓			✓
Continuity of Care	✓	✓	✓			✓
Diabetes Plus 3	✓	✓	✓			✓
Anticoagulant			✓			✓
Specialty Drug			✓			✓
Statin Use in Persons with Diabetes			✓			✓
Medication Adherence			✓		✓	✓
Transitions of Care				✓		✓

Notes: HIE: Health Information Exchange. The table represents the data sources and targeting approaches as of the end of Model Year 2.

Sponsors found that medical claims data were not a useful source for targeting beneficiaries after a transition of care, leading sponsors to explore creative strategies, such as predictive modeling and use of Health Information Exchange (HIE) data to target these beneficiaries in a timely way.

Targeting beneficiaries during a transition of care (e.g., a recent hospital discharge) was an area of innovation for the Enhanced MTM Model, and sponsors sought different strategies to identify such beneficiaries in a timely manner. Over the first two Model Years, three sponsors were able to operationalize planned transitions-of-care interventions. Sponsors receive medical claims data from CMS monthly, but due to the inherent lags associated with claims data submission and processing, this source was not timely enough for identifying recently hospitalized beneficiaries. Sponsors therefore sought alternatives.

UnitedHealth used a predictive algorithm based on Part D data to identify beneficiaries who were likely to have been discharged from the hospital. As a complement, UnitedHealth confirmed with beneficiaries (via phone or in person) that they had actually experienced a transition of care. Daily ADT feeds from its state HIE were used by BCBS FL to identify beneficiaries discharged from the hospital and the emergency room. Humana also began using ADT feeds through an HIE in Model Year 2 and reported that this was the most successful approach to identifying and intervening with transitions-of-care beneficiaries in a timely manner. SilverScript/CVS intended to implement a transitions-of-care intervention in Model Year 1 but was unable to set up referral systems and data feeds with hospitals and health systems, and therefore abandoned this intervention.

2.2 How Many Beneficiaries Were Eligible for Services?

In Model Year 1, approximately 66 percent of beneficiaries in participating plans (1.2 million beneficiaries) were eligible for Enhanced MTM services, and this increased to almost 70 percent (1.3 million beneficiaries) in Model Year 2 (Table 2.3). Changes in the eligibility rate may be due to changes in either the number of eligible beneficiaries, the number of beneficiaries enrolled in Model-participating plans, or both. For the Model as a whole, the total number of eligible beneficiaries increased by about 60,000. This increase was driven by increases in the number of eligible beneficiaries for SilverScript/CVS, the largest of the six sponsors. For other sponsors, the number of eligible beneficiaries decreased. Enrollment in Model-participating plans was relatively stable over time for the Model as whole, as increases in enrollment for SilverScript/CVS were balanced by enrollment decreases among other sponsors. As a result, the increase in the eligibility rate for the Model as a whole is due to the increase in the number of eligible beneficiaries rather than changes in enrollment. (More information on

beneficiary eligibility, including the number of beneficiaries who became ineligible for services between Model Years, is included in Appendix B.7.)

Changes in sponsor-level eligibility rates between Model Year 1 and Model Year 2 were relatively small for four of the six sponsors, and larger for the remaining two (Humana and BCBS FL). Specifically, the eligibility rate increased by 14 percentage points for Humana and fell by 17 percentage points for BCBS FL. As noted in Section 1.2, Humana's Florida plan lost its benchmark status in 2018, and its LIS beneficiaries were automatically enrolled in other Florida plans, including the one operated by SilverScript/CVS. The resulting 37 percent decline in plan enrollment for Humana, combined with a proportionally smaller decline in the number of eligible beneficiaries, led to an increase in Humana's proportion of enrolled beneficiaries eligible for Enhanced MTM. The only sponsor with a notable decline in the number of eligible beneficiaries between Model Year 1 and Model Year 2, despite a relatively stable level of plan enrollment, was BCBS FL. This decline in the number of eligible beneficiaries was due to targeting cutoff adjustments made by the sponsor in Model Year 2, discussed in more detail later in this section.

Table 2.3: Overall, Sponsors Targeted About Two-thirds of Plan Enrollees for Enhanced MTM Services

Sponsor	Model Year 1 (2017)			Model Year 2 (2018)		
	Participating Plan Enrollment	Beneficiaries Eligible for Enhanced MTM	Proportion Eligible for Enhanced MTM	Participating Plan Enrollment	Beneficiaries Eligible for Enhanced MTM	Proportion Eligible for Enhanced MTM
Across All Sponsors	***1,878,420***	***1,237,818***	***65.9%***	***1,867,909***	***1,299,721***	***69.6%***
SilverScript/CVS	794,328	726,974	91.5%	1,003,208	868,976	86.6%
Humana	457,563	221,676	48.4%	287,600	180,189	62.7%
BCBS NPA	241,500	51,209	21.2%	239,969	49,105	20.5%
UnitedHealth	175,945	95,520	54.3%	134,283	75,532	56.2%
WellCare	155,103	110,345	71.1%	150,218	105,843	70.5%
BCBS FL	64,631	35,022	54.2%	60,860	22,735	37.4%

Sources: PDP enrollment data in the Common Medicare Environment (CME). Enhanced MTM eligibility data in the Medicare Advantage and Prescription Drug Plan system (MARx).

Notes: Eligible beneficiaries are those with at least one month of recorded eligibility in the Model year (2017 or 2018) in MARx data. The denominator for all percentages is "Participating Plan Enrollment."

In each Model year, over 80 percent of all eligible beneficiaries were targeted by interventions with primary criteria related to medication utilization (Table 2.4). This category includes targeting based on DTPs, high-risk medications, newly prescribed medications, and number of medications. The percentage of beneficiaries targeted for Enhanced MTM due to their vaccination status appears large, but comes only from SilverScript/CVS's HealthTag vaccine reminder intervention. Many of these beneficiaries were also eligible for other interventions.

The majority of Enhanced MTM beneficiaries in both Model Years were targeted based on medication utilization (e.g., medication adherence, high-risk medication use).

The eligible population for some primary targeting categories increased substantially between Model Year 1 and Model Year 2. Eligibility for transitions-of-care interventions almost doubled between Model Years, with 8,728 beneficiaries targeted in Model Year 1 and 15,594 beneficiaries targeted in Model Year 2, as sponsors improved their ability to incorporate near real-time targeting and outreach to beneficiaries with a recent hospital discharge.[24] Interventions targeting high spenders doubled their reach between Model Year 1 and Model Year 2, from 4.1 percent to 8.1 percent of all eligible beneficiaries. As discussed in further detail below, the single intervention targeting primarily based on vaccine status also grew between Model Year 1 and Model Year 2.

Table 2.4: Modelwide Eligibility Increased in All Targeting Categories Between Model Year 1 and Model Year 2

Enhanced MTM Targeting Category	Sponsors with Primary Targeting Category	Model Year 1 (2017)		Model Year 2 (2018)	
		Beneficiaries Ever Eligible for Category	Proportion Eligible for Category	Beneficiaries Ever Eligible for Category	Proportion Eligible for Category
Across All Sponsors	***6***	***1,237,818***		***1,299,721***	
Med Use	6	992,088	80.1%	1,047,136	80.6%
Vaccine	1	652,427	52.7%	792,455	61.0%
Conditions	3	76,951	6.2%	78,961	6.1%
High Costs	3	50,150	4.1%	105,844	8.1%
Transitions	3	8,728	0.7%	15,594	1.2%

Sources: Enhanced MTM eligibility data in the Medicare Advantage and Prescription Drug system (MARx) supplemented with intervention-specific eligibility files provided to Acumen by sponsors.

Notes: Beneficiary inclusion in this table requires one month of eligibility in the target year (2017 or 2018) in both MARx and sponsor-provided intervention eligibility data. Med Use: targeting based on medication utilization; 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; Transitions: targeting based on recent discharge from the hospital; and Vaccine: targeting based on the need for a vaccine. Beneficiaries may be eligible for more than one intervention. The "Vaccine" category represents only one Enhanced MTM intervention (HealthTag), offered by SilverScript/CVS.

[24] In Model Year 2, BCBS FL expanded the targeting criteria for its transitions-of-care interventions to include Emergency Department (ED) discharges for certain conditions, and Humana began a pilot to use admit, discharge, and transfer (ADT) data to identify beneficiaries with a recent hospital discharge.

The number of beneficiaries eligible for individual interventions varied, and for most sponsors, one or two of their interventions dominated others (Table 2.5). For example, in both Model Years, of all beneficiaries eligible for BCBS FL's eight interventions, more than half were eligible for its Medication Adherence intervention. Similarly, about two-thirds of SilverScript/CVS's targeted population was eligible for two of its five interventions (HealthTag and Pharmacy Advisor Counseling).

Some sponsors had notable changes in intervention-level eligibility across Model Years. In Model Year 1, BCBS NPA implemented a single risk-based intervention (High Risk), but in Model Year 2, it introduced a second risk-based intervention (Low-Risk/High-Cost), thus splitting beneficiaries between the two interventions. In Model Year 2, BCBS FL refined its targeting cutoffs for existing interventions to better align the number of eligible beneficiaries with their projections. For example, the sponsor increased the cost threshold targeting criterion for the Hospital Prevention intervention. At the same time, the number of beneficiaries eligible for BCBS FL's Transitions of Care intervention increased substantially after the sponsor implemented targeting changes in Model Year 2 to expand the eligibility window for beneficiaries with a recent hospitalization (from 7 days to 30 days) and target beneficiaries to receive in-home services in select Florida counties. In interviews, BCBS FL suggested these refinements were an effort to ensure resources were available to serve beneficiaries who could benefit the most from Enhanced MTM services.

Table 2.5: Interventions Vary in Size and Many Grew Between Model Years 1 and 2

Sponsor and Enhanced MTM Intervention	Enhanced MTM Primary Targeting Category	Model Year 1 (2017)		Model Year 2 (2018)	
		Beneficiaries Ever Eligible for Intervention[a]	Proportion Eligible for Intervention	Beneficiaries Ever Eligible for Intervention[a]	Proportion Eligible for Intervention
SilverScript/CVS		**726,974**		**868,976**	
Pharmacy Advisor Counseling	Med Use	504,226	69.4%	634,744	73.0%
Medication Therapy Counseling	High Costs	39,636	5.5%	86,411	9.9%
Long-Term Care	High Costs	NA	NA	111	0.0%
Specialty Pharmacy Care Management	Conditions	46,628	6.4%	53,541	6.2%
HealthTag (vaccine reminder)	Vaccine	652,427	89.7%	792,455	91.2%
Humana		**221,676**		**180,189**	
Risk-based (for DTPs)	Med Use	213,240	96.2%	179,307	99.5%
Transitions of Care Medication Reconciliation	Transitions	1,326	0.6%	4,806	2.7%
BCBS NPA		**51,209**		**49,105**	
High Risk (for multi-drug interactions)	Med Use	50,621	98.9%	38,022	77.4%
Opioid	Med Use	NA	NA	10,048	20.5%
Community Pharmacy Smart Recommendations	Med Use	NA	NA	589	1.2%
Low Risk/High Cost	High Costs	NA	NA	9,362	19.1%
UnitedHealth		**95,520**		**75,532**	
Risk-based (for DTPs)	Med Use	95,436	99.9%	75,442	99.9%
Medication Adherence Monitoring	Med Use	NA	NA	28,757	38.1%
Transition of Care	Transitions	4,152	4.3%	4,255	5.6%
WellCare		**110,345**		**105,843**	
Medication Adherence	Med Use	94,933	86.0%	93,752	88.6%
Select Drug Therapy Problems	Med Use	58,441	53.0%	58,798	55.6%
Opioid Utilization	Med Use	29,934	27.1%	23,761	22.4%
High Utilizer	Conditions	17,854	16.2%	17,894	16.9%
BCBS FL		**35,022**		**22,735**	
Medication Adherence	Med Use	17,416	49.7%	13,809	60.7%
Anticoagulant	Med Use	5,114	14.6%	4,702	20.7%
Specialty Drug	Med Use	2,035	5.8%	1,110	4.9%
Statin Use in Persons with Diabetes	Med Use	NA	NA	1,025	4.5%
Hospital Prevention	High Costs	10,528	30.1%	6,285	27.6%
Continuity of Care	High Costs	NA	NA	5,502	24.2%
Diabetes Plus 3	Conditions	12,472	35.6%	7,533	33.1%
Transitions of Care	Transitions	3,250	9.3%	6,534	28.7%

Sources: Enhanced MTM eligibility data in the Medicare Advantage and Prescription Drug system (MARx) (accessed in June 2019), supplemented with intervention-specific eligibility files provided to Acumen by sponsors.

Notes: Beneficiary inclusion in this table requires one month of eligibility in the target year (2017 or 2018) in both MARx and sponsor-provided intervention eligibility data. Med Use: targeting based on medication utilization; 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; Transitions: targeting based on recent discharge from the hospital; and Vaccine: targeting based on the need for a vaccine. The overall number of eligible beneficiaries for BCBS NPA slightly exceeds the number eligible for its one intervention in Model Year 1 due to slight difference in eligibility counts between MARx and the intervention-specific files.

[a] Beneficiaries may be eligible for multiple interventions.

About half of all eligible beneficiaries qualified for more than one Enhanced MTM intervention in the same Model Year (Table 2.6). As discussed in Section 2.1, Enhanced MTM interventions commonly target beneficiaries based on their medication utilization. Beneficiaries may have multiple medication utilization issues (e.g., different DTPs, high-risk medication use) and other qualifying characteristics, which result in large numbers of beneficiaries being targeted for multiple interventions. The proportion of eligible beneficiaries who qualified to receive services under multiple interventions increased by 11 percentage points between Model Years 1 and 2 for the Model as a whole (Table 2.6).[25] This is likely due to the addition of new interventions and not to changes in targeting criteria for existing interventions, which were minor.

SilverScript/CVS, BCBS NPA, UnitedHealth, and BCBS FL added a total of seven new interventions. These four sponsors reported adding these interventions to address perceived gaps in existing interventions. The eligibility statistics presented in Table 2.6 suggest that these new interventions targeted beneficiaries who were already eligible for existing interventions rather than identifying a wider group of beneficiaries for services. Combined with the slight decline in the number of beneficiaries eligible for most sponsors, this suggests that interventions are evolving to focus more closely on beneficiaries with multiple issues that may be addressed by medication management.

Table 2.6: The Proportion of Beneficiaries Eligible for Two or More Interventions Increased Between Model Years 1 and 2

Sponsor	Model Year 1 (2017)		Model Year 2 (2018)	
	Beneficiaries Eligible for Single Intervention	Beneficiaries Eligible for Two or More Interventions	Beneficiaries Eligible for Single Intervention	Beneficiaries Eligible for Two or More Interventions
Across All Sponsors	***55.4%***	***44.6%***	***44.4%***	***55.6%***
SilverScript/CVS[a]	36.3%	63.7%	31.3%	68.7%
Humana	99.3%	0.6%	97.4%	2.6%
BCBS NPA[a]	100.0%	0.0%	78.4%	21.6%
UnitedHealth[a]	94.8%	5.2%	57.6%	42.4%
WellCare	40.8%	59.2%	39.9%	60.1%
BCBS FL[a]	57.2%	42.8%	34.8%	65.1%

Sources: Enhanced MTM eligibility data in the Medicare Advantage and Prescription Drug system (MARx), supplemented with intervention-specific eligibility files provided to Acumen by sponsors.

Notes: Sample is restricted to MARx-eligible beneficiaries who also have a month or more of eligibility in the sponsor-provided, intervention-specific record.

[a] Started new Enhanced MTM interventions in Model Year 2.

[25] See Table 2.1 for a list of Enhanced MTM interventions operational in each Model Year.

2.3 What Beneficiary Outreach Strategies Were Used?

Once beneficiaries are identified as eligible for an Enhanced MTM intervention based on the intervention's targeting criteria, sponsors conduct outreach to the beneficiaries for Enhanced MTM services that require their participation (e.g., CMRs). All sponsors mailed a welcome notification to targeted beneficiaries to inform them of their eligibility for an Enhanced MTM service and then began outreach using four primary modalities, as summarized in Table 2.7. As discussed in the First Evaluation Report,[26] conducting beneficiary outreach through automated methods was a new approach that participating sponsors implemented for Enhanced MTM, and use of community pharmacies for outreach was more common in Enhanced MTM than in traditional MTM.

Sponsors relied primarily on call center and community pharmacy outreach, with all sponsors using call centers. Five sponsors employed community pharmacy outreach, although their approaches to implementing it differed. For example, BCBS NPA and UnitedHealth reserved community pharmacies for more localized outreach to high-risk beneficiaries who were either unresponsive or unreachable by call center staff. Humana used community pharmacies as its primary outreach approach. Sponsors also differed in how they implemented automated interactive voice response (IVR) for beneficiary outreach. Among the four sponsors that used IVR, UnitedHealth and WellCare incorporated automated outreach into their medication adherence interventions (to provide refill reminders), and SilverScript/CVS and Humana used IVR to inform or remind beneficiaries about their eligibility for a CMR. The only sponsor to use in-home outreach was BCBS FL. In-home outreach was implemented in Model Year 2 for select beneficiaries with a recent transition of care.

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

Table 2.7: Sponsors Used a Variety of Beneficiary Outreach Modalities, but Call Centers and Community Pharmacies Were the Most Common

Sponsor and Enhanced MTM Intervention	Call Center	Community Pharmacy	Automated	In-Home	Prescriber-Facing Only
SilverScript/CVS					
Medication Therapy Counseling	✓	✓	✓		
Long-term Care	✓	✓			
Pharmacy Advisor Counseling	✓	✓			
Specialty Pharmacy Care Management	✓				
HealthTag (vaccine reminder)		✓			
Humana					
Risk-based (for DTPs)	✓	✓	✓		
Transitions of Care Medication Reconciliation	✓	✓			
BCBS NPA					
High Risk (for multi-drug interactions)	✓	✓			
Low Risk/High Cost	✓				
Community Pharmacy Smart Recommendations		✓			
Opioid					✓
UnitedHealth					
Risk-based (for DTPs)	✓	✓			✓[a]
Transitions of Care	✓				
Medication Adherence Monitoring			✓		
WellCare					
Medication Adherence	✓	✓	✓		
High Utilizer	✓	✓			
Opioid Utilization					✓
Select Drug Therapy Problems					✓
BCBS FL					
Transitions of Care	✓			✓	
Hospital Prevention	✓				
Diabetes Plus 3	✓				
Anticoagulant	✓				
Specialty Drug	✓				
Medication Adherence	✓				
Continuity of Care	✓				
Statin Use in Persons with Diabetes					✓

Notes: Call center: telephonic outreach by a sponsor or vendor pharmacy call center; Community pharmacy: outreach conducted by a community pharmacy either in person or via telephone; Automated: outreach by text, email messages, or automated calls via interactive voice response (IVR); In-home: outreach conducted in person in a beneficiary's home; Prescriber-facing: no direct outreach to the beneficiary. WellCare's Select DTP intervention primarily involves prescriber-facing communication, though there are rare cases when beneficiaries are contacted by phone, if needed, to address the medication issue. The table represents the beneficiary outreach approaches as of the end of Model Year 2.

[a] Though beneficiaries in UnitedHealth's high-risk group receive call center or community pharmacy outreach, beneficiaries in its low-risk group are only eligible for prescriber-facing services, and as such do not receive any direct beneficiary outreach.

Call centers encountered challenges with having accurate beneficiary contact information and getting beneficiaries to answer outreach calls.

Sponsors reported benefits and drawbacks of call center outreach. Call center outreach allows beneficiaries to remain in their homes, be candid, and have access to their medications, which enables them to give the Enhanced MTM service provider any requested medication information (e.g., names, doses, and instructions) directly from their medication bottles instead of relying on memory. Challenges encountered by call centers, however, include having accurate beneficiary contact information and getting beneficiaries to answer outreach calls. These challenges led sponsors to attempt to obtain more accurate beneficiary contact information from physicians or community pharmacies. In response to these challenges, sponsors also sent letters to notify beneficiaries of upcoming outreach and refined scripts to confirm that the outreach is legitimately from the PDP and not from an unsolicited party, in an effort to allay beneficiary concerns about scams.

The other outreach modalities also have strengths and weaknesses. Community pharmacy outreach leverages existing relationships between pharmacists and beneficiaries, but creates oversight challenges for sponsors. For practical reasons, sponsors are typically unable to conduct quality assurance reviews of community pharmacy interactions with beneficiaries, or to impose strict oversight or training requirements on community pharmacies. Sponsors generally found that automated outreach was successful for medication adherence outreach, but reported differences in observed effectiveness of using IVR to improve CMR completion rates through eligibility notifications or reminders. Though used by only one sponsor, in-home outreach was well received by beneficiaries and Enhanced MTM staff.

In general, sponsors reported ongoing challenges in conducting beneficiary outreach similar to those experienced in traditional MTM, as discussed in the First Evaluation Report, including inaccurate or incomplete beneficiary contact information and beneficiary concerns about scams.[27] Additionally, sponsors reported that their Enhanced MTM interventions tend to target more beneficiaries who are younger and eligible for low-income subsidy (LIS) relative to traditional MTM, and found it more challenging to successfully reach and complete Enhanced MTM services with these beneficiaries.

Beneficiary outreach is the precursor to delivering Enhanced MTM services and an important factor in determining whether beneficiaries participate in Enhanced MTM. As with other aspects of Model implementation, sponsors had flexibility in designing their beneficiary outreach modalities. Unlike traditional MTM, Enhanced MTM beneficiary outreach modalities included community pharmacy-based outreach, automated outreach, and in-home outreach,

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

highlighting sponsor efforts to deploy new methods for reaching beneficiaries. Among sponsors, however, there was less variation in beneficiary outreach modalities than in other aspects of Model implementation, such as beneficiary targeting or service provision.

3 WHAT SERVICES WERE PROVIDED UNDER THE ENHANCED MTM MODEL?

Section Summary

Sponsors offered a variety of services to eligible beneficiaries through their Enhanced MTM interventions, including **services tailored to beneficiaries' needs ("significant services")** and non-tailored outreach and reminders. High-intensity significant services involved interactive discussions with beneficiaries; low-intensity significant services did not require such interaction. Enhanced MTM interventions typically provided multiple significant services to eligible beneficiaries. Among the 12 categories of significant services, **CMRs, TMRs, and services focused on adherence were offered by all sponsors in at least one intervention.**

The total number of eligible beneficiaries receiving significant services increased by about 20 percent between Model Years 1 and 2, and the proportion of eligible beneficiaries receiving significant services increased from about 35 percent to 40 percent. The proportion of eligible beneficiaries receiving significant services varied substantially among sponsors, primarily resulting from differences in intervention design. For most sponsors, more beneficiaries received high-intensity services than low-intensity services, and the proportion receiving high-intensity services increased between Model Year 1 and Model Year 2 for all sponsors.

Services expected to have the most impact on beneficiary outcomes are CMRs, TMRs, and transitions-of-care services. **The proportion of CMR-eligible beneficiaries who received a CMR increased from 30 percent to 34 percent from Model Year 1 to Model Year 2**, and these rates are similar to CMR receipt rates reported for traditional MTM. **The proportion of TMR-eligible beneficiaries receiving TMRs increased from 24 to 26 percent from Model Year 1 to Model Year 2**. The number of beneficiaries receiving transitions-of-care services increased substantially between Model Years 1 and 2, but due to even larger increases in the number of beneficiaries eligible for these services, the transitions-of-care service receipt rate dropped from 71 percent in Model Year 1 to 54 percent in Model Year 2.

Each of the participating sponsors implemented multiple Enhanced MTM interventions offering a variety of services. Services included both general, non-tailored outreach (e.g., welcome letters and educational newsletters) and tailored services intended to address specific beneficiary needs (e.g., medication reviews, vaccination reminders). The focus of this section is on the tailored services, referred to throughout this report as "significant" services. Within the group of significant services, some services involved interactive discussions with beneficiaries (referred to as "high-intensity" services) and others focused on prescribers or non-interactive

education and reminders tailored to beneficiaries ("low-intensity"). As highlighted in the First Evaluation Report,[28] Enhanced MTM significant services included CMRs and TMRs, the two services required in traditional MTM. However, unlike in traditional MTM, sponsors did not offer these services uniformly to all eligible beneficiaries, reflecting a more tailored approach to service provision. In Enhanced MTM, sponsors also introduced new significant services such as automated refill reminders, vaccine reminders, and formal cost-sharing to meet perceived needs of their populations. This section describes the similarities and differences among significant services offered as part of Enhanced MTM interventions and the rates of service receipt among beneficiaries who are eligible to receive these services. Finally, this section describes sponsors' approaches to coordinating with prescribers as a part of their Enhanced MTM services.

3.1 What Are Enhanced MTM Significant Services?

Sponsors offered 12 categories of significant services that ranged in intensity from low (e.g., medication/vaccine reminders) to high (e.g., CMRs).

Sponsors offered an array of significant services, both within and across their Enhanced MTM interventions, tailored to the characteristics of eligible beneficiaries. These services fell into 12 categories, each characterized as either low-intensity (e.g., automated medication/vaccine reminders) or high-intensity (e.g., CMRs). Table 3.1 groups the 12 categories into five groups based on similar features. For example, the CMR group contains two CMR-related service categories, one general and one for beneficiaries with a recent transition of care. For these two CMR categories, the CMR service is similar but with slightly different attributes. Transitions-of-care CMRs focus on identifying medication issues resulting from a recent hospitalization and must be delivered within a very short time after leaving the hospital. A similar distinction applies to the two medication reconciliation categories (medication reconciliation and transitions-of-care medication reconciliation).

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

Table 3.1: The 12 Types of Significant Services Were Either High- or Low-Intensity

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

Most Enhanced MTM interventions included multiple significant services of varying intensity and frequency, as shown in Table 3.2. Some Enhanced MTM interventions offered only high-intensity services, others offered only low-intensity services, and some offered both. Similarly, some interventions offered one-time services, others offered recurrent services, and some offered both. Interventions generally offered high-intensity services more than once within a given Model Year, but generally offered low-intensity services only once. The frequency of

recurrent services varied among sponsors and their interventions, ranging from twice per Model Year up to daily.

Table 3.2: Enhanced MTM Interventions Included a Range of Significant Services

Sponsor and Enhanced MTM Intervention	Significant Service Categories												Intensity		Frequency	
	CMR	TMR(P)	Adherence(P)	TMR(B)	Vaccine	Cost/Social	Case/Disease	Med Rec	Adherence(A)	Transitions (CMR)	Transitions (Med Rec)	Transitions(P)	High	Low	One-Time	Recurrent
SilverScript/CVS																
Medication Therapy Counseling	✓	✓	✓	✓	✓		✓						✓	✓	✓	✓
Specialty Pharmacy Care Management							✓	✓					✓			✓
Pharmacy Advisor Counseling		✓	✓	✓									✓	✓	✓	
HealthTag (vaccine reminder)					✓									✓	✓	
Long-term Care[a]	✓	✓	✓	✓	✓		✓						✓	✓	✓	✓
Humana																
Risk-based (for DTPs)	✓	✓	✓	✓	✓		✓						✓	✓	✓	✓
Transitions of Care Medication Reconciliation											✓		✓		✓	
BCBS NPA																
High Risk (for multi-drug interactions)	✓	✓				✓		✓					✓	✓	✓	✓
Opioid[a]		✓												✓	✓	
Low Risk/High Cost[a]	✓					✓							✓		✓	
Community Pharmacy Smart Recommendations[a]			✓	✓	✓			✓					✓	✓	✓	
UnitedHealth																
Risk-based (for DTPs)	✓	✓		✓									✓	✓	✓	✓
Transitions of Care										✓			✓			✓
Medication Adherence Monitoring[a]									✓					✓	✓	
WellCare																
Medication Adherence	✓		✓						✓				✓	✓	✓	✓
Opioid Utilization		✓												✓		✓
Select Drug Therapy Problems		✓												✓		✓
High Utilizer	✓												✓			✓
BCBS FL																
Hospital Prevention	✓					✓							✓			✓
Diabetes Plus 3	✓					✓							✓			✓
Anticoagulant	✓					✓							✓			✓
Specialty Drug	✓					✓							✓			✓
Medication Adherence			✓			✓							✓		✓	
Transitions of Care						✓				✓		✓	✓	✓	✓	✓
Continuity of Care[a]	✓					✓							✓		✓	
Statin Use in Persons with Diabetes[a]		✓												✓	✓	

Notes: "Significant services" are defined as services that go beyond initial outreach and non-tailored education. Med Rec: Medication reconciliation; Transitions(Med Rec): Transitions of care (medication reconciliation); CMR:

Comprehensive Medication Review; Transitions(CMR): Transitions-of-care CMR; TMR(B): Targeted Medication Review (beneficiary); TMR(P): Targeted Medication Review (prescriber); Transitions(P): Transitions of care (prescriber); Adherence(P): Medication adherence (pharmacist); Adherence(A): Medication adherence (automated); Cost/Social: Cost-sharing and social support; Case/Disease: Case/disease management; and Vaccine: Immunization assessment, reminder, and administration. The table represents the service characteristics as of the end of Model Year 2.

[a] Enhanced MTM intervention offered in Model Year 2 only.

All sponsors offered CMRs, which are classified as high-intensity, in at least one of their interventions. In general, CMRs were offered to beneficiaries who were at higher risk, incurred higher costs, and/or had the most medically complex conditions (e.g., those with the most drug therapy problems such as drug interactions or gaps in care; those who were recently hospitalized; and those with certain health conditions). Typically, CMRs were structured to be recurrent so that beneficiaries had multiple touch points throughout a one-year period. Though all sponsors offered CMRs, none offered CMRs as a component of every Enhanced MTM intervention. Sponsors offered CMRs selectively to beneficiaries who they believed would benefit most from the service, and offered them more than once to those beneficiaries. This is in contrast to traditional MTM, in which sponsors are required to offer annual CMRs to all eligible beneficiaries.

All sponsors also offered TMRs and medication adherence-focused services of varying intensity. These TMRs could be either beneficiary-facing, classified as high-intensity, or prescriber-facing, classified as low-intensity. All sponsors except WellCare and BCBS FL offered both beneficiary- and prescriber-facing TMRs.[29] Typically, TMRs were one-time services that focused on specific DTPs, such as harmful drug interactions or gaps in care (e.g., beneficiaries diagnosed with diabetes but not prescribed statin therapy). The medication adherence-focused services offered by SilverScript/CVS, Humana, BCBS NPA, and BCBS FL entailed interactive contact between a beneficiary and pharmacist (high-intensity). UnitedHealth's adherence service was automated only (low-intensity), and WellCare determined the type of adherence service (interactive or automated) based on a beneficiary's risk level.

Only select sponsors offered the other categories of significant services. Among these remaining categories, there were notable differences in how sponsors implemented their medication reconciliation and case/disease management services. Though all sponsors offered medication reconciliation services as part of their CMRs, SilverScript/CVS (Specialty Pharmacy Care Management intervention) and BCBS NPA (Smart Recommendation intervention) also offered medication reconciliation services separately from a CMR as a "standalone" service. The goal of these services is to interact with the beneficiary to create the most accurate medication

[29] Beneficiary-facing TMRs were not included as part of any BCBS FL Enhanced MTM intervention; however, beneficiaries could proactively contact BCBS FL with medication-related questions and may have received a beneficiary-facing TMR as a result.

list possible (medication name, dosage, route, frequency) without undertaking other more in-depth services (e.g., CMR or case/disease management). In BCBS NPA's High Risk intervention, medication reconciliations were meant to precede a CMR, but, in cases where the beneficiary did not follow through with completing the CMR, medication reconciliations were recorded as a standalone service. In the case/disease management category, the focus for three interventions (Humana's Risk-based intervention and SilverScript/CVS's Medication Therapy Counseling and Long-term Care interventions) was on diabetes education and counseling. For SilverScript/CVS's Specialty Pharmacy Care Management intervention, the focus is on intensive case/disease management for beneficiaries with at least one select rare condition.

The two sponsors that offered services in the cost-sharing/social support category reported implementation challenges. In one instance, BCBS FL provided financial incentives to eligible beneficiaries who expressed that cost issues were a barrier to medication access, by offering co-pay waivers. However, BCBS FL reported challenges with initially establishing the workflow to process and execute the co-pay waivers and with engaging eligible beneficiaries, due to the narrow list of generic medications that qualify a beneficiary for co-pay waivers. Similarly, BCBS NPA planned to implement formal cost-sharing, but eventually abandoned this plan due to challenges with establishing internal financial tracking processes. Instead, BCBS NPA established a system led by a social worker to connect beneficiaries who received Enhanced MTM services as part of its High Risk or High Cost/Low Risk interventions to external financial and social services.

3.2 How Many Eligible Beneficiaries Received Significant Services?

There were more than one million significant services completed for about half a million beneficiaries eligible for Enhanced MTM in each Model Year.[30] This section focuses on the number and proportion of eligible beneficiaries who received significant services, by sponsor and over time, as reported in Enhanced MTM Encounter Data. It also examines receipt of high- and low-intensity services, along with service receipt rates for select high-intensity services.

[30] Encounter Data allow but do not require that sponsors record when a beneficiary rejects an offered service. Encounter Data records may include some services that were offered to beneficiaries but declined, although sponsors indicate that this type of reporting is rare. Where sponsors captured service declines associated with a service, the service count was removed from the analysis presented in this section. Medicare Advantage and Prescription Drug system (MARx) data report beneficiary opt-outs from the Model, but do not report those opt-outs for a specific intervention. See Appendix B.4 for more details on the data collection practices for the Enhanced MTM Model.

3.2.1 Receipt of All Significant Services

The proportion of eligible beneficiaries receiving significant services varied substantially among sponsors, primarily resulting from differences in intervention design.[31] On the high end, UnitedHealth provided a significant service to more than 90 percent of beneficiaries eligible for its Enhanced MTM interventions in both Model Years (Table 3.3). This is consistent with the design of UnitedHealth's Risk-based intervention, which divides its entire beneficiary population into either high- or low-risk tiers based on the presence of DTPs. For both risk tiers, UnitedHealth conducts quarterly prescriber-facing TMRs. Service receipt rates were significantly lower among other sponsors. For example, Humana provided a significant service to less than 30 percent of its eligible beneficiaries in both Model Years. Based on the service receipt rate projected by Humana in its Model application, this rate appears to be consistent with its intervention design.

The percentage of Enhanced MTM-eligible beneficiaries receiving significant services increased from 35 to 40 percent between Model Years 1 and 2.

For the Model as a whole, more beneficiaries received significant services in Model Year 2 than in Model Year 1, and the proportion of eligible beneficiaries receiving significant services increased as well. In Model Year 1, of over 1.2 million beneficiaries eligible for Enhanced MTM, about 35 percent (426,500 beneficiaries) received one or more significant services (Table 3.3).[32] In Model Year 2, just under 1.3 million beneficiaries were eligible for Enhanced MTM, and almost 40 percent of them (514,600 beneficiaries) received significant services. This represents a 20 percent increase in the number of beneficiaries receiving services between the two Model Years. Five of the six sponsors provided services to more beneficiaries in Model Year 2 than in Model Year 1, and rates of service receipt among eligible beneficiaries increased for all sponsors. As discussed in Section 2, the number of eligible beneficiaries decreased for most sponsors (primarily due to changes in plan enrollment). As a result, for most sponsors, the increase in service receipt rate reflects not just the increase in the number of beneficiaries receiving services (the numerator), but also the decrease in the number of beneficiaries who were eligible (the denominator). In contrast, BCBS NPA provided services to a substantially higher number of beneficiaries in Model Year 2 than in Model Year 1, while its eligible population remained fairly stable.

As the Modelwide service receipt rate of 35 percent in Table 3.3 implies, about 65 percent of eligible beneficiaries received no significant services in Model Year 1. This

[31] There is no evidence at this time that the variation in service receipt reflects differences in outreach effectiveness for any sponsor.

[32] Information on the number of different significant services is provided in Appendix B.9.

proportion decreased to about 60 percent in Model Year 2. Of the group not receiving significant services, some beneficiaries were eligible for, and received, non-significant services. Other beneficiaries may have been unreachable for service delivery. Relatively high proportions of non-receipt of significant services do not necessarily suggest problems with Model implementation. Indeed, sponsors did not expect to complete significant services for all their beneficiaries eligible for Enhanced MTM, based on the projections included in sponsor Model applications.

Among beneficiaries who received significant services, the average number of services received was 2.5 in Model Year 1 and 2.7 in Model Year 2, consistent with interventions typically offering multiple services that may recur throughout the year. In Model Year 1, the average number of services provided per beneficiary was fairly consistent across sponsors. In Model Year 2, the overall average number of services increased marginally, but BCBS FL's average number of significant services delivered per beneficiary increased substantially, from 3.3 to 8.1. As Section 2 notes, BCBS FL added new interventions in Model Year 2 that substantially increased the number of beneficiaries eligible for multiple interventions, which may account for this finding.

Table 3.3: **Significant Services Increased Between Model Year 1 and Model Year 2**

Sponsor	Model Year 1 (2017)					Model Year 2 (2018)				
	Enhanced MTM-Eligible Beneficiaries	Count of Significant Services	Beneficiaries Receiving Significant Services	Proportion of Eligible Beneficiaries Receiving Significant Services (%)	Average Number of Significant Services Delivered per Beneficiary	Enhanced MTM-Eligible Beneficiaries	Count of Significant Services	Beneficiaries Receiving Significant Services	Proportion of Eligible Beneficiaries Receiving Significant Services (%)	Average Number of Significant Services Delivered per Beneficiary
Across All Sponsors	***1,237,818***	***1,077,571***	***426,509***	***34.5***	***2.5***	***1,299,721***	***1,363,872***	***514,632***	***39.6***	***2.7***
SilverScript/CVS	726,974	563,932	213,116	29.3	2.6	868,976	751,952	295,664	34.0	2.5
Humana	221,676	105,385	49,889	22.5	2.1	180,189	129,336	52,640	29.2	2.5
BCBS NPA	51,209	43,098	15,469	30.2	2.8	49,105	73,377	35,630	72.6	2.1
UnitedHealth	95,520	206,609	87,664	91.8	2.4	75,532	173,208	69,570	92.1	2.5
WellCare	110,345	118,989	48,472	43.9	2.5	105,843	133,474	48,714	46.0	2.7
BCBS FL	35,022	39,558	12,170	34.7	3.3	22,735	102,525	12,680	55.8	8.1

Sources: Enhanced MTM eligibility data in the Medicare Advantage and Prescription Drug system (MARx) (accessed in June 2019); Enhanced MTM Encounter Data through December 2018, received from the Implementation and Monitoring Contractor in March 2019

Notes: Eligible beneficiaries are those with at least one month of recorded eligibility in the Model Year (2017 or 2018) in MARx data. Significant services are defined as services that go beyond initial outreach (e.g., welcome letter) and non-tailored education (e.g., general educational materials included in welcome package) and may be either "high intensity" (involving direct beneficiary engagement) or "low intensity" (involving prescriber-facing and automated services). All counts of significant services exclude known records associated with a service decline or failed outreach attempt. The average number of significant services delivered per beneficiary was calculated only among beneficiaries who received any significant service.

3.2.2 Receipt of High-Intensity and Low-Intensity Services

Modelwide, the proportion of eligible beneficiaries receiving high-intensity services was higher than the proportion receiving low-intensity services in each Model Year (Table 3.4).[33] In Model Year 2, every sponsor increased the proportion of eligible beneficiaries receiving high-intensity services. Most sponsors also increased the proportion of eligible beneficiaries receiving low-intensity services.

Table 3.4: High-Intensity Services Grew Between Model Year 1 and Model Year 2

Sponsor	Model Year 1 (2017)		Model Year 2 (2018)	
	Proportion Receiving High-Intensity Services (%)	Proportion Receiving Low-Intensity Services (%)	Proportion Receiving High-Intensity Services (%)	Proportion Receiving Low-Intensity Services (%)
Across All Sponsors	***24.0***	***16.1***	***28.9***	***19.1***
SilverScript/CVS	21.3	16.2	25.7	17.8
Humana	21.8	2.7	28.5	3.6
BCBS NPA	30.2	0.0	41.0	41.8
UnitedHealth	43.4	49.9	54.7	51.5
WellCare	23.4	23.1	26.5	22.8
BCBS FL	31.9	5.1	48.0	16.1

Sources: Enhanced MTM eligibility data in the Medicare Advantage and Prescription Drug system (MARx); Enhanced MTM Encounter Data through December 2018

Notes: These percentages use a denominator of beneficiaries eligible for Enhanced MTM, requiring one month of eligibility in the Model Year (2017 or 2018) in MARx data. All counts of significant services exclude records associated with a service decline or failed outreach attempt. Low- and high-intensity services are defined in Table 3.1.

Based on their experience during Model Year 1, sponsors implemented a variety of changes that may have contributed to the increase in completion of high-intensity services. For example, sponsors and/or their vendors used specially trained staff, experts in beneficiary engagement, to conduct beneficiary outreach. Sponsors also attempted to obtain accurate beneficiary contact information from physicians or community pharmacies, and to provide services at the same time as beneficiary outreach calls. Finally, in an effort to allay beneficiary concerns about scams, which is a significant challenge for phone-based Enhanced MTM service delivery, sponsors revised outreach scripts to include ways the beneficiary can validate the communication's authenticity.

[33] Appendix B.8 includes (i) a table detailing the number of high- and low-intensity services by sponsor, year, and intervention type, (ii) a table detailing the number of beneficiaries receiving low-intensity services, and (iii) a table providing the percentage of beneficiaries who received specific services.

3.3 Service Receipt Rates among Those Eligible for Select High-Intensity Services

Beneficiaries are eligible for specific services based on the Enhanced MTM intervention(s) for which they are targeted. Unfortunately, eligibility data recorded in MARx TC 91 files do not contain information on beneficiary eligibility for specific Enhanced MTM interventions. Consequently, service receipt rates for CMRs and TMRs cannot be precisely calculated using eligibility information from MARx files alone. To address this limitation, this section uses intervention-level eligibility data to calculate more meaningful service receipt rates by focusing on beneficiaries who were eligible for each type of high-intensity service.[34] This section focuses on service receipt rates for three services likely to impact beneficiary health outcomes: CMRs, TMRs, and transitions-of-care services.

3.3.1 Comprehensive Medication Reviews (CMRs)

About 30 percent and 34 percent of Enhanced MTM beneficiaries eligible for CMRs received them in Model Year 1 and 2, respectively.

The number of beneficiaries receiving CMRs increased, from about 69,000 in Model Year 1 to about 93,500 beneficiaries in Model Year 2 (Table 3.5). The number of beneficiaries eligible for this service also increased, even as the number of beneficiaries eligible for any intervention fell for most sponsors (see Section 2). Overall, rates of CMR receipt among eligible beneficiaries rose, from about 30 percent in Model Year 1 to 34 percent in Model Year 2. For context, 26 percent and 30 percent of beneficiaries eligible for a CMR under traditional MTM received the service in 2017 and 2018, respectively.[35] These CMR receipt rates are not directly comparable between traditional and Enhanced MTM, however, given the differences between the traditional program and the Model. For example, these rates do not account for beneficiaries receiving CMRs more than once per year. As noted in Section 3, "What are Enhanced MTM Significant Services?," this is common in Enhanced MTM interventions but not in traditional MTM, in which CMRs are typically completed once annually.

Among Enhanced MTM sponsors, Humana had the highest CMR receipt rates across both Model Years, possibly due to its unique method of outreach for CMRs, which relies much

[34] The number of services shown in this section do not exactly match the numbers shown in Table 3.3 because these tables use sponsor-provided intervention-specific eligibility data that differ slightly from MARx TC 91 files.

[35] The rate for 2018 was computed from Part D MTM program data for that year, using analogous specifications. See, for example: Centers for Medicare & Medicaid Services, "Analysis of Calendar Year 2017 Medicare Part D Reporting Requirements Data". July 2019. Available at: https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovContra/Downloads/2017-Parts-C-and-D-Annual-Report-July-2019.zip.

more heavily on community pharmacies to contact eligible beneficiaries. Most sponsors increased rates of CMR receipt between Model Years 1 and 2, and BCBS FL had the largest increase, followed by BCBS NPA and WellCare. For BCBS FL, the increase in the CMR receipt rate was driven by both an increase in the number of beneficiaries receiving a CMR, and a reduction in the number of beneficiaries eligible for this service.

Table 3.5: **CMRs Increased in Volume and Service Receipt Rates Rose**

Sponsor	Model Year 1 (2017)			Model Year 2 (2018)		
	Beneficiaries Eligible for CMR	Beneficiaries Receiving CMR	Proportion of Eligible Beneficiaries Receiving CMR (%)	Beneficiaries Eligible for CMR	Beneficiaries Receiving CMR	Proportion of Eligible Beneficiaries Receiving CMR (%)
Across All sponsors	***229,484***	***68,909***	***30.0***	***278,455***	***93,549***	***33.6***
SilverScript/ CVS	39,636	9,201	23.2	86,412	21,811	25.2
Humana	42,403	17,026	40.2	55,945	23,336	41.7
BCBS NPA	50,621	14,447	28.5	47,382	19,262	40.7
UnitedHealth	48,493	15,133	31.2	47,440	12,649	26.7
WellCare	24,906	5,261	21.1	24,848	7,972	32.1
BCBS FL	23,425	7,841	33.5	16,428	8,519	51.9

Sources: Enhanced MTM Encounter Data through December 2018, received from the Implementation and Monitoring Contractor in March 2019; MARx data supplemented with intervention-specific flags received from sponsors in January 2019.

Notes: All counts exclude records associated with a service decline or failed outreach attempt. Eligible beneficiaries are those with intervention-specific flags in the supplemental data received from sponsors. The numbers of beneficiaries receiving CMRs in this table do not exactly match the numbers shown in Table 3.4 because this table uses sponsor-provided intervention-specific eligibility data that differ slightly from MARx TC 91 files used in Table 3.3; CMRs associated with a transitions-of-care service are included.

3.3.2 Targeted Medication Reviews (TMRs)

The number of beneficiaries receiving a TMR also increased, from about 216,455 in Model Year 1 to 271,043 in Model Year 2, with the increase entirely in beneficiary-facing, rather than prescriber-facing, interventions (Table 3.6). There was a small increase in TMR receipt rates, from about 24 percent to about 26 percent among beneficiaries eligible for a TMR, due to the large increase in the number of beneficiaries eligible for TMRs in Model Year 2.

The proportion of TMR-eligible beneficiaries who received a TMR increased slightly, from 24 percent to 26 percent, between Model Years 1 and 2.

Among sponsors, the TMR receipt rate varied, primarily due to differences in intervention design. For example, both BCBS FL and UnitedHealth had high rates of TMR receipt among beneficiaries eligible for TMR. All TMRs offered as part of BCBS FL's interventions were prescriber-facing, eliminating any need to involve the beneficiary in the service.[36] UnitedHealth's intervention heavily used prescriber-facing TMRs in Model Year 1; this sponsor provided far fewer prescriber-facing TMRs in Model Year 2. SilverScript/CVS provided TMRs to the largest number of beneficiaries. Most sponsors increased the number of beneficiaries receiving TMRs between Model Years 1 and 2, even if their TMR eligibility rate decreased. Both the large increase in TMR eligibility for SilverScript/CVS and large decrease in TMR eligibility for Humana may be explained by the migration of LIS beneficiaries from Humana plans to SilverScript/CVS plans in Model Year 2.

Table 3.6: **Beneficiary-Facing TMRs Increased in Volume and Service Receipt Rates Rose**

Sponsor	Model Year 1 (2017)				Model Year 2 (2018)			
	Beneficiaries Eligible for TMR	Beneficiaries Receiving TMR (Beneficiary Facing)	Beneficiaries Receiving TMR (Prescriber Facing)	Proportion of Eligible Beneficiaries Receiving TMR (%)	Beneficiaries Eligible for TMR	Beneficiaries Receiving TMR (Beneficiary Facing)	Beneficiaries receiving TMR (Prescriber Facing)	Proportion of Eligible Beneficiaries Receiving TMR (%)
Across All sponsors	***881,589***	***132,389***	***84,066***	***23.9***	***1,004,795***	***188,877***	***82,166***	***26.3***
SilverScript/ CVS	504,226	77,671	5,618	15.7	644,266	124,105	5,185	19.5
Humana	205,149	17,393	5,729	10.3	173,014	26,124	4,519	16.2
BCBS NPA	NA	NA	NA	NA	38,224	565	20,184	53.2
UnitedHealth	95,436	37,325	47,658	89.0	75,442	38,063	27,359	86.7
WellCare	76,778	NA	25,061	32.6	72,803	NA	23,958	32.9
BCBS FL	NA	NA	NA	NA	1,046	20	961	93.8

Sources: Enhanced MTM Encounter Data through December 2018; MARx data supplemented with intervention-specific eligibility flags received from sponsors.

Notes: All counts exclude records associated with a service decline or failed outreach attempt. Eligible beneficiaries are those with intervention-specific flags in the supplemental data received from sponsors. The numbers of beneficiaries receiving TMRs in this table do not exactly match the numbers shown in Table 3.3 because this table uses sponsor-provided intervention-specific eligibility data that differ slightly from MARx TC 91 files used in Table 3.3.

3.3.3 Transitions-of-Care Services

Transitions-of-care services are a small but growing component of sponsors' Enhanced MTM interventions (Table 3.7). Sponsors have invested significant effort to acquire real-time discharge information (ADT data via the HIE) so that outreach can begin in a timely fashion

[36] Beneficiaries could proactively contact BCBS FL with medication-related questions and may have received a beneficiary-facing TMR as a result.

(ideally within one to two weeks post-discharge). Across all sponsors, the number of beneficiaries receiving transitions-of-care services increased from about 6,000 in Model Year 1 to more than 8,000 in Model Year 2. Humana and BCBS FL were largely responsible for this increase. Humana incorporated HIE data into its transitions-of-care targeting approach in Model Year 2, and BCBS FL expanded targeting criteria in Model Year 2 to include beneficiaries with a recent emergency department visit. In contrast, UnitedHealth provided fewer transitions-of-care services in Model Year 2. UnitedHealth did not make any significant implementation changes to its Transitions of Care intervention in Model Year 2 that could explain the reduction in service receipt rates.

Overall, while the number of beneficiaries receiving transitions-of-care services increased substantially, the number of beneficiaries eligible for these services (which form the denominator of the rates) almost doubled. Together, these changes resulted in a decrease in the rate of receipt for these intensive services, from 71 percent in Model Year 1 to 54 percent in Model Year 2. Rates of transitions-of-care service receipt varied across sponsors; BCBS FL had the highest service receipt rates and Humana had the lowest rates.

Table 3.7: Transitions-of-Care Services Increased in Volume but Service Receipt Rate Fell

Sponsor	Model Year 1 (2017)			Model Year 2 (2018)		
	Beneficiaries Eligible for Transitions-of-Care Services	Beneficiaries Receiving Transitions-of-Care Services	Proportion of Eligible Beneficiaries Receiving Transitions-of-Care Services	Beneficiaries Eligible for Transitions-of-Care Services	Beneficiaries Receiving Transitions-of-Care Services	Proportion of Eligible Beneficiaries Receiving Transitions-of-Care Services
Across All sponsors	***8,728***	***6,156***	***70.5%***	***15,595***	***8,441***	***54.1%***
SilverScript/CVS	NA	NA	NA	NA	NA	NA
Humana	1,326	46	3.5%	4,806	1,242	25.8%
BCBS NPA	NA	NA	NA	NA	NA	NA
UnitedHealth	4,152	3,261	78.5%	4,255	2,033	47.8%
WellCare	NA	NA	NA	NA	NA	NA
BCBS FL	3,250	2,849	87.7%	6,534	5,166	79.1%

Sources: Enhanced MTM Encounter Data through December 2018; MARx data supplemented with intervention-specific eligibility flags received from sponsors.

Notes: All counts exclude records associated with a service decline or failed outreach attempt. Eligible beneficiaries are those with intervention-specific flags in the supplemental data received from sponsors. The numbers of beneficiaries receiving transitions-of-care services in this table do not exactly match the numbers shown in Table 3.3, because this table uses sponsor-provided intervention-specific eligibility data that differ from MARx TC 91 files used in Table 3.3. This table does not include CMRs outside the transitions-of-care context.

3.4 How Did Sponsors Coordinate with Prescribers to Deliver Enhanced MTM Services?

Sponsors reported that having dedicated staff follow up with prescribers was an effective strategy for increasing prescriber response rates to Enhanced MTM recommendations.

Some Enhanced MTM services directly interface with prescribers (e.g., prescriber-facing TMRs), and other services involving beneficiaries (e.g., CMRs) may result in prescribers receiving information and recommendations after the service. Regardless of the type of service, prescriber outreach for Enhanced MTM focused primarily on medication changes or recommendations that required prescriber review and acceptance. As discussed in the First Evaluation Report, prescriber outreach processes used by sponsors for Enhanced MTM were generally similar to traditional MTM, and sponsors encountered challenges similar to traditional MTM with having prescribers review and respond to recommendations made by the pharmacist after completing Enhanced MTM services.[37] These challenges impact MTM's potential to improve beneficiary outcomes, because in many cases, recommendations offered by sponsor MTM must be accepted by prescribers to affect medication use. Prescriber perspectives on medication management offered by PDPs are discussed in Section 5.

Sponsors deployed different outreach strategies to address common challenges related to prescribers reviewing and enacting recommendations made by the pharmacist. Sponsors that used a dedicated pharmacy technician or other staff member to fax information to the prescriber following a service and follow-up (by fax and/or phone) to ensure receipt of the information reported that this strategy resulted in higher prescriber response rates. Some sponsors took other steps to improve coordination and collaboration with prescribers. Humana and BCBS FL incorporated proactive prescriber outreach in addition to service or post-service communication. This outreach involved educating prescribers about the Enhanced MTM Model or informing them of beneficiaries' eligibility for Enhanced MTM services in an effort to bolster prescriber involvement in Enhanced MTM and encourage prescribers to promote their patients' participation in Enhanced MTM. However, Humana discontinued this proactive outreach at the end of Model Year 2 because it did not generate a significant number of referrals and service completions. Humana was the only sponsor to leverage pharmacists embedded in physician clinics to promote both beneficiary and prescriber involvement in Enhanced MTM services.

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

4 HOW DID THE ENHANCED MTM MODEL IMPACT MEDICARE PARTS A AND B EXPENDITURES?

Section Summary

Estimated reductions in Medicare Parts A and B expenditures for beneficiaries enrolled in Enhanced MTM plans, relative to comparators, were small and lacked statistical significance. For most sponsors, the effects of the Enhanced MTM Model on Medicare Parts A and B expenditures were small and not statistically significant, consistent with the Modelwide estimate. The exception is BCBS FL, which had a large statistically significant decrease of $44.72 per beneficiary per month in Model Year 1.

Setting-specific estimates show statistically significant Modelwide decreases in inpatient and skilled nursing facility expenditures, which were partly offset by statistically significant increases in outpatient non-emergency and outpatient emergency department expenditures. Overall, changes in healthcare utilization are consistent with changes in expenditures. There was some cross-sponsor variation in the estimated impact on setting-specific expenditures, but there are no differences in implementation that help explain these findings consistently.

In each of the first two years of implementation, the sum of Medicare's prospective and performance-based payments to sponsors was slightly larger than the estimated decreases in Medicare Parts A and B expenditures. Consequently, **the Model has generated net losses for Medicare, though the estimates are not statistically significant.** Cumulatively, the estimated net losses were $80.4 million; net losses in Model Year 2 were larger than in Model Year 1.

This section presents the estimated impact of the Enhanced MTM Model on Medicare expenditures. It includes findings from analyses that estimate the effect of the Model on Medicare's portion of Part A and B expenditures ("gross expenditures"), overall and by service delivery setting, for beneficiaries enrolled in Enhanced MTM-participating plans in the first two years of the Model. This section also presents estimates of the Model's impact on Medicare expenditures net of Medicare's prospective payments and performance-based payments to sponsors ("net expenditures"), to assess net savings or losses to Medicare over this period.

4.1 Outcome Measures and Analytic Methodology

The Enhanced MTM Model's impact on Medicare's portion of total Parts A and B expenditures was estimated for beneficiaries enrolled in Model-participating plans. The Model's impact on Medicare expenditures was also analyzed for the following service delivery settings: inpatient, outpatient non-emergency, outpatient emergency department (ED), physician and

ancillary services, and skilled nursing facility (SNF).[38] Additionally, Model impacts on healthcare utilization outcomes such as length of stay and number of admissions in the inpatient and SNF service delivery settings and number of visits in the outpatient setting were also examined to investigate the drivers of estimated impacts on expenditures. All expenditure and utilization data come from claims information in the Common Working File (CWF; accessed in August 2019), and expenditures were standardized to control for regional differences in the cost of care (due to labor costs and practice expenses).[39] To adjust for inflation, all expenditures are reported in 2018 US dollars. These measures are defined in Appendix B.1.

The remainder of this section outlines the methodology for the estimation of Model impacts on expenditures, including comparison group construction and difference-in-differences (DiD) estimation, as well as the process to calculate Model impacts on net expenditures for Medicare. Appendix B.1 presents additional methodological details.

4.1.1 Selection of Analytic Cohort and Estimation

The analytic cohort for estimating impacts on Medicare Parts A and B expenditures was constructed from the pool of all enrollees in Enhanced MTM Model-participating plans; a propensity score matching approach was used to select appropriate comparators based on demographic and health characteristics before Model exposure. Enhanced MTM Model impacts on Medicare Parts A and B expenditures were estimated using a DiD framework.

The treatment cohort consists of all beneficiaries enrolled in Model-participating plans in either 2017 or 2018 who had at least one month of exposure to the Model (i.e., were enrolled in an Enhanced MTM Model-participating plan after the Model's launch) and 12 months of continuous Medicare Parts A, B, and D enrollment before their exposure to the Model. These enrollment restrictions ensure data availability for matching and estimation of Model impacts. Beneficiaries were excluded from analyses if they received hospice care before or in the first month of their exposure to the Enhanced MTM Model.[40] Around 1.2 percent of beneficiaries were excluded because they were in hospice care. After all exclusions were applied, about 67 percent of beneficiaries enrolled in participating plans remained in the treatment cohort. Of those who did not satisfy enrollment restrictions, about a quarter were new Medicare enrollees,

[38] The Enhanced MTM Model evaluation did not assess Model impacts on hospice, home health, and durable medical equipment expenditures separately, though expenditures in these settings are included in total Part A and B expenditures. Beneficiaries receiving hospice care are not expected to benefit from Enhanced MTM. Home health and durable medical equipment expenditures do not account for a significant portion of total expenditures.

[39] The CWF is the Medicare Part A and Part B beneficiary benefits coordination and pre-payment claims validation system.

[40] Beneficiaries in hospice care have short life expectancy and are not expected to benefit from the Model.

40 percent had non-continuous Parts A, B, and D enrollment, and another 35 percent were enrolled in Medicare Advantage before their exposure to the Model.[41]

To select appropriate comparison beneficiaries for the treatment cohort, potential comparators who were not exposed to the Model were identified and similar enrollment restrictions were imposed.[42] Potential comparators resided in prescription drug plan (PDP) regions that do not offer the Enhanced MTM Model, and were enrolled in plan types that are eligible for participation in the Enhanced MTM Model (Defined Standard, Basic Alternative, or Actuarially Equivalent Standard PDPs).[43]

After identifying the treatment cohort and the cohort of potential comparators, propensity score estimation was conducted separately for each sponsor. The propensity score model included individual beneficiary characteristics before Enhanced MTM Model exposure (e.g., variables related to demographic and clinical characteristics, past Parts A and B expenditures, and healthcare utilization) and regional variables (e.g., urban/rural status based on zip code information, Parts A and B expenditures, and healthcare utilization in Hospital Referral Region of residence). The estimated propensity score was assigned to all beneficiary-months eligible for inclusion in analyses, and was used to match eligible beneficiary-months in the treatment cohort to eligible beneficiary-months in the potential comparison cohort. The matching process used caliper matching with replacement, combined with exact matching on select variables (e.g., age, race). Each treatment beneficiary-month was matched to up to four comparison beneficiary-months, and weights were applied to account for many-to-many matching. This process identified comparison beneficiaries for 98.6 percent of all Enhanced MTM plan enrollees in Model Years 1 and 2 who met the enrollment restrictions. Baseline demographic and clinical characteristics of the matched analytic sample are described in Section 4.2. Appendix B.1 includes a more detailed discussion of the process for the selection of the analytic cohort.

The unit of observation in the DiD models is a beneficiary-month. Impact estimates were produced for the Model as a whole (by pooling together all sponsor-specific analytic cohorts) and separately for each sponsor. Results from two specifications are presented. The first produces a single, cumulative estimate of the Enhanced MTM Model's impact on per-beneficiary-per-month (PBPM) expenditures over the entire two years of Model implementation;

[41] A sensitivity analysis that relaxed the enrollment restrictions and required six rather than 12 months of continuous Parts A, B, and D enrollment produced similar findings to those presented in this report.

[42] Because potential comparators were not exposed to the Enhanced MTM Model, dates of pseudo-exposure to the Enhanced MTM Model for this group were assigned based on the distribution of dates in the treatment population, and enrollment restrictions applied based on these dates.

[43] Geographic restrictions were applied to the potential comparison group to remove beneficiaries who reside in regions (New England, New York, New Jersey, Hawaii, and Alaska) far from the Enhanced MTM Model's test area, and those who reside in Maryland (due to the waiver currently in place for hospital payments).

the second allows the PBPM estimate on expenditures to vary by Model Year. All estimates correspond to changes relative to baseline, and standard errors were clustered at the beneficiary level in all specifications. Appendix B.1 provides further details on the regression model.[44]

4.1.2 Net Expenditure Calculations

The estimated impact of the Enhanced MTM Model on Medicare's net expenditures accounts for the estimated change in gross expenditures, as well as for costs incurred by Medicare for prospective payments and performance-based payments to participating sponsors. Specifically, Modelwide impacts on net Medicare expenditures take into account:

(i) DiD estimates of Model impacts on PBPM Medicare Parts A and B expenditures ("gross expenditures") for beneficiaries enrolled in Model-participating plans, based on analyses described in Section 4.1.1 and presented in Section 4.3;

(ii) Modelwide average PBPM prospective payments to participating sponsors made by Medicare; [45] and

(iii) Modelwide PBPM performance-based payments made by Medicare to qualifying participating sponsors.[46]

The PBPM estimate of changes in Modelwide net expenditures is the sum of the values of estimated changes in Modelwide gross Medicare expenditures, Modelwide PBPM prospective payments, and Modelwide PBPM performance-based payments. If the resulting sum is negative, the Model has generated estimated net savings (i.e., Medicare's payments to sponsors were smaller than estimated decreases in Medicare Parts A and B expenditures of beneficiaries enrolled in participating plans relative to comparators); if the sum is positive, then the Model has generated estimated net losses (i.e., Medicare's payments to sponsors were larger than estimated decreases in Medicare Parts A and B expenditures of beneficiaries enrolled in participating plans relative to comparators).

[44] Sensitivity analyses found that the expenditures estimates were robust to the removal or truncation of outliers. These analyses are discussed in more detail in Appendix B.1.

[45] Information on prospective payments was provided to Acumen by CMS. The authorized monthly prospective payment amounts were used to calculate the average PBPM prospective payment. Prospective payments for November and December 2018 for WellCare were not allocated until January 2019. Consequently, prospective payment information for 2018 and 2019 was used to impute prospective payments for November and December 2018 for WellCare.

[46] Performance-based payments are awarded with a two-year delay. For example, performance results in Model Year 1 (2017) determine eligibility for performance-based payments that are awarded in Model Year 3 (2019). For plans that qualified for performance payments based on Model Year 1 (2017) and Model Year 2 (2018) performance, the total expected amount of performance payments awarded in 2019 and in 2020 (using enrollment projections) was calculated, and then these amounts were translated into PBPM amounts for 2017 and 2018, based on 2017 and 2018 enrollment, respectively.

The PBPM estimates of changes in net expenditures were then multiplied by the total number of all beneficiary-months enrolled in participating plans to produce estimates of changes in total net expenditures. Because the calculation of performance-based payments required enrollment projections for April 2020 through December 2020, the estimates of changes in net expenditures presented in this report are preliminary and will be updated as enrollment data become available.

4.2 Characteristics of the Analytic Cohort

The treatment and comparison cohorts are generally well-matched (Table 4.1). For example, measures of baseline healthcare utilization and related expenditures are similar between treatment and comparison groups. These descriptive statistics correspond to the 12-month period before Model exposure (i.e., the baseline period). Additional details on sample sizes, common support graphs, covariate summaries pre- and post-matching, and figures and tables comparing trends in baseline Medicare Parts A and B expenditures between the treatment group and comparators are presented in Appendix B.1.

The analytic population tends to be white and reside in urban areas. A little less than half of the analytic cohort were eligible for low-income subsidy (LIS), and about 41 percent were dually eligible for Medicare and Medicaid during the baseline period. About 17 percent had at least one inpatient admission, and about 30 percent had at least one ED visit. Beneficiaries in the sample use, on average, about four medications concurrently.

Baseline characteristics for each sponsor are presented in Appendix B.1, Appendix Table B.17. Beneficiaries enrolled in SilverScript/CVS, Humana, and WellCare plans are younger, less likely to be white, and more likely to have at least one ED visit in the baseline period compared to beneficiaries enrolled in BCBS NPA, BCBS FL, and UnitedHealth. Beneficiaries enrolled in BCBS NPA and BCBS FL plans are less likely to be eligible for LIS or dually eligible for Medicare and Medicaid compared to other sponsors, and tend to have fewer inpatient admissions (and lower associated costs) in the baseline period. Additionally, BCBS NPA beneficiaries had the lowest average total medical costs per beneficiary in the baseline period, while Humana beneficiaries had the highest.

Table 4.1: The Treatment and Comparison Cohorts Are Well-Matched on Baseline Characteristics

Characteristics (12 months before exposure to the Enhanced MTM Model; weighted)	Treatment		Comparison	
	Mean	*STD*	Mean	*STD*
Number of Beneficiaries	1,427,816		2,944,397	
Age				
% Below 65 Years Old	25.8	*43.8*	25.8	*43.8*
% 65-69 Years Old	20.2	*40.1*	20.2	*40.1*
% 70-74 Years Old	20.1	*40.0*	20.1	*40.0*
% 75-79 Years Old	13.8	*34.5*	13.8	*34.5*
% 80+ Years Old	20.1	*40.1*	20.1	*40.1*
% Female	58.0	*49.4*	58.0	*49.4*
Race				
% White	80.7	*39.5*	80.7	*39.5*
% Black	11.0	*31.3*	11.0	*31.3*
% Other	8.2	*27.5*	8.2	*27.5*
% Dual Eligible	41.2	*49.2*	41.2	*49.2*
% Urban	80.6	*39.5*	77.9	*41.5*
% Disabled	33.1	*47.1*	33.1	*47.1*
% with ESRD	0.6	*7.8*	0.6	*7.8*
% with LIS Status	45.8	*49.8*	45.8	*49.8*
Evaluation and Management (E&M) Visits				
% with 0 E&M Visits	8.3	*27.5*	7.4	*26.1*
% with 1-5 E&M Visits	35.2	*47.8*	35.1	*47.7*
% with 6-10 E&M Visits	27.0	*44.4*	27.4	*44.6*
% with 11-15 E&M Visits	14.8	*35.5*	15.1	*35.8*
% with 16+ E&M Visits	14.7	*35.4*	15.0	*35.7*
IP Stays				
% with 0 IP Stays	82.6	*37.9*	82.5	*38.0*
% with 1 IP Stay	11.2	*31.5*	11.0	*31.3*
% with 2+ IP Stays	6.2	*24.2*	6.4	*24.5*
ED Visits				
% with 0 ED Visits	71.0	*45.4*	70.0	*45.8*
% with 1 ED Visit	17.1	*37.7*	17.4	*37.9*
% with 2+ ED Visits	11.9	*32.4*	12.6	*33.2*
Average Number of Concurrent Medications	3.7	*3.0*	3.8	*2.9*
Average Total Annual Part D Costs per Beneficiary	$4,117	*$12,709*	$4,206	*$13,307*
Average Total Annual Parts A and B Costs per Beneficiary	$11,323	*$23,890*	$11,623	*$24,618*
Average Annual IP Costs per Beneficiary	$3,062	*$11,878*	$3,136	*$12,075*
Average HCC Risk Score	1.2	*1.2*	1.2	*1.2*

Notes: STD: Standard Deviation; ESRD: End-Stage Renal Disease; LIS: Low-Income Subsidy; IP: Inpatient; ED: Emergency Department; HCC: Hierarchical Condition Categories. The "% Disabled" and "% with ESRD" are based on beneficiaries' original reason for Medicare eligibility. Total quarterly cost information is provided in the covariate summaries in Appendix B.1.

Sources: Common Medicare Environment (CME; for age, sex, race, and LIS status), accessed in June 2019; Enrollment Database (EDB; for dual eligibility, urban/rural, disability, and ESRD status), accessed June 2019; Part D Drug Event File (PDE; for number of concurrent medications, drug costs), accessed July 2019; Common Working File (CWF; for number of E&M visits, inpatient stays, ED visits; medical costs; inpatient costs; and CMS HCC risk score), accessed August 2019; and the 2016 and 2017 Master Beneficiary Summary File (MBSF; for number of chronic conditions). The HCC Risk Score is calculated

based on January-December 2016 data for beneficiaries enrolled in plans in 2017, and January-December 2017 data for beneficiaries enrolled in plans in 2018.

4.3 Model Impact on Gross Expenditures

Estimates of the Model's impact on Medicare Parts A and B expenditures, overall and by service delivery setting, at the Modelwide and sponsor levels, are presented in turn below.

Modelwide Estimates for Parts A and B Expenditures

Beneficiaries enrolled in Enhanced MTM plans had small and statistically non-significant decreases in Medicare Parts A and B expenditures relative to comparators over the first two years of Model implementation, corresponding to a 0.30 percent change from baseline (see Table 4.2).

Estimated decreases in Medicare Parts A and B expenditures for beneficiaries enrolled in Enhanced MTM plans were small and not statistically significant in the first two years of Model implementation.

Table 4.2: Modelwide, Decreases in Parts A and B Expenditures Were Small and Not Statistically Significant

	Cumulative	Model Year 1	Model Year 2
Per-Beneficiary Per-Month Estimate (in $)			
Difference-in-Differences	- $2.65	- $3.85	- $1.27
P-value	0.343	0.223	0.720
95% Confidence Interval	(-8.14, 2.83)	(-10.05, 2.35)	(-8.23, 5.68)
Relative Difference	-0.30%	-0.44%	-0.15%

Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. The unit of observation is a beneficiary-month. Number of Enhanced MTM observations: 45,991,873 (1,427,816 beneficiaries). Number of comparison observations: 88,259,023 (2,994,397 beneficiaries). Each estimate (Cumulative, Model Year 1, Model Year 2) corresponds to change relative to the baseline period. The relative difference is calculated as the difference-in-differences (DiD) estimate divided by the baseline Enhanced MTM regression-adjusted mean, and expressed as a percentage.

Sponsor-level Estimates for Medicare Parts A and B Expenditures

While different MTM services typically share common mechanisms for reducing healthcare utilization and expenditures through improved medication use, the substantial flexibility offered to participating sponsors and the resulting differences in implementation (discussed in Sections 2 ["How Did Sponsors Design Their Enhanced MTM Interventions?"] and 3 ["What Services Were Provided Under the Enhanced MTM Model?"]) are likely to lead to differences in observed impacts. For example, there are cross-sponsor differences in receipt rates

for significant services that may lead to differences in estimated impacts. Similarly, as discussed in Section 4.2, there are also differences in enrollee characteristics across sponsors (e.g., in the age distribution, the proportion of LIS-eligible beneficiaries among plan enrollees, average baseline medical expenditures) that can influence overall expenditures.

Together, SilverScript/CVS and Humana account for about 66 percent of enrollment in participating plans, and are therefore expected to have a large influence on Modelwide estimated impacts. Sponsor-level analyses show that SilverScript/CVS and Humana both had small and non-significant cumulative decreases in Parts A and B expenditures consistent with the Modelwide estimate, corresponding to 0.28 and 0.10 percent of baseline expenditures, respectively (see Table 4.3). The effects of the Model on Medicare Parts A and B expenditures were also small and not statistically significant for other sponsors (see Table 4.3). Cross-sponsor differences in the magnitude of point estimates are not consistently related to observed differences in Model implementation. For example, the sponsor-level estimates are not consistently related to the number of beneficiaries receiving significant services in that sponsor's interventions.

Table 4.3: By Sponsor, Cumulative Estimated Impacts on Medicare Parts A and B Expenditures Were Generally Small and Not Statistically Significant

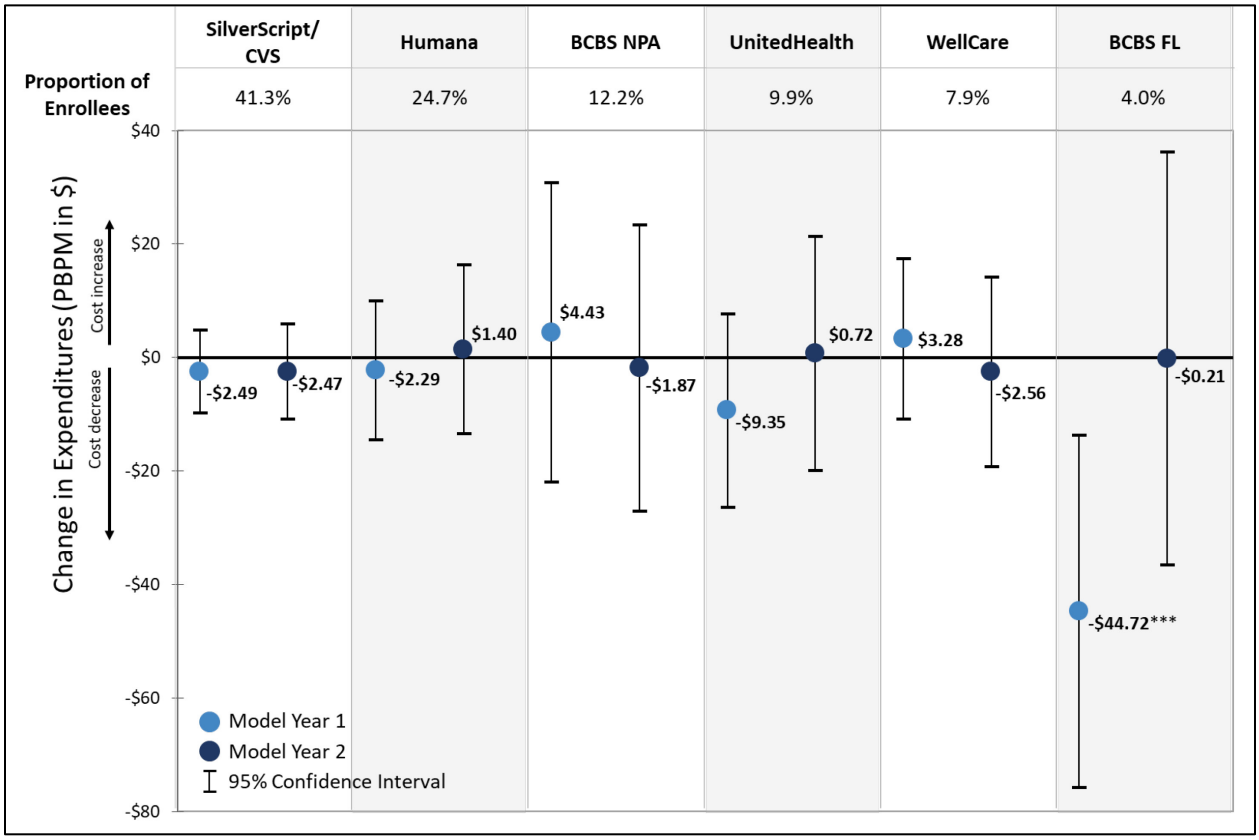
	Gross Parts A and B Expenditures for Medicare					
	SilverScript/ CVS	**Humana**	**BCBS NPA**	**UnitedHealth**	**WellCare**	**BCBS FL**
Cumulative Estimate (per-beneficiary per-month)						
Difference-in-Differences	- $2.48	- $0.92	$1.37	- $4.67	$0.48	- $23.16
P-value	0.466	0.872	0.901	0.566	0.943	0.113
95% Confidence Interval	(-9.13, 4.18)	(-12.01, 10.18)	(-20.22, 22.95)	(-20.60, 11.26)	(-12.50, 13.46)	(-51.82, 5.49)
Relative Difference	-0.28%	-0.10%	0.20%	-0.53%	0.05%	-2.84%
Sample Information						
Total Enhanced MTM Beneficiary-months	19,357,671	10,388,735	5,970,022	4,641,279	3,654,280	1,979,886
Total Enhanced MTM Beneficiaries	590,342	352,407	173,745	141,157	112,572	57,593
Total Comparison Beneficiary-months	45,337,841	23,303,449	9,223,135	10,006,296	13,020,918	3,228,925
Total Comparison Beneficiaries	1,522,292	813,558	288,141	334,362	461,261	101,407

Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. The unit of observation is a beneficiary-month. Each cumulative estimate corresponds to change relative to the baseline period. The relative difference is calculated as the difference-in-differences (DiD) estimate divided by the baseline Enhanced MTM regression-adjusted mean, and expressed as a percentage. Estimates significant at the 5 percent level are in **bold.**

As Figure 4.1 shows, by Model Year, sponsor-level estimates of Medicare Parts A and B expenditures were generally small and not statistically significant, and there was variation in the direction of the estimates over time (see Appendix B.10.1 for tables with detailed sponsor-level

findings). Figure 4.1 also shows that for BCBS FL, Parts A and B expenditures decreased by a large and statistically significant $44.72 PBPM in Model Year 1 (corresponding to 5.48 percent of baseline). However, this decrease is not sustained in Model Year 2.

Figure 4.1: There Were Small and Not Statistically Significant Changes in Parts A and B Expenditures for All Sponsors and Both Model Years, Except for BCBS FL in Model Year 1



Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. The unit of observation is a beneficiary-month.

There are some unique features of BCBS FL's interventions that could potentially explain the large estimated decrease in Model Year 1 expenditures. Among all sponsors, BCBS FL offered the largest number of distinct interventions, and was the only sponsor that used ADT feeds from an HIE to target beneficiaries who experienced a transition of care. This sponsor was also the only one to offer cost-sharing/social support services in the form of co-pay waivers for eligible beneficiaries who experienced financial constraints to medication access. However, these features of BCBS FL's Model Year 1 interventions continued into Model Year 2 and do not explain why the estimated expenditure decreases in Model Year 1 are not sustained in Model Year 2. In Model Year 2, BCBS FL added two new interventions and significantly expanded its

transitions-of-care interventions (see Sections 2 and 3 for more details). As a result, more beneficiaries received services in Model Year 2. Thus, BCBS FL's interventions do not seem to offer a sufficient explanation for significant impacts that are only observed in Model Year 1.

The socio-demographic make-up of BCBS FL's population is another potential explanation for the observed impacts. Appendix Table B.17 presents a cross-sponsor comparison of enrollee demographics. Relative to most other sponsors, enrollees in the BCBS FL plan tend to be older and wealthier (i.e., less likely to be LIS-eligible or eligible for dual status). They also tend to have lower medical and prescription drug costs and related healthcare utilization. It is possible that the Model is more effective for these populations. However, the plan's enrollee population was relatively stable over time (see Appendix Table B.26), while the observed impacts are not. Additionally, enrollees in the BCBS NPA plan have similar characteristics to enrollees in BCBS FL, but estimated impacts for this sponsor are not significant. Enrollee characteristics therefore do not seem likely to be the cause of estimated decreases in Model Year 1 expenditures for BCBS FL that are not sustained in Model Year 2.

To assess whether the estimates for BCBS FL were related to differences in Model Year 1 expenditures in Florida relative to other Model regions (BCBS FL is only active in Florida), a supplemental analysis of plan-level Model impacts on expenditures was conducted for other participating plans that are active in Florida. This analysis did not find similar statistically significant decreases in Medicare Parts A and B expenditures across other participating PDPs active in Florida. Therefore, the estimated decreases in Model Year 1 expenditures for BCBS FL do not seem to be related to conditions specific to Florida during Model Year 1. Another supplemental analysis examined the robustness of BCBS FL estimates to outliers, and found that there was no meaningful change in BCBS FL's expenditures estimates when outlier observations were excluded or truncated (see Appendix B.1 for details on outliers analyses). Given the lack of a satisfactory explanation for the estimated impacts on BCBS FL expenditures, it is possible that the Model Year 1 estimate for BCBS FL is due to random variation or mean reversion.[47] Additional years of data are required to paint a more complete picture of Model impacts for this sponsor.

In summary, the current findings on Modelwide and sponsor-specific changes in total Parts A and B expenditures in the first two years of Model implementation do not support firm conclusions regarding the Enhanced MTM Model's impacts on total Medicare costs at this time. As of the end of the second year of Model implementation, sponsors continued to make

[47] The estimates for BCBS FL are based on a representative sample, as only 13.6 percent of plan enrollees were excluded from analyses after enrollment restrictions were applied (see Section 4.1.1). In addition, the treatment and comparison cohorts are well-matched (see Appendix Table B.15 for pre- and post-matching covariate summaries). Tests of equality in baseline expenditure trends also confirm that the assumption of parallel trends in expenditures cannot be rejected (see Appendix Table B.16).

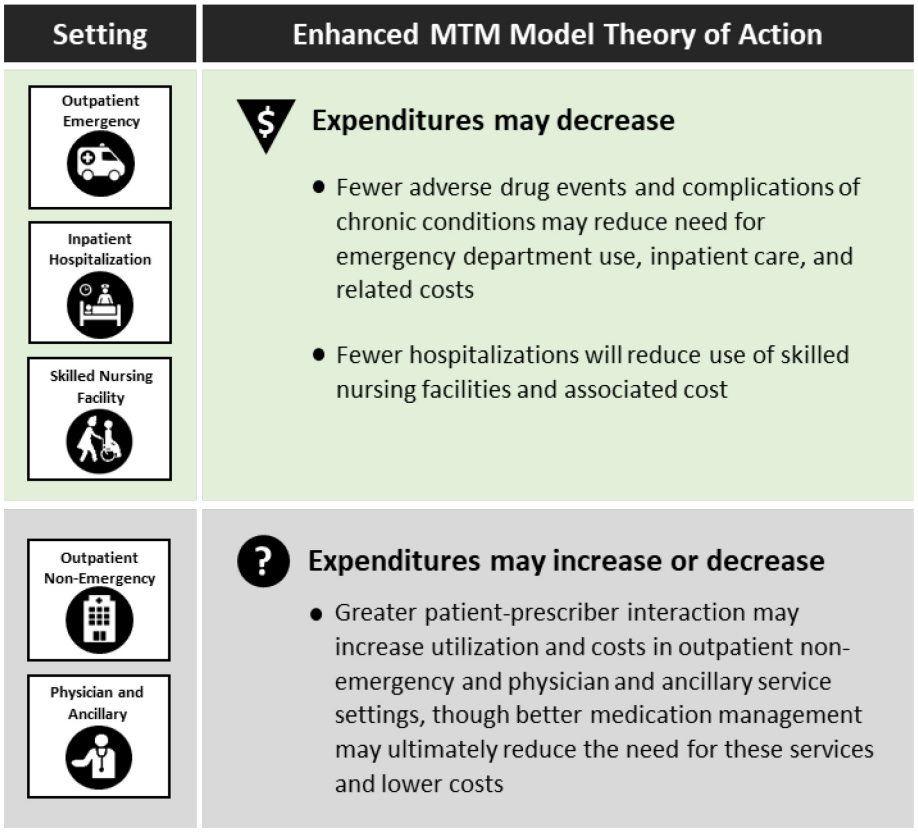
refinements and additions to their Enhanced MTM interventions, incorporating lessons learned from prior years. Given the ongoing changes to the interventions during these first two years, the current findings reflect a Model that is still evolving. Because changes to interventions were implemented on an ongoing basis throughout the first two years, the observed impacts do not represent full implementation for the whole observation period. In addition, many of the interventions offered by the sponsors may require a longer post-exposure period to produce impacts on expenditures that can be detected in analyses. For example, interventions that promote behavioral change (e.g., improved adherence) may require more than two years post-exposure to produce impacts that are detectable in Medicare claims. Future reports will leverage additional years of data to determine whether the impact of Enhanced MTM becomes statistically significant over time.

The estimated impacts on expenditures discussed here represent average effects across all plan enrollees, many of whom are not directly targeted by Enhanced MTM interventions and do not receive interventions. It is, therefore, possible that significant Model impacts on beneficiaries who were targeted for service provision are diluted when averaged across all plan enrollees. Future evaluation reports will present analyses that estimate the effect of Enhanced MTM for the subset of beneficiaries who are eligible for Enhanced MTM service provision based on sponsors' targeting criteria, to provide more direct insight into Model impacts on Medicare expenditures.

Modelwide Estimates on Service Delivery Setting Expenditures

Various service delivery settings may be affected differently by the Enhanced MTM Model. As illustrated in Figure 4.2, the Model's theory of action is consistent with decreased expenditures related to ED use, inpatient hospitalization, and related post-acute care (e.g., SNF expenditures). Non-emergency outpatient expenditures and physician costs, on the other hand, could increase or decrease as a result of Enhanced MTM. It is therefore possible that there are Model impacts on setting-specific expenditures that offset each other, such that there are no statistically significant changes in total Parts A and B expenditures. This section presents analyses of Model impacts on Medicare expenditures for inpatient, outpatient non-emergency, outpatient ED, physician and ancillary services, and SNF service delivery settings.

Figure 4.2: Potential Impacts of Enhanced MTM Depend on the Service Delivery Setting



Estimates of Model impacts on setting-specific expenditures show that, for the Model as a whole, there were small, statistically significant cumulative decreases in inpatient expenditures and moderate decreases in SNF expenditures (see Table 4.4). Inpatient expenditures decreased by $4.88 PBPM, corresponding to 1.86 percent of baseline, and SNF expenditures decreased by $3.33 PBPM, corresponding to 4.39 percent of baseline. These decreases in inpatient and SNF expenditures were partially offset by cumulative increases in outpatient non-emergency expenditures and outpatient ED expenditures. Outpatient non-emergency expenditures increased by $3.75 PBPM, corresponding to 2.25 percent of baseline, and outpatient ED expenditures increased by $1.69 PBPM, corresponding to 5.69 percent of baseline. There was no significant change in expenditures for physician and ancillary services.

Table 4.4: Small Statistically Significant Cumulative Decreases in Inpatient Expenditures and Skilled Nursing Facility Expenditures Were Partially Offset by Increases in Outpatient Expenditures

	Setting-specific Expenditures for Medicare (Cumulative), Modelwide				
	Inpatient Expenditures	**Outpatient Non-Emergency Expenditures**	**Outpatient Emergency Department (ED) Expenditures**	**Physician and Ancillary Expenditures**	**Skilled Nursing Facility Expenditures**
Per-Beneficiary Per-Month Estimate (in $)					
Difference-in-Differences	**- $4.88*** **	**$3.75*** **	**$1.69*** **	- $0.16	**- $3.33*** **
P-value	0.004	< 0.001	< 0.001	0.823	0.001
95% Confidence Interval	(-8.17, -1.58)	(2.37, 5.12)	(1.37, 2.00)	(-1.54, 1.22)	(-5.24, -1.41)
Relative Difference	-1.86%	2.25%	5.69%	-0.06%	-4.39%

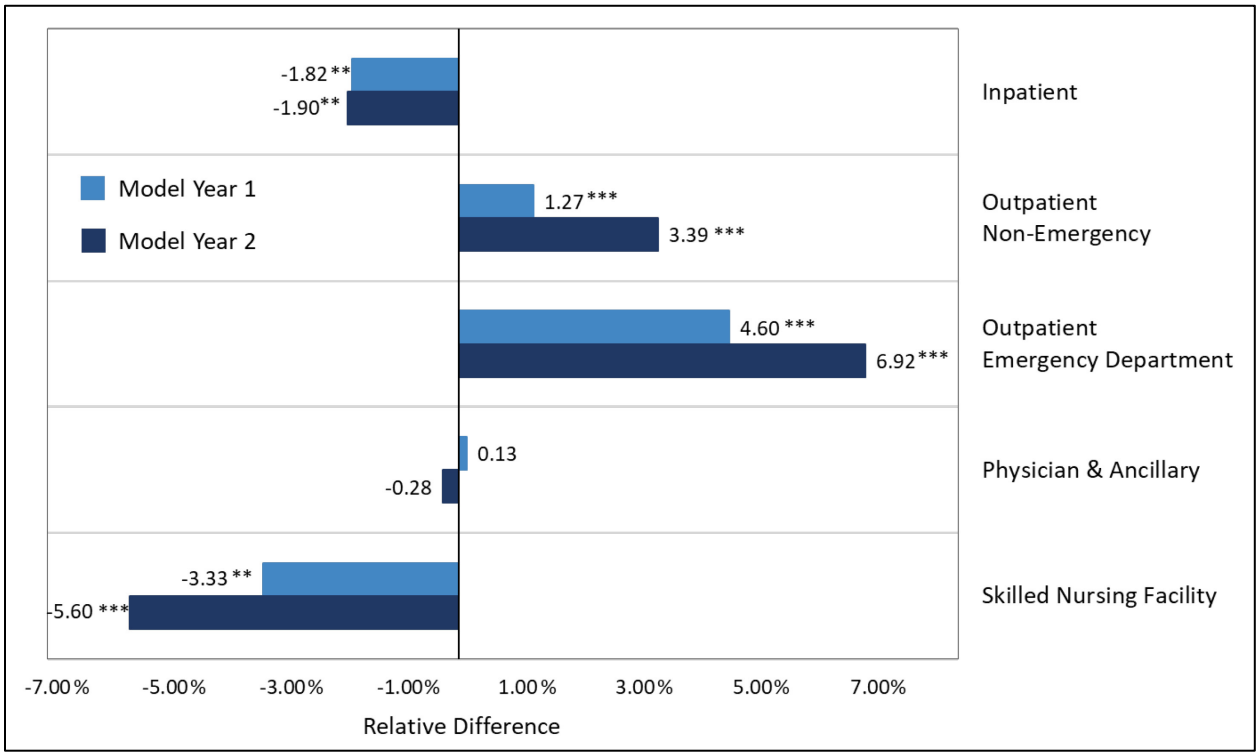
Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. Number of Enhanced MTM observations: 45,991,873 (1,427,816 beneficiaries). Number of comparison observations: 88,259,023 (2,944,397 beneficiaries). The unit of observation is a beneficiary-month. Each cumulative estimate corresponds to change relative to the baseline period. Relative difference is calculated as the difference-in-differences (DiD) estimate divided by the baseline Enhanced MTM regression-adjusted mean, and expressed as a percentage. Estimates significant at the 5 percent level are in bold.

Decreases in inpatient expenditures are consistent with the Model's theory of action, given the Model's emphasis on improving medication use (e.g., better control of diabetes, prevention of dangerous drug-drug interactions), which would result in fewer adverse health events and subsequently lower inpatient hospital utilization and related post-acute care (e.g., SNF use). Increases in outpatient expenditures (both for non-emergency and for ED services) are harder to interpret. The Model's theory of action is consistent with either increases or decreases in expenditures for outpatient non-emergency expenditures. However, the Modelwide increase in outpatient ED expenditures is not consistent with the Model's theory of action. Future evaluation analyses will leverage additional years of data to confirm whether these effects persist, and to establish whether they occur for beneficiaries who were targeted by Enhanced MTM, or whether they are driven by beneficiaries who were not eligible for Enhanced MTM services.

Both the decreases in inpatient and SNF expenditures and the increases in outpatient non-emergency and ED expenditures are observed in both Model Years (see Figure 4.3). The decrease in inpatient expenditures is similar in magnitude in Model Year 1 and Model Year 2, at 1.82 and 1.90 percent of baseline, respectively. However, the estimates for outpatient non-emergency and outpatient ED expenditures increased substantially between Model Year 1 and Model Year 2. Outpatient non-emergency expenditures grew by 1.27 percent of baseline in Model Year 1, and by 3.39 percent of baseline in Model Year 2. Outpatient ED expenditures increased by 4.60 percent of baseline in Model Year 1, and by 6.92 percent of baseline in Model Year 2. Estimated decreases in SNF expenditures also increased in magnitude over time.

Expenditures for SNF decreased by 3.33 percent of baseline in Model Year 1, and by 5.60 percent of baseline in Model Year 2. As noted earlier, for almost all sponsors, the number of beneficiaries who received significant services increased in Model Year 2. The increase in service provision may be contributing to the larger magnitude of effects on inpatient and SNF expenditures observed in the second year of implementation. However, the increase in significant services does not explain the increase in estimated impacts for outpatient ED expenditures. (For full results, including DiD estimates on service delivery setting expenditures, see Appendix B.10.2.)

Figure 4.3: Changes in Service Delivery Setting Expenditures Were Larger in Model Year 2



Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. The unit of observation is a beneficiary-month. The relative difference is calculated as the difference-in-differences (DiD) estimate divided by the baseline Enhanced MTM regression-adjusted mean, and expressed as a percentage.

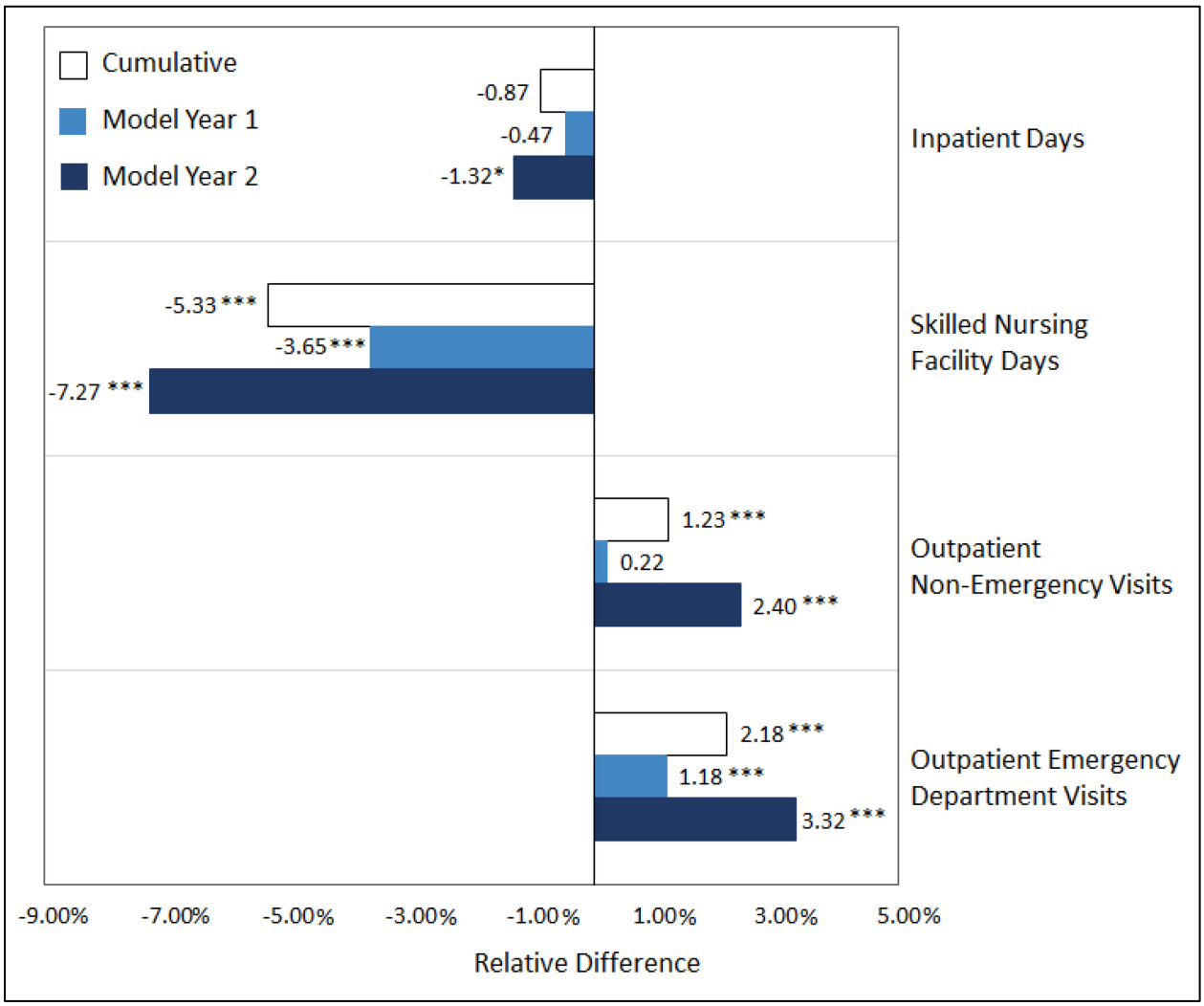
An investigation on select healthcare utilization outcomes was conducted to corroborate and contextualize the service-setting expenditure estimates. For example, analyses of utilization outcomes provide information on whether the decreases in inpatient and SNF expenditures were driven by decreases in the number of admissions or in the length of stay. Such analyses also show whether changes in estimated impacts on expenditures over time are consistent with estimated changes in impacts on utilization. The evaluation estimated Model impacts on the number of inpatient and SNF admissions, the length of stay associated with these admissions,

and the number of outpatient non-emergency and outpatient ED visits (see Figure 4.4). Overall, as discussed in more detail immediately below, the estimated changes in healthcare utilization are in line with the estimated setting-specific changes in expenditures, above.

There were no cumulative changes in the average number of inpatient admissions or SNF admissions among beneficiaries enrolled in Enhanced MTM plans relative to their comparators, and there was no change in these estimates between Model Year 1 and Model Year 2. Because there were statistically significant decreases in both inpatient and SNF expenditures, this implies that the total cost for admissions in each service setting has decreased for beneficiaries enrolled in Enhanced MTM plans relative to comparators. This cost decrease could be attributed to shorter lengths of stay or reduced resource intensity. Cumulatively across both Model Years, the decrease in the length of inpatient stays among treatment beneficiaries relative to their comparators was small and not statistically significant. In the SNF setting, there was a large and significant decrease in length of stay of about eight days per 1,000 beneficiaries per month, corresponding to 5.33 percent of baseline, consistent with the decreases in SNF expenditures. Decreases in the length of stay in the inpatient and SNF service settings were larger in Model Year 2, similar to changes in SNF expenditures, discussed earlier in this section. Future reports will investigate whether there were changes in the types of admissions and their associated costs, by focusing on utilization and expenditure outcomes for subsets of beneficiaries with specific chronic conditions, and assessing whether estimated impacts can be confidently attributed to Enhanced MTM interventions.

There were also statistically significant increases in the number of emergency and non-emergency outpatient visits. There was an increase of about 9 outpatient non-emergency visits per 1,000 beneficiaries per month (corresponding to 1.23% of baseline), and an increase of about one outpatient ED visit per 1,000 beneficiaries per month (corresponding to 2.18% of baseline), with larger impacts in Model Year 2. Increases in the number of outpatient visits may be driving the estimated increases in outpatient expenditures and the increase in the magnitude of these estimates over time; however, increases in outpatient expenditures may also be due to higher costs per visit.

Figure 4.4: Changes in Service Delivery Setting Utilization Were Larger in Model Year 2



Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. The unit of observation is a beneficiary-month. Relative difference is calculated as the difference-in-differences (DiD) estimate divided by the baseline Enhanced MTM regression-adjusted mean, and expressed as a percentage.

Sponsor-level Estimates on Service Delivery Setting Expenditures

As mentioned earlier in this section and as discussed in Section 2 ("How Did Sponsors Design Their Enhanced MTM Interventions?") and Section 3 ("What Services Were Provided Under the Enhanced MTM Model?"), the Enhanced MTM interventions offered by the participating sponsors vary more in terms of their beneficiary targeting criteria than the type of services offered to eligible beneficiaries. The interventions offered by the sponsors generally all aim to improve medication use and reduce the occurrence of adverse health events, thereby reducing unnecessary downstream healthcare utilization and related expenditures. Therefore, the Model's theory of action discussed earlier in this section (see Figure 4.2) broadly applies to all

sponsors and their interventions, and there is no a priori reason to expect cross-sponsor differences in the direction of Model impacts on expenditures for various service delivery settings based on the interventions that they offer to eligible enrollees. However, some differences in the magnitude of effects may occur as a result of differences in the type of interventions that sponsors have focused on, and the approach in delivering them.

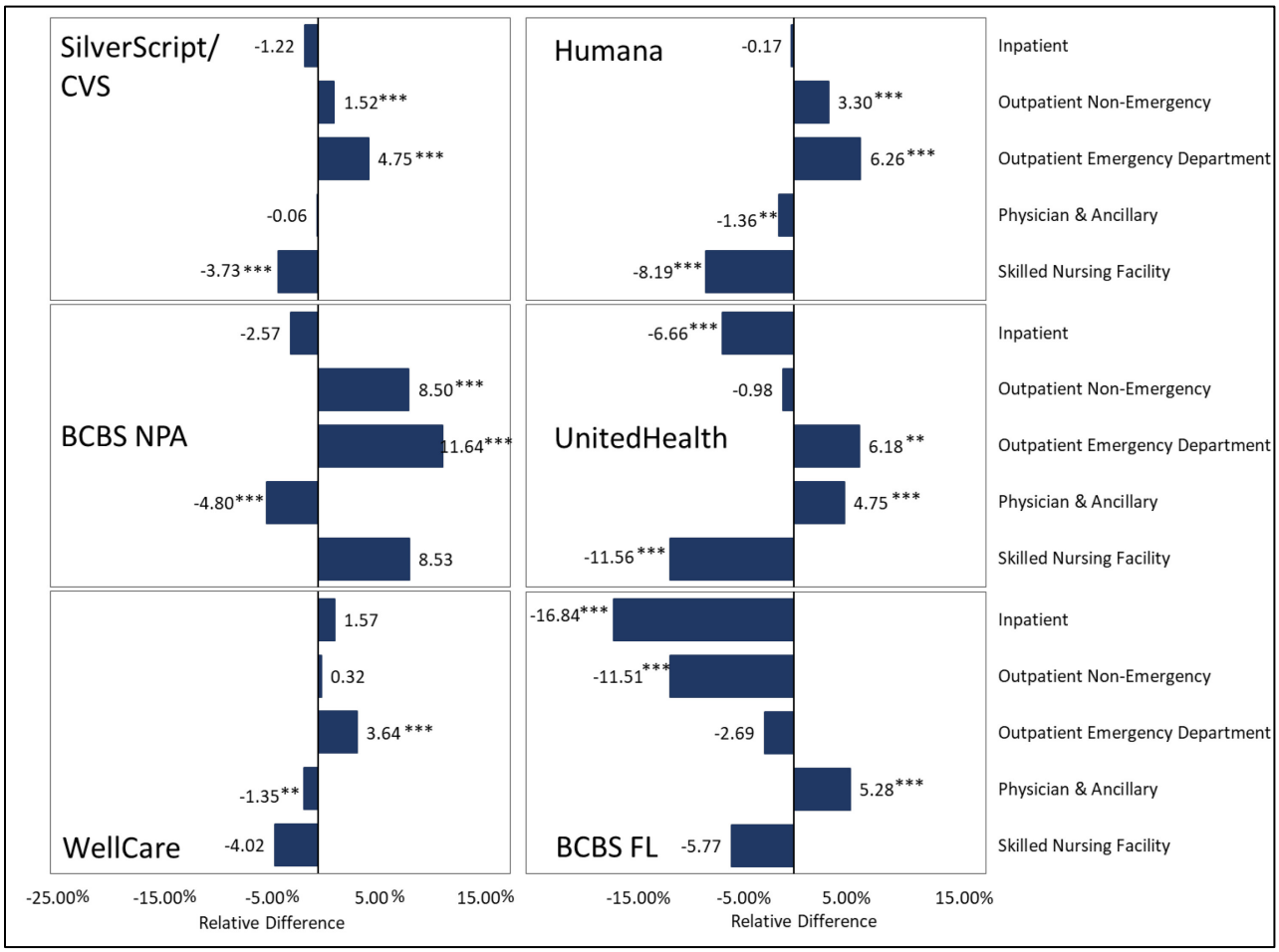
Modelwide estimates on setting-specific expenditures are likely driven by impacts from SilverScript/CVS and Humana, as these two sponsors combined account for about two-thirds of beneficiaries in the treatment cohort. To understand cross-sponsor differences better, impact analyses for expenditure outcomes by service delivery setting were conducted separately for each participating sponsor (see Figure 4.5). The findings show some cross-sponsor variation. However, there is no pattern in Model implementation, in terms of either service provision or types of interventions offered by sponsors, that can explain this cross-sponsor variation consistently. Additional years of data are required to assess whether the cross-sponsor variation in estimated impacts can be confidently attributed to differences in Model implementation among sponsors. (Full results including DiD estimates on service delivery setting expenditures by sponsor are presented in Appendix B.10.)

As discussed earlier, there were Modelwide decreases in inpatient and SNF expenditures (see Table 4.4). There were decreases in expenditures in these settings for most sponsors, though the magnitude of the estimated impacts varied substantially across sponsors, and the change was not statistically significant for all sponsors. Only BCBS FL and UnitedHealth had significant decreases in inpatient expenditures, corresponding to 16.84 and 6.66 percent of baseline, respectively. These are two of the three sponsors that offer transitions-of-care interventions; Humana is the third. Both BCBS FL's and UnitedHealth's transitions-of-care services are recurrent and involve a CMR. In contrast, Humana's transitions-of-care intervention involves a one-time service that is narrowly focused on medication reconciliation pre- and post-discharge, which may explain the lack of significant impact for that sponsor. Overall, transitions-of-care interventions were received by a small fraction of beneficiaries, so they are unlikely to fully account for the estimated decrease in inpatient expenditures for BCBS FL and UnitedHealth.

Modelwide, there were estimated increases in outpatient ED and non-emergency expenditures. At the sponsor level, most saw increases in outpatient ED and non-emergency expenditures. Among all sponsors, BCBS FL stands out as the only sponsor with a statistically significant decrease in outpatient non-emergency expenditures, and the only sponsor without a significant increase in outpatient ED expenditures. The estimated decreases in inpatient and outpatient non-emergency expenditures together drive the large decrease in total Medicare Parts A and B expenditures for beneficiaries enrolled in BCBS FL in Model Year 1, discussed earlier in this section (see Table 4.3).

Physician and ancillary expenditures did not significantly change for the Model as a whole, but there is substantial cross-sponsor variation in these expenditures. Humana, BCBS NPA, and WellCare experienced relative reductions in physician and ancillary expenditures; UnitedHealth and BCBS FL experienced relative increases.

Figure 4.5: Cumulative Impacts on Service Delivery Setting Expenditures Varied by Sponsor



Notes: * p-value < 0.10; ** p-value < 0.05; *** p-value < 0.01. The unit of observation is a beneficiary-month. The relative difference is calculated as the difference-in-differences (DiD) cumulative estimate divided by the baseline Enhanced MTM regression-adjusted mean, and expressed as a percentage.

Differences in Model implementation do not appear to explain cross-sponsor variation in estimated impacts consistently. At the end of Model Year 2, sponsors continued to make refinements to their Enhanced MTM interventions, so additional years of data are needed to determine whether the cross-sponsor variation in estimated impacts is sustained and can be attributed to differences in Model implementation among sponsors. Future reports, which will

leverage information from additional Model Years, will also present analyses focused on the Model's effects on beneficiaries eligible for Enhanced MTM interventions to provide a clearer understanding of the Model's impact on setting-specific expenditures.

4.4 Model Impact on Net Expenditures

The Enhanced MTM Model generated non-statistically significant estimated net losses of $0.38 PBPM in Model Year 1, and $3.79 PBPM in Model Year 2.

As discussed in Section 1 ("Introduction"), CMS provides participating sponsors with two types of payments as part of the Model. Prospective payments are intended to cover the projected implementation costs of Enhanced MTM interventions. Performance-based payments are intended to incentivize participating sponsors to improve beneficiary outcomes and reduce downstream medical expenditures. To determine whether the Enhanced MTM Model, as currently implemented, reduces net costs to Medicare, these payments must be combined with the estimated impact on gross expenditures to generate estimates of the impact on Medicare's net expenditures.

Each component of net expenditures, calculated using the methodology described in Section 4.1.2, is presented in Table 4.5. As discussed in the preceding section, estimated decreases in total Medicare Parts A and B expenditures were relatively small in magnitude and not significantly different from zero in either Model Year. Prospective payments were $3-$4 PBPM in each Model Year; performance payments were about $1 PBPM in each Model Year.

In both Model Years, the combined PBPM prospective and performance-based payments to sponsors were larger than the estimated PBPM decreases in Medicare Parts A and B expenditures. As a result, the estimated net impact on PBPM costs is positive, although not significantly different from zero (see Figure 4.6). That is, the Model generated net losses in both years once prospective and performance payments are taken into account. The estimated PBPM cumulative net impact is also positive and not significantly different from zero; cumulatively, the total estimated net loss was $80.4 million.

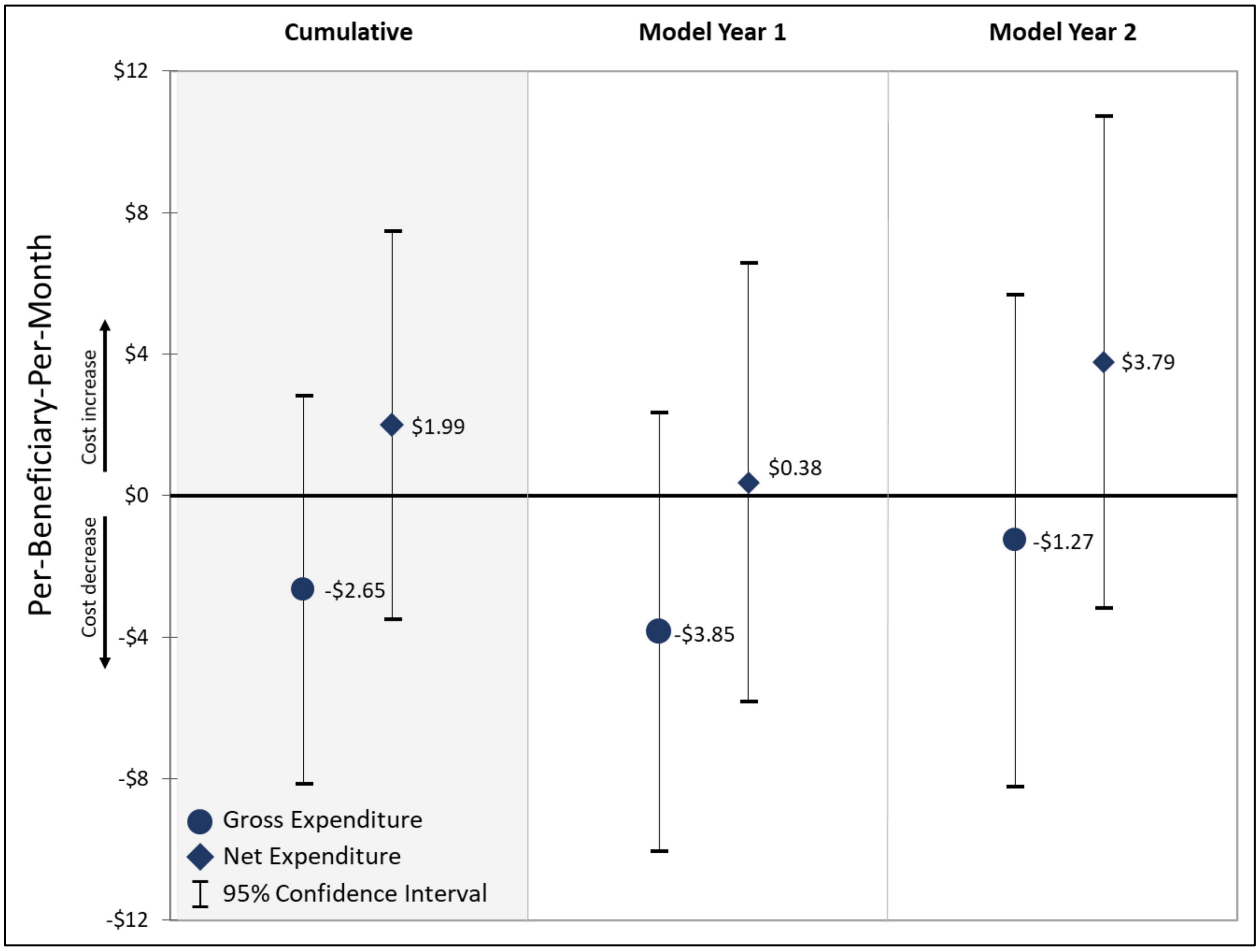
Table 4.5: The Enhanced MTM Model Did Not Have a Statistically Significant Impact on Cumulative Net Expenditures Through Model Year 2

	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**
Model Year 1	20,255,908	-$3.85 (-10.05, 2.35)	$3.11	$1.12	$0.38 (-5.82, 6.58)	$7.64 (-117.94, 133.23)	0.905
Model Year 2	20,092,909	-$1.27 (-8.23, 5.68)	$3.90	$1.16	$3.79 (-3.17, 10.74)	$76.18 (-63.67, 215.83)	0.285
Cumulative	40,348,817	-$2.65 (-8.14, 2.83)	$3.50	$1.14	$1.99 (-3.50, 7.47)	$80.40 (-141.11, 301.51)	0.477

Notes: PBPM: Per-beneficiary per-month. 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.

As the discussion in Section 4.3 noted, the estimates of the Model's impact on gross expenditures may not yet reflect the full impact of the Model. Sponsors continued to update their interventions on an ongoing basis throughout the two years covered by these estimates, and some downstream impacts may take longer than the two-year period assessed in this report to materialize. The fact that gross impact estimates were small and not statistically significant, coupled with the growth in Model services, suggests that it may be too early to draw definitive conclusions about the Model's impact based on data covering less than half of the five-year implementation period.

Figure 4.6: The Model's Net Impact Was Not Statistically Different from Zero in Either Year



Notes: The unit of observation is a beneficiary-month.

5 HOW DO PRESCRIBERS VIEW MTM OFFERED BY PRESCRIPTION DRUG PLANS?

Section Summary

A Model Year 2 survey found prescribers had mixed impressions of PDP involvement in their patients' care. Of the prescribers who recalled receiving contact from PDPs, **most (77 percent) made changes to patients' medications based on PDP recommendations. However, 91 percent felt that PDPs were increasing their workload and most (68 percent) felt that PDPs did not understand their medication therapy goals** for patients.

Assessing prescriber perspectives and experiences with PDPs is crucial to understanding how the Enhanced MTM Model affects drug regimens and therefore downstream health outcomes. Sponsor-generated recommendations for changes in beneficiaries' medication regimens must be heard, accepted, and acted upon by prescribers for the Model to affect beneficiaries' medication regimens. However, to date, little is known about how prescribers view medication therapy management offered by Medicare Part D PDPs. While some Enhanced MTM Model interventions are intended to influence prescriber behavior, ultimately, this behavior is outside the direct control of the Enhanced MTM Model sponsors. This is true of both traditional and Enhanced MTM. For example, if a pharmacist who conducts a medication review as part of an MTM service recommends a new medication and the prescriber rejects this recommendation, the impact of the service on the patient is limited. To study prescriber attitudes toward PDP involvement in patient care, the Acumen team fielded a survey of Enhanced MTM beneficiaries' primary prescribers in Model Year 2. This section discusses findings from that survey.

Sponsor-generated recommendations for changes in beneficiaries' medication regimens must be heard, accepted, and acted upon by prescribers for the Model to affect beneficiaries' medication regimens.

The findings presented in this section describe perspectives on Part D sponsors' MTM generally rather than Enhanced MTM specifically, because prescribers are generally not aware if contact is from a PDP that is participating in the Enhanced MTM Model. Although the vast majority of prescribers reported receiving contact from PDPs over the past year, more than 60 percent did not know whether this contact was from a PDP participating in the Enhanced MTM Model. This lack of awareness is not unexpected, because prescribers typically do not know a patient's specific Part D plan or a plan's Enhanced MTM participation status, and there was no requirement that sponsors identify contact as related to Enhanced MTM. In anticipation

of this challenge, survey questions focused on experiences with all PDPs (regardless of PDP participation in the Enhanced MTM Model), to better understand the pathways through which recommendations from Part D MTM can impact medication regimens.

5.1 Methods and Prescriber Characteristics

The survey sampling strategy was designed to maximize the likelihood that respondents had significant experience with PDPs participating in Enhanced MTM, so that responses were more likely to reflect that experience. The survey was fielded to a sample of 4,800 prescribers serving beneficiaries who received Enhanced MTM services. Specifically, Enhanced MTM Encounter Data were used to identify beneficiaries who received Enhanced MTM services that were likely to result in prescriber communication in Model Year 1 (2017).[48] Part D claims from 2017 for these beneficiaries were analyzed to identify the prescriber responsible for a plurality of their prescriptions ("primary prescriber"). The number of Enhanced MTM beneficiaries, across sponsors, for whom each prescriber was assigned as the primary prescriber was then calculated. The 800 primary prescribers serving the highest number of Enhanced MTM beneficiaries were selected for each sponsor in a cascading approach such that duplicate prescribers were removed from the next sponsor's potential sample. The process used to select prescribers is described in more detail in Appendix B.3.

The analysis focuses on understanding the perspectives of prescribers serving Enhanced MTM beneficiaries, regardless of sponsor. The vast majority of sampled prescribers (99.7 percent) served beneficiaries in multiple Enhanced MTM plans, with the majority of prescribers (81 percent) serving beneficiaries in Enhanced MTM plans of four or five sponsors. The high degree of overlap implies that findings may not be attributed to a specific sponsor.

Physician response rates are typically low compared with the general population,[49] and low response rates risk introducing response bias into the analysis. This survey achieved a response rate of 20.2 percent, totaling 967 respondents.[50] Table 5.1 shows the characteristics of prescriber respondents and non-respondents (based on the limited information available on the non-respondents). Although a few differences are statistically significant, none are meaningfully different, suggesting that response bias is minimal for gender, rural vs. urban practice location, credential, and exposure to Enhanced MTM (as measured by the number of the prescribers'

[48] Enhanced MTM services that include direct prescriber communication as well as substantial patient interaction that may lead to discussions between patients and prescribers were included. Mailings and less significant services, such as refill reminders, were excluded.

[49] Cunningham C, Quan H, Hemmelgarn B, et al. "Exploring physician specialist response rates to web-based surveys." *BMC Medical Research Methodology* (2015) 15:32. DOI 10.1186/s12874-015-0016-z.

[50] The response rate was calculated using the American Association for Public Opinion Research (AAPOR) Response Rate 2 definition, which considers partial completes as complete.

patients receiving Enhanced MTM services). Although there were few differences between respondents and non-respondents on these characteristics, it is possible that response bias exists for other unmeasured prescriber characteristics.

Respondents were mostly male, age 55 or older, practiced in an urban area, and had practiced their profession for more than 20 years (Table 5.1). About 58 percent of respondents had comparatively lower exposure to Enhanced MTM (fewer than 10 patients who were Enhanced MTM beneficiaries).[51]

Table 5.1: Prescriber Respondents and Non-Respondents Had Similar Characteristics

Characteristics	Percentage of Respondents (N=967)	Percentage of Non-Respondents (N=3833)
Exposure to Enhanced MTM		
Low (<10 Enhanced MTM Patients)[a]	57.9	52.7
High (10+ Enhanced MTM Patients)	42.1	47.4
Gender		
Female[a]	21.8	25.5
Male	78.2	74.5
Age		
25-34	1.7	N/A
35-44	9.7	N/A
45-54	25.3	N/A
55-64	40.6	N/A
65 or older	22.6	N/A
Credentials		
DO	8.4	9.1
MD	83.9	82.7
Non-physician clinician	7.8	8.2
Tenure in profession		
Less than 1 year	0.1	N/A
1-5 years	3.1	N/A
6-10 years	4.9	N/A
11-20 years	24.0	N/A
More than 20 years	67.9	N/A
Practice Location		
Metropolitan Area[a]	68.2	72.9
Rural Area	31.9	27.1

Sources: Enhanced MTM Encounter Data covering Model Year 1 (January 1, 2017, through December 31, 2017), accessed in April 2018, and Medicare Part D claims were used to measure exposure to Enhanced MTM. The National Plan and Provider Enumeration System (NPPES) and CMS's Physician Compare Database were used to measure gender, credential, and practice location. The 2018 Enhanced MTM Prescriber Survey was used to measure age and tenure in profession.

Notes: Missing data not included in the percentages reported for age and tenure in profession. N/A indicates that the information was collected through the survey and not available for non-respondents.

[a] Differences between respondents and non-respondents are statistically significant, with chi square p-value < 0.05.

[51] The number of beneficiaries receiving Enhanced MTM services who were treated by a sampled prescriber ranged from 2 to 117, with a mean of 9.34.

5.2 Findings from the Prescriber Survey

Awareness of the Enhanced MTM Model is low among prescribers. Most prescribers reported contact from PDPs, but did not know if the PDPs contacting them were participating in the Enhanced MTM Model.

Low prescriber awareness of Enhanced MTM implies that findings reflect prescribers' general experience with outreach from PDPs, and not specifically their experience of Enhanced MTM. The majority of prescribers (81 percent) reported contact from a PDP, but only 32 percent of these prescribers remembered contact specifically with an Enhanced MTM plan.

This section presents the analysis of prescriber survey responses, grouped by the level of exposure to Enhanced MTM (i.e., the number of Enhanced MTM beneficiaries served by the responding prescriber). The findings are organized by major survey topics, including medication therapy problems addressed through direct PDP communication, medication therapy problems addressed through patient report of Enhanced MTM services, and prescriber perspectives on the value of PDPs to their work.

Influence of Medication-related PDP Communications on Prescribing Decisions

The majority of prescribers who received PDP contact (77 percent) reported making medication changes as a result of PDP communications, most commonly changing to an alternative medication in the same drug class.

About 77 percent of prescribers who received contact from a PDP reported having made medication changes as a result of PDP communications in the past 12 months (Table 5.2). The most commonly reported change as a result of prescriber contact with PDPs was switching to an alternative medication in the same drug class, mentioned by 70 percent of prescribers reporting that they made medication changes in response to PDP communication. Prescribers with high exposure to Enhanced MTM reported making all listed types of medication changes more often than prescribers with low exposure, but the differences were generally small and there was only one type of change (switching to an alternative in the same class) with a statistically significant difference between the two groups.

Table 5.2: Prescribers Reported Medication Changes Made as a Result of PDP Communication

Medication Changes	Enhanced MTM Exposure Level		All Respondents (N=967)
	Low (N=560)	High (N=407)	
% reporting contact from any Medicare PDP	80.5	82.0	81.1
As a result of Medicare PDP contact in the past 12 months, did you…?	**Low (N=442) % yes**	**High (N=328) % yes**	**All Respondents Reporting PDP Contact (N=770) % yes**
Stop a current class of medication	43.0	48.3	45.3
Add a new class of medication	40.8	45.0	42.6
Change the dose of a medication	38.6	42.8	40.4
Change to an alternative medication in the same class	67.5[a]	74.1[a]	70.3
One or more changes made	75.7	79.8	77.4

Source: 2018 Enhanced MTM Prescriber Survey.
Note: Missing data not included in percentages.

[a] Differences between low- and high-exposure prescribers are statistically significant, with chi square p-value < 0.05.

About 31 percent of prescribers heard about PDP recommendations for medication change through their patients. The majority of these prescribers made medication changes. Rates of medication changes were significantly higher among prescribers with high exposure to Enhanced MTM.

About 31 percent of responding prescribers reported hearing about PDP recommendations for medication change through their patients (Table 5.3) For both traditional MTM and Enhanced MTM interventions, PDPs communicate directly with patients and may provide recommendations that patients then discuss with their prescribers. Among the prescribers who had conversations in which the patient referred to counseling from PDPs, about 74 percent reported having made changes to patients' medication regimens following at least one of these conversations. Prescribers with high exposure to Enhanced MTM reported statistically and meaningfully higher rates of stopping a current class of medication, changing the dose, and changing to an alternative medication in the same drug class, prompted by patient-prescriber conversations following PDP communications with patients.

Table 5.3: Prescribers Reported Medication Changes Prompted by Patient-Prescriber Conversations Following PDP Communication with Patients

Medication Changes	Enhanced MTM Exposure Level		All Respondents (N=770)
	Low (N=442)	High (N=328)	
% reporting patient discussed Medicare PDP recommendation at visit	33.2[a]	26.7[a]	30.5
As a result of this patient discussion, did you…?	**% yes (N=184)**	**% yes (N=108)**	**% yes (N=292)**
Stop a current class of medication	**41.5**[a]	**55.8**[a]	46.7
Add a new class of medication	44.2	53.5	47.5
Change the dose of a medication	**39.2**[a]	**54.0**[a]	44.5
Change to an alternative medication in the same class	**57.7**[a]	**75.2**[a]	64.3
Other (change due to coverage, recall, or cost)	0.0	5.6	2.2
One or more changes made	**68.9**[a]	**81.5**[a]	73.5

Source: 2018 Enhanced MTM Prescriber Survey.
Note: Missing data not included in percentages. **Bolded** values are statistically significant and more than 10 percentage points different between low and high exposure prescribers.
[a] Differences between low- and high-exposure prescribers are statistically significant, with chi square p-value < 0.05.

Prescriber Perspectives on the Value of PDPs to Their Work

Many prescribers see the potential value of PDPs' involvement in medication management, but they also report that PDP contact is burdensome and intrusive.

Providers had mixed impressions of PDP involvement in their patients' care: large majorities felt that PDPs are increasing their workload and do not understand their medication therapy goals for patients, but a majority also thought that PDPs are increasing patient safety. Prescribers responded to a series of survey statements about the role of PDPs in their patients' medication therapy management, some positively worded and some negatively worded (Table 5.4). Most (63 percent) prescribers agreed that PDPs are increasing patient safety and a large proportion of those receiving PDP contact (77 percent) reported making one or more medication changes as a result of PDP recommendations. These findings highlight that PDP-provided MTM is influencing prescriber behavior. Less than half (40 percent) of prescribers agreed that PDPs are identifying important problems, proving helpful in making decisions, or improving medication adherence.

On the other hand, prescribers are concerned about the time burden involved in interacting with PDPs, and there is some evidence of prescriber concern about PDP recommendations not aligning with their own goals for patients. About 91 percent of prescribers felt that PDP communications are increasing their workload and the workload of their staff, 69 percent felt that PDPs were not improving patients' medication adherence, 68 percent felt that

PDPs do not understand their goals for patients' medication therapy, and 52 percent felt that PDPs are interfering with their patients' medication regimens.

Prescribers with high exposure to Enhanced MTM had more positive assessments of PDPs' role in medication therapy management. Differences between the high-exposure and low-exposure groups were statistically significant for some categories, but they were generally small.

Table 5.4: **Prescribers Have Mixed Impressions of PDP Involvement in Patients' Care**

To what extent do you agree or disagree with the following statements about the role of Medicare PDPs in your patients' medication therapy management?	Enhanced MTM Exposure Level		All Respondents (N=967)
	Low (N=560)	High (N=407)	
Positively Worded Items	% agreeing	% agreeing	% agreeing
They are increasing patient safety.	60.0**	68.3**	63.4
They have identified important problems with my patients' medication regimens.	40.4	40.7	40.5
They are helpful in making decisions about my patients' medication regimens.	33.3	38.0	35.3
They are improving my patients' medication adherence.	28.3**	35.5**	31.4
Negatively Worded Items	% agreeing	% agreeing	% agreeing
Their communications are increasing my workload.	91.2	89.8	90.6
Their communications are increasing the workload of my staff.	88.1	89.5	88.7
They do not understand my medication therapy goals for patients.	70.6**	63.2**	67.6
They are interfering with my patients' medication regimens.	53.2	50.3	52.0

Source: 2018 Enhanced MTM Prescriber Survey.
Note: Missing data and "don't know/not applicable" responses are not included in percentages.
** Differences between low- and high-exposure prescribers are statistically significant, with chi square p-value < 0.05.

6 CONCLUSIONS AND NEXT STEPS

The Enhanced MTM Model tests whether providing Medicare Part D PDP sponsors with financial incentives and design flexibilities for the provision of MTM services leads to improvements in medication use, and subsequently reduces net Medicare expenditures. The financial incentives include both prospective payments for Enhanced MTM implementation and performance-based payments contingent on reductions in Medicare Parts A and B expenditures for plan enrollees.

This Second Evaluation Report examines three facets of the first two years of Model implementation. First, it describes the design and evolution of participating sponsors' implementation of Enhanced MTM interventions, including similarities and differences among sponsors. Second, the report presents findings from quantitative analyses of Medicare claims to estimate Model impacts on Medicare Parts A and B expenditures for beneficiaries enrolled in participating plans and on net Medicare expenditures. Finally, this report discusses survey findings on perspectives of prescribers serving Enhanced MTM beneficiaries. This concluding section summarizes the key findings included in this report to provide an assessment of the Enhanced MTM Model's implementation and impacts during the first two years of the five-year implementation period (January 1, 2017 – December 31, 2018) and outlines next steps for the evaluation.

Sponsors implemented multiple distinct Enhanced MTM interventions, each representing a unique combination of targeting criteria, services, and beneficiary/prescriber outreach approaches. The First Evaluation Report established that methods for targeting beneficiaries for services, rather than the services themselves, were the primary area of innovation across all sponsors. Participating sponsors modified targeting criteria relative to those previously used under traditional MTM to identify a larger pool of eligible beneficiaries than in traditional MTM. This Second Evaluation Report examined targeting criteria in more detail and finds that medication utilization was the most widely used targeting criterion across sponsors. In both years, over 80 percent of eligible beneficiaries were targeted for Enhanced MTM services based on various medication utilization issues, such as low adherence or drug therapy problems (e.g., drug-drug interactions). Other interventions targeted beneficiaries based on their vaccination history, on the existence of chronic conditions, or the occurrence of high medical or drug costs. Transitions-of-care interventions targeted beneficiaries who had a recent hospital discharge, to prevent the occurrence of drug therapy problems during care transitions.

Throughout the first two years of Model implementation, sponsors were adjusting the components of existing Enhanced MTM interventions or adding new interventions on an ongoing basis. These changes in implementation affected beneficiary targeting, outreach, service

provision, and follow-up with prescribers for the communication of recommendations. In Model Year 2, ongoing implementation changes resulted in substantial increases both in the number of services provided and in the number of eligible beneficiaries who received services, relative to Model Year 1. This included sizable increases in the provision of CMRs, TMRs, and transitions-of-care services. The number of beneficiaries receiving Enhanced MTM services increased from 427,000 (35 percent of eligible beneficiaries) to 515,000 (40 percent of eligible beneficiaries) between Model Years 1 and 2.

The increase in Model services between the first two years occurred despite drops in plan enrollment for most sponsors (other than SilverScript/CVS), which resulted in decreases in the number of beneficiaries who were eligible for services. Between Model Years 1 and 2, Enhanced MTM implementation changes resulted in a substantial increase, from 44.6 percent to 55.6 percent, in the proportion of beneficiaries who were eligible for multiple Enhanced MTM interventions offered by their sponsor. This suggests that the addition of new interventions was primarily aimed at optimizing medication use for beneficiaries who were already eligible for Enhanced MTM services, rather than further expanding the pool of eligible beneficiaries. Sponsors continue to make changes in implementation, and future evaluation reports will track whether there are continued increases in the number of beneficiaries receiving one or more services.

Although sponsors have used the flexibility offered by the Enhanced MTM Model to implement a variety of interventions to provide services to over 500,000 beneficiaries in Model Year 2, there is no evidence that the Model has so far led to significant Modelwide reductions in Medicare Parts A and B expenditures. Quantitative analyses of claims data showed a small, statistically non-significant decrease in total Medicare Parts A and B expenditures among beneficiaries enrolled in Enhanced MTM plans, relative to comparator beneficiaries, over the first two years of Model implementation. The only sponsor with a large and statistically significant decrease in total Part A and B expenditures was BCBS FL in Model Year 1, but this finding did not persist in Model Year 2.

Setting-specific expenditure impact estimates show that, Modelwide, there were statistically significant decreases in inpatient and skilled nursing facility expenditures, which were partially offset by statistically significant increases in outpatient non-emergency and outpatient emergency department expenditures. The observed changes in healthcare utilization are consistent with these changes in expenditures. There was some cross-sponsor variation in the estimated impacts on setting-specific expenditures, but there is no implementation pattern that can consistently inform the interpretation of this variation.

In each of the first two years of implementation, the sum of Medicare's prospective and performance-based payments to sponsors was slightly larger than the estimated decreases in

Medicare Parts A and B expenditures. Consequently, the Model generated net losses for Medicare, though the estimate is not statistically significant. Cumulatively, the estimated net losses were $80.4 million in total.

The impact estimates presented in this report represent two years of the Model's planned five-year implementation period. Throughout Model Year 2, sponsors continued to update their interventions, and therefore these estimates do not yet capture the impact of these interventions as fully rolled out. Further, although Model implementation began in January 2017, sponsors offered interventions to eligible beneficiaries on a rolling basis, and sometimes in order of priority based on the sponsor's estimate of risk. Therefore, exposure to Enhanced MTM does not always span the full two years used to generate the estimates presented in this report. In addition, some effects may take longer to detect than the period covered by this report. For example, interventions that focus on medication utilization patterns are the most common among Model interventions. For some of these interventions to affect downstream outcomes such as healthcare expenditures, beneficiaries must change their behavior (e.g., increase adherence to medication regimens). It may then take some additional time for any resulting improvements in the management of their chronic conditions to be detected in Medicare Parts A and B expenditures.

For Enhanced MTM to impact beneficiaries, prescribers also must engage with Enhanced MTM interventions effectively, adopting recommendations that result in changes to medication regimens. Findings from a novel survey of prescribers presented in this report reveal mixed impressions of PDP involvement in their patients' care. Of the prescribers who recalled receiving contact from PDPs, most (77 percent) made changes to patients' medications based on PDP recommendations, and 63 percent agreed that PDPs are increasing patient safety. These findings highlight that PDP-provided MTM is influencing prescriber behavior and has the potential to affect downstream outcomes. However, 91 percent of survey respondents felt that PDPs were increasing their workload, and most (68 percent) felt that PDPs did not understand their medication therapy goals for patients. If prescribers are concerned about PDP recommendations not aligning with their own goals for patients, the Enhanced MTM Model may have limited impact, or it may take longer for this impact to be detectable in downstream expenditures. Information from additional years of Model implementation is therefore necessary to paint a more complete picture of Model impacts.

Future evaluation analyses will leverage additional years of data and also examine the Model's impacts on expenditures and related outcomes for beneficiaries eligible for Enhanced MTM interventions, in addition to the larger cohort of all beneficiaries in Enhanced MTM plans included in the impact analyses in this report. These analyses will provide a clearer understanding of the Model's effects by assessing the evolution in outcomes for beneficiaries specifically targeted for Enhanced MTM services. Future reports will continue to review Model

implementation and changes over time to provide additional insight regarding the pathways through which Model interventions may impact expenditures and other outcomes of interest.