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THIRD EVALUATION REPORT

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Evaluation of the Vermont All-Payer Accountable Care Organization Model

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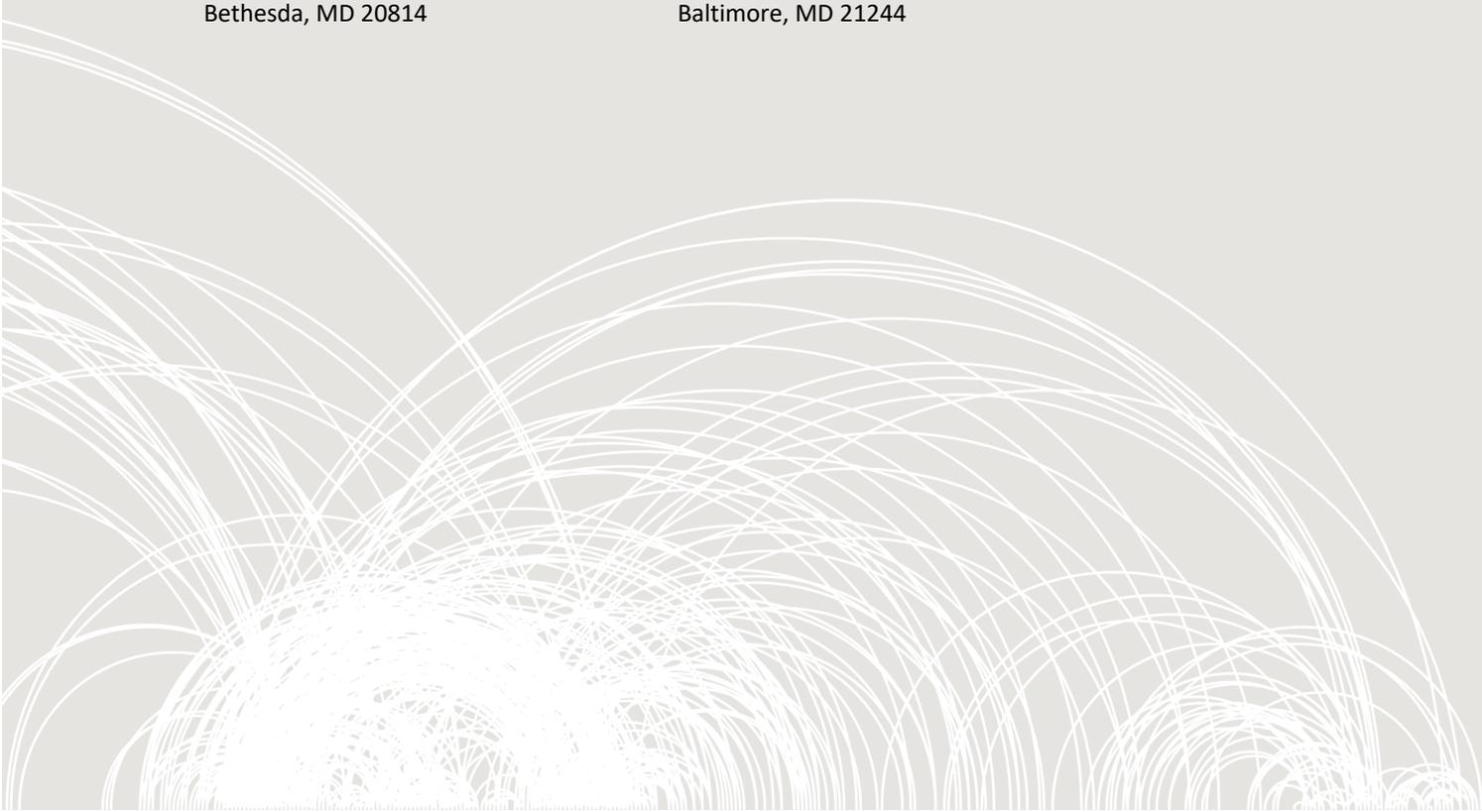
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Table of Contents

List of Exhibits

Contributors

This report reflects the contributions of the entire VTAPM Evaluation Team, including the following individuals:

Executive Summary

The Centers for Medicare & Medicaid Services (CMS), through the Center for Medicare & Medicaid Innovation (Innovation Center), designed the Vermont All-Payer Accountable Care Organization (ACO) Model (VTAPM) to test whether scaling an ACO model across all major payers in the state would facilitate broad care delivery transformation, reduce statewide spending, and improve population health outcomes. Under the model, which launched in 2017 and went into effect in 2018, CMS provided Vermont flexibility in designing a state-specific, all-payer ACO program. In exchange, the Model State Agreement held that the state is accountable for meeting statewide scale, financial, and population health targets.[a] The model was originally scheduled to conclude at the end of 2022, the fifth performance year (PY 5), but CMS extended the model through 2023 (PY 6), with an optional one-year extension through 2024.

NORC at the University of Chicago is conducting an independent evaluation of the VTAPM to assess the implementation and impact of the model. This report covers implementation experience in PY 4 (2021) and the first half of PY 5 (2022), as well as the results of impact analyses for Medicare beneficiaries in the first four performance years of the model (2018–2021). Findings on implementation are based on thematic analysis of semi-structured virtual interviews and review of model-related documents. Findings on impact are based on quantitative analysis of claims data using a quasi-experimental difference-in-differences (DID) design to estimate effects at the Medicare ACO level and state level. We also present results from a serial cross-sectional analysis to assess trends in substance use disorder (SUD) diagnosis and treatment in the Medicaid population. We continue to account for the implications of the COVID-19 public health emergency (PHE) in 2021.

Summary of Findings. Over the first four PYs, the VTAPM reduced gross spending for beneficiaries in the Medicare ACO initiative and for Medicare beneficiaries statewide. For the Medicare population, there have been downward trends in hospitalizations and unplanned hospital readmissions. Stakeholders agree that the VTAPM provided a mechanism for collaboration and continuing health care delivery transformation activities that preceded the model. When interpreting the impact of the VTAPM and how other states could enact similar models, it is important to consider contextual factors, such as Vermont's long history of health care reform and strong institutions that have supported the model's success. It is also important to recognize the design and implementation challenges that may have prevented the model from achieving its full potential.

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[a] Scale targets were waived in 2021, as described under Model Targets.

Overview of the Vermont All-Payer Accountable Care Organization Model

The VTAPM builds on nearly two decades of payment and delivery system reform initiatives in Vermont, which is important to consider when interpreting findings. Prior and ongoing initiatives include Vermont's Global Commitment to Health Section 1115 waiver, the Blueprint for Health, and a multi-payer ACO Shared Savings Program (SSP) pilot under Vermont's State Innovation Models (SIM) Testing Grant.[1]

The VTAPM uses an ACO structure to accelerate care delivery transformation in Vermont and encourage providers to move from fee-for-service (FFS) to value-based payment. The model seeks to align financial incentives across payers through risk-based payments tied to provider performance on quality and financial metrics. VTAPM is an Advanced Alternative Payment Model (APM) with prospective attribution.

State Oversight. Vermont developed a multi-layered accountability structure among CMS, state agencies, payers, and the health care delivery system—hospitals, practitioners, and other providers. CMS, the Agency of Human Services (AHS), and the Green Mountain Care Board (GMCB, an independent entity that regulates ACOs) oversee the implementation of the model.

Model Targets. The ACO, state leaders, and providers participate in activities to meet model targets and benchmarks for financial and population health. The VTAPM previously had scale targets for beneficiary attribution. However, in October 2021, CMS waived enforcement of the scale targets, noting that ACO scale targets in the Model State Agreement were unattainable for Vermont based on information unavailable when the agreement was drafted. Financial targets and benchmarks include Medicare ACO Initiative Benchmarks and Statewide Financial Targets based on the Annual Projected National Medicare Total Cost of Care (TCOC) per Beneficiary Growth Rate.[2] The population health outcome goals are to increase access to primary care, reduce deaths from suicide and drug overdose, and reduce chronic disease prevalence and morbidity. ACO benchmarks can be reduced if quality-related benchmarks are not met.

Financial Structure. In all-payer programs, total included spending is compared to a payer-specific program spending target (benchmark) following the close of each performance year. The VTAPM shares the financial risk of caring for attributed patient populations with the hospitals through participation in a risk-bearing ACO (OneCare). Hospitals are the primary risk-bearing entity in each health service area (HSA) in Vermont. Payments from each payer flow through the ACO, which distributes the prospective payments to participating hospital providers based on their attributed patients. The three payment mechanisms include Medicare optional all-inclusive population-based payments (AIPBP), which pay expected FFS claims reductions in prospective monthly payments for each attributed beneficiary, with reconciliation to Medicare FFS payments at the end of the year. The other mechanisms are Medicaid's fixed prospective payment—which is not reconciled with FFS payments—and traditional FFS.

Model Changes in 2021. CMS extended changes enacted in 2020 in response to the COVID-19 PHE and enacted new general changes in PY 4 (2021).

- **Financial benchmarks.** The benchmark was revised to use the observed change in spending between 2019 and 2020 as measured in April 2021, and payments for COVID-19 treatments were excluded from spending used to calculate shared savings/losses for the Medicare and Medicaid initiatives.

- **Risk-sharing arrangements.** Medicare and Medicaid downside risk was reduced by the proportion of time affected by the COVID-19 PHE.

- **Performance measures.** Medicare and BlueCross BlueShield Vermont (BCBSVT) remained "reporting only," while Medicaid and MVP Health returned to including quality as a component of the settlement calculations.

Changes for PY 4 (2021) unrelated to the COVID-19 PHE included the waiver of scale targets, as well as lower risk caps (Medicare) and risk corridors (Medicaid), and the new Medicaid Year-End Quality Adjustment.

VTAPM Participation

Payers. Medicare, Medicaid, BCBSVT, and MVP Health Care continued participation in PY 4.[3] In PY 4 (2021), the State Employees' Health Care Plan—a self-insured plan administered by BCBSVT—joined the model. While BCBSVT and MVP together account for approximately two-thirds of Vermont's commercial insurance market, the remainder of the market is highly fragmented, which poses a challenge for increasing the scale of the model's commercial ACO initiative. The voluntary nature of payer participation and the state's limited regulatory ability to influence self-insured employer plans are also challenges to wider commercial payer participation.

Hospitals. Because hospitals are the primary risk-bearing entities in the VTAPM, health care practitioners and providers are eligible to participate only if the home hospital in each HSA opted for model participation. Hospital participation across the payer ACO initiatives in PY 4 (2021) remained consistent with PY 3 (2020), except for one hospital (Rutland) joining the Medicare ACO initiative. In PY 4 (2021), 14 of the 15 eligible hospitals participated in one or more ACO payer initiatives. Eight hospitals participated in all three payer initiatives, while six hospitals participated in the Medicaid and commercial ACO initiatives.

Practices and Practitioners. In each PY, patients receiving a meaningful amount of their primary care—as measured by qualified evaluation and management (E&M) services[b]—from eligible model practitioners

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[b] Qualified E&M services are a subset of Evaluation & Management services as identified by the Healthcare Common Procedure Coding System (HCPCS) codes and include claims for primary care services provided by a primary care specialist or one of the selected non-primary care specialists.

are attributed to the model.[c] In PY 4 (2021), the total number of participant and preferred practitioners in the model's network increased slightly (n=5,235). While 610 new practitioners joined the model—reflecting in part the new participants in the Medicare ACO initiative—531 practitioners exited the model between PY 3 (2020) and PY 4 (2021).[d,e] In PY 4 (2021), the OneCare network lost 12 organizations out of 123 participating in the model. Organizations cited as reasons for exiting the model practice mergers, acquisitions, and closures (four organizations); impacts of the COVID-19 PHE (four organizations); lack of a specialist focus in the model (two organizations); and concerns around the level of primary care funding (two organizations).[4]

Patients. In PY 4 (2021), the model added approximately 12,000 Vermonters, for a total of 241,774 members, or 46 %of all eligible Vermonters. Approximately 54% of Vermont Medicare beneficiaries and 79% of Vermont Medicaid members were attributed to the model.[5]

Implementation of the Model

Oversight and Accountability. Vermont developed a unique, multi-layered accountability structure among CMS, state agencies, payers, and the health care delivery system in the state. CMS holds the state of Vermont—specifically the Governor's Office, AHS, and GMCB—accountable for achieving statewide financial, quality, and population health targets. The GMCB is charged with developing benchmarks for Vermont's Medicare's ACO initiatives, producing data and reports for CMS on progress toward the agreement's targets, coordinating with OneCare to achieve targets, and overseeing alignment across payers for patient attribution, quality measures, payment mechanisms, and risk arrangements. The GMCB also has other regulatory obligations beyond VTAPM. To enable better monitoring of OneCare's performance, in December 2021, the GMCB required the ACO to establish a benchmarking system to compare its performance to ACOs across the country on five key areas: utilization, cost per capita, quality, patient engagement/satisfaction, and clinical appropriateness. As of 2022, the GMCB is looking into ways to align its oversight processes, such as connecting hospital budget decisions to health insurance premium rate review and ACO oversight.

Payment Reform. In the VTAPM, the financial risk of caring for attributed patient populations is shared with the hospitals through participation in a risk-bearing ACO (OneCare). In 2020, OneCare moved from risk-sharing at the regional level by HSA—where hospitals were the primary risk bearers and each community was accountable for its own performance (described as mini-ACOs)—to pooling risk across the state.

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[c] The model uses prospective attribution, by which patients are attributed to the model based on their qualified E&M service utilization in the 2 years ending 6 months before the performance year (e.g., for PY 4 [2021], patients are attributed based on their service use between July 2018 and June 2020).

[d] Because Rutland Regional Medical Center does not directly employ PCPs, the practitioners in the Rutland HSA added to the model are employees of the Community Health Center of the Rutland Region.

[e] Lists of participant and preferred practitioners are from OneCare's FY 2021 budget submission, submitted in October 2020. A limitation of these data is that these lists are generated prospectively and may not reflect all payer program participation decisions made after budget submission.

To expand accountability beyond hospitals, in 2021 OneCare created a primary care accountability pool, which for the first time passed downside risk to hospital-based and non-hospital-based primary care practices.[3]

OneCare designed the Comprehensive Payment Reform program to give participating independent primary care practices an opportunity to receive per member per month (PMPM) payments instead of FFS payments for all attributed beneficiaries. The Comprehensive Payment Reform program has grown from three practices in PY 1 (2018) to 17 practices in PY 5 (2022).[f] In PY 5 (2022), the program covered approximately 25,000 lives across Medicare, Medicaid, and the BCBSVT qualified health plan (QHP). Despite the alternative payment mechanisms offered by the model, hospital and practice revenue remain predominantly FFS for patients in the commercial ACO initiative and patients not attributed to the model.

Population Health and Care Delivery Transformation. To achieve the model's population health goals, OneCare, hospitals, and the state are investing in initiatives to increase primary care access, reduce deaths from suicide and drug overdose, reduce chronic disease prevalence and morbidity, and achieve targets related to quality of care and TCOC. Initiatives funded through OneCare include supports for care coordination, primary care, integration of primary and specialty care, and pilot programs for innovations in care delivery and payment reform. All hospitals sustained and expanded investments in care management activities, mental health and SUD services, data analytics, or initiatives to address health-related social needs (HRSNs) and social determinants of health (SDOH).

Despite OneCare's efforts to align quality improvement measures across payers, competing payer priorities have limited progress. Only 7 of the 18 OneCare measures were common across all payers in PY 4 (2021) and PY 5 (2022); the remaining measures were payer-specific.[4]

Successes and Lessons Learned. The VTAPM continued and built on previous payment and care delivery reform activities, strengthening the ecosystem for supporting value-based payment. State officials, hospital leaders, providers, and community organization staff members agreed that, over the last 5 years, the model has provided an organizing framework for collaboration. There has been widespread ACO participation in every region, across the care continuum, and across provider types. Hospitals and practitioners appreciated the fixed prospective payment in the Medicaid ACO initiative, which provided predictability and reliable income and supported population health management. Medicaid officials noted that having the Model State Agreement in place increased momentum for other Medicaid payment reform initiatives. OneCare's Comprehensive Payment Reform program enabled primary care practices to hire additional practitioners and expand care teams to address mental health and SUD.

Implementation Challenges. Participants noted four main challenges in implementing the VTAPM. First, hospitals continued to navigate different payment mechanisms across the Medicare, Medicaid, and commercial ACO initiatives, and the reconciliation of Medicare's AIPBP with FFS payment creates an

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[f] There were a total of 25 independent primary care practices participating in OneCare's 2022 network. REDACTED OneCare FY2022 ACO Budget Narrative 10-01-21.pdf (vermont.gov)

administrative burden and financial uncertainty. Second, a variety of stakeholders highlighted the difficulty of generating meaningful payment reform in the commercial ACO initiative, which remained FFS. Third, smaller hospitals and Critical Access Hospitals (CAHs) see the financial risk as too high to participate, despite narrower risk corridors and distribution of greater risk to larger hospitals. Fourth, Medicaid Delivery System Reform (DSR) investments to support population health initiatives did not materialize as expected; the Vermont legislature has approved only a portion of payments, limiting federal matching funds and overall funds available.

Model Performance on Spending, Utilization, and Quality Outcomes in the First Four Performance Years (2018–2021)

Our quantitative analysis explored whether the VTAPM Medicare ACO initiative achieved spending, utilization, and quality-of-care goals for attributed Medicare beneficiaries and whether Vermont achieved spending, utilization, and quality-of-care goals for the Medicare population statewide. The model reduced cumulative Medicare spending for both the Medicare ACO and statewide relative to a comparison group. These findings reflect higher spending than in the baseline period for the comparison group and lower spending than in the baseline period for the VTAPM groups.

Medicare Spending. Over the first four performance years, the VTAPM Medicare ACO initiative reduced gross spending by $686.4 per beneficiary per year (PBPY), or 6.2% (**Exhibit ES.1**), for ACO-attributed beneficiaries. After accounting for VTAPM Medicare ACO shared savings and other investment payments provided to the Medicare ACO and comparison providers in the baseline and performance periods,[g] the cumulative net impact of the VTAPM across the four PYs was a statistically significant reduction in net Medicare spending of $636.8 PBPY (5.7%), or $124.9 million overall.

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[g] The net impact assessment includes the Multi-Payer Advanced Primary Care Practice (MAPCP) pass-through payments in the BYs and PYs, the VTAPM shared savings payments in the performance period, and shared savings payments to comparison group providers from Pioneer, Medicare SSP, and Next Generation ACO models in the baseline and performance periods. The net impact assessment does not account for the Medicare start-up funds ($9.5 million) provided to Vermont by CMS in 2017 (PY0) as part of a cooperative agreement between the two entities. For more details on net impact estimation, see **Appendix D.6**.

Exhibit ES.1. Gross and Net Medicare Spending Impacts for Medicare ACO-Attributed Beneficiaries

	Gross Medicare Spending			Net Medicare Spending		
	PBPY Impact	% Impact	Aggregate Impact	PBPY Impact	% Impact	Aggregate Impact
Cumulative Through PY 4 (2021)	-$686.4**	-6.2%	-$134.6M	-$636.8**	-5.7%	-$124.9M
In PY 4 (2021)	-$1,207.3	-9.4%	-$64.1M	-$1,251	-9.7%	-$66.4M

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is presented in 2021 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the PY(s). Estimated aggregate impact is the DID estimate multiplied by the number of attributed beneficiaries in PY(s) and is presented in millions of dollars. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

For Medicare beneficiaries statewide over the first four PYs of the model, the VTAPM was associated with statistically significant cumulative reductions in both gross and net Medicare spending (**Exhibit ES.2**), of $1,177 (9.9%) and $1,143.2 (9.7%) PBPY, respectively. In PY 4 (2021), the model was associated with a statistically significant reduction in gross Medicare spending of $1,745.1 PBPY (13.2%), and in net Medicare spending of $1,753.3 PBPY (13.3%).

Exhibit ES.2. Gross and Net Medicare Spending Impacts for Medicare Beneficiaries Statewide

	Gross Medicare Spending			Net Medicare Spending		
	PBPY Impact	% Impact	Aggregate Impact	PBPY Impact	% Impact	Aggregate Impact
Cumulative Through PY 4 (2021)	-$1,177***	-9.9%	-$391.1M	-$1,143.2***	-9.7%	-$379.8M
In PY 4 (2021)	-$1,745.1**	-13.2%	-$145.8M	-$1,753.3**	-13.3%	-$146.5M

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is presented in 2021 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the PY(s). Estimated aggregate impact is the DID estimate multiplied by the number of attributed beneficiaries in PY(s) and is presented in millions of dollars. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Medicare Utilization and Quality of Care. In PY 4 (2021), similar to previous years, we observed utilization patterns that may indicate potential barriers to accessing care in the ambulatory setting for Medicare ACO beneficiaries, notably a steep decrease in specialist E&M visits relative to the baseline period (**Exhibit ES.3**), for both ACO-attributed beneficiaries and Medicare beneficiaries statewide. The decrease in specialist E&M visits may reflect an ongoing shortage of specialists in Vermont (particularly among selected subspecialties), increasing wait times for specialty care, and shifts in visit availability during the worsening COVID-19 PHE in 2021.

For Medicare beneficiaries statewide, we observed significant *decreases* in acute care utilization (acute care stays, acute care days) that influenced the large *reductions* in gross Medicare spending for Vermont Medicare beneficiaries, consistent with findings in PY 3 (2020).

Exhibit ES.3. Impact of the VTAPM on Utilization and Quality of Care, PY 4 (2021)

	ACO-Level	State-Level
Acute care hospital stays	-10.0%	-18.7%**
Acute care hospital days	-9.4%	-20.0%*
ED visits and observation stays	2.2%	-0.6%
Total evaluation & management (E&M) visits	-6.3%	-6.4%
Primary care E&M visits	17.3%	17.0%
Specialty care E&M visits	-27.2%***	-25.8%
Hospice days	-2.4%	-36.3%
Imaging, procedures, and tests	1.5%	0.2%
Annual wellness visits	-21.5%	2.8%
Ambulatory care-sensitive hospitalizations	3.3%	-0.6%
Unplanned 30-day readmissions	-27.1%	-20.0%

NOTE: Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Trends in Substance Use Disorder (SUD) Diagnosis and Treatment for Medicaid Members

From 2016–2021, an average of 17,057 Vermont Medicaid patients had a diagnosed SUD each year, approximately 14% of all members. Of those diagnosed with an SUD, an average of 73% received treatment each year. There were declines in SUD treatment overall and in an emergency department (ED) setting, particularly during the COVID-19 PHE. Since the VTAPM Medicaid ACO now encompasses almost all Vermont Medicaid patients, increasing access to SUD treatment services in all settings should remain a priority.

Chapter 1: Introduction

The Centers for Medicare & Medicaid Services (CMS), through the Center for Medicare & Medicaid Innovation (Innovation Center), designed the Vermont All-Payer Accountable Care Organization (ACO) Model (VTAPM) to test whether scaling an ACO structure across all major payers in the state would support broad care delivery transformation and ultimately reduce statewide spending and improve population health outcomes.[6] The VTAPM is among the Innovation Center's suite of ACO models, which aim to bring together groups of providers to coordinate care for Medicare beneficiaries. The VTAPM expands on previous ACOs by engaging a wider array of payers and beneficiaries. The model began with a one-year implementation period in 2017 and went into effect in 2018. Although the model was originally scheduled to end after the 2022 performance year (PY), in November 2022, CMS agreed to a one-year model extension through 2023, with an additional one-year extension

> **Key VTAPM Model Features**
>
> - Advanced alternative payment model (APM) with prospective attribution
> - Funding from all payers flows through ACO
> - Upside and downside risk arrangements vary by payer
> - Fixed prospective payments and all-inclusive population-based payments (AIPBP)
> - Financial, population health, and quality-of-care targets

through 2024 at the state's option.[7] Under the model, CMS provided Vermont flexibility in designing a state-specific, all-payer ACO program. In exchange, per the Model State Agreement, the state is accountable for meeting statewide scale population targets (for example, model participation), financial targets, and statewide health outcomes and quality-of-care targets.[8]

The Innovation Center contracted with NORC at the University of Chicago to conduct an independent evaluation of the model.[h] This report, the third in a series of reports for the Innovation Center to be released as part of NORC's evaluation, includes implementation experience in PY 4 (2021) and the first half of PY 5 (2022) and the results of impact analyses for Medicare beneficiaries in the first four performance years of the model (2018–2021). It also includes descriptive assessment of trends in Medicaid substance use disorder (SUD) diagnosis and treatment outcomes—a model-wide population health target—for the baseline and PYs 1–4 (2016–2021). During both PY 3 (2020) and PY 4 (2021), the COVID-19 public health emergency (PHE) significantly affected health care delivery and model implementation. Below, we provide an overview of the model, including design changes implemented in response to the COVID-19 PHE, our evaluation approach, and a road map for the remainder of the report.

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[h] NORC's evaluation is of the VTAPM as a whole; it is not an evaluation of any individual participating or nonparticipating organizations (including payers, regulatory authority, care providers, or other stakeholders).

1.1   Overview of the VTAPM

The VTAPM builds on nearly two decades of payment and delivery system reform initiatives, including Vermont's Global Commitment to Health Section 1115 waiver, the Blueprint for Health, and a multi-payer ACO Shared Savings Program (SSP) pilot under Vermont's State Innovation Models (SIM) Testing Grant.[1] The VTAPM launched in 2017 (PY 0) with four health service areas[i] (HSAs) participating in the Medicaid Next Generation ACO pilot, which represented Medicaid's participation in the model.[j] The model expanded in PY 1 (2018) to include Medicare and commercial payers, aligning with some design features of the Medicare Next Generation ACO model.[k] As noted previously, under the VTAPM, Vermont had flexibility in designing a state-specific, all-payer ACO program. The Model State Agreement specifies financial targets and benchmarks aimed at aligning health care spending with Vermont's overall economic growth and population health goals, while enabling the state to adapt the model to the state's distinct health care environment.[8]

The model uses an all-payer ACO framework to facilitate care transformation; specifically, it encourages providers to transition from fee-for-service (FFS) to value-based payments, using risk-based payments tied to provider performance on quality and financial metrics. The VTAPM currently includes one statewide nonprofit ACO:[l] OneCare Vermont (OneCare).[m] OneCare negotiates contracts and aligns model features across Medicare, Medicaid, and commercial payers; supports model implementation in the delivery system; and sets provider-specific financial and quality targets. OneCare's network includes hospitals, federally qualified health centers (FQHCs), primary care practices, independent specialists, skilled nursing facilities (SNFs), home health agencies, hospices, and designated mental health agencies, among other organizations (for example, physical therapy practices, ambulatory surgical centers).

State Oversight

The model employs a multi-layered accountability structure across CMS, state agencies, payers, and the health care delivery system (including hospitals, practitioners, and other providers). CMS, the Vermont Governor's office, the Vermont Agency of Human Services (AHS), and the Green Mountain Care Board (GMCB) oversee model implementation (see **Exhibit 1.1.1**).[9] The GMCB, an independent, nonpartisan, regulatory body established in 2011 legislation, has a broad mandate across the health care system. The GMCB is charged with

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[i] OneCare's definition of HSA refers to one or more counties that are relatively self-contained with respect to the provision of routine hospital care as defined by the Dartmouth Atlas methodology. For additional information, see: https://www.onecarevt.org/wp-content/uploads/2019/06/September-2019-Packet.pdf

[j] CMS provided $9.5 million in start-up funding in PY 0 (2017) to support care coordination activities, facilitate connections with community-based resources, and support practice transformation.

[k] See NORC's First Evaluation Report for a detailed discussion of the All-Payer Model and the Next Generation ACO model.

[l] In April 2021, OneCare was recognized as a 501(c)(3) nonprofit organization.

[m] In 2010, three ACOs operated in the state. At the end of 2017, two ACOs suspended operations, leaving OneCare as the sole ACO operating in the state. Community Health Accountable Care (CHAC), LLC, a primary care association, and Vermont Collaborative Physicians (VCP), LLC, an independent practice association, did not join the model. The Model State Agreement does not limit how many ACOs can participate.

moderating health care spending growth through hospital and insurance rate regulation, innovation, and evaluation; bolstering statewide health information technology initiatives; and improving the health of Vermonters. The GMCB has regulatory oversight of OneCare's budget and regulates health care reforms, health insurance rates, individual hospital budgets, and major health care capital spending. GMCB's role also includes authority to regulate ACOs, granted by Act 113 in 2016.[10] The GMCB certifies ACOs when they begin operating in Vermont and annually confirms their eligibility for continued certification. On an annual basis, the GMCB reviews, modifies, and approves ACO budgets and coordinates with OneCare to achieve the model's ACO scale beneficiary attribution targets and statewide financial, health outcomes, and quality-of-care targets.[2]

Exhibit 1.1.1. VTAPM Accountability Structure
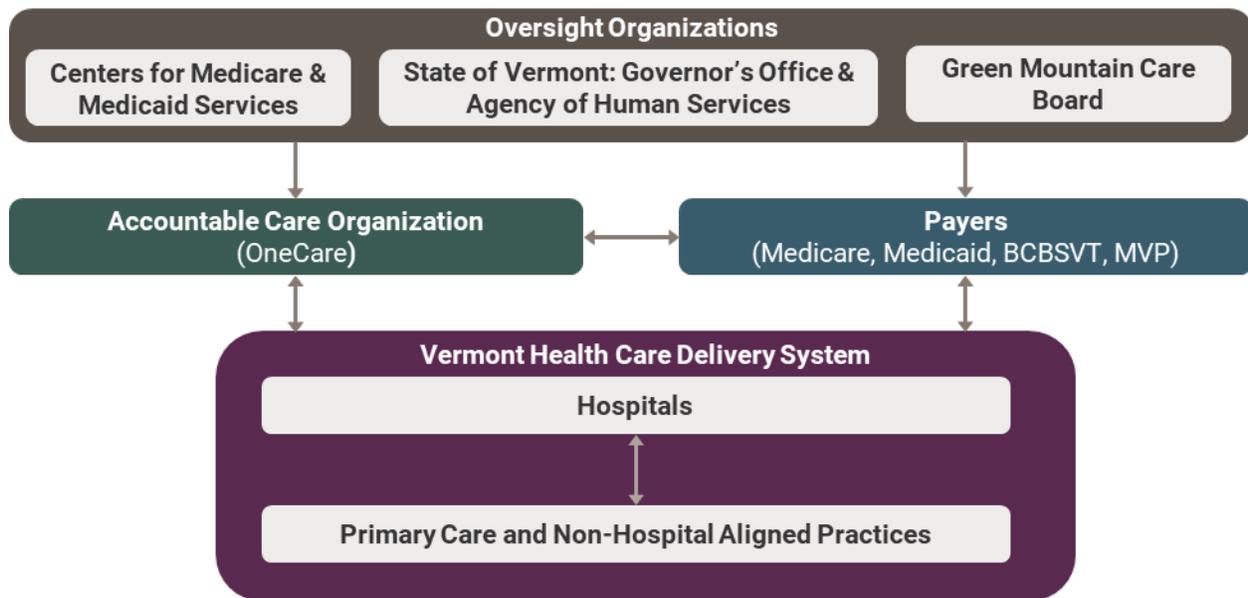
NOTE: BCBSVT = BlueCross BlueShield of Vermont; MVP = MVP Health Care.

The AHS developed the Medicaid ACO initiative and has ensured that Vermont Medicaid participates as a reliable payer. The AHS has an intergovernmental agreement with the Department of Vermont Health Access (DVHA) to administer Vermont's Medicaid program. The DVHA offers an ACO program that meets Medicaid scale target criteria.[11] To facilitate model participation, the DVHA sets Medicaid ACO program rates prospectively for each calendar year to provide predictability for OneCare and participating providers. The AHS has supported the alignment of Medicaid ACO requirements with Medicare ACO standards, including modifying ACO-level quality and performance measures to standardize measures across payers and to reduce administrative burden for providers.[12]

Model Targets

CMS holds Vermont accountable through the Model State Agreement for meeting targets and benchmarks for financial performance, population health and quality-of-care outcomes, and model scale (see **Exhibit 1.1.2**).

Exhibit 1.1.2. Features of Model Aims and Targets

Financial Targets and Benchmarks	
Medicare ACO Initiative Benchmarks	The GMCB calculates benchmarks in relation to each PY's Annual Projected National Medicare Total Cost of Care (TCOC) per Beneficiary Growth Rate.
Statewide Financial Targets	There are two growth rate targets: • All-Payer TCOC per Beneficiary Growth Target limits spending growth to 3.5% annually. • Medicare TCOC per Beneficiary Growth Target limits growth to 0.2 percentage points below the PY's Annual Projected National Medicare TCOC per Beneficiary Growth Rate.[2,13]
Population Health and Quality of Care	
Population Health Outcome Goals	Goals are to increase access to primary care, reduce deaths from suicide and drug overdose, and reduce chronic disease prevalence and morbidity.
Quality-Related Benchmarks	Each payer sets a financial target that accounts for spending on ACO-aligned beneficiaries for the payer. CMS can lower the Medicare performance benchmark in the following year if the ACO does not achieve a specified quality score for Medicare beneficiaries.[14]
Scale Targets	
Beneficiary Attribution	The Model State Agreement set ACO scale targets, or goals for scaling the model to all Vermonters through staged participation of payers and practitioners. The original agreement required the VTAPM's participating payers to attribute 70% of all insured Vermont residents and 90% of Medicare beneficiaries to participating ACO providers by 2022.[2] However, in October 2021, CMS waived enforcement of the scale targets, noting that ACO scale targets in the Model State Agreement were unattainable for Vermont based on information unavailable when the agreement was drafted.[15]
Attribution Method	The VTAPM employs a prospective[n] methodology to attribute beneficiaries to each ACO initiative: Medicare, Medicaid, and commercial.[16] Vermonters are attributed to the model if they receive a meaningful level[§] of primary care services from the model's attribution-eligible, participant practitioners during a two-year period before each PY.[12,17] Medicaid has used an expanded attribution approach in which all members eligible for a full Medicaid benefits package and no other forms of insurance are attributed to the model regardless of historical primary care utilization, with the exception of enrollees who see primary care practitioners (PCPs) that do not participate in OneCare Vermont.

NOTE: [§] Meaningful level of service is defined as having a plurality of eligible E&M visits with practitioners who have attribution-eligible specialties.

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[n] Voluntary attribution—allowing people to opt in to the model by identifying a model participant as their PCP online or by mail—was carried over from the Next Generation ACO model; however, in the VTAPM, attribution has occurred solely through prospective means and not through voluntary attribution.

Financial Structure

The VTAPM enables flexible model implementation across Medicare, Medicaid, and commercial payers and includes payment mechanisms and funding streams that vary by payer. As depicted in **Exhibit 1.1.3**, Medicare and Medicaid provide the ACO (OneCare) with a fixed per beneficiary per month (PBPM) prospective payment.[18] OneCare uses the payments—along with hospital participation dues, advanced Medicare shared savings, and start-up funding[o]—to fund population health management and care delivery activities. In the Health Care Payment Learning & Action Network (HCP-LAN) APM Framework,[p] the Medicare and Medicaid initiatives are categorized as population-based payment models (Category 4), while the commercial initiative is categorized as an APM built on FFS architecture (Category 3).[3]

Exhibit 1.1.3. Financial Structure of the VTAPM
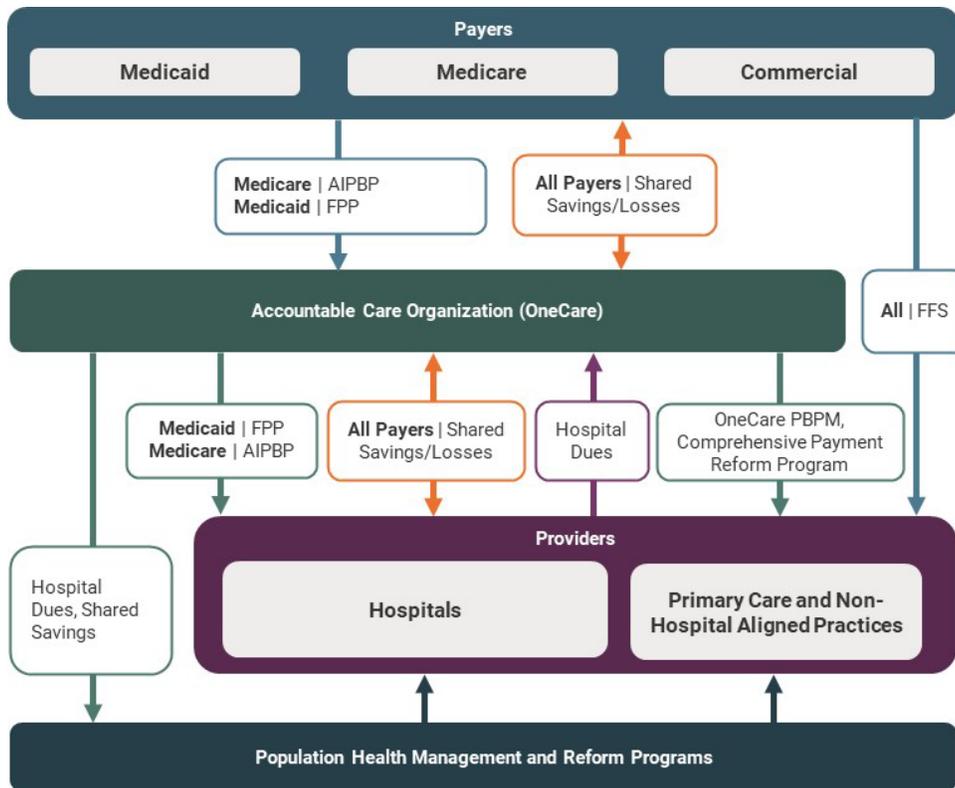
NOTE: AIPBP = All-inclusive population-based payment; FPP = fixed prospective payment; PBPM = per beneficiary per month; FFS = fee-for-service. The Comprehensive Payment Reform program gives participating independent primary care practices an opportunity to receive PMPM payments instead of FFS payments for all attributed beneficiaries.

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[o] In the Model State Agreement, CMS provided start-up funding of $9.5 million to support population health investments and hospital participation dues.

[p] The HCP-LAN APM Framework tracks progress toward payment reform through standardized classification of APMs. The Framework classifies APMs into four categories and eight subcategories on a continuum of financial risk, from traditional FFS (Category 1) to population-based payment (Category 4). For additional information, see: https://hcp-lan.org/workproducts/apm-refresh-whitepaper-final.pdf

There are three main payment mechanisms in the model—all-inclusive population-based payment (AIPBP), fixed prospective payment, and traditional FFS—which remain unaligned across the Medicare, Medicaid, and commercial ACO initiatives. **Exhibit 1.1.4** describes the different payment mechanisms by payer. Vermont's major commercial payers—BlueCross BlueShield of Vermont (BCBSVT) and MVP Health Care (MVP)—were the only two commercial payers participating in the model in PY 4 and PY 5.[q]

Exhibit 1.1.4. Payment Mechanism by Payer

Medicare

Medicare All-Inclusive Population-Based Payment (AIPBP): CMS pays expected FFS claims in prospective monthly payments for each attributed beneficiary, with reconciliation to Medicare FFS after the performance period. The optional AIPBP mechanism is available for eligible participants.

Fee-for-Service (FFS): Medicare FFS payments continue for non-eligible and non-attributed providers.

Medicaid

Medicaid Fixed Prospective Payment: The DVHA pays OneCare a fixed PMPM payment for services provided by hospitals and certain practices in OneCare's network in advance of the services being performed. The Fixed Prospective Payment is not reconciled with FFS.

Fee-for-Service (FFS): Medicaid FFS payments continue for community providers in OneCare's network (skilled nursing facilities, designated agencies, area agencies on aging, home health and hospice, and federally qualified health centers), independent practices that are in OneCare's network but that do not participate in the Comprehensive Payment Reform program, providers outside of OneCare's network, and for all services that are not included in the fixed prospective payment.

Commercial

Fee-for-Service (FFS): The commercial health plans—BCBSVT self-insured employer plans, the BCBSVT qualified health plan (QHP) and the MVP QHP—reimburse providers through FFS payments.

SOURCES: OneCare Vermont 2019 Budget Presentation; OneCare Medicare Benchmarking Report – October 2022; Vermont Medicaid Next Generation ACO Program 2020 Performance; ACO Oversight FY 2022 Budget and Certification OneCare Vermont.

1.2   Model Design Changes

The Second Evaluation Report noted that several changes to model requirements made in 2020 continued into 2021. Some changes were administrative decisions unrelated to the COVID-19 PHE, while others were made in direct response to the COVID-19 PHE. The changes accounted for the abrupt decrease in health care utilization

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[q] On December 20, 2022, BCBSVT announced that it did not sign a contract with OneCare for participation in the model in 2023. For more information, see: https://www.bluecrossvt.org/health-community/news/blue-cross-will-pause-relationship-onecare-vermont-2023

during the COVID-19 PHE, limited the level of financial risk, and returned to including quality performance as a component of performance-based incentives in the Medicaid and MVP initiatives.

In 2021, the COVID-19 PHE continued to have a major impact on the health care delivery system across the country. Similar to the rest of the country, Vermont experienced significantly more COVID-19 cases in 2021 compared with 2020, particularly toward the end of 2021, when new cases surpassed 1,000 per day.[19] In the context of the ongoing COVID-19 PHE, VTAPM leadership and model participants were concerned about hospitals' ability to meet financial and quality performance targets, as well as targets for ACO beneficiary scale and statewide health outcomes.[20] In response to the COVID-19 PHE, the Innovation Center approved the following requested changes related to financial benchmarks, risk-sharing arrangements, and performance measures,[21] some of which remained in effect through PY 4 (2021):[22]

Financial benchmarks. The Innovation Center approved changes to the Medicare benchmarking methodology through at least 2021. The PY 4 (2021) prospective benchmark was revised to use the observed change in spending between 2019 and 2020 as measured in April 2021.[23,24] Additionally, payments for COVID-19 treatments were excluded from spending used to calculate shared savings/losses through PY 4 (2021) for Medicare and Medicaid initiatives.[22,23,25]

Risk-sharing arrangements. As in PY 3 (2020), Medicare and Medicaid downside risk was reduced by the proportion of time affected by the COVID-19 PHE.[23,24,25]

Performance measures. PY 3 (2020) was a "reporting only" year for quality measurement.[20,26] For PY 4 (2021), Medicare and BCBSVT remained reporting only, while Medicaid and MVP returned to including quality as a component of the settlement calculations.[27]

Changes for PY 4 (2021) unrelated to the COVID-19 PHE included waived enforcement of scale targets, lower risk caps (Medicare) and risk corridors (Medicaid), and the new Medicaid Year-End Quality Adjustment, as described below.

Scale targets. In October 2021, CMS waived enforcement of scale targets through December 31, 2022, noting that the ACO scale targets set forth in the Model State Agreement were unattainable for Vermont, given information unavailable when the Agreement was drafted.[15] The new information included a significant increase in Medicare Advantage (MA) penetration, as well as the ACO attribution methodology, which excluded many Vermont beneficiaries due to primary care utilization outside the state. CMS stated that the ACO scale targets were set too high, recognizing that the model has demonstrated Medicare savings despite falling short of the targets.[15] While under the model extension agreement CMS is not enforcing scale targets, CMS does encourage the state to maximize the percentage of Vermonters aligned to an ACO initiative.[28]

Shared savings/losses. In 2021, CMS amended the Model State Agreement to set the Medicare shared savings/losses cap at 2% for PY 4 (2021) and PY 5 (2022), a reduction from the 5% cap in previous years.[24] Medicaid reduced its risk corridor to 2% for the original attribution cohort and to 1% upside and downside risk

for the expanded attribution cohort.[25,r] See **Exhibit 1.2.1** for a summary of how payers' risk corridors have changed over the PYs.

Medicaid Year-End Quality Adjustment. In addition to the existing Value-Based Incentive Fund (VBIF) in which participating providers earn payments by meeting quality criteria, the Year-End Quality Adjustment will work to link ACO quality performance to financial incentives. The Year-End Quality Adjustment connects 1% of the ACO's expected TCOC with the quality performance.[25]

Exhibit 1.2.1 summarizes how risk-sharing arrangements and risk corridors have varied by payer across PYs. In PY 4 (2021), the Medicare and Medicaid initiatives included 100% risk-sharing, meaning that OneCare would earn 100% of any savings and be responsible for 100% of any losses within the risk corridor. A risk corridor of 5% means that shared savings/losses are capped at +/- 5% variance to the benchmark.

Exhibit 1.2.1. Risk Arrangements across Payers

	Risk-Sharing				Risk Corridor			
Payer	**PY 1 (2018)**	**PY 2 (2019)**	**PY 3 (2020)**	**PY 4 (2021)**	**PY 1 (2018)**	**PY 2 (2019)**	**PY 3 (2020)**	**PY 4 (2021)**
Medicare	80%	100%	80%	100%	±5%	±5%	±5%	±2%
Medicaid	100%	100%	100%	100%	±3%	±4%	Traditional attribution: ±4% Expanded attribution: ±2%	Traditional attribution: ±2% Expanded attribution: ±1%
BCBS QHP	50%	50%	Undisclosed	Undisclosed	±6%	±6%	Undisclosed	Undisclosed
BCBS Self-insured	30%	30%	Undisclosed	Undisclosed	+10%	+10%	Undisclosed	Undisclosed
MVP	N/A	N/A	Undisclosed	Undisclosed	N/A	N/A	Undisclosed	Undisclosed

SOURCES: Annual ACO Scale Target and Alignment Reports for PY 1, PY 2, and PY 3; GMCB FY 2021 Staff Analysis and Preliminary Recommendations presentation (December 9, 2020).
NOTE: QHP = qualified health plan.

1.3   Overview of the Evaluation

NORC's evaluation examines the impact of the VTAPM on public payer spending (Medicare and Medicaid[s]); population health outcomes; and other measures of health care spending, utilization, and quality of care. The evaluation also answers questions about how participants and oversight organizations implemented the model, and the associated challenges and lessons learned.

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[r] In 2020, for the Medicaid population, the DVHA moved to an alternative attribution methodology known as expanded attribution. Under expanded attribution, patients are attributed to the ACO based on three considerations: eligibility for full Medicaid benefits, lacking other insurance, and having no demonstrated relationship with a PCP outside the OneCare network.

[s] Assessing the model's impact on the commercial payer population is outside the evaluation scope.

Conceptual Framework

The conceptual framework presented in **Exhibit 1.3.1** (adapted from Damberg et al.[29]) guides our evaluation of the VTAPM's implementation and impact. The framework includes **contextual factors**, such as Vermont's history of health care reform efforts, the GMCB regulatory role, and characteristics of local health care markets, organizations, provider networks, and beneficiaries. We explore the effects of VTAPM's **design features**, such as the GMCB's regulatory and oversight authority and Vermont's flexibility to:

- Determine ACO outcomes
- Design features related to setting ACO benchmarks
- Structure risk arrangements and payment mechanisms
- Invest in care management, monitoring, and enhanced benefits

We assess stakeholder, hospital, and practitioner perspectives on model **implementation**, including:

- Alignment of incentives across payers
- Population health initiatives
- Coordination of care across settings
- Performance monitoring and oversight
- Stakeholder collaboration
- Community engagement

Our findings about implementation inform our assessment of state- and ACO-level outcomes. Implementation effectiveness measures focus on ACO scale targets and use of model features, while program effectiveness measures focus on spending, utilization, and quality of care.

Exhibit 1.3.1. Conceptual Framework

Contextual Factors

- History of health care reform efforts
- Regulatory bodies (CMS, GMCB, AHS)
- Regulatory enforcement
- Health information technology and data infrastructure infrastructure
- Health care market
- Medicaid and commercial insurance market
- Public health emergency

Design Features

- State-level flexibility
- Financial benchmarks
- Risk arrangements
- Payment mechanisms
- Benefit enhancements
- State-level accountability for population health
- GMCB's oversight authority

Implementation

- State oversight
- ACO and hospital population health initiatives
- Clinician engagement
- Community and state level collaboration

Model Participants & Implementation Partners

- Payers (Medicare, Medicaid, and commercial)
- Accountable care organization (OneCare)
- Hospitals
- Community providers
- Blueprint for Health
- Primary care providers
- Independent providers and FQHCs
- Vermonters

Outcomes

Implementation Effectiveness
- Scale beneficiary attribution targets
- Provider motivations and perceptions
- Use of model features

Program Effectiveness (State and ACO level)
- Quality of care
- Health care expenditures and utilization
- Population health

Evaluation Methods

NORC's evaluation employs an embedded, mixed-methods design that facilitates an iterative approach to data collection and analysis, allowing for qualitative and quantitative data to inform one another across the PYs. **Exhibit 1.3.2** depicts the mixed-methods design, including a Medicare impact analysis and a Medicaid descriptive analysis, both informed by semi-structured interviews and document review.

Exhibit 1.3.2. Mixed-Methods Evaluation Design
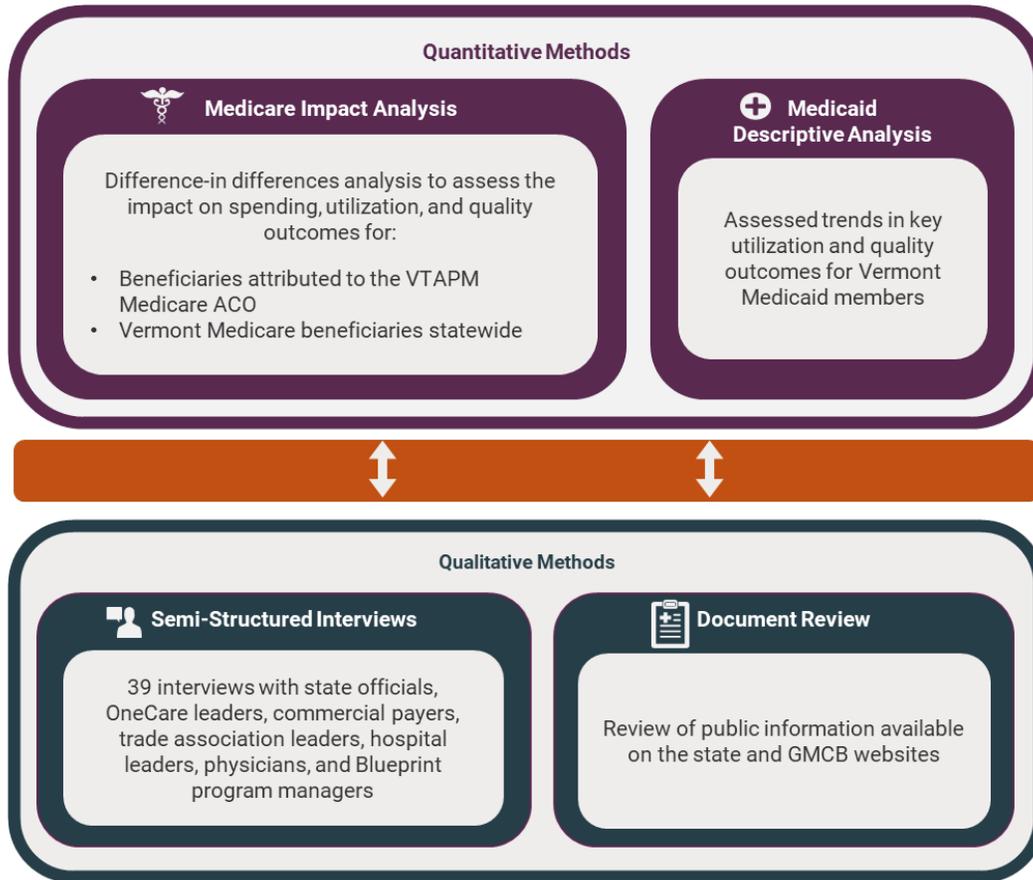
Medicare Impact Analysis Methods

We have employed a difference-in-differences (DID) design to assess the impact of the VTAPM on Medicare spending, utilization, and quality of care in each PY. We assessed the model's impact on all eligible Medicare FFS beneficiaries at both the state and ACO levels. For additional detail on the DID design methodology, see Chapter 3 and **Appendix D**.

Vermont's unique market characteristics and context posed several methodological challenges with constructing a comparison group to assess the model's impact on Medicare spending and utilization. Few areas outside Vermont have similar sociodemographic and health insurance market characteristics, and the state has a unique history of health care reform. To address these challenges, we employed a flexible DID framework that allowed groups to have differing baseline trends for outcomes,[t] while prioritizing area-level characteristics that were

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[t] The flexible DID framework enabled us to relax the common trends assumption needed to produce unbiased DID impact estimates. Instead, our approach assumed that the differential trends in the baseline period take a linear form and that they would continue in the absence of the VTAPM.

most likely to influence outcomes in the weighting stage.[u] For additional detail on the quantitative methodological challenges posed by Vermont's unique context and the mitigation strategies developed in response, see Chapter 3 and **Appendix D**.

The intensity of the COVID-19 PHE has varied across time and geography.[30] To address such differential effects of the COVID-19 PHE on outcomes for the treatment and comparison groups, we included a county-level covariate (total deaths per 100,000 population) in the analytic weighting procedure to account for geographic variation in COVID-19 burden in PY 3 (2020) and PY 4 (2021). For additional information regarding the updated quantitative methods, see Chapter 3 and **Appendix D**.

➕ *Medicaid Serial Cross-Sectional Analysis Methods*

We constructed the Medicaid population for the analysis by applying the VTAPM Medicaid ACO's expanded attribution methodology to Vermont Medicaid members in the Transformed Medicaid Statistical Information System (T-MSIS) claims from 2016–2021. We used a serial cross-sectional analysis to assess trends in SUD diagnosis and treatment to provide additional context and data for a key concern for Vermont and the VTAPM that to date had not been included in our evaluation. For more detail on the methods used in the Medicaid analysis, see Chapter 3 and **Appendix D**.

💬👤📋 *Qualitative Methods*

Qualitative data sources included model-related documents and semi-structured interviews. To understand the model's design and implementation to date, we reviewed existing documents, including more than 250 hospital- and ACO-level budget documents and a wide array of public information available on the state and GMCB websites. Between April and September 2022, we conducted 39 semi-structured interviews with state officials, OneCare leaders, commercial payers, trade association leaders, hospital leaders, physicians, and Blueprint program managers (staff hired within each HSA to support the implementation of Blueprint initiatives). The evaluation research questions (see **Appendix B**), conceptual framework, and document review informed the interview guides for each type of participant. For additional detail on the qualitative methods, see **Appendix C**.

Qualitative findings are reported in Chapter 2 (All-Payer Model Implementation) and provide context for the impact findings in Chapter 3 (Model Performance on Spending, Utilization, and Quality-of-Care Outcomes).

1.4   Overview of the Report

This report provides information on program design features; implementation experiences; state- and ACO-level model impacts on Medicare spending, utilization, and quality of care; and trends in SUD diagnosis and treatment

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[u] The weighting methodology and multivariate models prioritized factors such as demographics and socioeconomic characteristics over the characteristics of the health insurance market.

for Medicaid members. The report leverages the assessments presented in NORC's <u>First</u> and <u>Second</u> Evaluation Reports to address the research questions in **Appendix B**.

Exhibit 1.4.1 illustrates the chapter organization of this report. In Chapter 2, we discuss implementation experience during late 2021 and early 2022, drawing on findings from interviews and document reviews. Chapter 3 presents findings on the impact of the model on ACO- and state-level gross and net Medicare spending, utilization, and quality outcomes, as well as trends in Medicaid SUD diagnosis and treatment for Medicaid members, in the first four PYs (2018–2021). Chapter 4 provides a synthesis of findings and a discussion of implications.

Exhibit 1.4.1. Third Evaluation Report: Findings on Implementation Experience and Impact

Chapter 1 Introduction	Chapter 2 Implementation Experience	Chapter 3 Model Performance on Spending, Utilization, and Quality	Chapter 4 Discussion
Identify VTAPM aims and key program design features	Describe characteristics of payers, hospitals, practitioners, and beneficiaries in the VTAPM Describe progress around implementation of the Model related to participation, oversight and accountability, payment reform, and population health Identify challenges, successes, and promising practices Discuss future considerations	Estimate the VTAPM's impact on spending, utilization, and quality for: • Medicare beneficiaries attributed to the VTAPM Medicare ACO • Vermont Medicare beneficiaries statewide Assess trends in SUD diagnosis and treatment for Vermont Medicaid members	Discuss Model design, implementation, and evaluation challenges Examine lessons learned and areas for future research

NOTE: See Appendix B for a complete list of research questions for this evaluation.

Chapter 2: All-Payer Model Implementation—2021 and Early 2022

Key Takeaways

Participation

- In PY 4 (2021), 14 of 15 eligible hospitals participated in one or more ACO payer initiatives. One additional hospital joined the Medicare ACO initiative.
- Commercial participation increased in PY 4 (2021), with the State Employees' Health Care Plan—a self-insured plan administered by BCBSVT—joining the model.

Implementation Progress

- The GMCB continues to work toward aligning and adapting regulatory levers to support model goals.
- While hospitals remain the primary risk-bearing entities, in 2021, OneCare created a primary care accountability pool, sharing downside risk with primary care practices.
- Hospitals sustained and expanded investments in care management activities, mental health and SUD services, data analytics, and initiatives to address health-related social needs and social determinants of health.

Successes and Lessons Learned

- State officials, hospital leaders, providers, and community organization staff members agreed that, over the last five years, the model has provided an organizing framework for collaboration. While the model has not reached the original scale targets, there has been participation in every region, across the care continuum, and across provider types.
- Hospitals and practitioners appreciated the fixed prospective payments in the Medicaid ACO initiative, which provided predictability and reliable income and supported population health management.
- Medicaid officials noted that having the Model State Agreement in place increased momentum for other Medicaid payment reform initiatives.
- OneCare's Comprehensive Payment Reform program enabled primary care practices to hire additional practitioners and expand care teams to address mental health and SUD.

Implementation Challenges

- Hospitals continued to navigate different payment mechanisms across the Medicare, Medicaid, and commercial ACO initiatives. Hospital leaders reiterated concerns about the administrative burden and financial uncertainty in reconciling Medicare's AIPBP with FFS payments. A variety of stakeholders highlighted the difficulty of generating meaningful payment reform in the commercial ACO initiative, which remained FFS.
- The model's voluntary nature undermined widespread participation—a key element of the model's design. Smaller hospitals and Critical Access Hospitals (CAHs) see the financial risk as too high to participate, despite narrower risk corridors and distribution of greater risk to larger hospitals.
- Because expectations for Medicaid Delivery System Reform transformation funding did not materialize, funding streams have been inconsistent for population health initiatives.

The overarching goals of the VTAPM are to improve quality of care, improve the health of Vermont's population, and reduce health care spending growth. This chapter focuses on how the state, OneCare, and providers implemented the model and describes related successes and challenges. Chapter 2 findings are based on interviews and a review of documents, including OneCare and hospital budgets and related materials, GMCB reports, and federal communication. Between April and September 2022, we conducted interviews with state-level officials, OneCare leaders, state association leaders, hospital leaders, physicians, designated mental health agency staff members, and Blueprint program managers from each HSA.[v] Participation data for practitioners are from the PY 2021 Medicare Provider List.

2.1 Model Participation: Payers, Hospitals, Practitioners, and Patients in 2021

This section presents an overview of payer, hospital, and practitioner participation, as well as characteristics of eligible Vermonters in the VTAPM in PY 4 (2021).

Payer Participation

The VTAPM was designed to provide an avenue for all major payers in the state to participate in payment and delivery system reform through aligned incentives across payers. The two major public payers—CMS for Medicare and the DVHA for Medicaid—have participated since the model's inception. Two of Vermont's three major commercial payers had joined the model through PY 4 (2021): BCBSVT and MVP. These two payers comprise the majority of the commercial insurance market in Vermont.[w]

BCBSVT has participated since PY 1 (2018) through its QHP offered on the Vermont health insurance marketplace; large group fully insured products; large group self-insured plans (such as the group covering University of Vermont [UVM] Medical Center employees), and self-insured plans for small and mid-size employers.[3] In PY 4 (2021), the State Employees' Health Care Plan—a self-insured plan administered by BCBSVT—joined the model. Collectively, BCBSVT plans added approximately 5,300 Vermonters to the model in PY 4 (2021) for a total of 58,598 members.[x,5]

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[v] Blueprint program managers are hired by the hospital or FQHC in each HSA to provide support to all primary care practices within the HSA for Blueprint initiatives and other health system reform activities (such as ACO initiatives). For more information, see the 2021 Vermont Blueprint for Health Annual Report, available at:
https://blueprintforhealth.vermont.gov/sites/bfh/files/doc_library/Blueprint2021AnnualReport_BP_Final%20.pdf

[w] In 2020 (the most recent year for which data are available), BCBSVT and MVP combined accounted for approximately two-thirds of commercial health care premium payments (including major medical insurers, self-insured plans, and other medical-related insurers), representing 55% and 13% of the market, respectively. For more information, see:
https://gmcboard.vermont.gov/sites/gmcb/files/documents/2020_Market_Share_Reports_Nov_24_2021.pdf

[x] On December 20, 2022, BCBSVT announced that it did not sign a contract with OneCare for participation in the model in 2023. For more information, see: https://www.bluecrossvt.org/health-community/news/blue-cross-will-pause-relationship-onecare-vermont-2023

MVP joined the model in PY 3 (2020) and added 900 additional Vermonters to the model in PY 4 (2021) for a total of 10,236 members.[3] MVP has experience with value-based payment initiatives in New York (including CMS' Comprehensive Primary Care Plus model); the payer first entered the Vermont market in 2016 and has since expanded market share in the state.

Ⓗ Hospital Participation

The VTAPM aims to align incentives across payers; however, each hospital can choose to participate in any or all of the three payer ACO initiatives (Medicare, Medicaid, and commercial). Because hospitals were the primary risk-bearing entities in the VTAPM in PY 4 (2021), health care practitioners and providers were eligible to participate only if the home hospital in each HSA opted for model participation.

Hospital participation across the payer ACO initiatives in PY 4 (2021) remained consistent with PY 3 (2020), except for one hospital (Rutland) joining the Medicare ACO initiative. In PY 4 (2021), 14 of the 15 eligible hospitals participated in one or more ACO payer initiatives (**Exhibit 2.1.1**); eight hospitals participated in all three payer initiatives; and six hospitals participated in the Medicaid and commercial (BCBSVT and/or MVP) ACO initiatives.[γ] For additional detail on hospital participation, see **Appendix Exhibit E.1**.

Exhibit 2.1.1. Hospital Participation by Payer, Performance Year, and Organizational Characteristics

Health Service Area	Home Hospital	Type	No. of Beds§	System Affiliation	Payer ACO Initiatives				
					2017	2018	2019	2020	2021
Burlington	University of Vermont (UVM) Medical Center	PPS	482	UVM Health Network	Medicaid	All	All	All	All
Berlin	Central Vermont Medical Center	PPS	76	UVM Health Network	Medicaid	All	All	All	All
Middlebury	Porter Medical Center	CAH	25	UVM Health Network	Medicaid	All	All	All	All
St. Albans	Northwestern Medical Center	PPS	53	Independent	Medicaid	All	All	All	All
Brattleboro	Brattleboro Memorial Hospital	PPS	47	Independent		All	All	All	All
Springfield	Springfield Hospital	CAH	25	Independent		All	All	Medicaid & Commercial	Medicaid & Commercial
Lebanon	Dartmouth-Hitchcock Medical Center	PPS	401	Dartmouth-Hitchcock Health		Medicaid & Commercial	Medicaid & Commercial	Medicaid & Commercial	Medicaid & Commercial
Bennington	Southwestern Vermont Medical Center	PPS	78	Independent		Medicaid	All	All	All

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[γ] The OneCare provider network is divided into 15 HSAs, each with its own home hospital. The hospitals include Vermont's 14 hospitals and Dartmouth-Hitchcock Medical Center in New Hampshire.

Health Service Area	Home Hospital	Type	No. of Beds§	System Affiliation	Payer ACO Initiatives				
					2017	2018	2019	2020	2021
Windsor	Mt. Ascutney Hospital	CAH	25	Dartmouth-Hitchcock Health		Medicaid	All	All	All
Newport	North Country Hospital	CAH	25	Independent		Medicaid	Medicaid	Medicaid & Commercial	Medicaid & Commercial
Rutland	Rutland Regional Medical Center	PPS	119	Independent			Medicaid	Medicaid & Commercial	All
St. Johnsbury	Northeastern Regional Hospital	CAH	25	Independent			Medicaid	Medicaid & Commercial	Medicaid & Commercial
Randolph	Gifford Medical Center	CAH	25	Independent			Medicaid	Medicaid & Commercial	Medicaid & Commercial
Morrisville	Copley Hospital	CAH	25	Independent				Medicaid & Commercial	Medicaid & Commercial
Townshend	Grace Cottage	CAH	19	Independent					

SOURCES: FY2022 Budget Submission, OneCare Vermont ACO; NORC analysis of Hospital Cost Report public use file; CMS Provider of Service files; UNC Sheps Center 2021 U.S. Hospital List.
NOTE: PPS = prospective payment system hospital; CAH = critical access hospital. §CMS total inpatient bed count as reported by the Health Care Cost and Information Reporting System.

Non-Hospital Provider Participation

A key principle of the VTAPM is that a comprehensive network of practitioners participating in the model would facilitate care delivery transformation on a broad scale. Practitioners link patients to the model. In each PY, patients receiving a meaningful amount of their primary care—as measured by qualified evaluation and management (E&M) services[z]—from eligible model practitioners are attributed to the model.[aa] Only qualified E&M services provided by a subset of primary and specialty care practitioners (that is, participant practitioners) are considered when determining a patient's attribution.[bb,24] The model's ACO initiatives also contract with "preferred" practitioners, including SNFs, home health, and hospice providers, to extend the reach of the provider network. However, these providers are ineligible to attribute patients to the model. Participant and

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[z] Qualified E&M services are a subset of Evaluation & Management services as identified by the Healthcare Common Procedure Coding System (HCPCS) codes and include claims for primary care services provided by a primary care specialist or one of the selected non-primary care specialists.

[aa] The model uses prospective attribution, by which patients are attributed to the model based on their qualified E&M service utilization in the 2 years ending 6 months before the performance year (for example, for PY 4 [2021], patients are attributed based on their service use between July 2018 and June 2020).

[bb] Participant practitioners in the following specialty areas can attribute patients to the model: primary care: general practice, family medicine, internal medicine, pediatric medicine, geriatric medicine, nurse practitioners, clinical nurse specialists, and physician assistants; cardiology; osteopathic manipulative medicine; neurology; obstetrics/gynecology; sports medicine; physical medicine and rehabilitation; psychiatry; geriatric psychiatry; pulmonology; nephrology; endocrinology; multi-specialty clinic or group practice; addiction medicine; hematology; hematology/oncology; preventive medicine; medical oncology; gynecological/oncology; and neuropsychiatry. See **Appendix D** for additional details on patient attribution.

preferred practitioners work together to provide care to patients attributed to the model, share resources, and promote coordinated care. Independent practices may also join any of the model's payer ACO initiatives in which the hospital in their HSA is participating. For hospital-affiliated practices, the decision to join is made at the hospital level.

In PY 4 (2021), the total number of participant and preferred practitioners in the model's network increased slightly (n=5,235). While 610 new practitioners joined the model—reflecting in part that the Rutland Regional Medical Center and the Community Health Center of the Rutland Region joined the Medicare ACO initiative—531 practitioners exited the model between PY 3 (2020) and PY 4 (2021; **Exhibit 2.1.2**).[31,dd,ee] In PY 4 (2021), the OneCare network lost 12 organizations. Organizations cited as reasons for exiting the model practice mergers, acquisitions, and closures (four organizations); impacts of the COVID-19 PHE (four organizations); lack of a specialist focus in the model (two organizations); and concerns around the level of primary care funding (two organizations).[4]

> **OneCare Network – Non-Hospital Providers (2021)**
> - 127 primary care practices
> - 9 FQHCs
> - 274 specialists
> - 22 SNFs
> - 10 home health and hospice providers
> - 10 designated agencies for mental health and substance use care[cc]
> - 5 area agencies on aging
> - 6 other providers, including naturopaths and ambulatory surgery centers

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[cc] Vermont's Designated Agencies, or community mental health centers, are private nonprofit agencies that work with the Department of Mental Health to provide mental health care. The Designated Agencies are organized under Vermont Care Partners, a collaboration between the Vermont Council and the Vermont Care Network of 16 nonprofit community-based member agencies that provide mental health, substance use, and developmental disability services and supports to Vermonters.

[dd] Because Rutland Regional Medical Center does not directly employ PCPs, the practitioners in the Rutland HSA added to the model are employees of the Community Health Centers of the Rutland Region.

[ee] Lists of participant and preferred practitioners are from OneCare's FY 2021 budget submission, submitted in October 2020. A limitation of these data is that these lists are generated prospectively and may not reflect all payer program participation decisions made after the budget submission.

Exhibit 2.1.2. Practitioner Participation in VTAPM, PY 1–PY 4 (2018–2021)
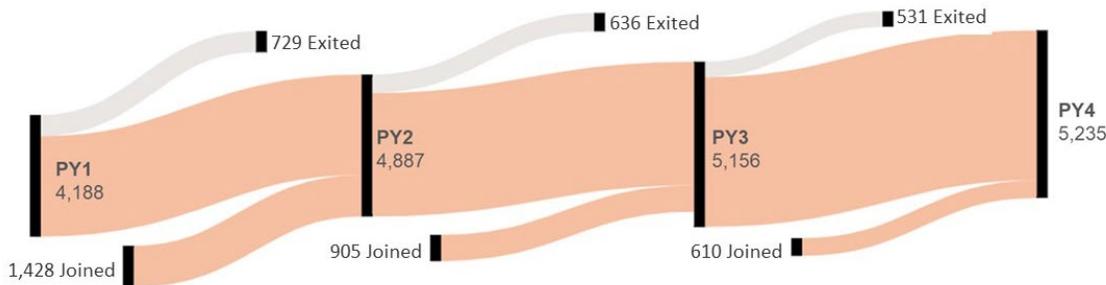
SOURCES: OneCare 2021 Provider Network (Appendix 2, FY2021 budget; October 2021); PY 2021 Medicare Provider List (October 2021).
NOTE: All OneCare-contracted participant and preferred practitioners who are in one or more ACO initiatives (Medicare, Medicaid, commercial) are shown in this exhibit. Participant practitioners can attribute beneficiaries to the model; preferred practitioners cannot.

Over the first four PYs, about half of the model's network was comprised of participant practitioners—practitioners who can attribute beneficiaries to the model—while the other half was comprised of preferred practitioners (these patient visits do not count toward a beneficiary's attribution to the model). In PY 4 (2021), about three-quarters of the participant practitioners were PCPs. The GMCB estimates that about 82% of Vermont PCPs who were able to attribute patients to the model participated as of PY 4 (2021) and that additional gains in scale may be limited with the current attribution methodology, based on historical utilization of model PCPs.**Error! Bookmark not defined.** A key goal of the VTAPM is to align incentives across Medicare, Medicaid, and commercial payers; however, just over half (55%) of model practitioners participated in all three ACO payer initiatives in PY 4 (2021), consistent across the first four PYs. For more details on model participation, see **Appendix E**.

👥 Vermonters Attributed to the Model

Another goal of the VTAPM's all-payer framework is to realize potential efficiencies of scale in delivery system and payment reform. Such efficiencies may be more attainable if a large share of Vermonters across the state are attributed to the model. In PY 4 (2021), the model added approximately 12,000 Vermonters (**Exhibit 2.1.3**), for a total of 241,774 members, or 46% of all eligible Vermonters. Approximately 54% of Vermont Medicare beneficiaries and 59% of Vermont Medicaid members were attributed to the model.**Error! Bookmark not defined.** Between PY 3 (2020) and PY 4 (2021), the Medicare ACO initiative added approximately 8,500 beneficiaries, while the Medicaid initiative lost approximately 3,000 members. Growth in attributed Medicare beneficiaries largely reflects the additional practitioners participating through the Rutland HSA, which joined the Medicare ACO initiative in PY 4 (2021).[5] The decrease in Medicaid members was due to a one-year pause in ACO participation by several primary care practices that re-joined for PY 5 (2022).[5] The commercial payers added approximately 6,000 Vermonters to their programs between PY 3 (2020) and PY 4 (2021).

In PY 4 (2021), the UVM Health Network (UVM Medical Center, Central Vermont Medical Center, and Porter Medical Center) accounted for slightly over half of all attributed Vermonters (50%) and 55% of attributed

Medicare beneficiaries.[32] Approximately half of UVM Health Network's beneficiaries reside in Chittenden County, which includes the city of Burlington.[33]

Exhibit 2.1.3. Vermonters Attributed to the Model, PY 1–PY 4 (2018–2021)
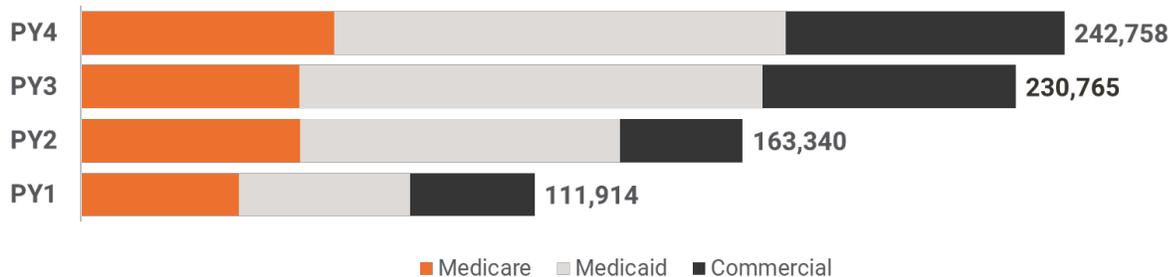
SOURCE: Vermont All-Payer ACO Model Annual ACO Scale Targets and Alignment Report for Performance Year 4 (2021).

2.2   Oversight and Accountability

The First Evaluation Report describes how Vermont developed a unique, multi-layered accountability structure among CMS, state agencies, payers, and the health care delivery system in the state. CMS holds the state of Vermont accountable for achieving statewide financial, quality, ACO scale, and population health targets. The Governor's Office, the AHS, and the GMCB are Model State Agreement signatories. Under the Model State Agreement, the GMCB is charged primarily with developing benchmarks for Vermont's Medicare's ACO initiatives and with producing data and reporting for CMS on progress toward the agreement's targets.[34] The GMCB is also required to coordinate with OneCare to achieve the model's ACO scale targets, statewide financial targets, and statewide health outcomes and quality-of-care targets. In addition, the GMCB oversees alignment across payers for the beneficiary attribution methodology, ACO quality measures, payment mechanisms, and risk arrangements.[2]

Beyond specific roles related to the All-Payer Model, the GMCB oversees ACOs (only one ACO participates in the VTAPM) and regulates health insurance rates, individual hospital budgets, and major health care capital spending. The GMCB has recognized the need to ensure that oversight processes inform one another (for example, connecting hospital budget decisions to health insurance premium rate review and ACO oversight) and support the shift toward a value-based payment system. In summer 2020, the GMCB issued two white papers outlining the current state of regulatory processes and proposed changes to the regulatory timeline for various entities.[35,36] The GMCB did not ultimately recommend changes to regulatory timeline and logistics in 2021, citing concerns raised in public comments about regulatory burden and operational challenges, as well as state and federal timeline constraints.[19] Public comments also recommended focusing on future iterations of the model rather than on changes to the regulatory timeline.[36]

The GMCB has taken interim steps toward aligning and adapting regulatory levers to support model goals. For example, to create more alignment between health insurance premium rates and hospital budgets, the GMCB is working to crosswalk the data related to insurance rate review and hospital budgets. In early 2022, the GMCB

issued a request for proposals for a contractor to assess the current hospital budget review process and to identify opportunities to modify the GMCB's statutory authority and regulatory decisions to provide greater alignment.[37] In addition, the GMCB has sought recommendations for alternative methodologies for hospital regulation that supported value-based care, alternative payment mechanisms, and other payment reforms while maintaining or improving access to and quality of care. To enable better monitoring of OneCare's performance, in December 2021 the GMCB required the ACO to establish a benchmarking system[ff] to compare its performance to ACOs across the country on five key areas: utilization, cost per capita, quality, patient engagement/satisfaction, and clinical appropriateness.[38] Beginning in July 2022, the GMCB required OneCare to report semi-annually on performance and benchmarking results. The GMCB staff designed this data-driven approach to provide both closer monitoring of OneCare and reduced administrative burden.

2.3 Payment Reform

One model goal is to shift FFS payments toward value-based payment. The VTAPM aims to align incentives across payers through an ACO by offering risk-based payments tied to provider performance on quality and spending measures.[39] The VTAPM features population-based payments that share financial risk for attributed populations with hospitals and practitioners through participation in a risk-bearing ACO (OneCare in PY 1–PY 4).

Payment Mechanisms

Hospitals continued to navigate different payment mechanisms across the Medicare, Medicaid, and commercial ACO initiatives. The Medicare optional AIPBP provides prospective monthly payments for each attributed beneficiary to cover expected FFS claims and is reconciled to Medicare FFS claims at the end of the year. In PY 4 (2021), approximately 41% of Medicare ACO practitioners elected AIPBP, and 45% of Medicare inpatient and professional claims were paid under AIPBP rather than FFS.

In contrast, Medicaid's fixed prospective payment is not reconciled with FFS claims payments.[40,41] The prospective population-based payments from Medicare and Medicaid flow through OneCare, which distributes payment to participating hospital providers based on their attributed patients (**Exhibit 2.3.1**).

For non-attributed beneficiaries, all payers continue to reimburse practitioners and institutional providers using FFS. The DVHA continues to pay Medicaid FFS claims for (1) non-hospital providers in OneCare's network; (2) all providers outside of OneCare's network and independent physician practices that have not elected to be paid through a fixed prospective payment; and (3) all services excluded from Medicaid's fixed prospective payment.[42] The commercial health plans in the VTAPM—BCBSVT self-insured employer plans, the BCBSVT QHP offered through the state health insurance marketplace, and the MVP QHP—also continue to reimburse providers using

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[ff] In 2022, OneCare was required to select a Medicare benchmarking system given the availability of comparison data. Beginning in 2023, the GMCB plans to require OneCare to identify benchmarking systems for Medicaid and commercial payers. For more information see: https://gmcboard.vermont.gov/sites/gmcb/files/documents/OCV_FY22_StaffPresentation_FINAL_20211208_redacted_0.pdf

FFS payments.[43] State leaders suggested that commercial participants' value-based payment mechanisms were not as developed as public payers, in part due to GMCB's limited oversight authority in the commercial market, particularly for self-insured plans.[2]

Exhibit 2.3.1. VTAPM Funding Flows
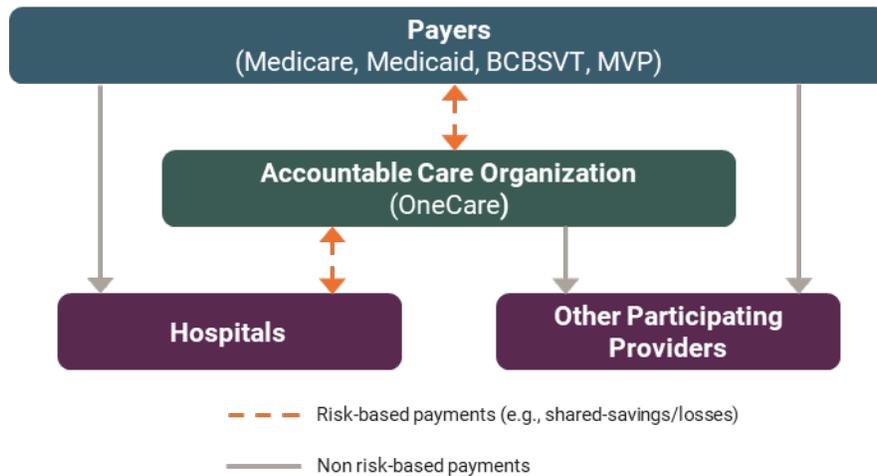
As of the fifth year of the model (2022), hospital and practice revenue have remained predominantly FFS. Hospitals leaders explained that they continued to function in a FFS environment and were motivated by FFS incentives. According to the GMCB, in PY 4 (2021) and PY 5 (2022), Vermont hospitals expected a small amount (approximately 14%, on average) of net patient revenues to be from Medicaid fixed prospective payments.[44,45]

During PY 4 (2021), CAHs remained concerned about how the Medicare AIPBP aligned with CAH cost-based reimbursement. The GMCB requested specific CMS guidance on cost reporting for CAHs that receive Medicare prospective payments, noting that the lack of guidance posed a barrier for nonparticipating CAHs to joining the model.[46] CMS provided this guidance to the state in late 2021.

Sharing Risk with Providers

In the VTAPM, the financial risk of caring for attributed patient populations is shared with the hospitals through participation in a risk-bearing ACO (OneCare).[9] OneCare established agreements with participating payers to create risk corridors that limit payer losses and gains to maintain payment stability, including shared savings/loss rates and shared savings/loss limits (**Exhibit 2.3.2**).[9] OneCare is responsible for both upside and downside financial risk (that is, sharing in both potential savings and losses); however, participating hospitals, as the primary risk-bearing entities in each of Vermont's HSAs, assume most of OneCare's risk.[47] In PY 5 (2022), OneCare planned to transfer 85% of the total expected downside risk to hospitals.[48]

OneCare designs the methodology for distributing risk and shared savings and losses across its provider network.[3] In 2020, OneCare moved from risk-sharing at the regional level by HSA, where hospitals were the primary risk bearers and each community was accountable for its own performance (described as mini-ACOs), to

pooling risk across the state (**Exhibit 2.3.2**).[49] Under the new approach, OneCare distributes 90% of the shared savings and losses proportionally across HSAs based on member months of attribution. According to the GMCB, this shift was intended to increase collaboration across OneCare's provider network, provide an incentive for hospitals to look outside their HSA for the most efficient care settings, and increase motivation for OneCare to identify and lead strategic planning for system-wide cost control.[3] Operationally, the shift to network-based risk-sharing also sought to decrease year-to-year volatility resulting from the small number of ACO beneficiaries in some HSAs. GMCB and OneCare suggested that the new approach decreases volatility, but also results in weaker incentives for participating providers that may not counteract FFS incentives.[3] Recognizing that network participants want to benefit directly from the "fruits of their own labor," OneCare created a performance incentive pool to reward HSAs that perform well on two measures (PBPM cost and avoidable emergency department [ED] visits); of the shared savings earned at the ACO level, 10% is set aside for these incentives.[47]

To expand accountability beyond hospitals, in 2021 OneCare created a primary care accountability pool, which for the first time passed downside risk to hospital-based and non-hospital-based primary care practices.[3] OneCare required all attributing PCPs participating in risk-based programs to contribute $1.50 PBPM to the accountability pool; if no losses are owed, PCPs will be fully refunded for their contributions and can earn back up to an additional $1.50 PBPM in shared savings. While hospitals bear all remaining financial risk, the accountability pool spreads risk proportionally to the provider network, aligning PCPs and hospitals to reduce TCOC and improve population health.[4]

Exhibit 2.3.2. OneCare—HSA-Based vs. Network-Based Risk Mechanisms

Risk Mechanism Features	HSA-Based Risk (through 2019)	One Care Network-Based Risk (beginning in 2021)
Primary Holder of Risk	Hospitals	Hospitals and PCPs
Methodology for estimating TCOC targets and distribution of shared savings/losses	HSA expected actual performance in a particular payer program	Network expected/actual performance in a particular payer program with 10% performance incentive pool if shared savings achieved. PCPs take on $1.50 PMPM first dollar savings and risk.

SOURCE: FY 2022 Budget and Certification OneCare Vermont – Staff Analysis and Preliminary Recommendations (December 8, 2021).

Piloting Fixed Payments for Independent Primary Care Practices

As reported in the Second Evaluation Report, OneCare designed the Comprehensive Payment Reform program to give participating independent primary care practices an opportunity to receive PMPM payments instead of FFS payments for all attributed beneficiaries. Independent practices are eligible to participate if they have at least 500 attributed beneficiaries and are in an HSA that participates in all three ACO payer initiatives. The Comprehensive Payment Reform program has grown from three practices in PY 1 (2018) to 17 practices in PY 5 (2022; **Exhibit 2.2.3**). OneCare funds the program through fixed payments from contracted payers, in addition to payer-funded population health investments and hospital investments.[50] Participating practices receive separate

PMPM payments for core codes/services (standard E&M codes that all primary care practices bill) and non-core codes or services (for instance, lab, behavioral health, radiology) from OneCare in place of FFS payments from Medicaid, Medicare, and the BCBSVT QHP.[50] One PCP described the funding impact for non-core services: prior to their participation in the program, their practice lost money offering lab services for their patients that facilitated access and made the services more affordable. To understand the program's impact, OneCare has partnered with UVM to evaluate the program to date.[50]

Exhibit 2.3.3. Practice Participation in the Comprehensive Payment Reform Program

SOURCE: Comprehensive Payment Reform Program Report to GMCB (July 2022).

In PY 5 (2022), the program covered approximately 25,000 lives across Medicare, Medicaid, and the BCBS QHP, proportional to overall participation by payer (**Exhibit 2.3.4**).

Exhibit 2.3.4. Comprehensive Payment Reform Program: Total Participation by Payer

Payer	Assigned Lives (number)				
	PY 1 (2018)	PY 2 (2019)	PY 3 (2020)	PY 4 (2021)	PY 5 (2022)
Medicare	3,187	6,645	5,883	6,111	5,986
Medicaid	5,441	6,443	6,402	10,797	16,529
BCBSVT QHP	2,441	2,611	2,277	2,666	2,892
TOTAL	**11,069**	**15,699**	**14,562**	**19,574**	**25,407**

SOURCE: Comprehensive Payment Reform Program Report to GMCB (July 2022).

2.4   Population Health and Care Delivery Transformation

To achieve the model's population health goals, OneCare, hospitals, and the state are investing in initiatives to increase primary care access, reduce deaths from suicide and drug overdose, reduce chronic disease prevalence and morbidity, and achieve targets related to quality of care and TCOC. **Exhibit 2.4.5** provides a complete list of health care delivery system quality measures. As discussed in the First Evaluation Report, population health initiatives under the model build on nearly two decades of payment and delivery system reform initiatives, including Vermont's Global Commitment to Health Section 1115 waiver, the Blueprint, and a multi-payer ACO shared savings pilot under Vermont's State Innovation Model Testing Grant. VTAPM investments include continuation of programs in place prior to the model and the introduction of several new initiatives (**Exhibit 2.4.1**).

Delivery System Reform Funding

As a part of the Medicaid 1115 Global Commitment to Health waiver extension approved in 2016, the state negotiated Delivery System Reform (DSR) investments to support innovations in care delivery.[51,52] OneCare had used DSR funding to help support core population health investments (for example, care coordination and primary care).[4,53] Over the course of the model, the Vermont legislature has approved only a portion of available money, limiting federal matching funds and overall funds available for population health initiatives.[4,54,55]

OneCare's Population Health Initiatives

Over the course of the model, OneCare has narrowed the scope of population health initiatives in response to financial strains and feedback provided through a strategic planning process. In the first years of the model, OneCare had a broad portfolio of population health initiatives, including supports for care coordination, primary care, and pilot programs for innovations in care delivery and payment reform funded through start-up funding CMS provided under the Model State Agreement and hospital participation dues.[56] **Exhibit 2.4.1.** provides descriptions of OneCare population health initiatives.

Exhibit 2.4.1. Population Health Initiatives Funded Through OneCare—PY 5 (2022)

Program	Description
Blueprint for Health Programs	
Blueprint Community Health Teams (CHTs)§	• Funding to support Blueprint multidisciplinary care coordination teams to support PCMHs and manage patients' complex illnesses across providers.
Blueprint Patient-Centered Medical Homes (PCMHs)§	• Funding provided to support Blueprint PCMHs in all HSAs, independent of model participation.
Support and Services at Home (SASH)§	• Connects local health and long-term care systems for Medicare beneficiaries to support aging at home through community partnerships, independent of HSA participation in the model.

Program	Description
Primary Care	
Population Health Management Payments	• PMPM funding for investments in primary care to support population health initiatives and high-quality care delivery.
Comprehensive Payment Reform Program	• Blended capitation model for independent primary care practices with a minimum of 500 attributed beneficiaries.
Specialty Care/Innovation	
Innovation Fund	• Grant funds that support innovative evidence-based (or -informed) program pilots that align with OneCare's priorities and expand opportunity to improve care and drive success under program goals.
Specialist Payment Pilot	• Pilot programs to support coordinated efforts between primary and specialty care to address patients' needs.
Care Coordination	
OneCare Complex Care Coordination Program	• PMPM funding for providers across the continuum of care to engage high- and very-high-risk OneCare beneficiaries in proactive and preventive care.
Longitudinal Care Program	• Supports in-home services for Vermonters who do not otherwise qualify for home health services and present with chronic disease, a recent hospitalization, and barriers to self-management.
Developmental Understanding and Legal Collaboration for Everyone Program (DULCE)	• Funding for pediatric care office settings to support the health-related social needs of infants from birth to 6 months.
Quality	
Value-Based Incentive Fund (VBIF)	• Funding offered to participating practitioners to encourage high performance on quality measures.
Programs Introduced during the VTAPM and Ended in PY 5 (2022)	
Primary Care	
Primary Care Engagement Investment	• An incentive of $100 per member per year payable to the primary care tax identification number (TIN) to engage Medicaid expanded attribution patients in primary care.
Primary Prevention	
RiseVT	• Community-based primary prevention program emphasizing healthy lifestyles.

In response to OneCare's 2021–2023 strategic plan and continued financial constraints, OneCare's population health investments continued to evolve in 2021 and 2022. OneCare decreased overall funding for population health initiatives from $36 million in 2020 to $30.6 million in 2021 and $28.9 million in 2022.[31,57,58] While support for primary care and Blueprint programs remained steady, funding for care coordination and quality programs decreased over time (see **Exhibit 2.4.2**).

Exhibit 2.4.2. OneCare Vermont Population Health Investments (2020–2022)

Primary Care Services
- $10,551,533
- $10,249,294
- $11,552,561
- $10,789,077

Legend:
- ■ 2020 Initial Budget
- ■ 2020 Amended Budget
- ■ 2021 Budget
- ■ 2022 Budget

Blueprint Programs
- $8,242,374
- $8,401,660
- $8,401,660
- $9,073,983

Care Coordination
- $10,223,590
- $9,672,306
- $7,275,652
- $6,753,948

Quality
- $8,554,737
- $5,673,553
- $2,074,000
- $1,527,247

Specialty / Innovation
- $4,512,080
- $1,480,321
- $305,097
- $534,873

Primary Prevention
- $1,031,752
- $540,000
- $950,000
- $215,000
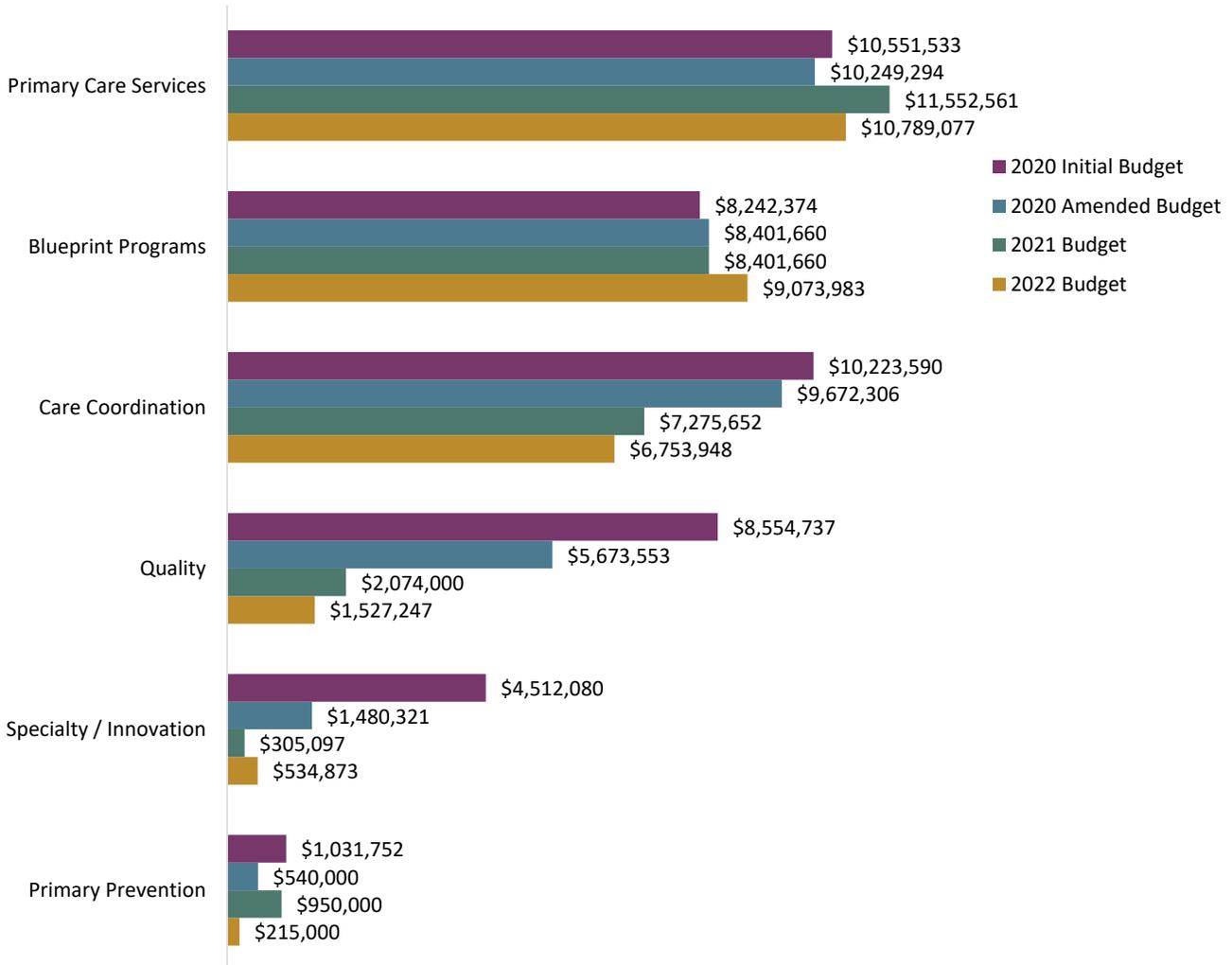
Sources: OneCare's 2022 Budget Presentation to the GMCB (November 10, 2021); OneCare's 2021 Budget Presentation to the GMCB (October 28, 2020); OneCare Vermont's FY 2020 Revised Budget: GMCB Staff Analysis (July 29, 2020)

[§]Previously received Medicare funding under the Multi-Payer Advanced Primary Care Practice demonstration. An independent evaluation of the first years of the SASH program (2010–2016) found that the program had a favorable impact on Medicare expenditures, with variation by program/panel characteristics. https://aspe.hhs.gov/reports/support-services-home-sash-evaluation-sash-evaluation-findings-2010-2016-0.
SOURCES: OneCare's 2022 Budget Presentation to the GMCB (November 10, 2021); GMCB Staff Analysis and Preliminary Recommendations – OneCare Vermont FY 2022 Budget and Certification (December 8, 2021); 2021 Final Description of OneCare's Population Health Initiatives

In 2021,[gg] OneCare further reduced hospital participation dues in response to ongoing COVID-19 PHE financial strains. The result was a roughly $6 million dollar reduction in funding for population health investments in OneCare's 2021 budget.[hh,44,59] OneCare's focus remained on care coordination and Blueprint initiatives—the Community Health Teams (CHTs), patient-centered medical home (PCMH), and the Support and Services at Home (SASH) program—that predated the model.[ii,44,59]

For 2022, in response to the end of DSR investment funding (see callout box), OneCare increased hospital dues and narrowed its focus.[47] OneCare's 2022 budget supported continued investment in care coordination and Blueprint initiatives, while decreasing investment in primary prevention. The budget also eliminated or reduced funding to several key population health initiatives, including elimination of the $100 per member per year primary care engagement payments, a $1 million decrease to the VBIF, and an end to investment in the community-based prevention program RiseVT after July 2022.[jj] Additionally, OneCare decreased funding to the Developmental Understanding and Legal Collaboration for Everyone (DULCE) program by $220,000.[kk] Following these funding changes, one state leader interviewed suggested that Vermont needs a more durable model for funding innovative population health programs.[3,58,60]

OneCare's overall framework for care coordination has remained consistent, but the approach to care coordination payments has continued to evolve (**Exhibit 2.4.3**). In the early years of the model, OneCare focused on developing and increasing uptake of Care Navigator—OneCare's care management software intended to support care coordination between health and social service providers—and providing PMPM payments to practitioners and community providers (for example, home health agencies, designated mental health agencies, and area agencies on aging) in one or more OneCare payer programs through the complex care coordination program to support care coordination across all payers. In PY 3 (2020), OneCare tried to increase the use of Care Navigator by tying care coordination payments to documentation in Care Navigator. As documented in the Second Evaluation Report, providers had negative feedback about the limitations of Care Navigator: it was limited to ACO-attributed patients and lacked interoperability with electronic health records (EHRs). In PY 5 (2022), OneCare responded by making Care Navigator use optional, decoupling care coordination payments from the tool, and tying payments to other care coordination activities (for example, participation in cross-organizational collaboration and shared care planning, engagement with OneCare in data-driven process improvements, and submission of triannual reports).[60]

[gg] As reported in the Second Evaluation Report, in 2020, OneCare reduced hospital participation dues, which resulted in a roughly $7 million reduction in funding for population health investments in OneCare's amended 2020 budget. including an approximately $2.7 million decrease in the VBIF and an approximately $3 million reduction in the specialist program pilots and innovation funds.

[hh] OneCare budget changes in 2020 included an approximately $2.7 million decrease in the VBIF and an approximately $3 million reduction in the specialist program pilots and innovation funds.

[ii] Blueprint initiatives support all Blueprint-participating primary care practices in the state, regardless of their participation in the VTAPM.

[jj] OneCare continued to fund RiseVT for the first half of 2022 to allow time for activities to be transitioned into the community.

[kk] The Vermont Department of Health's Maternal and Child Health Division is sustaining the DULCE program through other funding.

**Exhibit 2.4.3.** Care Coordination Program Payment Changes

	PY 1 (2018)–PY 2 (2019)	PY 3 (2020)–PY 4 (2021)	PY 5 (2022)
Payment Recipients	• PCPs • Home health agencies • Designated mental health agencies • Area agencies on aging	• PCPs • Home health agencies • Designated mental health agencies • Area agencies on aging • Preferred providers • SASH	• PCPs • Home health agencies • Designated mental health agencies • Area agencies on aging

Payment Breakdown	• Monthly PMPM for complex care coordination lives and one-time payment to the organization of whichever care team member is selected by a patient to be the "lead care coordinator"
	  o Earned based upon involvement in care coordination activities
	• Payments to community program organizing entities ($25,000 per year)
		• Monthly PMPM for care coordinated lives and ad hoc care conference payments
		  o Earned based upon completion of care coordination activities/use of Care Navigator based on risk stratification
		  o Amounts depend on care team member position
			• Monthly PMPM for full panel (85% of care coordination program funds)
			  o Earned based upon completion of care coordination activities established by OneCare
			• Annual bonus payment (up to 15% of care coordination program funds)

NOTE: SASH = Support and Services at Home
SOURCES: FY 2022 OneCare Revised Budget – Staff Analysis and Potential Vote (May 11, 2022) and OneCare FY 2018 ACO Budget Order.

PCPs have continued to be the primary recipients of OneCare population health management investments, receiving funding through OneCare PMPM payments, the care coordination program, the VBIF, the Comprehensive Payment Reform program, the innovation fund, and Blueprint programs (**Exhibit 2.4.4**). Approximately $19 million was allocated to PCPs in 2021. Approximately $8.4 million went to Blueprint programs, including $4 million to SASH and $2.4 million to CHTs. Home health agencies received approximately $2.2 million through the care coordination program and VBIF, while designated mental health agencies received approximately $570,000 through the care coordination program, VBIF, the specialist program, and the innovation fund.

Exhibit 2.4.4. 2022 Population Health Investments by Recipient
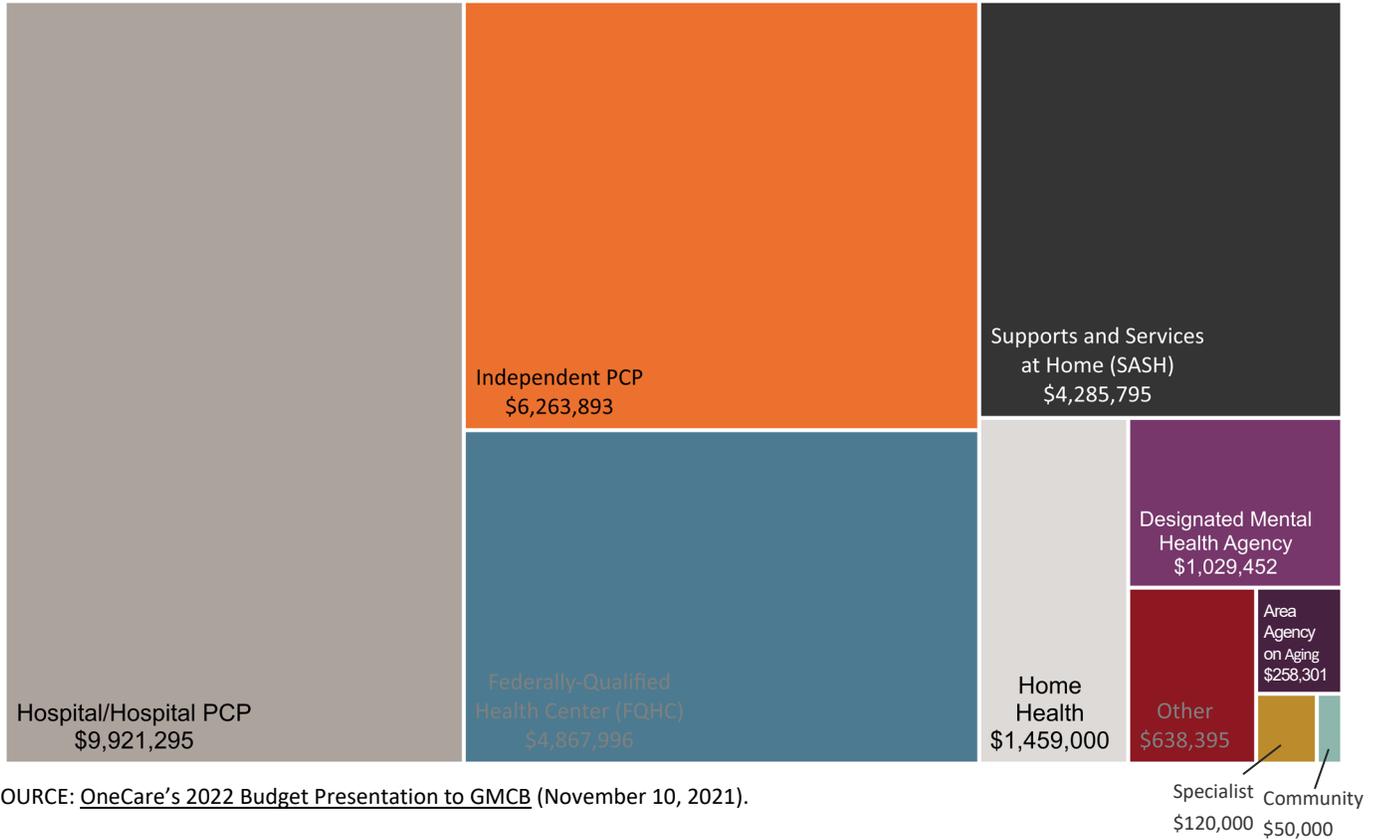
SOURCE: OneCare's 2022 Budget Presentation to GMCB (November 10, 2021).

In 2022, following a request from the GMCB, OneCare increased focus on performance monitoring and evaluation. OneCare contracted with UVM Health Network to assist with identifying a core set of key performance indicators to monitor progress over time and with conducting a survey of primary care providers.[61] The key performance indicators and provider surveys, in addition to the benchmarking requirement set forth by the GMCB (and described in Section 2.2), will help OneCare streamline efforts and inform future resource allocation by measuring progress.[61]

Hospitals' Population Health Initiatives

Hospitals invested in system-level and community-level initiatives to support VTAPM population health goals and quality measures. The Second Evaluation Report described how, in 2020 and 2021, the COVID-19 PHE limited hospital resources and capacity. As hospitals recovered from the worst of the COVID-19 PHE, some returned their focus and resources to population health in 2022.[62,63] For example, some hospitals leveraged ACO funds and data to support their investments; however, others noted that ACO funds and potential shared savings alone are not enough to support the investments. Other hospitals are using shared savings and other ACO-related funds (for example, VBIF and care coordination payments)—designed to support and encourage care transformation and to support population health—to build cash reserves, support operations, and offset

rising costs.[II,62,63] In their budget submission to the GMCB, one CAH reported that ACO-related payments like the VBIF were insufficient to support the cost of population health initiatives.[64] As a result, hospitals often used their own funds to support population health initiatives.

Hospital investments have focused primarily on care management activities, expanding mental health and SUD services, improving the collection and analysis of quality data, and including initiatives to address social determinants of health (SDOH; see call out box). For example, one CAH used OneCare's care coordination and quality payments to hire additional staff (for example, chronic care coordinators, social workers, dieticians, asthma educators, and a community health coordinator) to support care management and community health needs.[67] Another CAH explained that OneCare population health management funding enabled clinics to bolster nursing support for care management.[68] Initiatives to expand mental health and SUD access included recruiting mental health providers, increasing rapid follow-up and treatment options for ED patients with a SUD diagnosis, and increasing collaboration with designated mental health agencies.[68,69,70,71,72,64] In 2021, UVM Medical Center initiated a Primary Care Mental Health Integration program aimed at including mental health providers in every PCMH practice.[73]

> **Examples of Hospital Population Health Initiatives[65,66]**
>
> **Improving care management**
> - Improving data sharing across sites of care
> - Expediting referral processes
> - Engaging in proactive risk assessment
> - Providing discharge planning and post-discharge telephone calls
> - Employing care management staff
> - Identifying high-risk patients
>
> **Expanding access and engagement for high-risk populations**
> - Increasing staff to support patients with chronic conditions
> - Piloting programs aimed at populations with chronic conditions
> - Reducing low-value care
> - Accelerating use of e-consults
>
> **Emphasizing collection and analysis of quality data**
> - Leveraging data received from OneCare
> - Increasing staff for financial and clinical data management and analytics
> - Creating hospital-specific quality measures
>
> **Investing in addressing health-related social needs and SDOH**
> - Improving documentation of SDOH data
> - Increasing wraparound services through community partnerships
> - Developing targeted community interventions to address SDOH and equity, including food insecurity, transportation access, financial assistance, health insurance coverage support, and housing access

Some hospitals credited the model with sustaining support for initiatives that predated the VTAPM. For example, in 2013, Southwestern Vermont Health Care piloted a transitional care program designed to reduce readmissions and ED visits with support from a grant through the Vermont Health Care Innovation Project.[74] The

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[II] For 2021, projected total shared savings across hospitals ranged from $378 for a critical access hospital, to $1.1 million for UVMMC. FY 2022 ACO Budget Order
https://gmcboard.vermont.gov/sites/gmcb/files/documents/FY22%20ACO%20Budget%20Order%20OneCare%20Vermont%20Docket%20No.%2021-001-A_FINAL_0.pdf

program is now funded by the hospital, and a hospital leader attributes model participation as an incentive to reducing the cost of care.

Quality Measurement and Improvement

An initial model goal included achieving health care delivery system quality targets. The state has identified quality measures to support population health improvements and to leverage Vermont's health reform initiatives.[75] OneCare continued to support achievement of quality targets through payer contracts that define quality measures for both pay for reporting and pay for performance and through OneCare's VBIF, which was designed to provide an incentive for meeting certain quality performance thresholds for a subset of the identified quality measures. In total, OneCare works with 18 quality improvement measures across payers that map to model goals, four of which are tied to the VBIF (**Exhibit 2.4.5**).[76,77,78,75] As part of the ACO budget review process, the GMCB reviews OneCare quality measures in each payer contract for alignment across payers and with the VTAPM measures.

Exhibit 2.4.5. Health Care Delivery System Quality Measures by Payer

Payer	Measure Category	Measures
All Payers	Reduce Deaths Related to Suicide and Drug Overdose	• Initiation of SUD Treatment • Engagement of SUD Treatment • Follow Up after ED Visit for Substance Use[§] • Follow Up after ED Visit for Mental Illness
	Reduce Prevalence and Morbidity of Chronic Disease	• Diabetes A1C Poor Control >9.0% • Hypertension: Controlling High Blood Pressure
	Preventive Care	• Patient Experience (Consumer Assessment of Healthcare Providers and Systems [CAHPS])
Medicare	Reduce Deaths Related to Suicide and Drug Overdose	• Tobacco Use Assessment and Cessation Intervention • Screening for Clinical Depression and Follow-Up Plan
	Reduce Prevalence and Morbidity of Chronic Disease	• Clinician and Clinician Group Risk-Standardized Hospital Admission Rates for Patients with Multiple Chronic Conditions
	Preventive Care	• Hospital-Wide 30-Day All-Cause Unplanned Readmission[§§] • Influenza Immunization • Colorectal Cancer Screening

Payer	Measure Category	Measures
Medicaid ➕	Reduce Deaths Related to Suicide and Drug Overdose	• Follow Up After Hospitalization for Medical Illness (7 days) • Tobacco Use Assessment and Cessation Intervention • Screening for Clinical Depression and Follow-Up Plan
	Reduce Prevalence and Morbidity of Chronic Disease	• Clinician and Clinician Group Risk-Standardized Hospital Admission Rates for Patients with Multiple Chronic Conditions
	Preventive Care	• Child and Adolescent Well-Care Visits • Developmental Screening in the First Three Years of Life
BCBSVT (QHP and Primary) and MVP QHP 🛡	Reduce Deaths Related to Suicide and Drug Overdose	• Follow Up After Hospitalization for Medical Illness (7 days) • Screening for Clinical Depression and Follow-Up Plan (BCBS VT only)
	Preventive Care	• Child and Adolescent Well-Care Visits • Developmental Screening in the First Three Years of Life • ACO All-Cause Readmissions

SOURCES: OneCare 2021 Quality Measures and 2022 Quality Measures.
§ In 2022, language for OneCare's quality measures changed from "Alcohol and Other Drug Dependence" to "Substance Use."
§§ In 2022, this measure changed from "Risk Standardized, All Condition Readmission (ACO #8)" to "Hospital-Wide, 30 Day All-Cause Unplanned Readmission (HWR)."

Despite OneCare's efforts to align quality improvement measures across payers, competing payer priorities have limited progress. Only 7 of the 18 OneCare measures were common across payers in PY 4 (2021) and PY 5 (2022), while the remainder were payer-specific measures.[4] One payer recommended that focusing on measures that are less payer-specific would allow alignment of their ACO work with other objectives (for example, integration of primary care and mental health services).[mm] Another payer preferred more flexibility to choose measures most relevant for their population (for example, additional mental health or SUD measures).

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mm The AHS, the state's umbrella agency for all human service activities, has an intergovernmental agreement with the DVHA to administer Vermont's Medicaid program. For more information, see Managed Care in Vermont: https://www.medicaid.gov/Medicaid/downloads/vermontmcp.pdf.

In 2021, OneCare made several changes to its VBIF that were intended to increase focus on quality and provide more timely financial rewards for performance. In most cases, these financial rewards did not reach individual practitioners, which limited their impact. To improve the timeliness and association of VBIF payments with performance on quality metrics, in PY 4 (2021), OneCare began pre-funding the VBIF and linked VBIF payments to a subset of quality measures.[4,48,nn] OneCare's Population Health Strategy Committee, which includes clinician representatives across OneCare's network, began reviewing quality measure performance data and identified four quality measures with the greatest variation in performance (see call out box). Since that time, payments have been distributed biannually at the practice or collaborating agency level for achieving target or stretch goals in each focus area. The majority of VBIF payments (70%) were distributed to eligible primary care practices based on beneficiary attribution; 10% were distributed to practices for meeting the stretch goals for each measure; and the remaining 20% were distributed to other OneCare network providers (for example, specialists, FQHCs, designated mental health agencies, area agencies on aging, and home health agencies).[4,58] However, according to OneCare leadership and clinicians, the incentives have not had the intended effect on clinicians due to lack of transparency as funding flows from the practice or Taxpayer Identification Number (TIN) level to clinicians. One UVM Health Network official suggested that VBIF payments should go directly to PCPs to motivate care delivery changes, rather than payments made at the practice or TIN level.

> **Value-Based Incentive Fund (VBIF) Changes for 2021 and 2022**
>
> In 2021, OneCare began linking VBIF payments to meeting or exceeding the following four quality measures:
>
> 1. Diabetes Mellitus: Hemoglobin A1C Poor Control (>9%)
> 2. Hypertension: Controlling High Blood Pressure
> 3. Screening for Clinical Depression and Follow-Up Plan
> 4. Developmental Screening in First 3 Years of Life

Data Analytics

A core OneCare function is to provide data analytics to support network providers in limiting cost growth, improving quality, and improving population health. OneCare shares data on quality metrics, utilization, cost, and care coordination with network providers through Workbench One, OneCare's analytic application for participating providers. As reported in the Second Evaluation Report, challenges with the timeliness[oo] and completeness of data—and the technical assistance some hospitals require to use the data—have limited its use for monitoring population health investments and support care delivery transformation and quality improvements.

In response to ongoing challenges to data-informed decision-making, OneCare and hospitals have invested in their data analytics capabilities. Several hospital leaders and staff members interviewed reported hiring and relying on internal data analytic teams to understand where and how to focus performance improvements. The

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[nn] OneCare decreased VBIF funding between 2021 and 2022 from $2,012,391 to $1,000,000.
[oo] OneCare has attributed some the delays in attribution and population health data to a lack of timely and accurate payer data.

UVM Health Network has contracted with an external vendor through its Population Health Services Organization (PHSO; see callout box), while other hospitals mentioned increasing staff specifically for data analytics. In 2021, OneCare made several changes to the types and ways in which they deliver data to address network feedback and to improve data usability.

In the first quarter of 2021, OneCare began conducting quarterly executive-level consultation meetings with HSA leadership to review HSA performance on quality metrics, utilization, finances, and care coordination.[4] Consultations, which have included hospital and other health care organization executives, were followed by action-oriented oversight and accountability meetings to connect OneCare quality, analytics, and care coordination staff with local population health teams and providers.

Program Spotlight: UVM Health Network Population Health Services Organization (PHSO)[62]

In 2022, the UVM Health Network developed a PHSO to align internal data analytics and care management with OneCare Vermont and to support their performance in value-based contracts. For example, across affiliated hospitals, the PHSO works to promote value-based care for both ACO- and non-ACO-attributed beneficiaries, as well as to catalyze implementation of population health initiatives. PHSO functions include population health analytics, care management, risk coding performance management, value-based contracting, and quality performance management. The PHSO is a central communication point for network providers, encompassing existing care management resources and providing each network affiliate with actionable intelligence based on OneCare's quarterly quality reports. UVM Health Network plans to monitor PHSO activities by means of high-value care key performance indicators.

Through the HSA consultation and the oversight and accountability process, providers and OneCare have developed goals and a clearer structure to evaluate successes and challenges with model implementation. OneCare leaders shared that they view the consultations as critical for community engagement, sharing financial and clinical data that summarize strengths and opportunities at an HSA level, and creating goals for the upcoming year. After launching the consultation meetings, OneCare leaders observed varied participation and engagement across HSAs. To encourage different provider types to engage, OneCare sent specialized invitations to leaders from non-hospital provider organizations, to expand participation beyond hospitals. In fiscal year (FY) 2023 budget documents submitted to the GMCB, nine Vermont hospitals stated they were reviewing and analyzing the reports from OneCare to identify gaps in patient care and to spur efforts to address those gaps.[62,63,67,68,69,71,72,79]

OneCare committed to providing more timely and usable data after receiving provider feedback that data were not delivered in a timely or user-friendly way and for this reason were not actionable. In 2021, OneCare shifted from annual to quarterly reporting for the four key VBIF measures.[4] In 2022, OneCare distributed two new standard types of reports for primary care practices—the quarterly VBIF reports and primary care panel reports that included a new payer-agnostic view. The primary care panel reports have been distributed to practices through a dashboard housed in Workbench One and include four key areas: panel composition, TCOC, quality, and utilization. The report reflects a practice's performance for attributed patients relative to other independent practitioners and FQHCs.[4,79] Despite OneCare's efforts to increase frequency and utility of reports, PCPs

> "A shared care plan crosswalks over identically to a treatment plan. We've been doing treatment plans for decades. It's the basis of how we take care of our clients... The value add for us might be there's an increased awareness in primary care that it exists... We have a shared language now that we didn't have before, which is big. Shared language around, for example, like what is care coordination? What do we mean when we say that."
>
> – Designated mental health agency employee

reported in interviews that, because the reports only cover attributed patients, they were limited in using data to inform interventions. One PCP noted, "*it's hard to get good data if you don't have 60-70% attribution*." Additionally, to help support practices' performance under the VBIF measures, OneCare's quality team members began engaging with increasing numbers of participating organizations each quarter to help them review performance relative to targets, identify potential gaps in care, and determine improvement opportunities. Further, OneCare began providing education and guidance to practices on specific performance improvement methodologies and tools, sharing evidence-based practice recommendations, connecting organizations to successful network partners and information on best practices, and helping establish monitoring plans.[4]

2.5 Successes and Lessons Learned

The VTAPM has enabled structural, financial, and care delivery changes to benefit the health of Vermonters. Participants credit the model with helping hospitals and practitioners continue previous health care reform efforts and offer new programs and incentives. There has been widespread participation, with ACO participation in every region, across the care continuum, and across provider types.

State officials, hospital leaders, providers, and community organization staff members agreed that, over the last 5 years, the model has provided an organizing framework for collaboration. Many suggested that OneCare provides a mechanism for convening payers and providers across the state, including hospitals, FQHCs, independent practices, nursing homes, and home health agencies, to advance progress toward value-based care efforts. In addition, OneCare has provided a mechanism for supporting providers, particularly smaller hospitals and independent practices, in value-based payment/risk-based contracting.

Hospital leaders and community providers continued to highlight increased collaboration within HSAs at the organizational and service delivery levels as one of the model's most important benefits. HSA-level community collaborative[pp] and workgroup meetings were not supported explicitly through the model but did provide opportunities for hospitals to connect and work collaboratively with providers across the HSA on issues such as care coordination and SDOH screening.[80] For example, one Blueprint program manager described conversations between the local hospital and community providers about care inequities and about establishing linkages to connect patients who have complex health care needs with appropriate services. Another Blueprint program

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[pp] Initially funded through the SIM grant, these HSA-level groups, additionally sponsored by AHS and the Blueprint in 2016, are intended to foster and coordinate population health initiatives across health and social service providers, community-based organizations, and community members.

manager explained that, through the HSA community collaborative, participating organizations share metrics, collectively identify opportunities, and plan initiatives.

Some Blueprint program managers described relationships among community partners as strong before the model, but they also discussed how relationships across community providers—particularly CHTs, PCPs, and mental health providers—have grown, supporting coordination of services. Blueprint program managers credited OneCare's complex care coordination program—which provides PBPM payments to providers across the continuum of care to support individuals identified as high and very high risk—with fostering relationships. Designated mental health agencies shared that OneCare strengthened preexisting relationships by creating a shared language and understanding among providers and having discussions on how to distribute patient care responsibilities across provider types.

Providers across hospital types (including CAHs) and independent primary care practices continued to express positive feedback about Medicaid fixed prospective payments through the Medicaid ACO initiative. They reported that the fixed payments give practices stability, predictability, and certainty in their revenue stream— especially helpful during the COVID-19 PHE—and facilitate investments in care transformation.

Medicaid officials noted that, by having the Model State Agreement in place, they could rally the Medicaid program around changing how services are reimbursed. The Model State Agreement helped build momentum for other payment reform projects that may not have happened otherwise. Beyond ACO participation, the DVHA has developed and piloted APMs for types of providers not included in the TCOC and/or for services not covered by Medicare. Medicaid payment and delivery system reform projects have included mental health payment reform (adult and children's mental health case rate program); residential SUD treatment; applied behavioral analysis payment reform; developmental disabilities services delivery; children's integrated services; and high-technology nursing services.[qq]

OneCare's Comprehensive Payment Reform program enabled practitioners to hire PCPs, expand care teams, and have a reliable revenue stream during the COVID-19 PHE. Clinicians emphasized the importance of the program's PMPM payments during the COVID-19 PHE, describing Comprehensive Payment Reform funding as *"reassuring"* and *"lifesaving for an independent practice."* The program's funding enabled practices to avert staff layoffs or salary cuts due to low patient volume and by offering more competitive salaries that helped with recruiting additional PCPs. Clinicians also shared that funding enabled them to maintain additional support staff and build out CHTs with full-time care coordinators and embedded nutritionists. Two primary care practices integrated mental health and SUD services into their practices, with one providing brief behavioral activation treatments in office and another conducting mental health home visits. The funding also allowed practices to embed psychological and psychiatric care within practices by hiring licensed clinical social workers and

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[qq] For detail on Medicaid payment and delivery system reform, see https://legislature.vermont.gov/assets/Legislative-Reports/Delivery-System-Reform-Report-Jan-15-2022.pdf.

psychiatric nurse practitioners. One practice described using funding to finance psychiatric nurse practitioner training for an existing employee.

2.6   Challenges in the Design and Implementation of the VTAPM

VTAPM participants faced numerous external challenges in PY 4 (2021), as well as internal challenges related to the design and implementation of the model. External factors included financial strain on hospitals, workforce shortages, and increased acuity of patients (See callout box). This section discusses the internal challenges to the VTAPM that affected oversight and regulation, the payment methods, and population health initiatives.

Oversight and Accountability

VTAPM participants described several challenges related to the clarity of roles and effectiveness of the GMCB and OneCare.

While some state entities and providers perceived GMCB's oversight of hospitals as overly burdensome and hindering achievement of model goals, others suggested that the GMCB does not fully exercise its regulatory authority and should adopt a stronger regulatory stance. As described in Section 2.2, the GMCB has contracted with an external entity to "identify areas for potential enhancements to modify the GMCB's statutory authority and regulatory guidance to provide greater alignment with payment and delivery system reforms across Vermont."[rr]

There continues to be a lack of understanding of and inconsistent expectations around OneCare's role. Some had "outsized expectations" that OneCare would address broader health care system issues—such as suspected cost shifting, or providers raising prices for commercial payers to offset lower payments from public payers;[ss] mental health underfunding; and health care workforce issues—and transform the health care system. OneCare conducted a strategic planning process in the first half of 2021, identifying three critical functions to support the ACO network: network performance management, data and analytics, and payment reform. It is not yet clear how OneCare's focus aligns with external expectations.

While primary care clinicians may have general awareness of inclusion in the model, confusion remains around terminology and implications for primary care practices. Findings from NORC's statewide clinician survey, discussed in the Second Evaluation Report, suggested that, while most clinicians in Vermont reported awareness of the model, only half of participating practitioners who responded to the survey were aware that

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[rr] This process will include stakeholder engagement to determine areas for administrative efficiencies, identify information gaps, and establish goals for revising the hospital budget process, with an evaluation of how these goals align with the current regulatory mission of the GMCB and with health care reform efforts in the state. For more information, see https://gmcboard.vermont.gov/sites/gmcb/files/documents/Hospital%20RFP_FINAL_1-25-22.pdf

[ss] For more on cost shifting, see the June 2022 report from the Office of the Health Care Advocate Fact or Fiction? Evaluating Evidence on the "Cost Shift."

they were participating in the model.[tt] Many participating clinicians did not decide explicitly to join in the model; they take part because they are employed by participating hospitals. At the same time, communication with employed physicians about OneCare and the model varies by hospital. While some hospitals hold education sessions for clinicians on OneCare participation, other clinicians reported limited hospital communication about the model. Independent PCPs expressed ongoing concern that the model has not sufficiently increased primary care funding.

The model's voluntary nature makes attaining widespread participation challenging, undermining a key component of the model's design. OneCare and UVM leaders suggested that efforts to build the provider network in the early years of the model required significant investments of time and resources, which detracted from addressing other model goals. Smaller hospitals, including CAHs, were reluctant to join the Medicare ACO because they were not able to take on the financial risk. With limited participation in the Medicare ACO and the commercial ACOs continuing to be FFS, providers have continued to balance FFS and value-based payment demands.

External Strains on Vermont's Health Care System Affecting Implementation

Hospital financial sustainability. Both hospitals and state leaders reported that increasing concerns about hospitals' financial situations have taken precedence over reducing TCOC. Rural hospitals in Vermont, like elsewhere in the country, continue to face extremely low or negative margins. The GMCB cited several factors contributing to rural hospitals' financial distress, including declining patient volume, rising costs, workforce shortages, and aging facilities.[81,82]

Workforce shortages. Hospital leaders noted that the COVID-19 PHE exacerbated existing workforce shortages among clinical, administrative, and ancillary staff. Turnover rates and vacancies increased for some hospitals, most acutely among nursing staff. Some hospitals reported that workforce shortages affected access to care, increased wait times, and limited bed availability in SNFs. Hospitals noted budget pressures due to high costs for traveling nurses, in addition to intense competition for labor. Clinician leadership also reported staffing challenges in primary care settings. Some practices noted that they lost physicians during the COVID-19 PHE and have recruited advanced practice providers to fill some positions.[62,uu] Demand for mental health and SUD services also increased during the COVID-19 PHE. Providers—primarily FQHCs and designated mental health agencies—are struggling to meet demand for services.

Increasing acuity of patient needs. Providers reported that patients have more complex needs since the COVID-19 PHE, including care for mental health, substance use, and complex chronic

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[tt] See Evaluation of the Vermont All-Payer ACO Model: Second Evaluation Report. https://innovation.cms.gov/data-and-reports/2023/vtapm-2nd-eval-full-report

[uu] UVM Health Network lists turnover rates and open position for various specialties on page 43 of their budget narrative, available at: https://gmcboard.vermont.gov/sites/gmcb/files/documents/UVMHN_FY_2023_UVMHN_Budget_Narrative_07-01-2022_-_Final.pdf

medical conditions.[vv] Providers also noted increasing inpatient hospitalizations, reflecting in part the impact of delayed care. In late 2021, Vermont had one of the highest rates of COVID-19 cases per capita in the country.[83] Hospitals scrambled to free up bed space as intensive care units operated at 90% capacity.[84] Vermont hospitals, like those across the country, faced a sustained increase in demand in 2021 after patients delayed care in the early stages of the COVID-19 PHE.[83] A review of Vermont hospitals' FY 2022 and FY 2023 budget narratives identified increases in both the number and severity of inpatients, pushing hospital resources and bed capacity to their limits.

Payment Reform

Model participants noted the administrative complexity and the higher risk posed by the Medicare ACO initiative relative to other payers, given the different payment mechanisms used by Medicare, Medicaid, and commercial payers.

Hospital leaders reiterated concerns that reconciliation of AIPBP with FFS payment creates an administrative burden and financial uncertainty, limiting movement toward value-based payment.[85] One FY 2022 hospital budget submitted to the GMCB stated that "any reconciliation to actual volumes immediately moves the financial incentive back to a fee-for-service model."[85] Similarly, a hospital executive noted administrative struggles in figuring out how Medicare FFS payments work alongside monthly fixed AIPBP prospective payments that are reconciled.

"From a revenue generating perspective, it's all backwards when you're in a FFS model. When you're participating in an ACO and the incentive there is to decrease the overall cost of care, it totally makes sense. This is a lower cost intervention that improves the outcomes of the individuals."

– Blueprint program manager

[vv] In their Community Health Needs Assessments (CHNAs), hospitals reported that mental health issues, including SUDs, were an increasing concern in their communities and may have been exacerbated due to heightened stress and limited access to mental health care during the COVID-19 PHE. One hospital's CHNA noted that Vermont has experienced one of the highest increases in drug overdose deaths in the country during the COVID-19 PHE, increasing 39% between 2019 and 2020.

Smaller hospitals and CAHs perceived the financial risk as too high to participate, even with the narrower risk corridors and distribution of greater risk to larger hospitals. Of the 15 hospitals in Vermont, just over half (8) are participating in the Medicare ACO initiative; 6 of the 8 CAHs in Vermont are not participating due to concerns about potential losses. The only CAHs currently participating are affiliated with UVM Health Network and Dartmouth—health care systems that can cover CAHs' downside risk. State officials, OneCare, and hospital leaders highlighted how shared losses can be difficult for smaller hospitals to manage and can consume their entire profit margin, affecting hospital staffing and capital investments. Because Medicare comprises approximately 30% of hospitals' revenue, a 2% Medicare risk corridor can be more financially challenging than a higher risk corridor from another payer.[86] Participating in risk-based payment requires sound financial footing, and many smaller rural hospitals do not have the financial capacity to participate.

There was consensus around the difficulty of generating meaningful payment reform in the commercial ACO initiative. While OneCare, hospitals, and the largest commercial payer have expressed interest in moving toward more advanced payment models, progress has been limited by a lack of alignment around their approach to (1) risk-sharing and financial targets, (2) support for population health management at participating hospitals, and (3) respective roles. As of PY 5 (2022), only one hospital, Southwestern Vermont Medical Center, participated in a reconciled commercial fixed prospective payment pilot between BCBSVT and OneCare.[ww] There was interest in expanding prospective payment among the commercial population but lack of agreement on the approach.

Population Health

VTAPM participants have experienced challenges in implementing quality improvement and population health initiatives, related in part to their limited awareness and understanding of the model and its oversight structure, funding instability, and data usability.

Into the model's fifth year, redundancy and confusion continued regarding Blueprint for Health and OneCare roles and requirements. While OneCare designed its care coordination model to leverage existing Blueprint programs and staff, collaboration has been limited. Under the VTAPM, Vermont's Blueprint has continued to focus on supporting primary care practices through practice facilitators who guide quality improvement and CHTs that support PCMH services.[87] OneCare's complex care coordination program leverages CHT staff, requiring them to learn and adapt to changes in OneCare's model. For example, CHT staff members must submit additional documentation for their ACO-attributed population on top of their existing responsibilities, which Blueprint leadership noted was an additional burden for staff members. To support quality improvement efforts, OneCare provides practices with quality improvement specialists, in addition to

> "When we're looking at theoretical, huge losses, if we don't perform according to these measures set by OneCare, that could be devastating to the hospital. And that's not a risk we can take right now. I can't gamble $3M dollars when our budget is $100M."
>
> - Chief Medical Officer, CAH

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ww As noted earlier, BCBSVT announced in December 2022 that they did not sign a contract with OneCare for participation in the model in 2023. For more information, see: https://www.bluecrossvt.org/health-community/news/blue-cross-will-pause-relationship-onecare-vermont-2023

those provided by Blueprint, and has worked to align their quality improvement efforts (for example, three of the four VBIF measures are identical to PCMH measures). However, the overlap in measures and staffing led to practitioner confusion about which quality improvement specialists should be used and for what (for example, VBIF measures only apply to ACO-attributed populations). Additionally, Blueprint leadership explained that their quality improvement specialists have not been able to access OneCare's quality data, limiting their ability to support OneCare's quality improvement efforts. OneCare officials noted that they seek to manage competing priorities between OneCare and Blueprint program requirements, to reach a "sweet spot" of providing additional tools and resources for Blueprint staff members and providers without creating additional burden.

There are competing priorities to achieve alignment and improve ACO metrics. Priorities vary across HSAs, limiting coordinated quality improvement efforts. Some hospitals have worked to increase alignment of hospital-specific and OneCare quality measures, while others continue to focus only on hospital-specific measures.[62,69] One hospital chief medical officer explained that there is some alignment between OneCare quality metrics and internally identified quality measures, but that they lack capacity to focus on all ACO quality measures. Lack of measure alignment creates competing priorities for clinicians. Several clinicians interviewed reported focusing on internal quality metrics, with one saying clinicians pay only *"loose attention"* to OneCare quality metrics. For PCPs in particular, inconsistencies among OneCare quality metrics, PCMH metrics, and hospital-identified metrics led to challenges understanding their true performance. Similarities exist across measures, but some are tied to specific populations, such as ACO-attributed patients, creating confusion about which measures apply to which patient groups. Furthermore, while OneCare designed its quality improvement measures to facilitate "*coordinated quality improvement efforts across the network*," primary care and community providers (for example, designated mental health agencies, home health, and area agencies on aging) have focused on different quality measures that apply to their respective patient cohorts, limiting collaboration on measures.

Stakeholders expected that OneCare would improve performance reporting and feedback mechanisms, but hospitals and PCPs continued to report lacking data needed to make decisions. While some hospitals reported OneCare quality reports helped inform decision-making, others noted challenges accessing and using data in a meaningful way. Several hospital staff members valued the data OneCare provides in Workbench One. For example, a hospital care coordination director described reviewing OneCare's utilization reports in Workbench One and discussing strategies to improve performance. However, other hospitals reported that OneCare

> "I want to have cost data on 100% of patients, not 40%. I want to see what the true cost drivers are for our community across the entire spectrum."
>
> —Chief Medical Information Officer, PPS hospital

reports still do not always include the most meaningful data. For example, one hospital leader explained that, if they identify 30-day readmissions as a priority, they must either run their own data analysis to further understand the data or request additional data analysis from OneCare, which takes time. Furthermore, clinicians struggle to interpret and apply data limited to OneCare-attributed beneficiaries.

OneCare makes data available to primary care practices, but some PCPs continued to report that the information is often lengthy or needs additional manipulation. As a result, OneCare reports have had limited use among clinicians. OneCare officials noted that, during the early years of the model and initial phases of implementation, pressure to reach scale targets and expand participation consumed financial and organizational resources, hindering efforts to support practices. Moving forward, OneCare has focused increasingly on expanding supports and best practices for PCPs to participate in the model. In late 2020 and early 2021, following delays due to the COVID-19 PHE, OneCare initiated and convened a Primary Care Workgroup comprising network PCPs across the state to focus on improving patient care services. One priority that the workgroup identified was data access.[4]

OneCare's focus on the development and implementation of OneCare's care management software, Care Navigator, in the early years of the model may have delayed progress on other initiatives. Care Navigator's limitations remain a challenge in sharing data and communicating across providers. Several hospital leaders, clinicians, and community providers shared that they invested funds and resources, including hiring and training staff members to document required care plans in Care Navigator. Once care coordination payments were decoupled from Care Navigator documentation, many Blueprint program managers and

> "Everybody is going to have an opinion on Care Navigator and the past few years with that, but . . . We still are not where we need to be. You take Care Navigator out of the picture and people realize there's not really a shared place to document [care coordination activities]."
>
> – Blueprint program manager

community providers stopped using Care Navigator, to reduce staff burden. Although Blueprint program managers and community providers noted challenges using Care Navigator to facilitate coordination across health and social services (as discussed in the First Evaluation Report), they also shared that they do not have an alternative platform.[44,57] Providers have begun to explore solutions such as building and integrating care plan templates into EHR systems and developing and adopting an online social services referral platform.

Community provider engagement has remained limited due to the hospital- and physician-centric structure of the model, along with limited financial incentives, limited communication from OneCare, and workforce challenges. Some community providers and Blueprint program managers reported that exclusion of community providers from OneCare program guidance documents, such as care coordination program updates, has undermined collaboration. One representative from a designated mental health agency reported funding had markedly decreased over the last three years (see **Exhibit 2.4.3)**; she noted that her organization's funding had been cut by almost 75% and that most organizations typically receive less than $50,000 in funding from OneCare, not enough to support additional positions. An interviewee from a community mental health center explained that, with limited financial incentives to participate in the model and no downside financial risk, designated mental health agencies remain in the model primarily to stay informed about and involved in Vermont's health reform.

Funding streams have been inconsistent for population health initiatives. Expectations for Medicaid Delivery System Reform (DSR) investments did not materialize. The 2017 Global Commitment to Health 1115 Waiver made funding available subject to state matching funds.[51,88] However, the amount of DSR funding the Vermont legislature approved did not allow the state to access all available federal funds. As a result, the state's ability to roll out population health programs, including providing financial support for community partners, was more limited than anticipated when the Model State Agreement was signed, and funding has fallen primarily on financially strapped hospitals.[53] The VTAPM used DSR investment funds to support several pilot programs through the innovation fund and through RiseVT. OneCare did not scale these programs, in part due to funding limitations.

There have been similar concerns regarding VTAPM as a vehicle for Blueprint funding. Support for Blueprint programs, previously funded through the Medicare Multi-Payer Advanced Primary Care Payment Demonstration (MAPCP), has continued as advanced shared savings through the Medicare ACO initiative. The state originally envisioned that Blueprint programs would be funded through a base payment. Because the ACO selected lower risk corridors, the majority of provider earnings from shared savings go toward Blueprint payments. Of the $10.0 million in Medicare shared savings earned in 2021, OneCare paid $8.8 million to fund PCMH, CHT, and SASH programs and distributed the remaining $1.2 million to providers, with $1.0 million going to primary care and the remaining $200,000 going to risk-bearing hospitals.[89] In a December 2021 letter requesting extension of the model, Vermont requested that CMS decouple Blueprint and SASH from the Medicare ACO initiative benchmark as advanced shared savings.[90]

2.7   Moving Health Reform Forward in Vermont

State leaders and providers largely support the shift toward value-based payment. Yet, there is recognition that, given the distinct size and characteristics of Vermont and its smaller hospitals, cost containment cannot be the only goal. The GMCB's legislatively mandated hospital sustainability report[91] for 2022 noted that operating margins have declined as the cost of delivering care outpaces payments for services.[91] While COVID-19 PHE relief funds partially offset the declining operating margins, the GMCB suggested that, without intervention, Vermont hospitals' financial conditions will continue to deteriorate, which could negatively impact health care affordability, accessibility, and quality.

The GMCB report made three recommendations to improve hospital sustainability, including: (1) accelerating the shift to value-based care through hospital global budgets, (2) incorporating quality into the hospital budget review process, and (3) ensuring sustainable Medicaid payments. The GMCB found that, without major changes to the hospital delivery system, the ongoing shift in care from inpatient to outpatient settings threatens hospital sustainability and access to care.[91] The GMCB recommended hospital global payments as a sustainable funding stream for hospitals, which would shift the focus from volume to value and provide flexibility in approaches to care delivery.[91] While recommending global payments as a path forward, GMCB leaders also acknowledged that hospitals may have anxiety about this shift and potential budget impacts.

In late 2021, Vermont submitted a request to CMS to extend the Model State Agreement (originally scheduled to end in 2022) to allow more time to develop a proposal for a subsequent agreement and engage providers and other partners.[94] While awaiting decisions around the future of the model, Vermont continued to move forward on health reform. In May 2022, CMS approved the renewal of Vermont's Medicaid 1115 Global Commitment to Health waiver that provides flexibility to innovate within the state's Medicaid program. The DVHA, which administers the Vermont Medicaid program, launched APMs for targeted provider groups and for services to engage providers excluded from OneCare or whose services are excluded from the total cost of care (for example, designated mental health agencies and residential SUD treatment).[95] In June 2022, the Vermont legislature passed Act 167 (see callout box), which requires AHS to work with GMCB to develop a proposal for a subsequent agreement with CMS to continue Medicare's participation in a multi-payer payment model considering TCOC targets; global payment models; strategies and investments to strengthen access to care across the continuum; strategies and investments to address health inequities and SDOH; and the role, if any, of ACOs going forward.[93]

> **Act 167 (2022)[92,93]**
>
> The Act includes funding for the GMCB and AHS to collaborate across four areas:
>
> - **Community and provider engagement**. Conduct a data-informed, patient-focused, community-inclusive engagement process for Vermont's hospitals to reduce inefficiencies, lower costs, improve population health outcomes, reduce health inequities, and increase access to essential services.
>
> - **Value-based payments**. Build on successful health care delivery system reform efforts by developing value-based payments, including global payments, from all payers to Vermont hospitals or ACOs, or both, and consider the appropriate role of global budgets for Vermont hospitals.
>
> - **Regulatory redesign**. Determine how best to incorporate value-based payments, including global payments to hospitals or ACOs, or both, into the Board's hospital budget review, ACO certification and budget review, and other regulatory processes.
>
> - **All-payer model development**. Develop a proposal for a subsequent agreement with the Innovation Center to secure Medicare's sustained participation in multi-payer APMs in Vermont.

In late 2022, CMS and the state signed an amended Model State Agreement, extending the model through 2023, with an optional transition period through 2024, to give Vermont and CMS time to prepare for and evolve to a subsequent model.[28] While the transition period may provide time for providers to manage pandemic fallout, some are frustrated that meaningful change in high-priority areas will be delayed until 2025. Additionally, a OneCare representative expressed frustration with the model's uncertain future and next steps, explaining that OneCare plans to roll out new initiatives in 2023 but likely will not make many changes in 2024 because of uncertainty about the model's extension. In the meantime, hospitals are building internal capacity for population health and data analytics so they can be prepared to pursue opportunities independently.

Chapter 3: Model Performance on Spending, Utilization, and Quality Outcomes in the First Four Performance Years (2018–2021)

Key Takeaways

Impact on Medicare Spending

- The VTAPM Medicare ACO has reduced total Medicare spending for ACO-attributed patients as well as Medicare patients statewide. When interpreting the impact of the model, it is important to consider Vermont's uniquely robust history of health reform and potential effects of pre-existing care and delivery system initiatives.
- Over the first four performance years, the VTAPM Medicare ACO reduced cumulative gross Medicare spending, totaling $686.42 PBPY or a 6.2% reduction. After accounting for shared savings and incentive payments from Medicare, the VTAPM Medicare ACO saw a net spending reduction of $636.78 PBPY (5.7%).
- Statewide, the VTAPM reduced cumulative gross ($1,176.95 PBPY; 9.9%) and net ($1,143.19 PBPY; 9.7%) total Medicare spending.
- Observed reductions in Medicare spending reflected large declines in PY 4 (2021) relative to baseline years for the VTAPM Medicare ACO and Vermont statewide, while spending for the comparison group was similar to baseline years.
- Both Vermont and the comparison group saw a rebound of spending in PY 4 (2021) after steep declines in PY 3 (2020), driven by increased use of ambulatory and outpatient services. However, Vermont's total Medicare spending in PY 4 (2021) increased to a lesser degree relative to the comparison group.

Impact on Medicare Utilization and Quality of Care

- Many of the trends observed in previous years of the VTAPM persisted in PY 4 (2021), including decreases in acute care for Vermont Medicare beneficiaries statewide and a decrease in specialist evaluation and management (E&M) visits statewide and for beneficiaries attributed to the VTAPM Medicare ACO.

Trends in Medicaid Substance Use Disorder Diagnosis and Treatment

- From 2016–2021, an average of 17,057 Vermont Medicaid members had a diagnosed substance use disorder (SUD) each year, approximately 14% of all members. Of those diagnosed with an SUD, an average of 73% received treatment each year.
- There were declines in SUD treatment overall and in an ED setting, particularly during the COVID-19 PHE. Since the VTAPM Medicaid ACO includes almost all Vermont Medicaid patients, increasing access to SUD treatment services in all setting should remain a priority.

This chapter presents methods and results for two analyses conducted as part of our evaluation: a Medicare impact analysis at two levels—for beneficiaries attributed to the model's Medicare ACO and for Vermont Medicare beneficiaries statewide—and a descriptive assessment of trends in Medicaid SUD diagnosis and treatment outcomes. Impact estimates are presented for Medicare beneficiaries only, which represent approximately 20% of the model's attributed population and may not reflect the model's effects for Vermonters covered by other payers (for example, assessing impacts on the commercial ACO-attributed population is not within the evaluation's scope). Due to delays in data availability, we plan to include PY 4 (2021) performance data on the model's 22 required statewide health outcomes and quality-of-care measures in our next evaluation report.

3.1   Model Impact for Medicare Beneficiaries

The structure of our Medicare quantitative analysis reflects the VTAPM's multiple layers of accountability, with incentives focused both on the ACO's attributed population as well as Vermont's statewide population. For this Report, as with our First and Second Evaluation Reports, we estimated the model's impact on Medicare beneficiaries at two levels:

ACO-level: Is the VTAPM Medicare ACO initiative achieving spending, utilization, and quality-of-care goals *for attributed Medicare beneficiaries*?

State-level: Is Vermont achieving spending, utilization, and quality-of-care goals *for the Medicare population statewide*?

To answer these questions, we used a DID design that compared the change in outcomes during baseline years (2014–2016) and PY 4 (2021) for the VTAPM group to the change in outcomes for a comparison group in the same period. Because the analyses address the model's different incentives and levels of accountability, neither level of analysis is considered the primary analysis for purposes of this report, and results are interpreted separately for the two Medicare populations.

Methods: Medicare Impact Analysis

Below we summarize our impact analysis methods, including treatment and comparison group construction, statistical analysis and inference, and mitigation of methodological challenges. For more details on our approach, see **Appendix D**.

Treatment and Comparison Group Construction

For both levels of analysis (ACO-level and state-level), we selected a comparison beneficiary group from among 26 states with a history of health reform efforts similar to Vermont.[xx] Because the VTAPM aims to improve

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[xx] The PCMH model and the multi-payer ACO model served as the key building blocks for the VTAPM. Therefore, the comparison group includes states that implemented such initiatives in the baseline period. Refer to **Appendix D.2** for more information on comparison state selection and the list of comparison states used to construct the comparison group.

outcomes statewide through an all-payer design, a within-state comparison group was not feasible. **Exhibit 3.1.1** describes the comparison groups for the ACO- and state-level populations. While the model identifies attributed beneficiaries prospectively based on historical qualified E&M service utilization in prior years, our evaluation used a concurrent approach and identified beneficiaries attributed to the model based on qualified E&M utilization in the PY.

Exhibit 3.1.1. Medicare Impact Analysis: Treatment and Comparison Group Definitions

Level	Treatment Group	Comparison Group
ACO	Medicare FFS beneficiaries who resided in Vermont and received the plurality of their primary care services from model practitioners[yy] during the baseline years and PY 4 (2021).	A representative, weighted sample[zz] of Medicare FFS beneficiaries who resided in the 26 comparison states and who received the plurality of their primary care services from practitioners[aaa] participating in Medicare SSP Track 1 or Basic A/B/C/D ACOs during the baseline and PYs.[bbb]
State	All eligible Vermont Medicare FFS beneficiaries who received the majority (≥50%) of their primary care services within the state during the baseline and PY 4 (2021).	A representative, weighted sample of Medicare FFS beneficiaries who resided in the 26 comparison states and who received the majority (≥50%) of their primary care services within the same comparison state during the baseline and PYs.

We used a four-step approach to construct the treatment and comparison groups for the ACO- and state-level analyses, summarized below and depicted visually in **Exhibit 3.1.2**. For more details on our approach, including comparison group sampling, claims-based attribution methodology, and balancing methods, see **Appendix D.2**.

Step 1. We identified 26 comparison states with similar experiences of health care reform as Vermont, specifically states that implemented PCMHs or multi-payer CMS reform initiatives in the baseline years.

Step 2. We used stratified random sampling to select eligible Medicare FFS beneficiaries residing in the 26 comparison states, to create a comparison group that was both representative and computationally manageable.

[yy] The list of model participants changes each PY as practitioners enter or exit the model, so the VTAPM Medicare ACO participant list for each PY is distinct. As a result, the sample of beneficiaries attributed to each PY's model participants during each BY (2014–2016) and PY, and used for the impact analyses, is distinct for each PY.

[zz] To minimize computational burden in comparison group construction and estimation, we used a stratified random sample of Medicare beneficiaries residing in the 26 comparison states rather than include all beneficiaries in those states. See **Appendix D.2** for additional information on the sampling strategy.

[aaa] As with the treatment group, the list of Medicare SSP participants changes each PY as practitioners enter or exit the model. As a result, the sample of beneficiaries attributed to each PY's Medicare SSP Track 1 or Basic A/B/C/D participants during each BY (2014–2016) and PY is also distinct, and the study sample for the ACO-level comparison group is different for each PY's impact analysis.

[bbb] In 2019, CMS made structural changes to the Medicare SSP, introducing the Pathways to Success tracks. Some SSP participants opted to switch to the newly introduced upside risk Basic A or B tracks. Therefore, the comparison group for the impact analysis in PY 3 (2020) includes the upside risk Medicare SSP Track 1 participants and providers who opted to transition into the Pathways to Success Basic A, B, C, or D tracks in PY 4 (2021). If OneCare had remained in SSP instead of entering the VTAPM, by PY 4 (2021), OneCare would have been required to participate in Basic D track; thus, Track D providers were also included in the comparison group.

Step 3. We applied the eligibility criteria and model attribution rules to identify treatment and comparison group populations.

Step 4. We weighted comparison beneficiaries using entropy balancing methods to ensure that the comparison group beneficiaries, on average, resided in regions similar to Vermont and were like those Vermonters on observed characteristics.

Exhibit 3.1.2. Medicare Impact Analysis: Treatment and Comparison Group Design
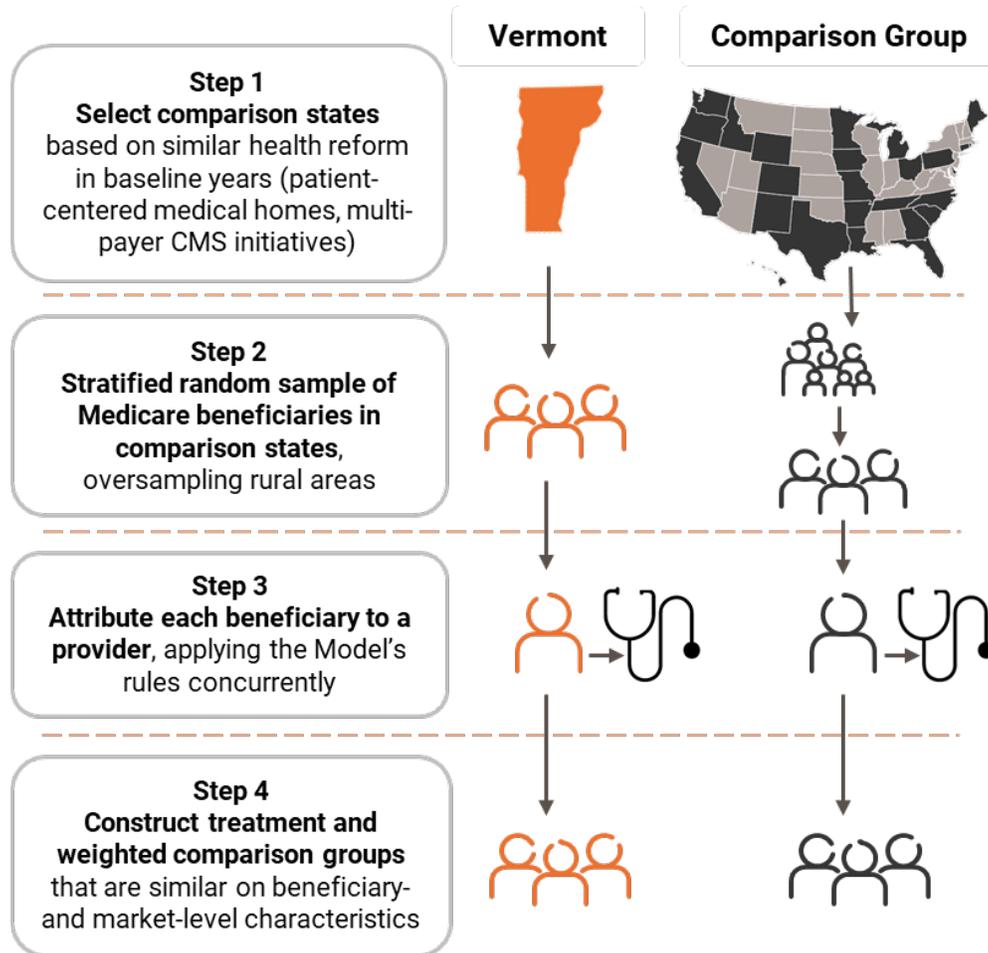
In both ACO-level and state-level analyses, descriptive characteristics of treatment group beneficiaries and weighted comparison group beneficiaries were similar across baseline years and PYs. See **Appendix D.2** for more detailed information about the beneficiary populations by year and group for the ACO- and state-level analyses in PY 4 (2021).

Statistical Analysis and Inference

We used a DID design to evaluate the impact of the VTAPM on two treatment groups: (1) Medicare beneficiaries attributed to participant practitioners in the Medicare ACO (ACO-level analysis) and (2) beneficiaries residing in

Vermont and receiving a meaningful level of care within Vermont or from participant practitioners in the Medicare ACO (state-level analysis). We estimated the impact of the VTAPM in a PY by comparing change in outcomes for treatment group beneficiaries before and after the launch of the model to the change in outcomes for the comparison group. To estimate the VTAPM's treatment effects, we employed a flexible DID specification that allowed trends in outcomes during the baseline period to differ between the treatment and comparison groups.[ccc] For more information about the DID design and specification, see **Appendix D.4**.

Below, we present the estimated impact of the VTAPM in PY 4 (2021) alone, as well as a cumulative impact estimate for total Medicare spending across the four PYs, relative to a three-year baseline period (2014–2016). We do not present an impact for PY 0 (2017), which is considered a ramp-up year for Medicare ACO implementation. The ACO-level analysis is presented first (impact for the Medicare ACO), followed by the state-level analysis (impact for all eligible Vermont Medicare beneficiaries):

The ACO-level analysis includes a treatment group of 53,115 Medicare beneficiaries attributed to PY 4 (2021) model practitioners and a weighted comparison group of Medicare beneficiaries attributed to practitioners participating in a Medicare SSP ACO in the selected comparison states.

The state-level analysis includes a treatment group of 83,529 Medicare beneficiaries residing in Vermont and receiving most of their primary care services within the state in PY 4 (2021) and a weighted comparison group of beneficiaries residing in the 26 comparison states.

Mitigating Methodological Challenges

As noted in the First and Second Evaluation Reports, Vermont has unique market characteristics and a state context that have presented several methodological challenges to our evaluation. In PY 4 (2021), we continued to see challenges related to the COVID-19 PHE. These challenges included:

Differential effects of the COVID-19 PHE. In both 2020 and 2021, rates of COVID-19 cases and deaths in Vermont were much lower than rates in comparison states, likely due in part to Vermont's robust pandemic response and broad vaccination campaign.[96]

Vermont's unique context. Few areas outside Vermont have similar sociodemographic and health insurance market characteristics and a similar history of extensive health care reform. As a result, unaccounted-for differences in area-level characteristics between the treatment and comparison groups may affect the accuracy and precision of some findings, including the magnitude of the stated impacts.

Scale and intensity of Vermont's health reform efforts in the baseline period. Vermont's PCMH and multi-payer ACO initiatives during the baseline period were likely more advanced than similar initiatives in the comparison states. This may have contributed to differing trends in spending and utilization for the treatment

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[ccc] The DID design usually requires trends in outcomes to be parallel between the treatment and comparison groups across the baseline period. Our flexible DID specification allowed trends in outcome between the treatment and comparison group to either increase or decrease linearly over time. The DID estimate represents the impact of the model on the outcome measure after accounting for baseline secular trends.

and comparison groups in the baseline period and may also have additional spillover effects during the VTAPM's performance period.

To address these methodological challenges, we employed several mitigation strategies, described in **Exhibit 3.1.3**. For a more detailed account, see **Appendix D**.

Exhibit 3.1.3. Methodological Challenges and Mitigation Strategies

Challenge	Mitigation Strategy
Differential Effects of the COVID-19 PHE in 2021	
Ongoing changes in utilization due to the COVID-19 PHE	• Included cumulative COVID-19 deaths per 100,000 population as a county-level covariate in entropy balancing[ddd] models for the main analysis • Conducted a sensitivity check using an alternate version of the analytic weights from an entropy balancing model that included county-level COVID-19 vaccination coverage in 2021 • Generated a descriptive assessment of beneficiary- and area-level COVID-19 characteristics • Conducted sensitivity checks with beneficiary- and area-level COVID-19 characteristics included as covariates in the impact models
Wider standard errors when COVID-19 covariate is included in entropy balancing models	• Conducted a sensitivity check using alternate analytic weights from an entropy balancing model that did not include COVID-19 covariates • Considered the significance level of PY 4 (2021) impact estimates in context, given the increased standard errors
Vermont's Unique Context	
Inability to balance the treatment and comparison groups on MA penetration and upside-risk Medicare SSP penetration rates	• Limited the ACO-level comparison group to Medicare beneficiaries attributed to Track 1 or Basic A/B/C/D Medicare SSP ACO providers, who are likely to have similar experience in upside-risk contracts • Conducted sensitivity analyses with the inclusion of MA penetration and ACO upside-risk penetration as covariates
Influence of outlier weights	• Tested multiple iterations of the entropy balancing algorithm to optimize balance on beneficiary- and market-level characteristics while minimizing the percent of comparison beneficiaries in the top percentile by weight
Scale and Intensity of Vermont's Health Reform Efforts in the Baseline Period	
VTAPM's trends in the baseline period (2014–2016) may not reflect long-term secular trends	• Conducted a sensitivity analysis that includes the model "ramp-up" period of PY 0 (2017) as a baseline year
Potential of longer-term impacts of other Vermont health reform efforts	• Selected comparison states with similar histories of health reform, specifically multi-payer reform initiatives and PCMH initiatives

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[ddd] For more information on the entropy balancing approach used to ensure comparability between the Vermont and comparison groups, see **Appendix D.2**.

Potential Effects of the Cyberattack on the UVM Health Network. A cyberattack in late 2020 may have influenced evaluation findings.[eee] For this reason, in the <u>Second Evaluation Report</u>, we conducted a sensitivity analysis using only the first three calendar quarters of each BY and PY to estimate the impact in PY 3 (2020) before any effects from the cyberattack in late 2020. We assessed related concerns in our preliminary PY 4 (2021) analyses and concluded that a sensitivity analysis to account for the cyberattack was not needed for PY 4 (2021). Our rationale for concluding that the related concerns were not expected to influence PY 4 (2021) is as follows:

Delayed care. Our PY 4 (2021) analysis captured visits delayed from the cyberattack if patients sought that care at any point in 2021. There is no evidence of increased utilization in early 2021 that might indicate patients seeking delayed care because of the cyberattack.

Delayed claims processing. We are likely capturing any claims that had delayed processing due to the cyberattack, as we have over 15 months of claims runout for the early months of 2021 in our PY 4 (2021) data. In our analyses, we see no additional claims processing more than 14 months after the service date. For this reason, we are confident that the claims are captured in our PY 4 (2021) data, even if processing was delayed due to the cyberattack.

Foregone or unbilled care. Our analyses do not capture foregone care (which does not result in a visit) or unbilled care (which does not appear in Medicare claims). Data from our qualitative interviews indicated that foregone or unbilled care was most likely in late 2020, immediately after the cyberattack. For this reason, we do not expect that this issue had a meaningful influence on our PY 4 (2021) analyses.

Based on our rationale, we report PY 4 (2021) impact estimates for Medicare beneficiaries based on the full year of data. **For cumulative impact estimation, we use the PY 3 (2020) estimates generated from Q1-Q3, to exclude the irregular results seen in the Q4 of 2020 due to the cyberattack.** For more details on our exploratory analyses relating to the UVM Health Network cyberattack, see **Appendix D.7**.

Increasing Standard Errors in 2020 and 2021. In PY 3 (2020) and PY 4 (2021), we observed higher standard errors for the comparison group than in previous years. We explored several potential causes, including our analytic model, distributional assumptions, and exogenous factors that accounted for differences between the Vermont and comparison groups. We found that including the population-standardized COVID-19 deaths in our entropy balancing weights resulted in the higher standard errors observed for total Medicare spending. **Exhibit 3.1.4** displays the standard errors using PY 4 (2021) data from 2014–2021, comparing the analytic weights that included or excluded the COVID-19 deaths covariate.

[eee] In October 2020, the UVM Health Network experienced a ransomware cyberattack, which disrupted their ability to provide care, bill for services, and access EHRs and communication systems. Many appointments and services were postponed or cancelled, and payment processing continued to be delayed after system access was restored in November 2020. For more detailed information on the cyberattack and its effect on the model, see the <u>Second Annual Report</u>.

Exhibit 3.1.4. Standard Errors for Adjusted Total Medicare Spending Using Weights with and without COVID-19 Deaths, 2014–2021
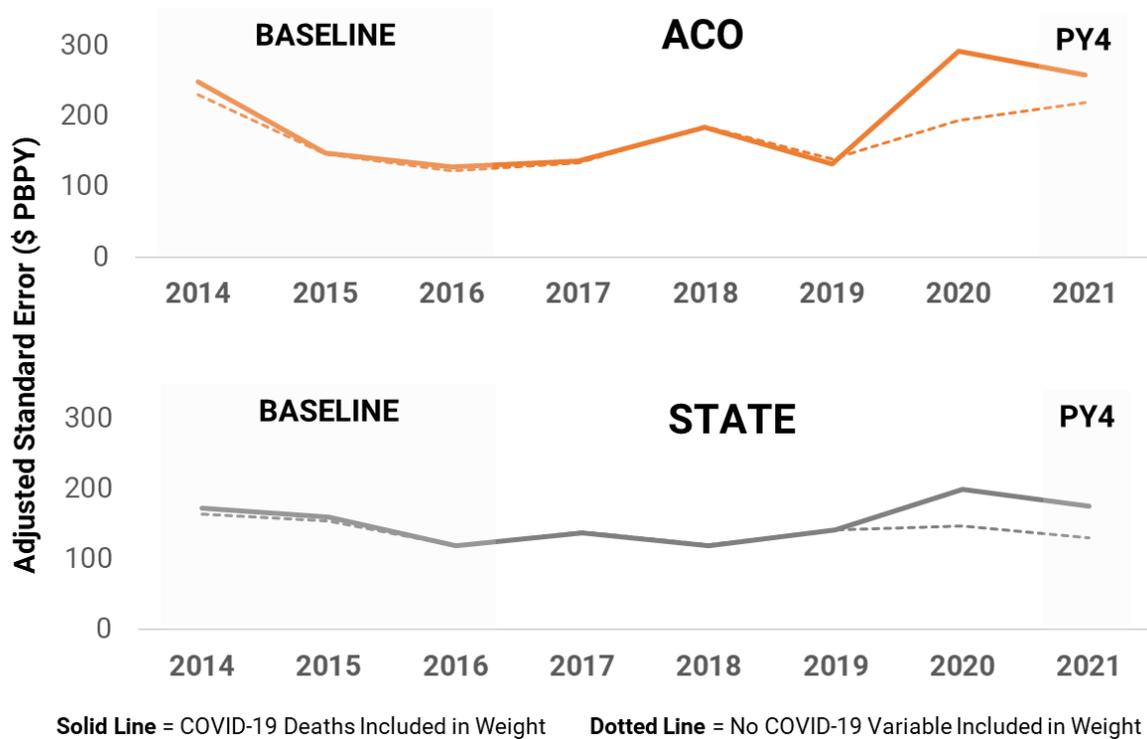
Solid Line = COVID-19 Deaths Included in Weight   Dotted Line = No COVID-19 Variable Included in Weight

SOURCE: NORC analysis of Medicare claims data.

NOTE: Estimates are presented in 2021 USD ($) per beneficiary per year (PBPY) and represent regression-adjusted standard errors for 2014–2021. Solid lines represent standard errors using weights with COVID-19 deaths (main model); dotted lines represent standard errors using weights without COVID-19 deaths.

The COVID-19 PHE had meaningfully different effects in Vermont and the comparison states, so we explored different methods to mitigate the known violation of the "common shocks" assumption required for the DID model. We assessed the effect of adding various combinations of county-level COVID-19 variables (COVID-19 cases, COVID-19 deaths, case fatality rate, and the Pandemic Vulnerability Index score) in our entropy balancing model to mitigate the difference in community COVID-19 burden between Vermont and the comparison states. After assessing these options, we included COVID-19 deaths (per 100,000 population) in our entropy balancing model because it was less susceptible to local variation in health care availability, and it achieved adequate balance while minimizing outlier weights.

However, the addition of the variable to our entropy balancing model may have further restricted the effective sample size of the comparison group. As a result, there were fewer beneficiaries in rural areas of comparison states with a similar COVID-19 PHE burden as well as similar sociodemographic and health care market characteristics, leading to upweighting of more comparison beneficiaries. In our PY 4 (2021) data, the distribution of weights for comparison beneficiaries was more right-skewed with inclusion of the population-standardized COVID-19 deaths than the weights generated without that variable.

The weights affect the reliability and precision of the observed impact estimates, as we saw consistently larger standard errors with the inclusion of COVID-19 deaths in the weights but an inconsistent effect on the magnitude of the spending impact.[fff] Despite this, our findings remained consistent in terms of direction and relative magnitude, regardless of which weight was applied. When discussing spending estimates in this chapter, we highlight our sensitivity analyses using the weights without COVID-19 deaths; full results for those models are included in **Appendix D.8**.

Impacts for the Medicare ACO

Our analysis of beneficiaries attributed to the VTAPM Medicare ACO in PY 4 (2021) reflects the experience of beneficiaries for whom model practitioners provided a plurality of their primary care services, relative to a comparison group of beneficiaries receiving the plurality of their care from Medicare SSP ACO practitioners. The impact estimates should be interpreted for Medicare ACO beneficiaries *relative to the change in the comparison group*; for details on utilization in the baseline and performance periods, see **Appendix Exhibits F.3** through **F.22**.

> **Key Question**: Is the VTAPM Medicare ACO initiative achieving spending, utilization, and quality-of-care goals *for attributed Medicare beneficiaries*?

Impact on Gross and Net Medicare Spending

Exhibit 3.1.5 presents the trends in gross Medicare spending associated with the PY 4 (2021) Medicare ACO participant practitioners and the comparison group of Medicare SSP practitioners in the baseline and performance years (2014–2021). Prior to the COVID-19 PHE in 2020, we observed relatively flat spending for patients attributed to the Medicare ACO through 2019 and an increase in spending for the comparison group starting in 2017. In PY 4 (2021), both groups had higher spending than PY 3 (2020); however, spending for Medicare ACO beneficiaries in PY 4 (2021) remained lower than spending in the baseline period, while spending for the comparison group continued an increasing trend from the baseline period.

[fff] When the population-standardized COVID-19 deaths variable was included in the weights, we observed a $63 PBPY increase in impact for the Medicare ACO and a $416 PBPY decrease for Vermont Medicare beneficiaries statewide.

**Exhibit 3.1.5.** Gross Medicare Spending for Medicare ACO-Attributed Beneficiaries, 2014–2021
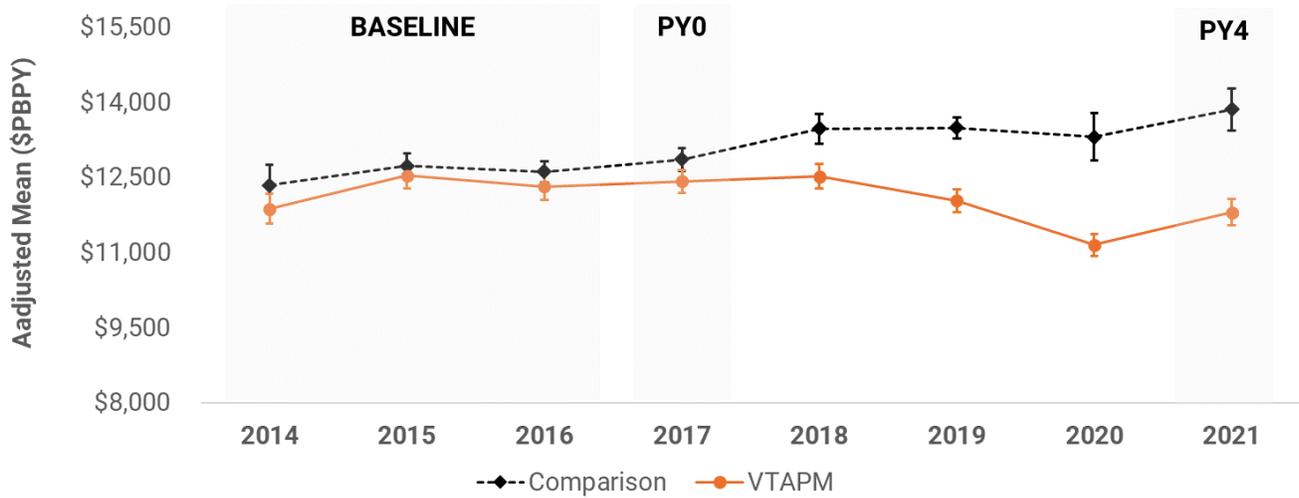
SOURCE: NORC analysis of Medicare claims data.

NOTE: Estimates are presented in 2021 USD ($) per beneficiary per year (PBPY) and represent regression-adjusted baseline trends for PY 4 (2021) gross Medicare spending, which reflects eligible Medicare beneficiaries attributed to PY 4 (2021) Medicare ACO and comparison practitioners.

Gross Impact. Cumulatively over the first four PYs of the model, we observed a statistically significant reduction in total Medicare spending for beneficiaries attributed to the Medicare ACO of $686.42 (6.2%) PBPY, or $134.6 million overall, before considering CMS shared savings and other investment payments (**Exhibit 3.1.6**). When considering only PY 4 (2021), we observed a statistically non-significant reduction of $1,207.28 PBPY (9.4%).[ggg]

Exhibit 3.1.6. Gross Medicare Spending Impact for Medicare ACO-Attributed Beneficiaries, PY 1–PY 4 (2018–2021)
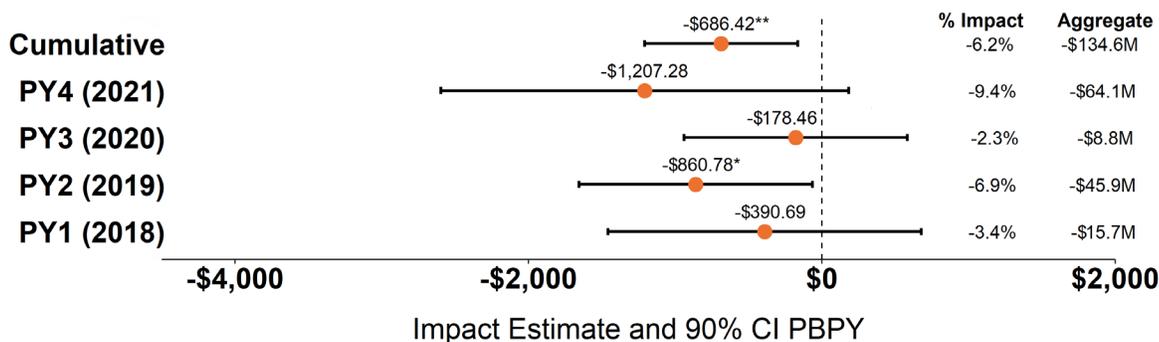
SOURCE: NORC analysis of Medicare claims data.

[ggg] When using the weight without the covariate for COVID-19 deaths, we see a statistically non-significant decrease of $1,270 PBPY (9.8%); using this alternative weight results in a more reliable impact estimate (that is, due to a lower standard error), yet the estimate did not reach statistical significance in part because the magnitude of the savings was larger. See **Appendix D.8** for full results from our sensitivity analyses.

NOTE: Impact is presented in 2021 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the PY(s). Estimated aggregate impact is the DID estimate multiplied by the number of attributed beneficiaries in PY(s). The PY 3 (2020) estimate represents the first three calendar quarters of 2020 to mitigate any effect of the cyberattack on the UVM Health Network. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Net Impact. After accounting for VTAPM Medicare ACO shared savings and other payments provided to Medicare ACO and comparison providers in the baseline and performance periods,[hhh] the cumulative net impact of the VTAPM across the four PYs was a statistically significant reduction in Medicare spending of $636.78 PBPY (5.7%), or $124.9 million overall (**Exhibit 3.1.7**). In PY 4 (2021), we observed a non-significant reduction in net Medicare spending of $1,250.98 PBPY (9.7%).

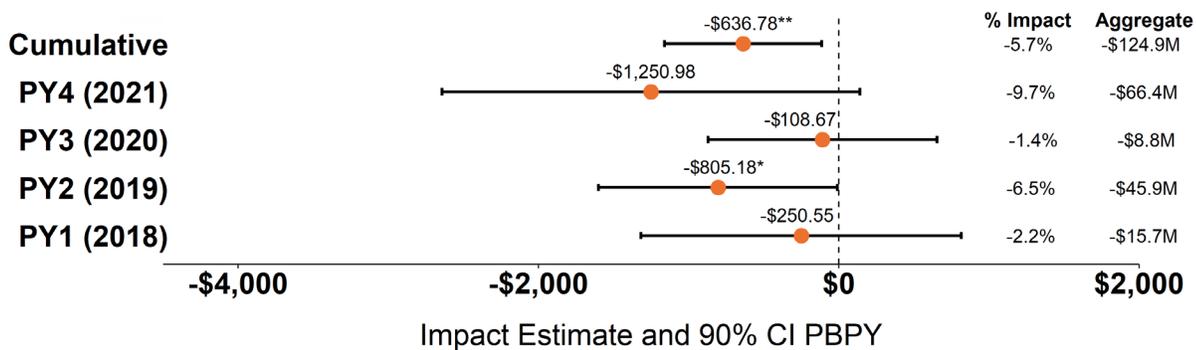**Exhibit 3.1.7.** Net Medicare Spending Impact for Medicare ACO-Attributed Beneficiaries, PY 1–PY 4 (2018–2021)

	Impact Estimate	% Impact	Aggregate
Cumulative	-$636.78**	-5.7%	-$124.9M
PY4 (2021)	-$1,250.98	-9.7%	-$66.4M
PY3 (2020)	-$108.67	-1.4%	-$8.8M
PY2 (2019)	-$805.18*	-6.5%	-$45.9M
PY1 (2018)	-$250.55	-2.2%	-$15.7M

Impact Estimate and 90% CI PBPY

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is presented in 2021 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the PY(s). Estimated aggregate impact is the DID estimate multiplied by the number of attributed beneficiaries in performance year(s). The PY 3 (2020) estimate shown here represents the first three calendar quarters of 2020 to mitigate any effect of the cyberattack on the UVM Health Network. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

## Impact on Medicare Utilization and Quality of Care

In PY 4 (2021), similar to previous years, we observed utilization patterns that may indicate shifting care patterns and potential barriers to accessing care in the ambulatory setting for Medicare ACO beneficiaries, notably a steep decrease in specialist E&M visits relative to the baseline period. We also observed sharp declines from baseline years in post-acute care (PAC) utilization during 2021, similar to 2020, reflecting a continuing national decline in PAC after the onset of the COVID-19 PHE.[97]

Hospital-Based Utilization. In PY 4 (2021), the Medicare ACO saw no significant impacts for hospital-based utilization (**Exhibit 3.1.8**). However, the direction of the results (decrease in acute care stays and days; increase

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[hhh] The net impact assessment includes the Multi-Payer Advanced Primary Care Practice (MAPCP) pass-through payments in the baseline and performance years, the VTAPM shared savings payments in the performance period, and shared savings payments to comparison group providers from Pioneer, Medicare SSP, and Next Generation ACO models in the baseline and performance periods. The net impact assessment does not account for the Medicare start-up funds ($9.5 million) provided to Vermont by CMS in 2017 (PY0) as part of a cooperative agreement between the two entities. For more details on net impact estimation, see **Appendix D.6**.

in ED visits and observation stays) was consistent with what we have seen in previous performance years.[iii] Similar to the spending estimates, we also see large standard errors for hospital-based utilization outcomes, likely reflecting the inclusion of COVID-19 deaths in the analytic weights for PY 4 (2021).

Exhibit 3.1.8. Medicare ACO Impact on Hospital-Based Utilization in PY 4 (2021)
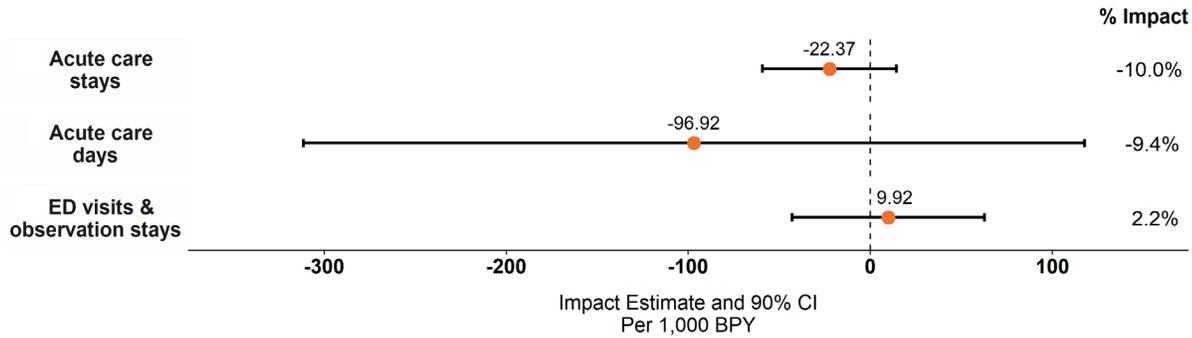
SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is per 1,000 beneficiaries per year (BPY). Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Post-Acute Care Utilization. Continuing a trend seen in PY 3 (2020), PAC utilization declined steeply in PY 4 (2021) relative to baseline years. This trend was likely driven in part by documented staffing shortages at SNFs leading to lower bed availability, which the COVID-19 PHE exacerbated.[98,99] **Exhibit 3.1.9** shows the adjusted means for PAC utilization in PY 4 (2021) relative to the baseline period for SNF stays (96% decrease), SNF days (34% decrease), and home health visits (34% decrease).[jjj] While beneficiaries attributed to the model had larger declines in PAC in PY 4 (2021) than the comparison group, the sample size was too small to produce reliable estimates of impact. More detailed findings for PAC utilization for ACO-attributed Medicare beneficiaries are in **Appendix F**.

Exhibit 3.1.9. Medicare ACO Post-Acute Care Utilization in Baseline and PY 4 (2021)

	Medicare ACO Beneficiaries			Comparison Beneficiaries		
	Baseline	**PY 4**	**% Change**	**Baseline**	**PY 4**	**% Change**
SNF Stays	26	1	-96%	75	53	-30%
SNF Days	590	387	-34%	1,921	1,307	-32%
Home Health Visits	3,178	2,070	-35%	3,021	2,512	-17%

[iii] The one exception to this is the increase in acute care days observed in PY 3 (2020), which we hypothesize may reflect triaging and resources constraints during the COVID-19 PHE in 2020, which were not present in previous PYs.

[jjj] Adjusted means for home health episodes can be found in **Appendix Exhibits F.21** and **F.22.** A change in Medicare's billing structure for home health episodes, enacted in January 2020, shifted Medicare payments for home health from 60-day episodes to 30-day episodes. Because of potential changes in billing practices in response to this change, the home health episodes recorded in PY 4 (2021) are likely not comparable to those in previous years, even when standardizing to 60-day episodes for consistency, and thus are not presented here.
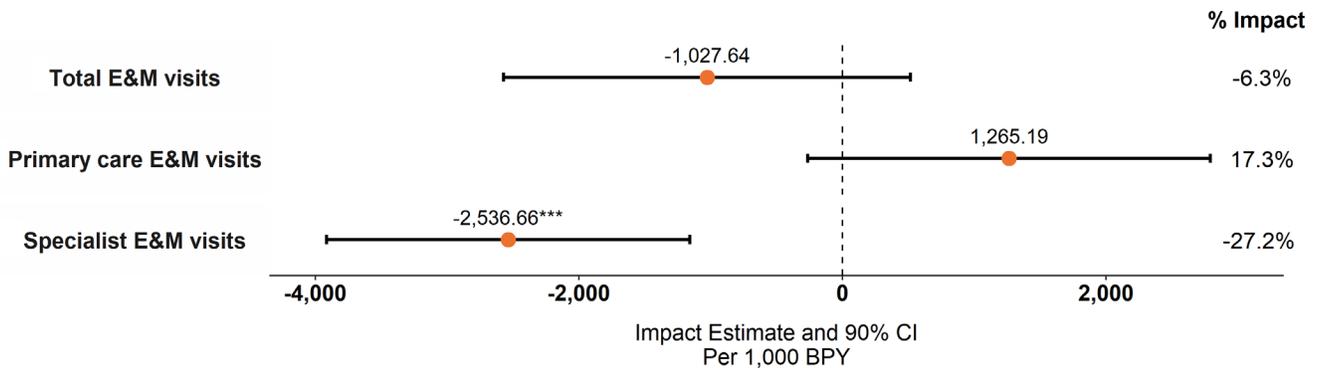
SOURCE: NORC analysis of Medicare claims data.
NOTE: Estimates are rates per 1,000 beneficiaries per year (BPY) and do not represent individual counts of events.

Ambulatory Care Utilization. In PY 4 (2021), we observed a statistically non-significant decrease in total E&M visits, driven by a large statistically significant *decrease* in specialist E&M visits (27.2%), as well as a large non-significant *increase* in primary E&M visits. While both the Medicare ACO and comparison groups showed declines in specialist E&M visits in PY 4 (2021), the decrease was much greater among ACO-attributed Medicare beneficiaries (see **Appendix Exhibits F.21** and **F.22** for more details). These findings are consistent with previous PYs in which model-attributed beneficiaries had significantly fewer specialist E&M visits than the comparison group; however, the impact in PY 4 (2021) is larger in magnitude than seen in previous years. The decrease in specialist E&M visits may reflect (1) an ongoing shortage of specialists in Vermont (particularly among selected subspecialties) increasing wait times for specialty care and (2) shifts in visit availability during the worsening COVID-19 PHE in 2021.[100]

The E&M visits displayed in **Exhibit 3.1.10** include both in-person and telehealth visits. Medicare beneficiaries attributed to the VTAPM have higher rates of telehealth use for E&M visits than the comparison group in PY 4 (2021), and telehealth was more common for primary care E&M visits than for specialist E&M visits (**Appendix Exhibit F.16**).

Exhibit 3.1.10.   Medicare ACO Impact on Ambulatory Utilization in PY 4 (2021)

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is per 1,000 beneficiaries per year (BPY). Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Other Utilization. No significant impact was observed on hospice days or imaging, tests, and procedures in PY 4 (2021; see **Exhibit 3.1.11**), consistent with what we observed in previous PYs. Because only approximately 2.5% of Medicare beneficiaries in the treatment and comparison groups received hospice care in PY 4 (2021), there is considerable uncertainty associated with the impact estimates for this measure. We urge caution in interpreting the impacts of the model on hospice care utilization.

Exhibit 3.1.11.   Medicare ACO Impact on Hospice Days and Imaging/Procedures/Tests in PY 4 (2021)
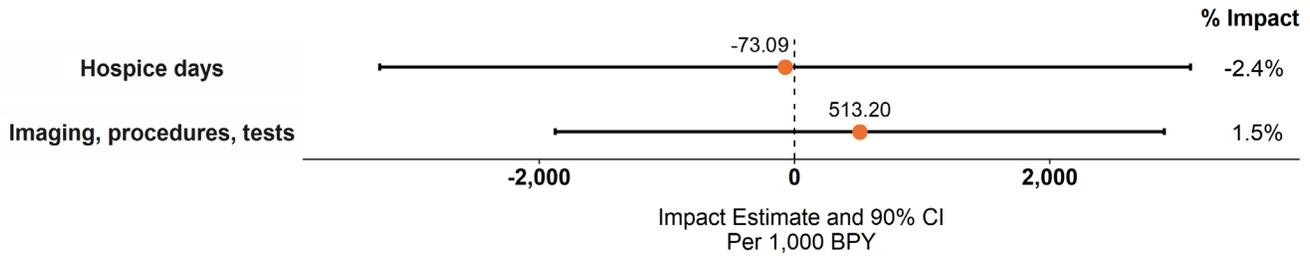

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is per 1,000 beneficiaries per year (BPY). Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Access to and Quality of Care. We observed no significant impacts for the Medicare ACO on annual wellness visits, hospitalizations for ambulatory care-sensitive conditions, or unplanned 30-day readmissions (**Exhibit 3.1.12**). In previous years, we saw a significant decrease in annual wellness visits, reflecting a larger increase in visits among comparison beneficiaries; however, in PY 4 (2021), the decrease was not statistically significant.[kkk] Consistent with previous performance years, we observed a large but non-significant decrease in beneficiaries with unplanned readmissions. This decrease was driven primarily by a large decline in readmissions among beneficiaries attributed to the VTAPM Medicare ACO; comparison beneficiaries saw a small increase in unplanned readmissions in PY 4 (2021) relative to baseline years. As in previous performance years, no significant impact was seen in hospitalizations for beneficiaries with potentially avoidable, ambulatory care-sensitive conditions hospitalizations.

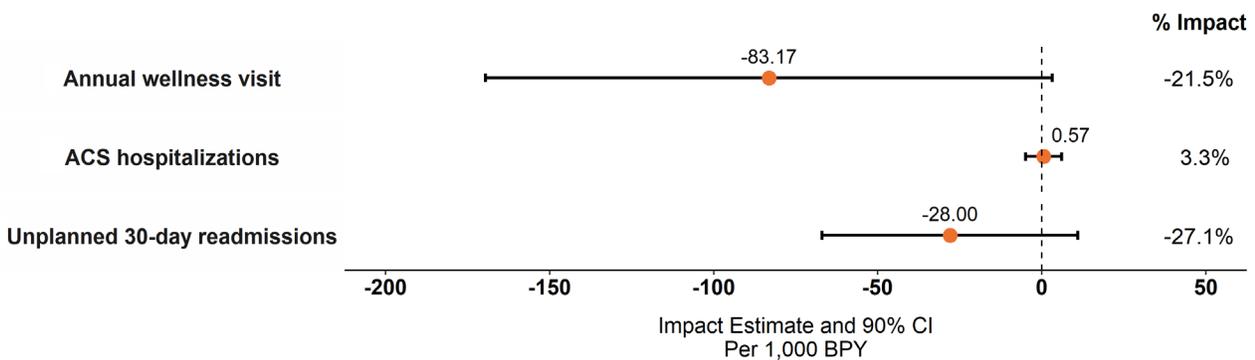**Exhibit 3.1.12.**   Medicare ACO Impact on Access to and Quality of Care in PY 4 (2021)

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is per 1,000 beneficiaries per year (BPY). Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

[kkk] As noted in previous reports, annual wellness visits were already used at a high rate in Vermont during the baseline period (2014–2016); therefore, the model had less room for improvement on this measure during the performance period, in contrast to the comparison group, which started at a lower level of annual wellness visit utilization and increased uptake throughout the model's performance years. Our comparison group was composed of beneficiaries attributed to providers in MSSP, which provided incentives for annual wellness visits; this was likely a main driver of the increased uptake over the study period.

Impacts for Vermont Medicare Beneficiaries

Because Vermont is accountable to CMS for statewide financial targets and population health goals, the effects of model initiatives reach beyond the ACO's attributed population. Thus, we estimated impacts on spending, utilization, and quality of care for Vermont's Medicare beneficiaries statewide.

> **Key Question:** Is Vermont achieving spending, utilization, and quality-of-care goals *for the Medicare population statewide*?

The analysis reflects the experience of beneficiaries who received a majority of their primary care services from Vermont Medicare providers in PY 4 (2021), relative to a comparison group of beneficiaries receiving the majority of their primary care services from providers in 26 comparison states. The impact estimates should be interpreted for Vermont Medicare beneficiaries *relative to the change in the comparison group*; for details on utilization in the baseline and performance periods, see **Appendix Exhibits F.3** through **F.22**. Because of the different comparison groups, findings for Vermont Medicare beneficiaries are not directly comparable to the findings for beneficiaries attributed to the Medicare ACO.

Impact on Gross and Net Medicare Spending

Exhibit 3.1.13 presents the trends in statewide gross Medicare spending associated with the Vermont Medicare beneficiaries and the comparison group across the baseline and PYs (2014–2021).[III] Similar to the trends for Medicare ACO and comparison group beneficiaries, we observed relatively flat spending for Vermont Medicare beneficiaries and increasing spending for comparison beneficiaries until 2020, when spending decreased in both groups due to the COVID-19 PHE. In PY 4 (2021), both groups had higher spending than in PY 3 (2020); however, spending for Vermont Medicare beneficiaries in PY 4 (2021) remained lower than spending in the baseline period, while spending for the comparison group continued an increasing trend from the baseline period.

[III] The comparison group for Vermont Medicare beneficiary population (eligible Medicare beneficiaries sampled from comparison states) is distinct from the comparison group for the Medicare ACO population (beneficiaries attributed to Medicare SSP Track 1 and Basic A/B/C/D providers). Estimates should not be directly compared between the two analyses.

Exhibit 3.1.13.   Gross Medicare Spending for Vermont Medicare Beneficiaries, 2014–2021
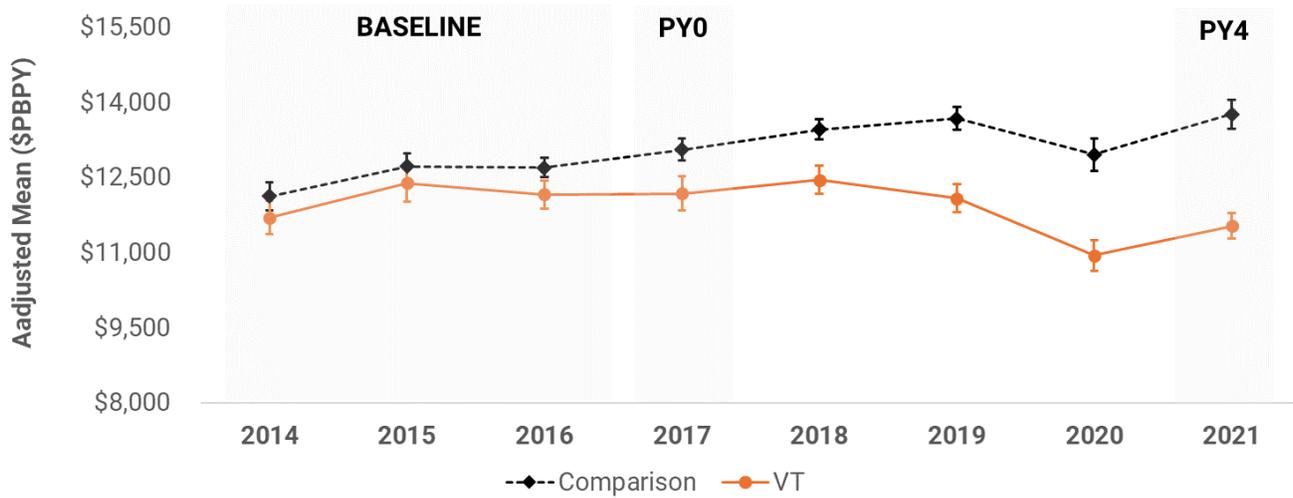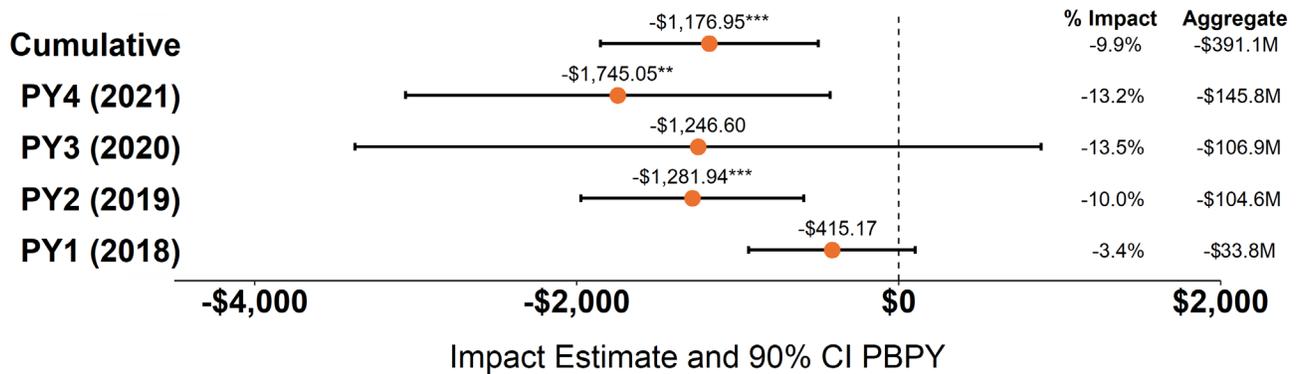

SOURCE: NORC analysis of Medicare claims data.
NOTE: Estimates are presented in 2021 USD ($) per beneficiary per year (PBPY) and represent regression-adjusted baseline trends for PY 4 (2021) gross Medicare spending, which reflects eligible Medicare beneficiaries in Vermont and comparison states.

Gross Impact. Cumulatively over the first four PYs of the model, the VTAPM was associated with a statistically significant reduction in gross Medicare spending of $1,176.95 PBPY (9.9%), or $391.1 million overall, before considering CMS shared savings and other incentive payments (**Exhibit 3.1.14**). In PY 4 (2021), the model was associated with a statistically significant reduction in gross Medicare spending of $1,745.05 PBPY (13.2%).[mmm]

As with the ACO-level findings, statewide gross Medicare spending reductions may reflect the ongoing influence of other programs in addition to the VTAPM. As discussed in Chapter 2, the model allowed for Blueprint, CHT, PCMH, and SASH funding to continue, providing care coordination and management for all Vermonters, not only for those attributed to the ACO. In addition, the state, hospitals, and other community providers and organizations were implementing programs that benefited the population as a whole.

[mmm] When using the weight without the variable for COVID-19 deaths, we see a significant decrease of $1,329 PBPY (10.4%); consistent with our findings presented for the Medicare ACO population, using this alternative weight results in a more reliable impact estimate (that is, a lower standard error). See **Appendix D.8** for full results from our sensitivity analyses.

Exhibit 3.1.14. Impact on Gross Medicare Spending for Vermont Medicare Beneficiaries, PY 1–PY 4 (2018–2021)

|	-$1,176.95***	% Impact	Aggregate
Cumulative		-9.9%	-$391.1M
PY4 (2021)	-$1,745.05**	-13.2%	-$145.8M
PY3 (2020)	-$1,246.60	-13.5%	-$106.9M
PY2 (2019)	-$1,281.94***	-10.0%	-$104.6M
PY1 (2018)	-$415.17	-3.4%	-$33.8M

Impact Estimate and 90% CI PBPY

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is presented in 2021 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the PY(s). Estimated aggregate impact is the DID estimate multiplied by the number of attributed beneficiaries in PY(s). The PY 3 (2020) estimate represents the first three calendar quarters of 2020 to mitigate any effect of the cyberattack on the UVM Health Network. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Net Impact. After accounting for the model Medicare ACO shared savings and other incentive payments provided to Vermont and comparison state providers in the baseline and performance periods,[nnn] the cumulative net impact of the model across the four PYs was a statistically significant *reduction* in Medicare spending of $1,143.19 PBPY (9.7%), or $379.8 million overall (**Exhibit 3.1.15**). In PY 4 (2021), we observed a statistically significant net *reduction* in Medicare spending of $1,753.29 PBPY (13.3%).

[nnn] Although the VTAPM Medicare ACO received the shared savings and pass-through payments, we present net impacts at the state level because the ACO is one of the mechanisms through which the VTAPM aims to achieve its statewide financial targets. Additionally, the payments to the ACO may have benefited non-attributed Medicare beneficiaries as well as beneficiaries attributed to the Medicare ACO initiative. The net impact assessment included the MAPCP pass-through payments in the baseline and performance years, the VTAPM shared savings payments in the performance period, and shared savings payments to comparison group providers from Pioneer, Medicare SSP, and Next Generation ACO models in the baseline and performance periods. The net impact assessment did not account for the Medicare start-up funds ($9.5 million) provided to Vermont by CMS in 2017 (PY 0) as part of a cooperative agreement between the two entities. For more details on net impact estimation, see **Appendix D.6**.

Exhibit 3.1.15.   Impact on Net Medicare Spending for Vermont Medicare Beneficiaries, PY 1–PY 4 (2018–2021)
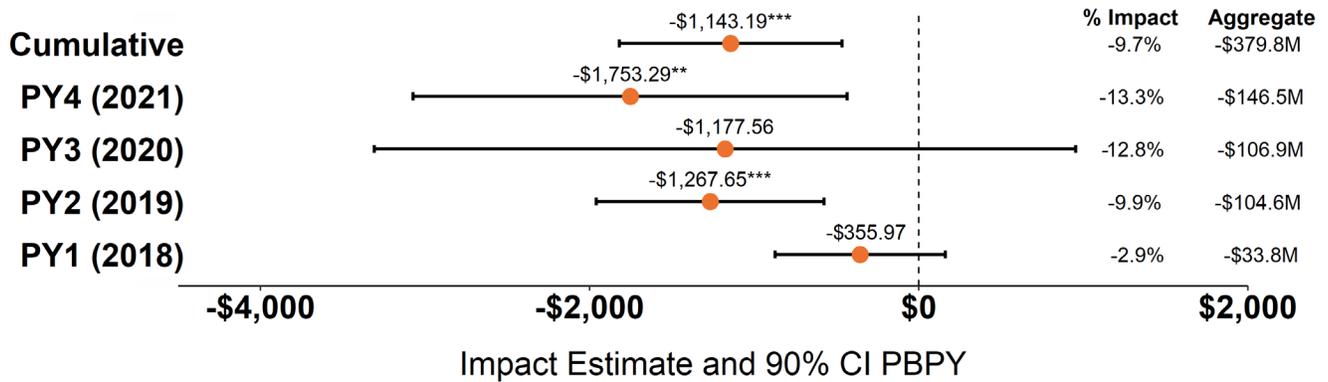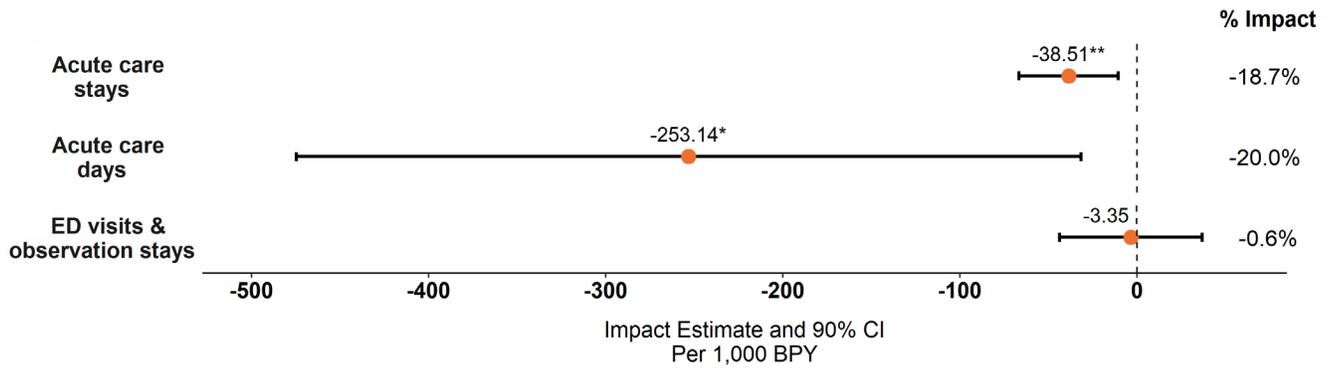

SOURCE: NORC analysis of Medicare claims data.

NOTE: Impact is presented in 2021 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the performance year(s). Estimated aggregate impact is the DID estimate multiplied by the number of attributed beneficiaries in performance year(s). The PY 3 (2020) estimate represents the first three calendar quarters of 2020 to mitigate any effect of the cyberattack on the UVM Health Network. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Impact on Medicare Utilization and Quality of Care

Findings for PY 4 (2021) were consistent with those from PY 3 (2020): we observed significant *decreases* in acute care utilization (acute care stays, acute care days) that influenced large *reductions* in gross Medicare spending for Vermont Medicare beneficiaries. We also observed steep decreases for both specialist E&M visits and PAC utilization, similar to the ACO-level findings.

Hospital-Based Utilization. In PY 4 (2021), the VTAPM was associated with significant decreases in acute care stays (18.7%) and acute care days (20.0%; **Exhibit 3.1.16**) for Vermont Medicare beneficiaries. Because acute care is the largest component of Medicare spending, the significant decreases in hospital-based utilization were a key influence on the spending reductions seen for Vermont Medicare beneficiaries. We observed no statistically significant reductions in ED visits or observation stays. Overall, our findings of decreases in acute care stays and acute care days, as well as small non-significant changes in ED visits and observation stays, were consistent with observations for the first three PYs.

Exhibit 3.1.16.   Impact on Hospital-Based Utilization for Vermont Medicare Beneficiaries, PY 4 (2021)

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is per 1,000 beneficiaries per year (BPY). Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Post-Acute Care Utilization. In PY 4 (2021), PAC utilization declined steeply from the baseline, reflecting a continuation of the trend noted for PY 3 (2020) in the Second Evaluation Report. **Exhibit 3.1.17** shows the adjusted means for PAC utilization in PY 4 (2021) relative to the baseline period for SNF stays, SNF days, and home health visits.°°° Due to steep declines, the sample sizes for PAC outcomes were too small to produce reliable estimates of impact. As with the Medicare ACO findings, we hypothesize that the trend of SNF staffing shortages were likely a factor in the steep declines we observed.[98],[99] For more detailed findings for PAC utilization for Vermont Medicare beneficiaries, see **Appendix F**.

Exhibit 3.1.17.   Post-Acute Care Utilization for Vermont Medicare Beneficiaries in Baseline and PY 4 (2021)

	Vermont Medicare Beneficiaries			Comparison Beneficiaries		
	Baseline	**PY 4**	**% Change**	**Baseline**	**PY 4**	**% Change**
SNF Stays	70	43	-38.5%	78	58	-26.6%
SNF Days	2,040	1,455	-28.7%	2,113	1,472	-30.4%
Home Health Visits	3,943	3,602	-8.7%	3,094	2,407	-22.2%

SOURCE: NORC analysis of Medicare claims data.
NOTE: Estimates are rates per 1,000 BPY, not counts of events.
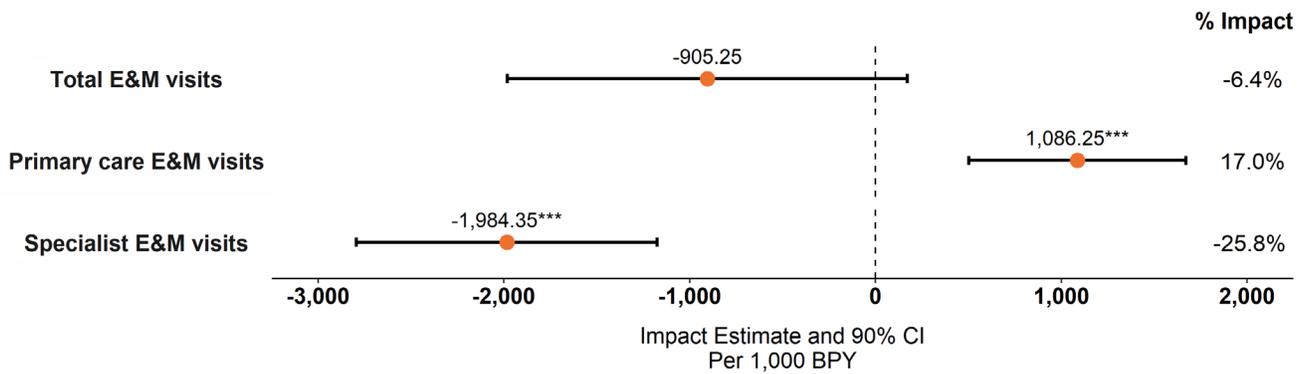
Ambulatory Care Utilization. For PY 4 (2021), we observed a statistically non-significant decrease in total E&M visits among Vermont Medicare beneficiaries, reflecting a large statistically significant decrease in specialty E&M visits (25.8%) and a statistically significant increase in primary care E&M visits (17.0%; **Exhibit 3.1.18**). Similar to what was observed for beneficiaries attributed to the Medicare ACO, the decrease reflects a steeper decrease in specialist E&M visits among Vermont beneficiaries relative to comparison beneficiaries (see **Appendix Exhibit**

°°° A change in Medicare's billing structure for home health episodes, enacted in January 2020, shifted Medicare payments for home health from 60-day episodes to 30-day episodes. Because of potential changes in billing practices in response to this change, the home health episodes recorded in PY 4 (2021) are likely not comparable to those in previous years, even when standardizing to 60-day episodes for consistency, and thus are not presented here. Results that include utilization of home health episodes can be found in **Appendix Exhibits F.21 and F.22**.

F.22). The findings likely are influenced by the ongoing shortage of specialists in Vermont, increased wait times for specialty care,[100] and shifts in visit availability during the COVID-19 PHE.[ppp]

The E&M visits displayed in **Exhibit 3.1.18** include both in-person and telehealth visits. Vermont Medicare beneficiaries had higher rates of telehealth use for E&M visits than the comparison group in PY 4 (2021), and telehealth was more common for primary care E&M visits than for specialty care E&M visits (**Appendix Exhibit F.16**).

Exhibit 3.1.18.   Impact on Ambulatory Care Utilization for Vermont Medicare Beneficiaries, PY 4 (2021)
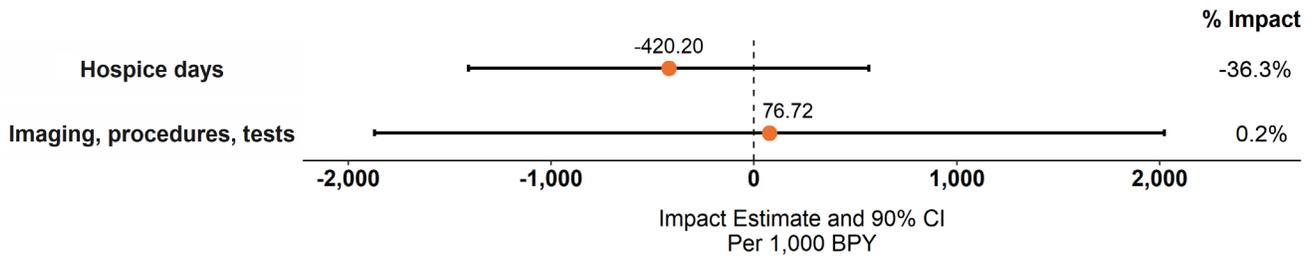

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is per 1,000 beneficiaries per year (BPY). Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Other Utilization. For PY 4 (2021), we observed no statistically significant impacts for Vermont Medicare beneficiaries on hospice days or imaging, procedures, and tests (**Exhibit 3.1.19**). Because only a small fraction of the Medicare beneficiaries in the treatment and comparison groups received hospice care in PY 4 (2021; approximately 2.5%), there is considerable uncertainty associated with the impact estimates for the measure. We urge caution in interpreting the impacts of the model on hospice care utilization.

In the first PY 1 and PY 2, we observed a significant increase in the number of imaging, procedures, and tests performed for Vermont Medicare beneficiaries; however, those increases were not maintained in PY 3 (2020) or PY 4 (2021). We hypothesize that the effects and changes in care patterns related to the COVID-19 PHE caused delays and potential avoidance of non-urgent care, which may have included many voluntary and/or preventive tests and procedures.[101]

[ppp] For instance, per their FY 2023 budget submission to GMCB, UVMMC (including Central Vermont Medical Center and Porter Hospital, both owned by UVMMC) reports vacancies for approximately 14% of specialty positions.

Exhibit 3.1.19.   Impact on Hospice Days and Imaging/Procedures/Tests for Vermont Medicare Beneficiaries, PY 4 (2021)

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is per 1,000 beneficiaries per year (BPY). Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Access to and Quality of Care. We observed no statistically significant impacts on access to and quality of care for Vermont Medicare beneficiaries in PY 4 (2021; **Exhibit 3.1.20**). Across the first four PYs, there has been a consistent lack of statistically significant impact on annual wellness visits. While the decrease in unplanned 30-day readmissions was no longer statistically significant as it was in previous years, the magnitude of PY 4's impact estimate was comparable to those previously observed. Similar to the Medicare ACO analysis, the large but non-significant decrease in beneficiaries with unplanned readmissions reflected a large decline in readmissions among Vermont Medicare beneficiaries; comparison beneficiaries saw a very small decrease in unplanned readmissions in PY 4 (2021) relative to baseline years.

Exhibit 3.1.20.   Impact on Access to and Quality of Care for Vermont Medicare Beneficiaries, PY 4 (2021)
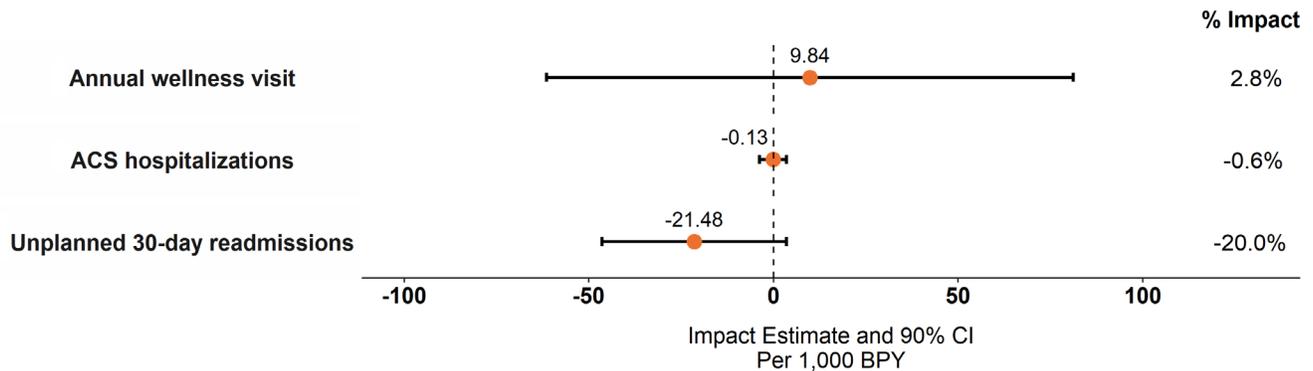

SOURCE: NORC analysis of Medicare claims data.
NOTE: Impact is per 1,000 beneficiaries per year (BPY). Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

3.2   Trends in Substance Use Disorder Diagnosis and Treatment for Medicaid Members

For our quantitative analysis of the VTAPM Medicaid ACO initiative, we assessed trends in substance use disorder (SUD) diagnosis and treatment over time from 2016 through 2021. We highlight SUD outcomes in our

Medicaid analysis for this report because it reflects a key focus area for Vermont Medicaid and provides context for the VTAPM's stated goal of reducing deaths related to drug overdose. Addressing the high and rising rates of SUDs is a key focus area for Vermont Medicaid, which has expanded access to residential and community-based SUD treatment services for Vermont Medicaid members through their "Global Commitment to Health" section 1115(a) demonstration. Over three-quarters of Vermonters who experienced a fatal drug overdose in 2019 and 2020 were enrolled in Medicaid in the year prior to death, and over half were current Medicaid members at death.

Vermont's Efforts to Combat SUD Cut Across Initiatives, Agencies, and Payers[51,102,103,104,105,106,107]

The model is just one of many pieces of Vermont's broader strategy to combat SUD. Other ongoing efforts across the state include:

- **Blueprint's Hub and Spoke program** provides essential support and access to medication-assisted treatment for Vermonters recovering from opioid use disorder (OUD).
- **Vermont Medicaid's Global Commitment to Health** added SUD community intervention and treatment benefits in the recent extension.
- Vermont Department of Health's Division of Substance Use Programs provides **contracts and grants to support substance use services** to over a hundred local partners, as well as **scholarships to regional programs** on best practices in addiction treatment.
- **Recovery coaches** are embedded at all 14 Vermont emergency departments to help patients experiencing SUD-related emergencies and were operated remotely to maintain services during 2020.
- The CDC-funded **Overdose Data to Action** grant provides support to use data on overdose surveillance and prescription monitoring to inform strategies on overdose prevention, community action grants, and naloxone distribution, among others.
- **VT Helplink**, launched in March 2020, provides free confidential resources and referrals for SUD treatment and recovery services statewide.
- **Public messaging campaigns** on topics including ending addiction stigma, identifying signs of overdoses, starting conversations with adolescents about substance use, and understanding the health risks of cannabis.
- The **Opioid Overdose Prevention and Naloxone Rescue Program** provides naloxone and training for community organizations who distribute naloxone, provides referrals to treatment services, and trains community members on overdose response and opioid misuse prevention.
- **UVM's Center on Rural Addiction** holds Clinician Office Hours for rural clinicians providing SUD treatment, provides training for primary care providers, and hosts webinars on evidence-based best practices for SUD treatment.
- **School-based education** on substance use prevention and early intervention.

Vermont has higher rates of substance, alcohol, and illicit drug use disorders than the national and Northeast averages. In the 2018-2019 National Survey on Drug Use and Health, Vermont ranked third among states in SUD prevalence, fourth in illicit drug use disorders, and sixth in alcohol use disorder prevalence in the past year.[108] There is also evidence of potential access to care barriers for Vermonters diagnosed with SUDs, especially in rural areas (only Chittenden County is considered urban; Vermont's other 14 counties are rural). Vermont was ranked sixth in the United States in terms of percentage of residents needing but not receiving treatment at a

specialty facility for SUD (an inpatient or outpatient drug and alcohol rehabilitation facility, inpatient hospital, or mental health center) in the past year and is also one of only five states in which rural counties have higher rates of fatal overdoses than urban counties.[109]

Methods: Medicaid Descriptive Analysis

To explore trends in SUD diagnosis and treatment among Medicaid members, we used a serial cross-sectional design that applied the model's Medicaid ACO's expanded attribution criteria from baseline (2016) and performance years (2017–2021). The serial cross-sectional analyses presented below are descriptive, and trends should not be interpreted as a reflection of VTAPM Medicaid ACO implementation or activities. Findings will aid our understanding of the population attributed to the Medicaid ACO and will provide a basis for further investigation in future reports.

Identifying the Analytic Population

The VTAPM Medicaid ACO started in 2017; through 2019, it used a traditional attribution algorithm based on historical primary care utilization with model practitioners. Data limitations, including member churn and missingness in data elements used to identify provider specialties, limited our ability to apply this attribution algorithm using Vermont Transformed Medicaid Statistical Information System (T-MSIS) data. For this reason, Medicaid was not included in previous evaluation reports.

In 2020, the VTAPM Medicaid ACO applied an expanded attribution methodology, under which Vermont Medicaid members are attributed to the ACO based on Medicaid enrollment, regardless of historical primary care utilization.[qqq] We used the expanded attribution methodology to identify Medicaid members who met these criteria from 2016–2021. Because the VTAPM Medicaid ACO used the traditional attribution criteria from 2017–2019, findings from those years should be considered for contextual purposes only, rather than as reflecting model activities.

The VTAPM Medicaid ACO identifies attributed Medicaid members prospectively (that is, based on historical enrollment and utilization). However, similar to our Medicare analysis, we used a concurrent approach and identified Medicaid members attributed to the model based on their enrollment within a PY. To identify the treatment group, we applied the VTAPM Medicaid ACO's expanded attribution criteria used in 2021:[110]

- Member must live in Vermont
- Member must be over 1 year old
- Member is not dually eligible for Medicare
- Member must have at least 1 month of Medicaid coverage

[qqq] The expanded attribution differs from the attribution methodology used under the VTAPM Medicare ACO, which is based on a beneficiary receiving a plurality of their primary care from practitioners participating in the VTAPM Medicare ACO. If a member has a designated primary care practitioner who is not in the ACO, that member is not attributed to the Model.

- Member does not have evidence of additional sources of insurance coverage (for example, commercial coverage)
- Member did not receive a limited Medicaid benefits package (for instance, pharmacy-only benefits)

We applied these criteria to Vermont T-MSIS claims in baseline (2016) and performance (2017–2021) years to identify the analytic population. Due to data quality issues, we were not able to determine whether a member had a designated primary care provider who was not in the ACO; thus, we were unable to operationalize that criterion for our analysis. Attributed members in 2020 and 2021 were largely white, and most were living in rural areas, which is consistent with Vermont's larger demographic trends. Medicaid members were on average about 27 years old (**Exhibit 3.2.1**).

Statistical Analysis and Inference

We used a serial cross-sectional analysis design to explore trends in the three SUD measures for Vermont Medicaid members attributed to the VTAPM Medicaid ACO. Results are presented as unadjusted numbers of Vermont Medicaid members with each outcome, from 2016 through 2021. The approach lets us observe changes in outcomes over time for Vermont Medicaid members who meet the Medicaid ACO's expanded attribution criteria. However, we cannot determine whether trends over time can be causally linked to the Medicaid ACO's implementation or activities. Multiple other circumstances could have influenced SUD issues in recent years, including the COVID-19 PHE and a drug overdose crisis that has continued to evolve—shifting away from prescription opioids and toward illicitly trafficked opioids like fentanyl and illicitly trafficked non-opioids (such as cocaine and methamphetamine).[111]

Exhibit 3.2.1. Characteristics of Attributed Medicaid Members, 2020 and 2021

	PY 3 (2020)	PY 4 (2021)
Number of attributed members	134,750	149,929
Mean age in years (SD)	26.7 (18.2)	27.5 (18.3)
Gender (%)		
Male	48.0	48.1
Race/Ethnicity (%)		
White	77.7	77.0
Black	2.5	2.7
Hispanic	0.6	0.6
Asian	1.6	1.6
Other	0.4	0.5
Missing	17.2	17.7
Location (%)		
Rural	55.2	60.0
Disability (%)		
Disability	5.4	4.8

SOURCE: NORC analysis of 2020-2021 T-MSIS data.

Data Quality Challenges

Before starting our analysis, we conducted a data quality assessment of the Vermont T-MSIS Analytic File (TAF) claims data using CMS's Data Quality Atlas.[112] We found significant missingness or unusable values in key data elements required to construct total Medicaid spending, hospitalizations, and ED visit measures in a manner similar to the Medicare specifications; for this reason, we do not present those outcomes here. The TAF claims data needed to generate SUD measures were valid and showed no missingness, meeting our quality standards for use in the evaluation. More detail on the utilization measures and the results of our data quality assessment can be found in **Appendix D.9**.

Trends for Medicaid Members

From 2016 through 2021, an average of 17,057 Vermont Medicaid members were diagnosed with an SUD each year, or approximately 14% of all eligible members (**Exhibit 3.2.2**). Trends in both SUD diagnosis and treatment were relatively flat, with small fluctuations until 2019 and increases in 2020 and 2021. While the total percentage of members remained relatively flat over time, we observed increases in the number of members with an SUD who sought treatment in 2020 and 2021. This likely reflects the effects of the continuous enrollment requirement enacted during the COVID-19 PHE, which led to increased enrollment in Medicaid in Vermont and nationwide.[113]

Since 2016, an increasing share of Vermont Medicaid members diagnosed with an SUD have had an OUD (43.8% in 2016 to 49.1% in 2021), making OUD the most diagnosed SUD among Vermont Medicaid members in recent years. Vermont is one of only ten states in which OUD prevalence was higher than tobacco use disorders, which is the most diagnosed SUD in most states.[114]

Between 2016 and 2021, an average of 72.5% of members with a SUD diagnosis accessed SUD treatment, with a decrease over time (74.9% in 2016 to 69.7% in 2021). This may reflect barriers to care (particularly during the COVID-19 PHE) and is likely to vary by setting. The Vermont Department of Health found large decreases in 2020 for intensive outpatient services (47% relative to 2019), residential treatment (24%), and outpatient services (17%), while members accessing medication-assisted treatment (MAT)—which can be more easily provided in an outpatient setting or via telehealth services[115]—increased by 2%.[106]

Exhibit 3.2.2. Trends in Substance Use Diagnosis and Treatment for Vermont Medicaid Members, 2016–2021
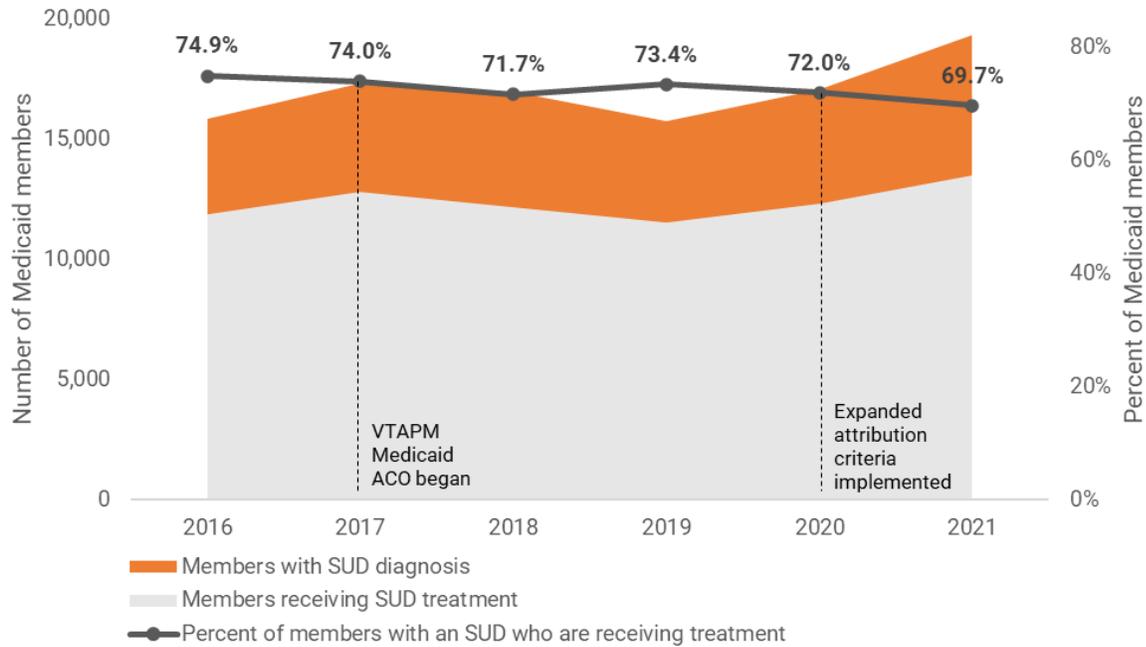
SOURCE: NORC analysis of 2016–2021 T-MSIS data.

ED Utilization for SUD Treatment.[rrr] Between 2016 and 2021, an average of 5,503 Vermont Medicaid members sought SUD treatment in an ED setting each year, composing approximately 4% of all Medicaid members and 32% of Medicaid members diagnosed with an SUD (**Exhibit 3.2.3**). We observed a decreasing trend over time in the percentage of members with SUD receiving treatment at the ED; this predated the COVID-19 PHE and may reflect larger shifts in service availability and access.

[rrr] ED visits for SUD treatment were identified using a combination of revenue codes, Healthcare Common Procedure Coding System codes, type of service codes, and place of service codes. Revenue codes, typically used to accurately identify ED visits in Medicaid data alone, were inconsistently populated in Vermont's T-MSIS data.

Exhibit 3.2.3. Trends in ED Visits for SUD Treatment in Vermont Medicaid Members, 2016–2021
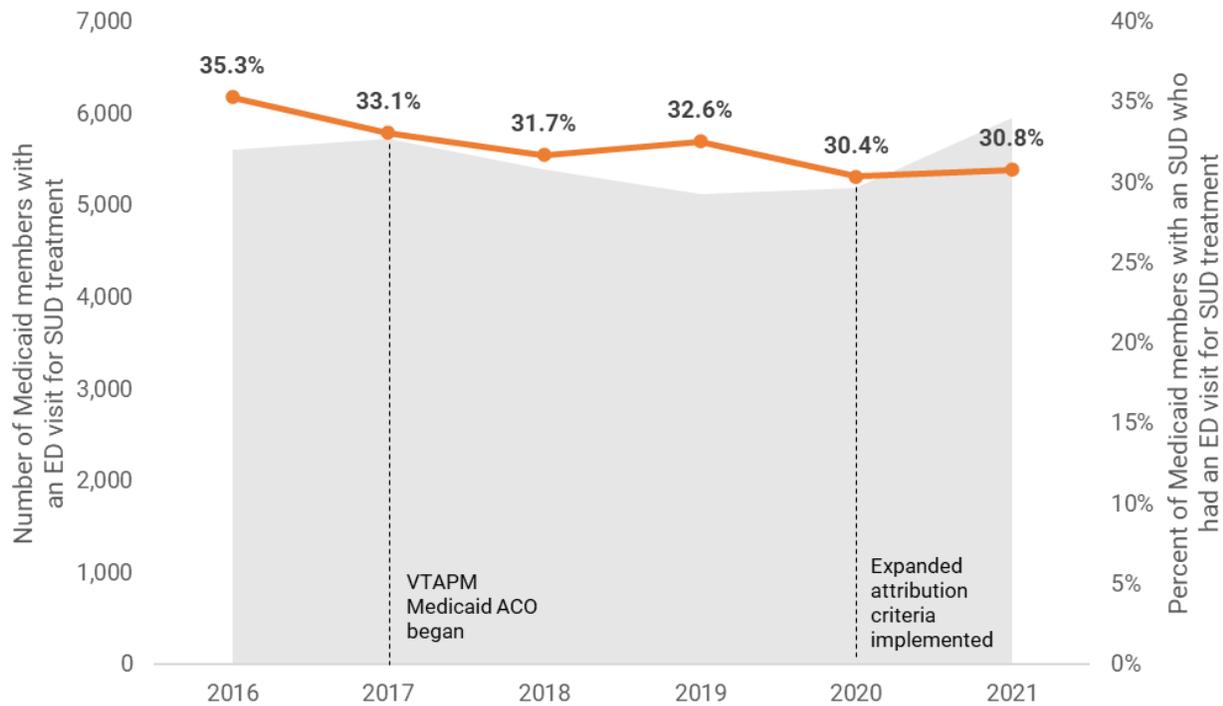
SOURCE: NORC analysis of 2016–2021 T-MSIS data.
NOTE: Percentages reflect the share of members who accessed SUD treatment services in an ED setting out of Medicaid members with an SUD diagnosis.

3.3   Summary and Next Steps

Over the first four PYs of the model, we observed significant reductions in gross and net Medicare spending for beneficiaries attributed to the VTAPM Medicare ACO and for Vermont Medicare beneficiaries statewide. Many of the trends observed in previous performance years for utilization and quality-of-care outcomes continued in PY 4 (2021), including decreases in acute care for Vermont Medicare beneficiaries statewide and a decrease in specialist E&M visits statewide and for beneficiaries attributed to the VTAPM Medicare ACO relative to their respective comparison groups.

The observed total Medicare savings reflected large declines in spending from baseline years (2014–2016) for Medicare ACO beneficiaries and Vermont Medicare beneficiaries statewide, while their respective comparison beneficiaries had much smaller spending declines. However, both Vermont and the comparison group showed a rebound in total Medicare spending from the low levels observed in 2020 due to the COVID-19 PHE. The increase reflected increased use of ambulatory and outpatient services in 2021.

For many PY 4 (2021) findings, especially in the VTAPM Medicare ACO analysis, including a covariate for COVID-19 deaths in the analytic weights contributed to increased variability of the impact estimates. For instance, we observed statistically non-significant decreases in PY 4 (2021) total gross Medicare spending and hospital-based

utilization (acute care days, acute care stays, and unplanned 30-day readmissions) for beneficiaries attributed to the VTAPM Medicare ACO, despite the large magnitude of the decreases. Results for PY 4 (2021) should be interpreted in the context of previous years' findings, as well as overall trends in utilization during the COVID-19 PHE.

Although we took measures to minimize potential biases (for example, drawing the comparison group from multiple states and using a flexible specification of the DID model) in the Medicare analyses, unobserved differences between the treatment and comparison groups, as well as time-varying effects coinciding with the model's implementation, may contribute to the estimated impacts. Vermont's history of health reform is unlike that of any other state, and longer-term effects of these efforts (many of which started prior to the model and are continuing under the model) likely contribute to the impacts observed, particularly for Vermont Medicare beneficiaries statewide.

Diagnosis and treatment of SUDs has been a key focus for the state and for Vermont Medicaid, as Vermont has one of the highest SUD rates in the nation, driven by high rates of opioid use. In our analyses of Vermont Medicaid members from 2016–2021, we observed a relatively flat trend in prevalence of SUD diagnosis (approximately 14% of members each year) but a decreasing trend in the percentage of members accessing SUD treatment, which primarily occurred during the COVID-19 PHE. The number of Medicaid members diagnosed with an SUD who received SUD treatment in an ED has also decreased over time. Because the VTAPM Medicaid ACO now encompasses most Medicaid members in the state, increasing access to SUD treatment services in all settings should remain a priority.

In future reports, we plan to conduct subgroup analyses for key practice, practitioner, and beneficiary characteristics to test specific hypotheses of interest; expand our descriptive assessment of Medicaid outcome trends; and present updated population health and quality-of-care outcomes as they become available.

Chapter 4: Discussion

Over its first four PYs, the VTAPM reduced gross spending for beneficiaries in the Medicare ACO initiative and for Medicare beneficiaries statewide. For the Medicare population statewide, hospitalizations and unplanned hospital readmissions have trended downward. Additionally, Vermont has achieved key statewide financial targets for Medicare and all-payer total cost of care, maintaining low spending and limiting growth rates well below national projections in the model's performance years, despite having historically low spending but high spending growth.[116,117] When interpreting the impact of the VTAPM and how other states could enact similar models, it is important to consider the contextual factors (such as Vermont's long history of health care reform) that have supported the model's success, as well as the implementation challenges that may have prevented the model from achieving its full potential.

The VTAPM built on the foundation of and continued the momentum of prior health reform initiatives, strengthening the ecosystem for supporting value-based payment. The launch of the Blueprint for Health in 2003 carved a path for the state to become an incubator for multi-payer health care innovation. Since then, Vermont has participated in the Medicaid Global Commitment to Health 1115(a) Waiver program, the Multi-Payer Advanced Primary Care Practice Demonstration, the SIM initiative, and SSPs in Medicare, Medicaid, and the commercial sector. In the process of engaging in these various models, the state also created the GMCB, with a unique oversight role that could facilitate ongoing health care innovation efforts.

Because of Vermont's experience, the infrastructure existed to support such models as the VTAPM, as did a culture of innovation among its health care administrators and providers. The VTAPM was thus able to achieve positive impacts. While the participating entities and practitioners were already moving toward the goals of the VTAPM, the model may have provided a vehicle through which to progress. The model allowed previous reform efforts to continue and advance to a state-wide model that engages all payers and providers at all levels to some degree. In this sense, VTAPM has been a success story, even if the model implementation did not happen as expected. In the remainder of this chapter, we describe promising practices gleaned from the VTAPM evaluation and lessons learned from implementation challenges.

4.1   Promising Practices

Qualitative evaluation findings highlight several positive developments related to the VTAPM. First, health care administrators and practitioners credited the model with bringing together clinical community partners and strengthening population health efforts across many HSAs. In recent years, collaboration has intensified a focus on addressing SDOH—an increasing priority in health care policy. Second, independent practitioners who participated in the Comprehensive Payment Reform program cited the benefits of its upfront funding for hiring additional staff(including PCPs) and other members of the care team, such as mental health and SUD providers, social workers, and care coordinators. Together, start-up funding for population health initiatives from CMS

through the Model State Agreement, as well as ongoing funding for Blueprint and SASH programs provided as advanced shared savings payments, allowed care transformation efforts to continue. This support may have contributed to the VTAPM maintaining cumulative gross savings in the Medicare ACO initiative, as well as gross and net savings for Medicare beneficiaries statewide over the course of the model. Finally, hospitals and practitioners appreciated the fixed prospective payments in the Medicaid ACO initiative, which provided reliable income and supported population health management.

The VTAPM experience also provided insight into design and implementation features of value-based payment models that can be improved, both in the VTAPM and in future models. First, for patient data, timeliness and interpretability are critical to the success of population health management efforts. OneCare has attempted to address delays and to make reports more accessible, but future models should consider how to facilitate data sharing to facilitate effective risk stratification, to track patients across the continuum of care, and to target resources. Second, the Medicaid ACO initiative has offered reliable prospective payments without the burden of reconciliation, which helps for budgeting and planning for population health investments. As payment reform is realized nationally, particularly with the Innovation Center's goal of having all Medicare beneficiaries in a care relationship with accountability for quality and total cost of care by 2030, providers may appreciate predictable and straightforward payment mechanisms.

4.2   Challenges and Lessons Learned

When considering the benefits associated with the VTAPM, it is also important to understand the factors that complicated model design, implementation, and evaluation. Over the course of the model, both external and internal developments have challenged government organizations, hospitals, practitioners, and other stakeholders in Vermont and affected VTAPM implementation. Many issues identified in previous years continued into later years of the model.

VTAPM External Challenges

- Hospitals are facing concerns over financial sustainability.
- Workforce shortages have affected access to care, increased wait times, and limited bed availability in SNFs.
- Delivery System Reform investment funding did not materialize as expected.

External Challenges

Hospitals across Vermont are facing growing concerns about financial sustainability.[sss] State and hospital leaders reported that increasing concerns about hospitals' financial situations have taken precedence over reducing total spending. These concerns are particularly acute for small rural hospitals and CAHs, which continue to face extremely low or negative margins nationwide due to declining patient volume, rising costs, workforce shortages, and aging facilities.[82,81] In 2021, a surge of COVID-19 cases and the effect of delayed care in

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[sss] For more discussion of SNF staffing shortages, see Vermont hospitals stuck caring for patients who can't get into nursing homes, costing millions | Vermont Public.

2020 were especially demanding on hospitals. Given hospitals' priority on managing immediate needs in the community, and hospitals' inability to adequately fund population health initiatives in the absence of additional investment by the State, the model's potential to help transform care delivery remains largely unrealized.

Workforce challenges have affected all sectors of health care, complicating the Model's efforts toward clinical transformation and cost containment in Vermont. During the COVID-19 PHE, the state confronted increased need for acute care, coupled with worsening workforce shortages. With SNF staffing shortages limiting bed availability, providers were forced to keep patients in the hospital longer. In PY 3 (2020) and PY 4 (2021), model participants faced a shortage in physician specialists, with some hospitals reporting high rates of vacancies and turnover for specialists.[62] Additionally, wait times for specialty care rose steadily between 2016 and 2019 and likely continued to increase in 2020 and 2021.[100] Decreased access to specialty care could be reflected in the steep declines in Medicare specialty E&M visits we have observed since the first performance year.

Funding to support delivery system reform was much less than anticipated, constraining investments in population health management. State and hospital leaders expected to be able to draw on DSR investment funds to support population health initiatives and APM goals. However, the Vermont legislature has approved only a portion of funds, limiting federal matching funds and overall funds available for population health initiatives. As a result, the burden of funding population health initiatives fell largely on hospitals, which were already experiencing financial strain.

Internal Challenges

Several underlying assumptions of the model did not materialize as designed. A central premise of the VTAPM was that alignment of payment structures across payers, for most providers in the state, would incentivize health care value and quality and transform health care for the entire state.[8] Implementation challenges have limited progress toward broad care transformation.

First, **the model has not achieved the intended level of participation**. Smaller hospitals, particularly CAHs, have been reluctant to participate in the Medicare ACO initiative because of the financial risk and uncertainty about reconciliation. Commercial participation is limited because Vermont has a robust self-insured market, with many self-insured plans such as the Vermont-National Education Association (the state's teachers' union) choosing not to participate. Additionally, MA penetration is increasing in the state, making more Medicare FFS beneficiaries ineligible to participate in the Medicare ACO initiative. Because of low participation, the reconciled Medicare AIPBP, and the lack of prospective payments in the commercial ACO initiative, **FFS remains the dominant provider payment method in Vermont**, limiting incentives to improve care delivery and efficiency. In designing and implementing all-payer models in other states, it is crucial to anticipate potential participation obstacles, including the limits of a voluntary model. Notably, the VTAPM had promising outcomes despite not achieving economies of scale, suggesting that **all-payer models can be flexible in designing participation targets based on what is feasible in a particular state**.

Second, **Medicare, Medicaid, and commercial payers have continued to use different payment mechanisms.** Through the model, CMS and Vermont aimed to align payment methods in the VTAPM. Both Medicare and Medicaid used prospective payment methods in the model; however, participating hospitals preferred the predictability of Medicaid's fixed prospective payments, which did not require annual reconciliation with FFS claims. In contrast, Medicare's AIPBP requires reconciliation with FFS claims, creating administrative burden for participants and limiting predictability. Commercial payers continued to reimburse providers through FFS.

Third, **there is a fundamental misalignment between the model's financial incentives and its patient attribution methodology.** While hospitals are the risk-bearing entity, attribution is based on patients receiving a meaningful amount of care from primary and specialty care practitioners. Although this arrangement increases the reach of the model, it also creates a situation in which hospitals are accountable for patients without a direct care relationship; the practitioners with a direct care relationship with an attributed patient are largely not financially responsible for their health outcomes. However, many of the primary care practices in Vermont attributing patients to the model (for example, FQHCs) are small and unlikely to be able to assume a meaningful level of financial risk. Future models should ensure that payment strategies are designed in a way that supports meaningful changes that reflect the model's care transformation goals.

> **VTAPM Design and Implementation Challenges**
>
> - Small hospitals and CAHs have not been able to take on the risk of the Medicare ACO initiative.
> - Medicaid participation is maximized, but self-insured employer participation remains limited.
> - Hospital and practice revenue remain predominantly FFS.
> - Payment models are not aligned across payers.
> - Risk-bearing is at the hospital level, while attribution is at the practitioner level.

Finally, **some of the interventions VTAPM participants have implemented may not achieve high spending reductions in the short term**. Some stakeholders suggested that care coordination is not enough to lower health care costs and that addressing upstream SDOH is more important than lowering spending in the short term. As hospitals turn their attention to fostering community partnerships to address SDOH, there may be greater potential for reducing spending. However, care coordination—even with a focus on SDOH—may require different types of payment mechanisms and a longer time horizon to achieve results. As patients receive more preventive care and resources to meet health-related social needs, the gains in preventing exacerbations in disease or avoiding food and housing insecurity may not be realized immediately but rather in the medium or long term.

4.3   Evaluation Challenges

Several aspects of the VTAPM context and design, as well as external considerations described above, present challenges for evaluation, limiting our ability to detect and/or assign meaning to impact estimates and overestimating or underestimating the model's true effects.

As a result of the unique context of health care reform in Vermont that may have propelled success, it is difficult to isolate the effects of the model itself from the effects of prior and ongoing initiatives. Health care providers in

Vermont may simply be ahead of the curve in terms of embracing value-based payment and focusing on population health management. It is unclear to what extent the trends observed in this evaluation are due to the existence of the VTAPM versus Vermont's culture of health care innovation and ongoing effects of pre-existing initiatives.

In 2020 and 2021, the COVID-19 PHE caused abrupt changes in care delivery across the country, posing another set of challenges to evaluation. The comparison group for the Medicare impact analysis was drawn from 26 states, all with varied COVID-19 burden and response trajectories that were dissimilar to Vermont. We attempted to account for some variation by including a covariate for COVID-19 deaths in our entropy balancing weights. However, there were relatively fewer beneficiaries in areas similar to Vermont on COVID-19 burden (in addition to the sociodemographic and market characteristics mentioned previously), leading to decreased reliability in observed impact estimates. The findings from previous years—large decreases in total Medicare spending relative to a comparison group—were generally consistent through the model's fourth performance year. While there was a spending reduction in PY 4 (2021) for the model's Medicare ACO initiative, as in the first two PYs, the impact estimate in PY 4 (2021) was not significant, in part due to the larger standard errors from accounting for COVID-19 burden in the weights.

Limited Medicare participation poses an additional obstacle in evaluating the VTAPM, as we only have access to Medicare and Medicaid claims, and Medicaid claims are delayed and incomplete. Because 8 of the 15 eligible hospitals are participating in the Medicare ACO, we can only determine the impact for a portion of the model's attributed beneficiaries. Additionally, because uptake of the model's Medicare ACO has been relatively limited in areas with independent CAHs, our Medicare ACO analyses do not capture Medicare beneficiaries in some of the more rural areas of the state. While we expect to conduct more in-depth analyses of the Medicaid ACO in future reports, we will continue not to have access to data from commercial payers.

4.4   Areas for Future Research

As the VTAPM continues, there are several important topics to explore. First, the increasing efforts toward addressing community-level SDOH may help improve quality and reduce spending in later years of the model. Second, as hospital margins continue to decline, it will be crucial to consider how to keep hospitals engaged in APMs and consider greater focus on non-financial outcomes, such as quality of care and health equity. Third, as more Medicaid data become available, our evaluation will explore the impact of the Medicaid ACO initiative beyond the descriptive analysis included in this report, including access to care measures and network reach for VTAPM Medicaid members brought into the model with the expanded attribution methodology. Fourth, the decision for BCBSVT not to participate in 2023 will have effects that we will investigate in future reports. Fifth, we will conduct analysis to provide insight on the benefits and drawbacks of the expanded attribution methodology relative to attribution based on historical utilization. Finally, we plan to conduct subgroup analyses for key practice, practitioner, and beneficiary characteristics for the Medicare ACO and further explore population health and quality-of-care outcomes as they become available.

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